percussion and abundant crepitations, and when the patient suffered from loss of flesh, hæmoptysis, night sweats, and anorexia, the report must be more hopeful.

In a considerable proportion of these I think we may safely admit that very definite amelioration can be effected. I observed a number of cases where night sweats had disappeared, where the cough was practically gone, where there was a diminution or cessation of expectoration, and where the patient's subjective condition was better, and a few where there was a gain of several pounds in weight. In very few cases was I able to trace important improvement in the physical signs; but the time was too short for this, and no case has, so far as I was able to learn, been released from treatment as cured. Still I think, pending further observation, we are bound to fall back on the authority of Koch, who states categorically that "within four to six weeks patients under treatment in the first stage of phthisis were all freed from every symptom of disease, and might be pronounced cured."

With regard to the change in the tubercle bacilli, very varying statements are made by different observers. Professor Fränzel states that in a considerable number of cases the bacilli disappeared altogether, and that even when they did not they became smaller and thinner, as if they were starved; sometimes they became altered in form, becoming biscuit-like; sometimes they were broken up or apparently partially disintegrated.

To summarise a little, then, there can be no question that the fluid, whatever its nature, has a most defined specific action on the tubercular process, wherever situated. It seems to have the power, when introduced into the circulation, of finding its way straight to the seat of tubercular disease, however obscure or ill-defined this may be to external examination. Many of the cases I have already cited illustrate this well—the appearance of fresh lupus patches, the indications of pain or swelling of joints which had not previously been detected, and the reddening of old tubercular scars. Most striking in this connection are some dozen cases where I had the opportunity of examining the larynx after one or two injections. Here, as I was informed by the physicians of the wards, no change had been detected prior to inoculation (most of the cases were phthisis laryngea). Subsequent to inoculation, there certainly was a distinct indication of disease. In two or three this was shown by swelling of the aryteno-epiglottidian folds; in three cases by excoriation and even ulceration of the laryngeal surfaces, and, in one instance, by ulceration of one of the upper rings of the trachea.

Again, in three cases (lupus, supposed pernicious anæmia, and a doubtful apical catarrh) physical signs were detected after injection, and an abundant expectoration, not present before, was established.

In two cases, ultimately determined to be cancerous—one of the larynx and one of the face—the final conclusion was reached in virtue of the definite reaction manifested. This is also illustrated by some three cases of pleurisy, two with effusion, where injection produced a most definite reaction, proving the presence of a tubercular process somewhere, and presumably affording corroboration to the view that a large proportion of these pleural processes are tubercular. In one case under treatment in the Royal Infirmary no definite reaction, general or local, has occurred after four injections, although the dose has been increased to 0.01 gramme.

To what I have said of its curative value I do not propose to add anything. This has been sufficiently illustrated in the less severe and slighter forms. As to the limits of this and its duration, the time is yet too short to enable us to speak. But it is only fair to admit that up to a certain point this has been established.

The facts which have been made public regarding the effects of treatment in late cases of phthisis are discouraging, undoubtedly, but they form the strongest argument, as Koch has pointed out, for far more conscientious care in the early diagnosis of such cases, and for the use of all the means which later research has suggested, such as the careful examination of the sputum for the tubercle bacillus.

The cases which, through the kindness of a number of the physicians and surgeons of the Royal Infirmary and Royal Hospital for Sick Children, I have been enabled to place under treatment, and to which reference has here and there been made above, include eight cases of phthisis, three of pleurisy, two of lupus, two of tubercular adenitis, one of tubercular affection of the knee-joint, one of cardiac disease with obscure lung complication, and one of probable genito-urinary tuberculosis. Without entering

into further details, it may be well to say that all we have seen corroborates generally the statement made in Koch's original statement.

CASES OF PHTHISIS TREATED BY KOCH'S REMEDY.

REPORTED BY WILLIAM HUNTER, M.D., M.R.C.P.

(From the Augusta Hospital, Berlin.)

I GIVE here the notes, with temperature charts, of three cases of early phthisis which have recently been admitted into the Augusta Hospital, Berlin, under the charge of Professor Ewald. There are at present over fifty cases of phthisis and lung affections under treatment in this hospital, and through the special kindness of Professor Ewald, to whom I desire to express my very grateful thanks, I have been enabled to study the effects of Koch's new treatment as carried out under conditions—hygienic and dietetic—more than usually favourable to success.

Early Cases of Phthisis.—I have selected these three cases as being specially suitable for further observation; and I propose to record from week to week their further progress, with special reference to the following points: 1, the general condition of the patient as regards appetite, sleep, etc.; 2, body weight; 3, night sweats; 4, cough; 5, character and quantity of sputum; and 6, more especially the physical condition of the lungs before and after treatment.

CASE 1.—K. M., merchant, aged 31, was admitted on November 12th, 1890. The family history was good; both parents were healthy, and the sisters also were healthy. He had had measles, scarlet fever, and diphtheria while a boy. At the age of 23 he had inflammation of the lungs. His present illness began three

years ago with cough and expectoration, and since then he had suffered from night sweats and had lost flesh. When admitted he was a somewhat thin and poorly developed man, of a pale and sallow complexion. His general health was good; his appetite fair; the alimentary, urinary, circulatory, and nervous systems presented nothing abnormal. Cough was troublesome, expectoration fairly abundant, muco-purulent in character. There was considerable dullness over the right apex in front as far as the second rib, slight dullness also above the left clavicle. Posteriorly there was dullness in both supraspinous fossæ. The breathing over the

apices behind was of a harsh vesicular character, with slight crepitation. In front the breathing over the right apex was bronchial in character, no crepitations being audible at the time of admission.

Treatment was commenced on the morning of December 3rd, when 2 milligrammes of the fluid were injected subcutaneously at 6.30 A.M. The dose was a small one, and the effect was slight and long delayed. The first effect was not noticed till 10 P.M. The patient then had a chill, which lasted, according to his own description, about four hours. On referring to the chart of his case here given, it will be seen that this chill corresponded with the period of greatest rise in the temperature, namely 38° C. (99.2° F.), reached at 10 P.M. The temperature then fell rapidly, and became subnormal. During this time the cough was very troublesome, and expectoration more abundant.

December 4th. At 6.30 A.M. the second injection was given, 3 milligrammes. During the whole of this day the patient felt very well. He took a hearty breakfast, shortly afterwards fell asleep, and awoke feeling greatly refreshed. The cough was less troublesome than for some time back, and the expectoration distinctly less. The injection he received in the morning took effect about 7 P.M., the temperature rising to 39° C. (102.2° F.). The rise was steady and uniform, and, as on the previous occasion, was attended by feelings of chilliness. During the night he slept badly and sweated a little towards morning.

December 5th. He felt well again. Appetite was good, and he had a refreshing sleep after breakfast as before. Cough, which during the reaction was again increased, much abated during the day and expectoration lessened. Here, as before, the temperature fell to subnormal. Crackling viscid crepitations were heard over the right apex in front where previously absent.

December 6th. At 6 A.M. a third injection was given, the dose being increased to 8 milligrammes. This took effect earlier, the chill being felt at 3 P.M., and the fever reaching a maximum at 7 P.M. Sleep was restless and there was slight sweating in the early morning.

December 7th. The patient expressed himself as much better, and stated that his cough and expectoration were much less. The expectoration was more frothy and less purulent than before. During the fever he suffered from headache, had a feeling of tightness over the chest, without, however, any pain; he felt a little hoarse during the night with rawness of throat and slight

pain on swallowing. He stated that for a long time past he had been unable to lie on the right side without bringing on cough, but was able during the past night for the first time to sleep on that side without discomfort.

CASE II.—A. L., a tailor, aged 24, was admitted on December 2nd, 1890, suffering from cough, expectoration, and night sweats. His family history was very good. He had been ill since January,

1890, when he suffered from cough, and had at the same time malarial fever. He recovered from the latter, but in May the cough became more severe, with increased expectoration; he had had two slight attacks of hæmoptysis lately; night sweats were severe, and he had lost much in weight. He was a slightly built,

somewhat thin and narrow-chested man. Cough was troublesome, but less so than formerly. The sputum was abundant, thick, and nummular; it contained numerous bacilli (No. 3). There was dullness over both apices behind, with harsh blowing breathing and crepitation; there was dullness over left apex in front, the breathing more bronchial, and there were numerous crepitations. The temperature on the day of admission was 39.2°C . (102.5°F).

December 3rd. At 6.30 A.M., 2 milligrammes were injected. He experienced a chill four hours later, and suffered from headache and dizziness for about four hours, also from pains in limbs; there were no sickness nor vomiting. By 7 P.M. the temperature had fallen to nearly the normal, and he slept well during the night. Cough was not increased during the stage of fever.

December 4th. Felt very well; cough was less, appetite good, and the sputum was more watery and frothy.

December 5th. At 6.30 A.M. 4 milligrammes were injected. As before he experienced a chill four hours later, with fever and headache; he had no pain in the limbs; he slept well during the night; cough, he stated, was less, and the night sweats had ceased.

December 7th. The patient's condition was unchanged physically, but he declared that he felt much better.

CASE III.—K. L., aged 25. This was a case of slight and early phthisis. There was slight consolidation of the right apex, with crepitations and expectoration, containing numerous bacilli (No. 3). The patient's father and one brother had died of phthisis. He himself was healthy up to the age of 20, when he had a bronchial catarrh, and was later exempted from military service on account of affection of the right apex. He has lost weight 4 kilogrammes (8 lbs.) in six weeks. I record this case briefly for the sake of the temperature chart which here accompanies it. The case is pursuing a favourable course, the reactions, as will be seen from the chart, have already become less, although the dose is being steadily increased.

On December 6th he received an injection of 15 milligrammes, the temperature rising to the same height as on December 2nd after the injection of 8 milligrammes.

KING'S COLLEGE HOSPITAL.

MR. WATSON CHEYNE'S CASES: SECOND REPORT.

In the last number of the *BRITISH MEDICAL JOURNAL*, a report was published of the cases upon which Mr. Watson Cheyne has been practising injection with Koch's fluid. At the end of our report we mentioned a case of supposed tubercle of the iris, in a girl of nine years of age (Case 17), and said that the injection had been followed by no reaction, general or local. This statement was true at the time, but now calls for correction. After an unusually long latent period of nineteen hours, the temperature rose to 101.2°F . This occurred after a small dose (0.001 gramme), which may account for the delay. Since the first injection, on December 3rd, it has been repeated on December 5th, dose 0.001 gramme, and on December 6th, when 0.002 gramme was used, and caused a temperature of 104° . Of course the situation of the supposed tubercle on the iris afforded a most favourable opportunity of watching the local changes, but after three doses the eye itself had not reacted, and it was to be feared that it was steadily progressing from bad to worse. However, at a fourth injection the temperature rose to 105° , the eye reacted, and there seemed to be some improvement.

We do not propose to report every case injected by Mr. Cheyne (for they already number more than twenty), but only those already noticed, though any others of special interest will be included. The case of a police-constable (Case 16, J. D.), aged 31, who had well-marked lupus erythematosus upon both cheeks. In view of the debatable nature of this disease, whether tubercle or not, the effects of a trial possessed much interest. A dose of 0.01 gramme was given, and was followed by neither local nor general reaction. A similar trial is being made in another case, hitherto with the same result. It is that of a child (Case 18, W. G.), aged 5 years, who has postnasal adenoid growths and otorrhoea. On December 5th a dose of 0.002 gramme was given without any reaction, and on December 6th a strong dose of 0.004 gramme was exhibited; and afterwards 0.006 gramme; none of these caused any local or general reaction.

If we now turn to the other cases which have been mentioned in our first report, we note here in Case 1, M. C., which is that of a woman with lupus of the face, the second injection caused the

results which are usually seen upon repetition. Thus, after a dose of 0.006 gramme the temperature rose rather suddenly eight hours after injection to 104° , and subsided as quickly as it had risen. On the first occasion the same dose caused a gradual reaction, which gradually subsided. The local reaction was also considerable after the second injection, and the lupus became covered with a great quantity of crusts, and the tubercles became less prominent and many of them ulcerated. The same remarks apply to the second case of tubercle mentioned in our last report (now Case 15, N. L.). Here the treatment had been longer in progress, and the nodules, after having ulcerated, seemed to have left behind them a healing surface. This stage has been attained after the third injection. In the third case of lupus (Case 6, R. S.), the dose was increased to 0.01 gramme on December 6th, and caused rapid reaction, the patient feeling ill and faint and having violent sickness after both injections. The local reaction was less the second time, but there seemed to be more oozing. On the whole, the local effects in these cases of lupus seem to have been beneficial. We also mentioned the case of a man (Case 10, P. F.) who had a large mass of tubercular glands in the neck and in the axilla. It may be remembered that the local and general reaction were both very marked in this case, and the patient was in evident dread of a second dose of the remedy. However, on December 6th he was again injected with 0.006 gramme, the previous injection having been 0.01 gramme. Both the local and general reaction which ensued were less, and there was improvement in the cervical glands, which, instead of forming a confused mass, could now be felt apart from one another. However, it is to be noted that other factors were at work in this case, because after the first injection abscesses had burst and much pus had been discharged.

In Case 4, G. G. (the child with tubercular ulceration of the inguinal glands), although the local condition could hardly be said to have altered much, there was improvement in the general health. Before the commencement of the treatment the child had a typical hectic temperature; but now, in the intervals after the injections, a normal temperature was recorded. The sixth injection was given on December 8th, and the dose was 0.006 gramme. At the commencement 0.001 gramme was administered, but this has been increased 0.001 gramme in each repetition. There has never been much local reaction in this case, but the amount of general reaction seems to have diminished. The child looks brighter and better nourished.

The cases of tuberculous disease of the joints do not as yet call for any remark. In all of them the local and general reaction has been well marked, but does not afford indication as to their ultimate results.

We may refer to a new case (Case 13, M. G.) of tuberculous disease of the left elbow, who in December 3rd was injected with 0.003 gramme. This was followed in sixteen hours by a temperature of 105° , with rigor or sickness, but also by the appearance of a papular eruption on chest and limbs. This is not an infrequent sequel to injection, and has been noted in several of the other cases.

FURTHER REPORT ON CASES AT THE HOSPITAL FOR CONSUMPTION, VICTORIA PARK.

DURING the past week we have taken notes of the cases under Dr. Heron's care at the City of London Hospital for Diseases of the Chest, Victoria Park, and with his permission subjoin further details of those cases which were published in last week's issue of the *BRITISH MEDICAL JOURNAL*.

CASE I. *Phthisis*.—G. M., aged 23. Second injection December 3rd, 2 milligrammes; temperature 101.8°F . nine hours later, and became normal again in eight hours. The patient had no discomfort whatever after this injection. Third injection on December 4th, 2 milligrammes; no reaction followed. Fourth injection, December 5th, 3 milligrammes; no reaction. Fifth injection, December 6th, 4 milligrammes; no reaction. Sixth injection, December 7th, 6 milligrammes; temperature rose to 101.8° in ten hours and a half, and dropped again to 98.4 in sixteen hours. Seventh injection, December 8th, 6 milligrammes; no reaction. Eighth injection, December 9th, 8 milligrammes; no reaction. Ninth injection, December 10th, 8 milligrammes.

The patient said that he felt better, and that his cough was much easier. The physical signs on December 10th were as follows:—Front: Generally over the left lung and at the apex of the right lung the percussion note is deficient. At the apex of the left lung behind there is marked dullness, and, to a less de-

gree, over the right apex behind. At the left apex, towards the distal end of the clavicle, the breathing is hollow, inspiration and expiration are equal in duration and almost so in tone. At the end of aspiration distant crackling *rales* can be heard, but whether moist or dry is doubtful. These *rales* can be heard as low as the fifth rib. On the right side the breathing is harsh at the apex. Back: At the outer end of the right suprascapular fossa the same crackling *rales* can be heard—distant and faint—at the end of inspiration only. Over the rest of the right supraspinous fossa the breath sounds are harsh and without *rales*. The same applies to the left supraspinous fossa, except that the *rales* have a more creaking character. Vocal fremitus and vocal resonance are increased over the parts indicated above.

CASE II.—A. D., aged 40, has had some return of night sweats, but otherwise says that he feels much better in every way. On December 8th his sputum was faintly tinged with blood. The cough is still considerable, and the expectoration abundant for four days. No bacilli could be found, but have, during the last day or two, reappeared in about the same quantities as before the

Case IV. Lupus.

treatment was commenced. After the third injection the temperature reached its maximum of 102.8° F. in nine hours; the symptoms were very slight. Fourth injection, December 4th, 3 milligrammes; very slight reaction. Fifth injection, December 5th, 3 milligrammes; the temperature went down and remained below normal. Sixth injection, December 6th, 4 milligrammes, followed by a very slight reaction. Seventh injection, December 7th, 5 milligrammes; no reaction. Eighth injection, December 8th, 7 milligrammes; no reaction. Ninth injection, December 10th, 9 milligrammes.

CASE III. *Phthisis*.—B. W., aged 22. Physical signs improving, cough better, has slight pains in the chest, and complains of lassitude, but says that he certainly feels better. The reactions which followed each injection in this case are of particular interest, as they show a depression instead of a rise of temperature. This has also occurred in several other cases. Dr. Heron was not prepared at present to give any reason for this phenomenon. Third injection, December 3rd, 5 milligrammes; temperature 97° seven hours after injection, and 96° thirty hours after injection. Fourth injection, December 5th, 6 milligrammes; temperature 96° nine hours after injection. Fifth injection, December 7th, 8 milligrammes; temperature 97° nine hours after injection. Sixth injection, Decem-

ber 8th, 1 centigramme; temperature 96° eight hours after injection. These temperatures were the lowest reached after each injection and they tolerably rapidly regained the normal.

CASE IV. *Lupus*.—L. F., aged 21. There has in this case been very considerable local reaction, and the tissues of the face are certainly much softer and healthier looking, the glands less tense and swollen. The scabs have in many parts been lifted off and removed by serous exudation beneath them. The patient says that she feels well in herself. In this case both the local reaction and constitutional disturbances have been well marked. The accompanying woodcut, from a drawing by Dr. G. H. Adamson, shows the condition of this patient's face during the reaction after the first injection. The zone of injection beyond the actual area of lupus tissue will be observed. The reaction after the second injection was so violent that Dr. Heron determined to diminish the dose. Third injection, December 8th. Six milligrammes. The temperature rose to 104.4° six hours and a half after, and remained high for the next six hours, being 103.8° twelve hours and a half after the injection, and then gradually reached 99.8° twenty-eight hours and a half after injection.

In connection with this case Dr. Heron pointed out that he had observed in several instances that when a large quantity of fluid was injected, as was recommended in cases of lupus, the second injection was likely to be followed by a more violent reaction than the first, and that this was a point to be recognised as if after a first injection a violent reaction followed, as sometimes occurred, the possibility of a still more violent reaction after the second injection should be taken into consideration in order to avoid risks. The reason of the greater reaction after the second injection was not clear, but might be due to the first reaction having somewhat cleared the ground and so exposed a larger quantity of tubercular material. In future, in all cases of severe lupus he intends to commence with 5 milligrammes, and give injections, if possible, more frequently until the full dose is reached.

CASE V. *Lupus*.—E. R., aged 27. The temperature only returned to the normal on December 7th, a week after the first injection. Second injection, 1 centigramme. The temperature quickly rose to 104.4°, which was a degree higher than after the first injection, but gradually fell, and twenty-four hours after the injection had descended to 99.4°. The symptoms which accompanied the second reaction were severe. On December 10th the patient said that she felt well. The lupus tissue in the face where the scabs had fallen off looked quieter.

CASE VI. *Phthisis*.—H. D., aged 14. Fourth injection, December 2nd, 7 milligrammes; no reaction. Fifth injection, December 3rd, 8 milligrammes; temperature rose to 102° eleven hours and a half after, and dropped gradually until it reached 96.8°, and remained depressed for about thirty hours. Sixth injection, December 5th, 8 milligrammes; temperature fell to 96.8° seven hours and a half after, and again reached the normal sixteen hours after injection. Seventh injection, December 6th, 1 centigramme; temperature dropped to 96.8° eight hours after. Eighth injection, December 7th, 11 milligrammes; temperature fell again in eleven hours to 96.8°. Ninth injection, December 8th, 12 milligrammes; temperature fell to 96.8° in twelve hours. Tenth injection, December 9th, 13 milligrammes; temperature again fell to 96.8° in twelve hours.

The general condition of this patient is much improved; no cough; the moist sounds have disappeared, except a few in the second left interspace; the dullness is unaltered. There has been no affection whatever of the scar over the left hip.

CASE VII. *Phthisis*.—H. B., aged 28. Fifth injection, December 4th, 5 milligrammes; slight reaction. (The reason why 5 milligrammes only was used was that it was a solution from a fresh bottle of the fluid, and Dr. Heron always began with a less dose with each new sample until he had ascertained that it was of the same strength as previous ones.) Sixth injection, December 5th, 5 milligrammes; no reaction. Seventh injection, December 6th, 1 centigramme; slight reaction. Eighth injection, December 7th, 1 centigramme; slight reaction; temperature only reached 99.4° in twenty-eight hours. Ninth injection, December 9th, 12 milligrammes; temperature depressed to 97.2° in thirty hours. The patient expresses herself as being quite well. The moist sounds have disappeared, and the cough has quite ceased; the dullness remains the same. Tenth injection, December 10th, 5 milligrammes; (fresh bottle of fluid).

CASE VIII. *Anæmia*.—A. B., aged 18. After third injection the temperature rose to 103° in ten hours, and fell again to normal in the thirty hours. The patient felt feverish, and had a slight headache,

but no swelling of ankles or joints. Fourth injection, December 4th, 5 milligrammes; temperature rose to 102.3° in eleven hours, and fell to 96.6° in thirty-six hours. Fifth injection, December 6th, 5 milligrammes; slight reaction; temperature to 100° in thirty-six hours. Sixth injection, December 7th, 6 milligrammes; temperature rose to 100.2° in ten hours and a half. Seventh injection, December 10th, 6 milligrammes. Dr. Heron has at no time been able to detect any signs of tubercle whatever in this patient by the ordinary methods. Patient says that she is quite well, and now her anæmia has to a considerable extent disappeared.

CASE IX. *Lupus*.—E. F., aged 57. After the first injection, the patient improved; the scabs were lifted off by effused serum, and revealed beneath extensive but not very active looking lupoid tissue. Second injection, December 8th, 5 milligrammes; temperature rose to 103.2° in eight hours and a half, and reached the normal in thirty hours; the symptoms during the reaction were slight. The small spot of lupus on the back of one hand looks nearly well.

DEMONSTRATION AT PADDINGTON GREEN CHILDREN'S HOSPITAL.

A DEMONSTRATION of Koch's treatment in cases of children's diseases was given by Mr. Watson Cheyne at Paddington Green Children's Hospital on Tuesday morning last. Two cases (Nos. I and II in the following list) had been injected at 10 P.M. of the previous day that the effects might be shown to the audience assembled at the demonstration. Mr. Cheyne made some introductory remarks, similar to those recorded at page 1321 of the BRITISH MEDICAL JOURNAL of December 6th. It will be observed that all the cases except two, which were injected for diagnostic purposes, showed the subsequent characteristic pyrexial reaction. Most of the patients in whom the reaction ensued coughed much in the afternoon, even before their temperature rose, and they were all drowsy. Some had shivering; others vomited; a few of the elder ones had headache. The affected parts—joints, sinuses, etc.—swelled, and were red, and where they were superficial they discharged.

CASE I. *Tubercular Peritonitis: Ulcer on Buttock*.—W. P., aged 11½ years. Admitted in May, 1890; had been ailing generally and wasting for three months, and had abdominal pain with tenderness and distension for three days. Some members of his family had died of phthisis. On admission he had symptoms of sub-acute tubercular peritonitis. The abdomen was opened by Mr. Stanley Boyd, who found the peritoneum studded with miliary tubercles, and drew off two pints of ascitic fluid. Irrigation with warm water was employed, and iodoform emulsion (8 per cent.) injected. The wound had healed on June 13th, and the child was sent to the Wembley Convalescent Home. He was re-admitted on October 17th with the wound partially broken down and occupied by caseating tubercular tissue, which was scraped out. The wound had healed on November 11th, and the child had since gained flesh and strength. On December 8th no ascites remained, but there were hard masses near the cicatrix in the abdominal wall, and, on deep pressure, others were found beneath the umbilicus. There was a small scab, as large as a split pea, on the centre of the cicatrix, and an ulcer as large as a shilling on the right buttock. At 10 P.M. 3 milligrammes of Koch's fluid were injected. The temperature rose between 4 and 6 A.M. on December 9th, and at 7 A.M. it was 104° F. The child vomited frequently as the temperature rose, and was chilly. At 10 A.M. the abdomen was slightly tender, the scab on the cicatrix was surrounded by a red zone of skin, whilst the ulcer on the buttock was unchanged. The temperature remained at 104° until 7 P.M., when it sank quickly to normal, and remained below 99° the whole of the following day.

CASE II. *Epiphysitis (left Ankle)*.—J. F., aged 15 months, was admitted December 1st with inflammation above the left ankle, with no history of injury or congenital syphilis. Much of the swelling had subsided under rest, but the malleoli were still thickened. Mr. Cheyne thought the case was probably one of congenital syphilis. December 8th, 10 P.M., 1½ milligramme was injected as a test of tuberculosis; no reaction ensued.

CASE III. *Strumous Elbow (right); Peripheral Corneal Ulcer; Nodule on Left Knee; Enlarged Cervical Glands*.—F. C., aged 19 months, was admitted on December 5th with inflammation of the right elbow of four weeks' duration. A sister, aged 18, had recently died of phthisis. On December 9th, at 10 A.M., 1½ milligramme was injected. The temperature rose at 2 P.M., and at

6 P.M. it was 104.4° F. After 11 P.M. it gradually fell, and was 99.0° at 3 P.M. on December 10th.

CASE IV. *Caries of Right Radius; Enlarged Cervical Glands*.—E. P., aged 3, admitted December 3rd. Had had swelling above the wrist eleven months, after injury a month previously. Some dead bone had been removed at St. Mary's Hospital about six months ago, since which time the case had been under the care of Mr. Eastes, and the sinus had discharged ever since. On December 9th, at 10.15 A.M., 2 milligrammes were injected. The temperature began to rise at 4 P.M., and at 10 P.M. it was 104.9° F. It remained high until December 10th, at 4 P.M., when it fell, and became normal soon after 9 P.M. During the time of high temperature the pulse varied from 130 to 156, and the respirations from 36 to 60. The child vomited three times.

CASE V. *Scar over Fibula; Sinus in Lumbar Region; Mass of Enlarged Glands in Right Iliac Fossa*.—E. C., aged 5, was admitted on December 8th. Six months earlier she had had acute necrosis of the left fibula, and had had dead bone removed. An abscess in the lumbar region had been discharging for two or three weeks. On December 9th, 10.15 A.M., 2 milligrammes were injected. The temperature commenced to rise at 8 P.M.; at midnight it was 102.8° F., and began to fall at once, until at 6 A.M. on December 10th it was 99.0° . The respirations at midnight were 65, and then decreased in the following six hours to 30.

CASE VI. *Hip Disease*.—C. N., aged 5½, was admitted in February, 1890, with disease of fifteen months' duration. Arthrectomy was then done by Mr. Cheyne, who found pus in the joint, and much synovial thickening; a sequestrum was removed from the anterior part of the neck of the femur. A discharging sinus had since remained persistent. He had no other signs of tubercular disease. On December 9th, 10.20 A.M., 3 milligrammes were injected. The temperature began to rise at 4 P.M., and at 6 P.M. was 104° ; it remained high until 7 A.M. on December 10th, then began to fall slowly, and at 9 P.M. was 100.2° F. This boy vomited once, and his pulse varied from 128 to 140 during the time of high temperature.

CASE VII. *Tubercular Glands and Sinuses in the Groins and Abdomen*.—A. A., aged 7, admitted in July, had been attending the hospital for two years and a half in the same condition as at present; the sinuses had been scraped out several times, and much tubercular tissue had been removed. On December 9th, at 10.20 A.M., 3 milligrammes were injected. The temperature began to rise at 2 P.M.; at 5 P.M. it was 103.6° F., and at 8 P.M. 104.6° F.; it remained high until 4 A.M. on December 10th, and at 3 P.M. had fallen to 99.6° F.

CASE VIII. *Enlarged Cervical Gland (behind Mastoid); Corneal Nebula*.—L. B., aged 12½ years, was admitted December 6th. The glands had been enlarged one year; the corneal opacity had existed four months. On December 9th, at 10.30 A.M., 5 milligrammes were injected. The temperature rose at 4 P.M.; at 7 P.M. it was 103° F., and remained high until December 10th, at 2 A.M., when it began to fall, and at 8 A.M. it was 99.2° F.

CASE IX. *Strumous Dactylitis (left); Scar above Internal Condyle of Right Humerus*.—P. S., aged 5 years, was admitted December 9th. Had attended the hospital since April, 1888. The left middle and ring fingers were affected, and he had been operated upon three or four times, with temporary relief, but the swelling had always returned and the scars broken down. Now the fingers were much enlarged. On December 9th, at 10.30 A.M., 2 milligrammes were injected. The temperature began to rise at 2 P.M., and at 7 P.M. was 104.6° F. After midnight it gradually fell, until at 6 A.M., on December 10th, it was 101° F., near which point it remained until 8 P.M. At the height of the pyrexia the pulse was 160, the respirations being 50.

CASE X. *Adenoid Vegetations (Postnasal), Enlarged Tonsils, and Cervical Glands*.—H. R., aged 4½ years, was admitted in November. Had always had difficulty in breathing at night. The nasopharynx was stuffed with adenoids. On December 9th, at 10.35 A.M., 2 milligrammes were injected. No reaction ensued.

CASE XI. *Phthisis*.—E. R., aged 9½ years, was admitted December 5th, under the care of Dr. Herringham. She had had wasting and cough for 20 months. There were signs of consolidation at the left apex, and of catarrh at the right apex. On December 9th, 10.40 A.M., 2 milligrammes were injected. The temperature remained at about normal until 8 P.M., when it suddenly rose, and at 10 P.M. stood at 103° F. After midnight it slowly fell, and at 6 A.M. on December 10th was 99.8° F. At 6 P.M. it was 97.6° F. The pulse rose to 130, and the respirations, which were 36 just after the injection, varied from 46 to 64 during pyrexial period.

CASE XII. *Phthisis*.—E. M., aged 8½ years, admitted December 8th, under the care of Dr. Sidney Phillips. She had had symptoms for six months, and now had signs of consolidation under the second right intercostal space, with dulness and fine *râles* at the right base posteriorly. On December 9th, at 10.20 A.M., 1 milligramme was injected. The temperature began to rise at 4 P.M. At 6 P.M. it was 101° F., and at 10 P.M. was 101.9° F. On December 10th, at 8 A.M., it was 100° F., and gradually rose until, at 6 P.M., it was 102.4° F.

We are informed that no other formal demonstrations will be given at this hospital. The wards, however, are open daily from 3 to 5 P.M., that medical men may observe the cases. The injections will be repeated by Mr. Cheyne probably about every other day. We are indebted to the house-surgeon, Mr. H. L. Lack, for particulars respecting the progress of the cases since the demonstrations.

DEMONSTRATION IN MANCHESTER.

DR. GUMPERT, Consulting Physician to the Clinical Hospital for Women and Children in Manchester, has given daily demonstrations during the present week of the method of using Dr. Koch's remedy. On December 9th he gave a short address. He stated that his first injections had been made on December 5th in five cases, two of lupus, one of tuberculosis of the lungs and larynx, and two of tubercular disease of joints and bones. It was not, he said, advisable to commence the treatment with larger doses, as a rule, than 1 milligramme. It was apparently to the local changes that the rigors, rises of temperature, and the various other symptoms must be attributed. In no other affection could events be watched better than in lupus. If a centigramme was injected into a patient suffering from true tubercular lupus the affected part began, as a rule, within five or six hours, to get redder and turgid. The redness changes into a dark brown. Oozing of serum occurred from the parts, which eventually became covered with scales and thick crusts. According to the severity of the local reaction these changes disappeared after a shorter or longer time, and, after the lapse of several days, a surface was left looking much healthier than before the operation, and in some cases the diseased part seemed to be entirely cured after four or five injections. Very grave general symptoms have been observed at times, such as unconsciousness, lasting for many hours and even days, great and alarming prostration, etc., and he was therefore opposed to the practice of beginning, even in cases of lupus apparently uncomplicated, with doses above 1, 2, or, at the most, 3 milligrammes.

Koch's fluid produced most promptly, as no other substance did, those retrogressive changes necessary for the elimination of tuberculous tissue—the first and most important step towards recovery. Experience only could show in which cases recovery was still possible.

Though incapable of acting on bacilli in caseous parts, it was not at all impossible or improbable that the fluid might have a very deleterious action on the bacilli contained in the living tuberculous tissue. Professor Fraentzel first pointed out that after the treatment of phthisical patients by Koch's method, a large number of bacilli showed distinct changes; they were thinner and shorter, often with thickened ends, and frequently broken. Dr. Gumpert had seen these altered bacilli in Professor Fraentzel's laboratory, and was inclined to think that he was right in attributing these changes to the influence of Koch's fluid.

LIVERPOOL.

OUR Liverpool correspondent writes: Dr. Karl Grossmann read an interesting note on Koch's treatment of tuberculosis at a recent meeting of the Liverpool Medical Institution. He stated that the rigors that sometimes followed the injection of the remedy differed in a remarkable manner from the rigors that ushered in acute diseases, in that they were not accompanied by the prostration and sense of serious illness that characterised the latter. He was of opinion that the use of the method would probably open a large field for surgery, since the tubercular nodules, when they became necrotic, would probably require operative interference for their removal.

SHEFFIELD.

OUR Sheffield Correspondent writes: The delegates sent by the Medico-Chirurgical Society to visit Berlin to watch the process of treatment adopted by Professor Koch have returned, and are to

lay their report before a meeting of the Society on December 11th. They speak of the difficulty, experienced by so many others, of obtaining any of the precious fluid, but otherwise are pleased with the opportunities they had of seeing cases and watching the process employed.

GLASGOW.

ON Monday last demonstrations were given at the three infirmaries in Glasgow—the Royal, Western, and Victoria.

At the Royal Infirmary the demonstrators were Drs. Wood Smith, Lindsay Steven, and Charles Workman, who have just returned from watching cases in Berlin, and provided with a supply of lymph, obtained through the gracious intercession of the Empress Frederick, to whom, having failed otherwise to obtain a supply, the Royal Infirmary delegation made an appeal. Dr. Wood Smith at the outset explained how impressed he and his colleagues had been with the evidences of the power of the remedy and of its apparently already proved value in diagnosis. He expressed their strong feeling that so potent a remedy should only be used in circumstances where it could be carefully watched, that is to say, either in hospitals, or in nursing institutions, or in private houses where skilled nursing was provided, and their agreement that meantime, until guarantees for security could be devised, the exact nature of the remedy should not be revealed. They had been so impressed with the powerful reactions they had witnessed that they had determined to begin with small doses. The phial of lymph they had received was sufficient for 5,000 milligramme injections. One case, treated on the previous day, had shown so marked a reaction, the temperature rising to above 102°, that it was decided not to repeat the injection that day, as had been originally intended. Six cases were then brought into the lecture room, and injections administered. Four of these were cases presenting the ordinary symptoms of pulmonary phthisis. The first had received an injection of 0.001 gramme on the previous day, and had evidenced no reaction. No bacilli had been detected in the sputum. A stronger injection, 0.003, was now administered. By evening some reaction was evident, the temperature rising to 100.6°, and the pulse and respiration in proportion. In the sputa of the three succeeding cases bacilli had been found. Each received a 0.001 injection. In one, distinct reaction came on during the night, the temperature rising to 102.2°, but the other case exhibited no effects, and the injection was repeated in greater strength twenty-four hours later. The last two cases were those of lupus in children, which had in each case destroyed the whole of the nose. One had not previously been injected, and received a dose of 0.0004 gramme. This case was interesting from the fact that, some two years ago, the right elbow-joint had been excised by Dr. Fleming, with a very excellent result. The second girl had received on the previous day the first injection of 0.0004 gramme, followed by a rise of temperature of 2°, which had subsided by the morning; and a second of 0.0006 was now given. Seven hours later both showed distinct rise in temperature and increased redness of the ulcerated areas.

During the demonstrations the lecture room was crowded by members of the profession and by students, male and female, and intense interest was manifested in the proceedings. At the close, Dr. Macewen, in seconding a vote of thanks to the demonstrators, moved by Dr. Perry, suggested that they should keep the lymph in their own hands, and not distribute it, as proposed, among the hospital staff, but that the staff of the hospital should form a committee to consider each case proposed for operation, to record their opinion regard it, to decide whether the case should be treated by injection, and to watch and record the results after injection, the treatment to be carried out by the three gentlemen who had taken so much pains to acquaint themselves with the method. The records of the committee would then form a report worth forwarding to the Empress Frederick, by whose kind intercession the lymph had been obtained.

At the Western Infirmary a demonstration was given by Dr. McCall Anderson in the operating theatre, which was crowded in every part. One case was that of a young woman with lupus; another was that of a man in an early stage of pulmonary tuberculosis. In an interesting address, Dr. McCall Anderson described the cases he had watched in London under Sir Morell Mackenzie and Mr. Watson Cheyne, and went on to give detailed information as to mode of injection, dosage, etc. He sympathised with the view that a temporary suppression of the composition and mode of manufacture of the fluid was, under the circumstances, justifiable, in which view he was supported by Professor Gairdner.

At the Victoria Hospital, several cases which had received injections on the previous day were demonstrated to a large number of medical men. Five cases had been operated on by Dr. Napier, who had received the lymph through Dr. Guttman, of Berlin. One was a case of lupus, a second a case of tubercular disease of the ankle-joint, a third tubercular disease of the knee-joint, and two cases of pulmonary disease, one without very active symptoms, the other with symptoms of some considerable activity.

On Monday afternoon Dr. Lindsay Steven lectured to the St. Mungo College Medical Society on the Koch method, and was listened to by a large audience. He indicated first his views as to the kind of cases suitable for the treatment, cases of local tuberculosis, such as of joints, bones, skin, eyes, being the most suitable. Only in the very early stage of pulmonary tubercle was the treatment to be regarded as hopeful. In cases of general tuberculosis, he believed only danger could be anticipated from the widespread reactions throughout the body. Dr. Steven considered there could be no two opinions regarding the diagnostic value of the treatment, even though he had seen patients in Berlin, suffering undoubtedly from tubercular disease, in whom no reaction followed an injection. As to its curative value, no definite statement could yet be made, and the greatest caution should be exercised in advising patients with regard to the treatment. At the close of the lecture a cordial vote of thanks was awarded Dr. Steven, on the motion of Dr. J. C. Renton.

EDINBURGH.

OUR Edinburgh Correspondent writes: Twenty-three cases in all have now been put under the injection treatment of Koch. Of these, four are in the Royal Hospital for Sick Children, and nineteen in the Royal Infirmary, in the wards under the care of Professors Grainger Stewart and Chiene, and Dr. Brakenridge. Ample opportunity has been given to physicians and surgeons visiting the Royal Infirmary to study the cases under treatment, and demonstrations and explanations have been given from time to time by Dr. Philip. On Tuesday last, in the Edinburgh University Class of Clinical Medicine, Professor Grainger Stewart devoted his lecture to a consideration of Koch's treatment, and in illustration referred to the cases at present under treatment in the Royal Infirmary, several of which were shown to the students, and the signs of improvement pointed out. Certain conclusions summarised from the treatment were then given; (1) the remedy was of great power, and must be used with extreme caution; (2) The susceptibility to its action varied with the tubercular manifestation, with the degree of the disease present, and with the individual peculiarities of the patient; (3) it was doubtful whether in every case a tolerance of the remedy was got by repeated injections; (4) the results observed in Edinburgh corresponded with those set forth by Koch. In particular, the method was of great diagnostic value, and it was of great therapeutic value in certain cases. At the close of the lecture three cases were injected by Dr. Philip, one a case of lupus, and two cases of pulmonary tubercle.

DUBLIN.

OUR Dublin Correspondent writes: In at least three of the Dublin hospitals Koch's treatment is being carried out in cases of tuberculosis. On Friday last Sir William Stokes gave an address at the Meath Hospital, and detailed the views held by Koch and his *confrères* regarding the treatment, and then proceeded to inject a patient suffering from tuberculous glands in the neck. Some patients have since been treated there with so far satisfactory results. On Tuesday, at the Richmond Hospital, there was a large gathering of medical men and students, when a demonstration was given by Mr. William Thomson, Mr. Thornley Stoker, Dr. G. P. Nugent, and Dr. O'Carroll, of the hospital staff, assisted by Dr. McKee. The proceedings consisted of short addresses, which referred to the treatment, the history of the cases exhibited, and the effects which had been observed. Two cases of incipient phthisis, one of tubercular disease of the knee-joint, one of lupus, and three of bone disease were shown as being under treatment, and several injections were made. Dr. McKee explained the methods of dilution and the dosage. Two interesting points were mentioned. Mr. Thomson referred to a form of secondary reaction which had taken place some hours after the disappearance of the first; and he was able to exhibit the scarlatiniform rash which sometimes follows injection, which in this case covered the neck and upper part of the thorax. Mr. Thornley Stoker

showed a case of lupus in which two injections—the second of 4 milligrammes—were given, in which no constitutional disturbance was produced; yet there was profound local reaction in and about the patch on the face—swelling, heat, redness, and an oozing of serum from the surface, forming into crusts. At the Mater Misericordiae Hospital, Messrs. Hayes and Lentaigne and Drs. Nixon and Boyd have some twenty cases under treatment.

NOTES FROM BERLIN.

[FROM OUR SPECIAL CORRESPONDENT.]

THERE is not much news to tell this week of clinical experiences with Koch's remedy in Berlin. Exhibitions of cases take place daily, the results shown being much the same as those previously obtained. They may be shortly stated as follows: 1. The remedy maintains its great value in diagnosis. 2. Extreme care is necessary in its application and dosage, as it is sometimes followed by serious—even dangerous—symptoms. 3. No case of complete cure has been reported as yet.

Professor Rosenbach, of Breslau, has observed that if the injection be made at a time when the patient's temperature is inclined to fall, the ensuing rise is not so marked as when the remedy and the primary tendency towards a rise of temperature act together. Rosenbach adds that in future he will be guided by this observation, as possibly an injection which at one time might not be followed by any reaction would have an effect at another time.

Dr. Kromeyer, of Halle, the dermatologist, from some microscopic observations of the tissue acted on by Koch's remedy, comes to the conclusion that the remedy produces an inflammation of the parts surrounding the tubercle, which inflammation leads to a suppuration of the tubercle itself. This does not quite accord with the opinion which Koch himself has expressed as to the action of his remedy.

The Cultus Minister v. Gossler has requested the directors of the university clinics, by circular, to let him have statistics of their experiences with Koch's remedy by January 1st. These statistics are to be united and published in the *Medizinische Jahrbücher*. After January 1st, too, a new periodical is to appear, entirely devoted to Koch's therapeutic methods.

FRANCE.

On December 7th Professor Cornil gave further details as to the cases in which he had tried Koch's remedy. His results so far have been identical with those described by other observers. One point which he mentioned was that in no case of genuine tuberculosis did the reaction fail to show itself, and it occurred in no case of non-tuberculous disease. In the two cases of lupus in which the injections produced hæmaturia there was still some blood in the urine. Both urines contained (in addition to red blood corpuscles which diminished in number day by day) hyaline fibrinous cylinders full of deformed red corpuscles. Before the injections in neither case did the urine contain either blood or albumen.

Koch's treatment has also been tried at the Hôpital St. Louis, by M. Vidal; by Professors Guyon and Ledentu, at the Hôpital Necker, in surgical cases; and by Professor Dieulafoy, in cases of phthisis. It is stated that in a case of lupus injected by Dr. Hallopeau, while the disease has been decidedly improved, heart disease has supervened, it is supposed as a result of the treatment, which has therefore been abandoned. One of the patients treated by M. Péan is also said to have died. The number of cases in which M. Péan has tried the remedy in the Hôpital St. Louis already amounts to thirty.

ITALY.

PROFESSOR BACCCELLI, of Rome, is so far the only man in Italy who has been entrusted with a sample of the precious fluid. On November 29th he injected it into two female patients suffering from lupus, and on December 1st into two men with pulmonary tuberculosis. In all the cases the reaction followed the course which may now be called classical, the local effect being, as usual, particularly marked in the cases of lupus. With regard to the cases of phthisis, no particular change in the physical signs seems to have been noted during the period of reaction beyond an increase in the number of *râles*, which were also moister than before; after the subsidence of the fever, it is stated of one that

"there was nothing new in the objective examination of the chest;" and of the other that "auscultation of the chest reveals nothing more than usual." Nothing is said as to any change in the number or appearance of the tubercle bacilli in the sputum.

DENMARK.

DR. SALOMONSEN, Professor of Bacteriology in the University of Copenhagen, who was sent to Berlin by the Danish Government to study Dr. Koch's treatment, presented a report on the subject to the Copenhagen Medical Society on November 23rd. He expressed the belief that the fluid was an extract of cultures of tubercle bacilli obtained by the method described by Pasteur. He laid some stress on the pain caused by the injections; and while admitting the importance of the new remedy as a diagnostic agent, he declined to commit himself as to its therapeutic value. He believed, however, that sooner or later the mastery would be obtained over the tuberculous process by means of the lymph. Dr. Haslund, Professor of Dermatology at Copenhagen, who has also been to Berlin, said, with reference to lupus, that he had not seen a single case among those shown as cured which he could accept as such. Nevertheless, he also is confident that the new remedy has a great future before it.

PORTUGAL.

At the opening meeting of the present session of the Sociedade das Ciencias Medicas of Lisbon, which was held on November 14th, it was proposed by Professor Sousa Martins, and carried by acclamation, that a Commission should be formed for the purpose of studying Dr. Koch's treatment of tuberculosis. The following were named members of the Commission:—Drs. Sousa Martins, Pestana, Virgilio Machado, Bettencourt Raposo, and Serrano. If necessary one of the Commissioners is to go as a delegate of the Society to Berlin.

FOUR members of the Constantinople Faculty of Medicine have been sent by the Sultan to Berlin for the purpose of studying Professor Koch's treatment of tuberculosis.

CLINICAL SOCIETY OF LONDON.

At the meeting of the Clinical Society to be held this evening (Friday, December 12th), a case of lupus of the mouth and face, treated at Berlin by Koch's method, will be shown at 8 P.M. by Dr. Pringle and Mr. Malcolm Morris.

DR. FRANK WETHERED will give a demonstration of Professor Koch's remedy at the Bristol Royal Infirmary this day (Saturday) at 12.30.

IN the House of Commons on Tuesday, December 9th, Mr. Chaplin stated, in reply to Mr. Gray, that the Board of Agriculture had applied for a small quantity of Professor Koch's fluid for purposes of experiment upon animals, but they had not received it, and consequently it could not be obtained on application to the officials of the department.

THE Medical Committee of the Brompton Hospital, in consequence of a communication from Professor Koch to a member of the medical staff, decided on Monday, December 1st, to make trial of the lymph forwarded to the hospital, and already injections have been commenced in a number of selected cases of phthisis, the results of which will be duly reported.

HONOURS continue to flow in on Professor Koch. The Sultan has conferred on him the Grand Cordon of the Medjidie Order, and the Medical Society of St. Petersburg, that of Charkow, and countless other associations of the same kind throughout Germany and Austria have elected him an honorary member. The merits of his principal assistants have also been recognised, in the case of Dr. Fuhr, by the bestowal of the much-coveted title of "Professor," and in that of Dr. Libbertz by the promotion to the dignity of *Sanitätsrath* or "Sanitary Councillor."

It is announced that all the papers, reports of cases, etc., relative to Professor Koch's treatment of tuberculosis that have appeared in the *Deutsche medicinische Wochenschrift* (in which

Professor Koch's paper was published) have been collected into one volume, which will shortly be issued. It is the first of a series of similar reprints from the same enterprising journal which it is intended to publish from time to time.

PROGRESS OF MEDICAL PROVIDENCE.

VERY satisfactory evidence of the continued and remarkable success and usefulness of the work of the Medical Sickness, Annuity, and Life Assurance Society was laid before the meeting of the Executive Committee held at 38, Wimpole Street, on Wednesday, December 10th. Present: Mr. ERNEST HART (in the chair), Dr. F. de Havilland Hall, Mr. Brindley James, Mr. F. Wallace, Dr. J. Pickett, Dr. G. E. Herman, Mr. S. W. Sibley, Mr. F. Swinford Edwards, and Dr. R. Lord. It was reported that thirty-one new proposals had been received during the last two months, which was considerably in excess of the usual average, bringing the effective membership of the Society to over 1,100. Sick-ness payments were ordered to seventeen members completely disabled from practice by illness. Among these were severe cases of locomotor ataxy and chronic myelitis in receipt of permanent allowances; of cataract, scarlet fever, and typhus, and some distressing cases of abdominal and other diseases. In two cases of tuberculous disease Koch's treatment was being carried out. An insurance claim for £200 was paid, and a claim for perioritis, following fracture of both legs who met with the accident shortly after joining the Society in perfect health. An investment was ordered of £2,500 in Canadian 4 per cent. Inscribed Stock. This stock stands at a premium of $5\frac{1}{2}$ per cent., and it was agreed that the premium be paid out of the surplus standing to the credit of the Management Fund. This surplus, owing to the gratuitous services of the Executive Committee and the great economy of the art of administration, now amounts to upwards of £3,000, the whole of which stands to the credit of the assets of the Society. These assets now amount to upwards of £44,000. Several grateful letters were read, expressing the appreciation by members who had received the benefits of the Society, of the inestimable value of the provision which it affords the means of making against financial suffering under the pressure of the calamities of sickness, accident, old age, and death. Reports, proposal forms, and copies of the last quinquennial valuation by Mr. T. G. P. Neison, F.I.A., may be obtained (free of charge) on application to the Secretary, Mr. C. J. Radley, 26, Wynne Road, Brixton, London, S.W., who will also be glad to give further particulars or answer any letters of inquiry as to the work of the Society.

LITERARY INTELLIGENCE.—It is announced that Professor Mathias Duval will for the future be associated with Dr. G. Pouchet in the editorship of the *Journal de l'Anatomie et de la Physiologie Normales*. This well-known periodical, which was founded by Professor C. Robin, has now entered on its twenty-seventh year, quite a respectable antiquity for a journal of so high—not to say dry—a class which appeals to an audience which must in the nature of things be "few," however "meet."—The *Revue Philosophique*, which now enters on its sixteenth year, is remarkable as being probably the only periodical in the world which can boast of a Minister of Cabinet rank as its editor. M. Ribot, however, is something more than a mere Minister for Foreign Affairs; he is Professor in the Collège de France, and a philosopher of credit and renown, not only among politicians, but among philosophers. A noteworthy feature of the *Revue Philosophique* is the prominence given to such subjects as the nervous system, mental pathology, anthropology, etc. Both the periodicals just mentioned are published by Félix Alcan, who, it may be added, also plays the part of Lucina to the *Revue de Médecine* and the *Revue de Chirurgie*.—On January 1st, 1891, will appear the first number of a new journal devoted to stammering and speech affections generally. It is to be entitled *Medicinisches pädagogische Monatsschrift für die Gesamte Sprachheilkunde*, and will be edited by Herr Albert Gutzmann, and Dr. Hermann Gutzmann, of Berlin.—It is announced that in January, 1891, a new series of the *Journal of Laryngology* will be commenced. Dr. John Macintyre, of Glasgow, will be associated with Dr. Norris Wolfenden in the editorship, and these gentlemen will have "the active aid and co-operation of Drs. Dundas Grant, Barclay J. Baron, Hunter Mackenzie, and Sir Morell Mackenzie" in their labours. The publisher is Mr. F. A. Davis, of Berners Street, W., and Philadelphia.