

very slightest smell. He believed if the angles were properly secured by copper plates with litharge filled in, there would not be the slightest sign of any permeation of urine. With regard to the lead base, a great deal depended on the proper gradient, and he hoped that the prophecy that in a few years' time it would become offensive would be unfulfilled. The marble slabs had not been generally seen in this country. They were made in Belgium. The pavement was very durable, and was not so slippery as some other forms of tile.

Microscopical sections were exhibited by Dr. Hyslop:—A vertical section of the spinal cord and a section of the cortex cerebri.

(a) Vertical Section of Spinal Cord through Internal Radicular Fasciculus of Clarke's Column, Anterior Horn, showing

1. Neuroglia network.
2. Radicular fibres.
3. Nerve fibres.

Stained with fuchsine.

(b) Section Cortex Cerebri, Paracentral Lobule, from case of Melancholia with Visceral Hypochondriasis, following sunstroke, showing

- (a) Spider cells (uppermost layers only).
- (b) Lymph corpuscles.

Fresh section, aniline stained.

#### SCOTTISH MEETING.

A Quarterly Meeting of the Medico-Psychological Association was held in the Hall of the Royal College of Physicians, Edinburgh, on the 14th November. Dr. Yellowlees (President-elect) occupied the chair, the other members present being Drs. Campbell Clark, Clouston, Ireland, Carlyle Johnstone, Keay, Mackenzie, Macpherson, Mitchell, Rorie, G. M. Robertson, Batty Tuke, jun., Turnbull, Watson, and Urquhart (Secretary). Professor McIntosh and Drs. Steele and Ireland, jun., also attended the meeting. Apologies for inability to be present were received from Professor Gairdner and Dr. Howden.

The minutes of last meeting were read, approved, and signed.

The following new members were duly elected:—

William Henry Barrett, M.B., C.M., Royal Edinburgh Asylum.

Frank Ashby Elkins, M.B., C.M., Royal Edinburgh Asylum.

#### LANARK DISTRICT ASYLUM.

Dr. CAMPBELL CLARK showed and explained the plans of the new Lanark District Asylum. He expressed regret that the members had not more time to look into the plans, as they would thus have been better able to judge of them than from anything he could say, and also that the architect had not been able to give him any notes to submit to the meeting. He felt some difficulty in saying anything at all, for, as they would see for themselves, the plans were out of the beaten track of asylum plans as one was accustomed to see them. Of course they were accustomed to hear a deal about model plans; but if they looked for anything to correspond with the ideas of model plans he was afraid they would be disappointed. He thought the best thing he could do was to go over the general features, and allow the members to look into the details themselves. They had a plan of the frontage, of the ground floor, of the first floor, and of the second floor. They all represent the north, south, east, and west aspects respectively. The central feature of the plan was the administrative. What was usually combined in the administrative were the commissariat offices and accommodation for the staff, the Board, and medical superintendent. The quarters of the higher officers were here broken up into halves—the male official block and the female official block. The female official block would largely accommodate the female staff; and in this way would come into use very

much as a Nurses' Home. The same requirement was not found so necessary on the male side, for so many of the male staff would be married men, and he was happy to say that there were already on the property a good many houses that would be utilized for them, so that they would be enabled to use the male official block for public offices and quarters for the medical officers, and, perhaps, also for the steward, clerk, or some others. In the centre was the dining-hall, looking to the south. This was intended to accommodate about 500 patients; but all the patients who were able to dine at table would not be accommodated there, for a certain provision was made in the two hospitals—male and female. In the dining-hall they had in addition practically two smaller dining-halls at the sides for the attendants. As a rule, in any plan he had seen lately, the attendants were provided with accommodation away from the dining-hall and adjoining the kitchen. He did not know whether the members would consider that—as in this case—it was a better plan to have them nearer the patients. Going further back they came to the kitchen, which was flanked on both sides by ample scullery and pantry accommodation.

Dr. CLOUSTON asked whether Dr. Clark would like to be interrupted with questions, or would he prefer that these be reserved until the end?

Dr. CLARK—I would very much prefer to be interrupted, for then you would get what information you want. I have prepared no systematic description, and, therefore, it will not disturb me at all to be interrupted.

Dr. CLOUSTON—Then may I ask if these two attendants' dining-halls are screened from the main dining-hall, or do they form part of the same room?

Dr. CLARK—The architect has not said anything on the subject yet, but my idea is that there should be a screen to a certain height, and that the attendants can, if necessary, hear what is going on and turn into the hall at once.

Dr. CLOUSTON—Are the attendants supposed to be dining at the same time?

Dr. CLARK—No; but after they have served the patients. I do not know what resolution may be arrived at, but if they do as they are doing at Bothwell they will dine after they have served the patients. The service room is at the kitchen itself, forming a part of the kitchen, and intercepting the main corridor, the male and female sides ending here. This large space will constitute ample room. The scullery accommodation is very ample, and I think that is a most important thing. I think there is a very general defect in very many asylums, although I believe there are some excellent exceptions. In some you will find that all the dirty dishes, knives and forks that have been used in the dining-hall have to be carried through the kitchen before they get to the scullery, and, therefore, you find the kitchen accommodation utterly inadequate for the traffic and the scullery very much out of the way, but here you obtain considerable and immediate accommodation for clearing away dirty dishes and a long range of hot-plate service. There is also a room for the kitchen patients to take their food in. As a rule, they take food in a very haphazard way, and I do not think their meals are very nicely served, or that they acquire very nice habits. The store, I think you will admit, is pretty ample, and instead of having it very much broken up, as in some places, it is here centralized. You have soft goods, *i.e.*, groceries and provisions, inside the general store, with a dwarf partition and glazed screen to prevent the dust getting into the other parts of the store where the dry goods are. The store communicates at each end for supplying the female attendants (at the west) and the males (at the east), and it communicates directly into the cook's store, and, lastly, into the kitchen for the supply of bread. Of course these details will be, more or less, unintelligible to you, for the plan is on a small scale, and you could not follow it at your distance unless it were on a larger scale. One arrangement that will be useful is that the Caledonian Railway from Edinburgh to Glasgow is to be connected directly at Hartwood with the asylum by means of a special line of railway. In that way coals will be carried direct to the coal store, and waggons will be shunted alongside a platform in front of the general store. The work-

shops are grouped together, but I do not know that I can say anything about them at present, except that the accommodation is very ample. In fact, that seems to be a principle pervading the whole plan, viz., that the allowance is, perhaps, on the side of extravagance, but certainly not on the side of meanness. The mortuary comprises service-room, mortuary, and post-mortem room, and there is a fire engine station which can be got at from the male and female side. The boiler-house is very large, and communicates direct with the laundry. I may mention that I understand the Chairman (Dr. Yellowlees) is, as regards the electric light, ahead of us. They have decided to have the electric light at Gartnavel, and will probably be before us. The intention of the Board is to have the electric light all through the asylum; we are to have no gas at all.

The CHAIRMAN—How do you propose to provide light if the electric light fail?

Dr. CLARK—Well, our architect does not seem to take into consideration that the electric light can possibly fail. Fortunately he is a man who has great experience of electric lighting. He has it in his own house, and has introduced it into many others, and has no question of failure at all. If it does fail I suppose we can but fall back on candles or paraffin lamps.

The CHAIRMAN—You will make the engine which is available for laundry purposes serve for the electric light as well?

Dr. CLARK—Yes; if you have time to look into the laundry, I think you will find the arrangement very complete. There are separate receiving rooms for the males and females. That will save a deal of trouble in receiving on different days. There is a large washing-house, with tubs along the one side for males and along the other side for females, and boilers in the centre in the same way. Then there is a set of tubs in the centre for officials—male and female. The foul washing-house is quite distinct from the laundry; you have to go outside the laundry to get into it. There are a number of other questions, I must say, that have not yet been matured, and I do not feel competent to speak about them at present. We have a number of things to go into that we have not made up our minds about. I cannot say for certain what amount of machinery we will have in the laundry. If we pass along, leaving the official block and coming along the female side, we reach a group of buildings which are entirely by themselves—the acute senile and infirm part of the asylum and the hospital proper. We have the same arrangement on the male side. I should like to hear what Dr. Clouston would have to say as to these, for he is better qualified than I am to speak about them, and a number of the ideas appear to have been got from the working of the Morningside Asylum. I think it has some advantages for the purely infirm and senile in that we are able to separate our infirm and frail patients from the hospital and still place them so conveniently that if they have at any time to take to bed they have simply to pass through a door. The infirm patients have their own little dining-hall very convenient to the kitchen. I think it is undesirable that they should go into the common dining-hall; they may be knocked about and injured, and they are frail and not fit for much travel. A main consideration was to bring their dining-room as near as possible to the general kitchen. It seemed unnecessary to have a kitchen that would cook for all in the hospital, whether they were in bed or out of bed, and in this case it is only necessary to cook for those who are in bed or getting extras. The regular dinners will be cooked in the main kitchen.

The CHAIRMAN—Do you intend a man and his wife to take charge, and the woman to do the cooking in these separated wards?

Dr. CLARK—That is not decided. It is a costly business if you are to have three cooks. In this case all the cooking will be done in the kitchen except extras. There will be only custards, beef tea, and little things like that, and I do not think it should be necessary to have a woman purely for that purpose.

Dr. CLOUSTON—Am I right in understanding from your description that you

have the hospital practically divided into two sections—one for the frail that are incurable, like old bed-ridden women, and the other for the frail that are curable and may be very acute?

Dr. CLARK—No; I think you have misunderstood me. I may explain it in this way. Take our own asylum at Kirklands. We have twenty in a sick ward. Of that number fifteen will be out of bed and trotting about, more or less. It is scarcely fair to call them hospital patients. But I think it is fair that when they are only passing perhaps a day or two in bed once a month or so they should pass through the door and take their diet in the hall; but patients like that are better not to go through to the general dining-hall and travel about with the other patients.

Dr. CLOUSTON—My definition of an asylum infirm patient is one that needs extra nursing from any cause, bodily or mental.

Dr. CLARK—But there is nothing to prevent them taking their diets. There are patients in the hospital that cannot take any portion of the general diet, and you may have to make a special diet for them in the hospital kitchen.

Dr. CLARK, in answer to further questions, said the accommodation for the senile and that for the infirm were not separate; they really worked into each other. Some might be in the hospital one day, and another day in the day-room. One woman or man would be in charge of the whole sixty beds. All these were grouped together, and were totally different from the chronic ward, which was behind. The same man or woman would not be in charge of the acute patients, where the bodily state was strong and vigorous. The question came to be, whether there should not be a day nurse for the males. That was one of the questions he was not clear about. The hospital for the really sick was one story; and the rest of the building, *i.e.*, for those going about all day, was two stories. It was the Morningside idea, worked out, perhaps, in a different way. The retreating wing at the extremity of the main hospital was the infectious hospital. If the place became crowded, that might be used for ordinary accommodation. He did not think it was objectionable to keep the two linked, even in case of small-pox—on which there had been so much discussion. That building rather obstructed the light of the acute ward behind it; and the idea had been to get it further along, but unfortunately the ground would not admit of that. The question how the drains should run from the infectious hospital had not yet been considered, and he would be glad to hear the ideas of the members regarding that.

Professor McINTOSH—Those drains should not run into the others. What is the nature of the soil?

Dr. CLARK said it was a pretty open soil; there was no gravel or sand, and very little clay. He could not say whether there was any alluvial deposit. The railway is almost finished.

The CHAIRMAN—Have you got any of the old-fashioned things called airing-courts?

Dr. CLARK—No.

The CHAIRMAN—I am old-fashioned enough to dare to put the question.

Dr. CLARK pointed to a space which, he said, he had thought would commend itself to the Chairman as a good airing-court.

The CHAIRMAN—It is a very bad one.

Dr. CLARK pointed out the places in which the patients would have exercise; and then, reverting to the question of the isolation of the infectious diseases hospital, remarked that a great deal had been said of late about the infectiousness of small-pox, but that it was still an open question whether small-pox could just drop from one house down into another.

Dr. URQUHART—We have had experience of that in Perth lately, so much so that the authorities, after full consideration, built a separate small-pox hospital, because they found that the small-pox spread from the old infirmary, surrounded, as it is, by buildings. That was conformable to recent investigations. The

small-pox germ is carried in the air further than that of scarlatina. I think that in this respect small-pox is an exceptional disease.

Dr. CLARK—I do not think that has been confirmed by authorities, though. It was generally supposed that the Perth authorities were unnecessarily alarmed on the subject. It is still an open question.

Dr. URQUHART—That was their experience—the small-pox spreading to the neighbouring street.

The CHAIRMAN, referring to the plans, pointed out that the main building had an exposure directly south, and that the side blocks had an east and west exposure, although Shotts was supposed to be the coldest parish in the whole of Lanarkshire.

Dr. CLARK—That is a question that was raised, and we had a good deal of discussion about it; but there are so many things to get in building an asylum that sometimes we have to compromise. One gentleman said that Shotts had nine months of winter and three of autumn. In that case I don't know, therefore, that a southern exposure will be material, for there will be as little sun at the one time as at the other. Exposure to the south is theoretically the right thing, but in practice it does not always work, and you can't have all the exposures to the south.

Dr. CLOUSTON—I must say I would be inclined to suggest as a practical matter that these two rooms for infectious diseases should not yet be contracted for—that you should begin without them. Science is altering our ideas on the question of infection very much.

The CHAIRMAN—To which I would add the suggestion that the acute and chronic blocks should be placed further out, and more to the south than they are at present.

Dr. URQUHART—I have been visiting a great many asylums lately, and have been very much struck with the plan of the Cane Hill Asylum, in Surrey. I think that is the finest of the large asylums, so far as I have seen. There the connecting corridors, instead of being straight and V shaped, as in Dr. Clark's plan, are semi-circular, with radiating wards, so arranged that by placing high and low wards alternately, each gets a fair share of sunshine.

Dr. CLARK—That is a question that was thoroughly considered, and the architect had that specially before him, and, with the Commissioners, tried to shift all these blocks so as to bring them all to the south. It looked very simple at one time, and they spent a long time in trying to bring them to that, but they had to give it up. I made a calculation that all the patients spend three hours a day in the dining-hall, which is to the south; and that is during sunshine. I do not think the plan does the architect justice, for you have no perspective at all. I should think the ventilation will be very free. Of course we have to take into consideration the fact that the site is very high. I do not think there is any fear of ventilation. I am only afraid there will be too much of it. The site is 650 feet above the level of the sea. It is cold, and exposed especially to the south-west, and we will have to plant a good deal around and to the south-west. I thought when Dr. Urquhart wrote to me that I was coming too soon, for I am not able to answer all questions. Our ideas as to working details are only coming as we see the buildings grow.

The CHAIRMAN—I am sure we are very much obliged to you, certainly for allowing us to see the plans and ask questions. I think that really is the value of bringing forward a plan, and that you have done us a greater kindness than if you had brought us a formal paper.

Dr. URQUHART read a paper on a "Case of Cerebral Tumour," with remarks by Dr. Byrom Bramwell.

The leading features of the case were that the patient was admitted with a history of hypochondria, complaining of occipital headache, exaggerated sensibility to sounds, sleeplessness, and mental dulness. These symptoms did not appear to be constant. He could blow the organ while declaring that even

musical noises were torturing to him, and he was observed to have a fair amount of sleep. About two years after the first onset of his malady he was observed to present paralytic symptoms, loss of control over the sphincters, difficulty of articulation, shuffling gait; the headache then became frontal, and gradually all his movements were executed in a fumbling manner. Three months after these symptoms were first noted he was seized with an epileptiform convulsion, in which the convulsions were almost entirely limited to the left arm, slight twitching of the face, the right angle of the mouth drawn outwards, and a tremulous movement of the left leg. This was followed by impairment of power and sensibility of the left side, and a hilarious mental state. The left leg became stiffened in extension with constant slight tremors of the calf; power of voluntary motion of the limbs of the left side was lost; the optic discs were found to be swollen. A second fit followed in about two months. In it the convulsions affected the right arm and leg, and the right side of the face. The head was rotated to the right, and the eyeballs similarly directed. The left side was not affected. Order of implication, eyes, head, face, arm, and leg. One attack followed another very rapidly till a *status epilepticus* became established. Breathing was more and more embarrassed, and the patient died in a few hours. At the autopsy the dura mater was found adherent to the vertex; the veins on the surface of the brain very much congested, especially about the right fissure of Rolando, and bulging was observed in the right motor area. The part so affected embraced the lower parts of the ascending frontal and parietal convolutions, and the middle and inferior frontal convolutions. On section a cyst, nearly the size of a pigeon's egg, was found in this position. It was filled with dark-coloured, clotted blood and pink gelatinous matter. In the upper part it approached very near the surface; in the lower part it was about a quarter of an inch from the surface of the brain. Dr. Byrom Bramwell kindly examined the tumour, and submitted the following remarks:—"I find a large extravasation of blood in the anterior and inferior part of the right hemisphere. The remaining portions of the brain appear to be perfectly normal. The walls of the blood cyst seem to be composed of gliomatous tissue. The tumour itself is a glioma or a glio-sarcoma. There are numerous punctiform hæmorrhages around the blood vessels in the brain tissue adjacent to the lesion (*i.e.*, in portions of the brain which, to the naked eye, appear to be perfectly normal). The walls of the cyst are composed of gliomatous tissue. The tumour itself is chiefly composed of round transparent cells, mostly containing one nucleus. These cells are for the most part about twice the size of white corpuscles. Around some of the blood vessels in the brain adjacent to the tumour there was well-marked softening, with evidence of inflammatory changes. Large bodies, like epithelial cells, were seen in the nerve-tissue on the sides of the softened cavity. Some of the sections show a colloid-looking material, evidently derived from the extravasated blood. No doubt these bodies which at first resembled epithelial cells are merely aggregations of this colloid material, and not cells of a new growth."

Dr. IRELAND—During the reading of Dr. Urquhart's paper I followed the symptoms detailed, in the hope of diagnosing the site of the tumour, but I confess that I have failed to do so. The earlier symptoms—difficulty of articulation, dulness of hearing, diminution of sensibility, and increased flow of urine—seem to indicate a tumour near the posterior portion of the pons. I do not know whether facial paralysis was mentioned. I do not even yet know precisely where the tumour was situated. Dr. Bramwell puts it in the anterior and under part of the right hemisphere. It is difficult to connect the mental symptoms with this tumour. No doubt the parts round the frontal were in a state of irritation, owing to this growth. I should say it was a tumour of slow growth, commencing below and working its way upwards, and causing convulsions, and carrying off the patient by the constant irritation it caused in the motor area of the right side of the brain.

Dr. CLOUSTON—It is very common for the mental symptoms to precede the

motor symptoms in gross diseases of the brain in cases of tumour, and of syphilitic disease of the brain, and of atrophies and destructions from impaired blood supply. I have a young man now in whom the mental symptoms began by moral perversity. Afterwards they became delusional, and then the motor symptoms and convulsions, with partial paralysis of one side, appeared. I can recall many cases of senile patients too in whom the mental symptoms preceded paralysis. It seems to me that in such cases we have to go back to the question of mental heredity. I think in cases where we have mental symptoms preceding motor symptoms from gross disease, it means that the mental tissue of the brain was predisposed towards disease, and took exceedingly little irritation to set up that disease. In most of the cases, where an ordinary attack of mania follows a shock like a railway injury, or a fall, when you come to inquire into their heredity you will find a neurotic or mental taint. The gross disease in such cases acts in the same way exactly as in ordinary hereditary cases. A woman predisposed to insanity loses one of her children and becomes insane, the emotional cause here acting just as a fall, or the commencing trophic changes round an incipient brain tumour. Hæmorrhages often occur in a multiple and capillary form, beyond the range of the actual tumour, probably caused by vascular spasm, followed by paralytic dilatation and blood stasis, this resulting from irritation; just in the same way we can imagine mental symptoms to occur from vascular and neurine irritation spreading outwards round the area of the tumour in the ordinary lines of function.

Dr. MACPHERSON—I should like to make a few remarks, having seen a case, somewhat like this reported by Dr. Urquhart, which I published in the "Edinburgh Medical Journal" two or three years ago. It was a case of tumour in the right frontal lobe, pressing on the orbital convolutions, and, as in Dr. Clouston's case, the symptoms began with moral perversion and drunkenness, and gradually ended in dementia, with motor convulsions. In connection with the remark which Dr. Clouston has just made, it is interesting to note that tumours in the frontal lobes very often do produce motor convulsions, though quite apart from any direct pressure on the motor areas of the brain, and, in accordance with Dr. Hughlings Jackson's theory, I think it may safely be conjectured that these motor symptoms are produced on account of the motor and sensory functions being re-represented in the frontal lobes, and that the frontal lobes thus exercise a controlling influence over the motor and sensory areas of the cortex.

Dr. G. M. ROBERTSON—Dr. Ireland has started the question of the localization of the tumour during the life of the patient. He has mentioned phenomena such as the disturbance of smell, which accompanied the other symptoms during life, and which were not afterwards fully explained. In most cases of gross brain disease, there are these functional disturbances, which have really no organic connection with the disease, otherwise there is in this case a regular sequence of symptoms which might perhaps have led one to diagnose the seat of the lesion. The first symptoms one observed were the mental symptoms, and Dr. Clouston has put forward a theory to account for this. At the same time, when the mental symptoms occur so prominently one suspects a lesion in the intellectual, and not in the motor or sensory areas of the brain, and the frontal lobes one would suspect most. The next symptom that occurred was that of pain, and it is curious that the pain was first complained of over the occipital lobes, the opposite side of the brain from the seat of the lesion. An observation of a similar kind has been recorded by Dr. Ferrier, I believe, in which he points out that pain may assume the position of *contre coup*. Operation for tumour on the strength of the position of the pain alone is a very risky proceeding, and one may operate on the vertex and find the tumour at the base. The pain complained of was not a serious or prominent symptom, and it pointed to the fact that probably the lesion was not connected with the membranes. The internal parts of the brain are not sensitive; one can work with the finger in the white

and grey matter without producing pain at all, but the membranes are supplied by the fifth and other nerves, and are very sensitive, and section of the membranes causes great pain. If a lesion occurs in the membranes it causes irritation, and a main symptom of the case is pain, and often vomiting. As pain was not an important symptom, we conclude that the lesion was not on the surface of the brain. Another reason for believing this was the late occurrence of the convulsions, for had the lesion been in the grey matter or membranes near a motor area, convulsions would have occurred early, and been a prominent symptom. On the other hand, a lesion of the white matter, especially if it be of slow growth, tends to produce not convulsions, but rather paralysis, by interruption of the motor tract. To have convulsions one must have irritation of the grey matter, which does not occur in slow growing lesions of the white matter. The first convulsions that the patient had pointed conclusively to a lesion of the right side, and the anterior part of the brain. The facial and the arm muscles were those mainly convulsed, pointing to a lesion under the middle of the ascending frontal; at the same time the leg was slightly convulsed, and there was marked unconsciousness, and this also points to a lesion tending to be more anterior than posterior to the fissure of Rolando. In a Jacksonian fit such as this was, unconsciousness does not necessarily result, and when we have unconsciousness so marked in a fit that was not severe enough to convulse strongly the leg of the same side, one suspects strongly that the lesion itself is in, or very close to, an intellectual area, such as the frontal. The second convulsion was on the other side of the body mainly, and would have upset one's ideas as to the localization of this tumour. The explanation of this is not quite clear. It probably was that the lesion had extended and had interrupted many of the motor fibres coming from the grey matter, so that the discharge from the grey matter would not come in full volume. At the same time the commissural fibres going to the other half of the brain must have been intact, and the motor discharge must have mainly gone in that direction. The full significance of these commissural fibres in convulsions is not thoroughly understood. Convulsions are known to be transferred from one side to the other, and Dr. Buzzard, by painting blistering fluid on a limb in which an epileptic aura was experienced, has transferred it to the other side. The case has been a very interesting and important one, and the above is my explanation of the symptoms, so far as I understand them.

Dr. URQUHART—The case now reported was most obscure in its inception, and it was only after the fit on the 27th December—a little more than a year after admission—that the first absolute symptom of gross brain disease occurred. The order of implication was from the face downwards by the arm and leg. In the last fit it would be noted that the right side was convulsed, while the left was affected by clonic spasm. It may be conjectured that there would have been a general epileptiform seizure had it not been for the persistent spasm of the left side, which had lasted since the first fit. The tumour, no doubt, had grown from within outwards, so that the convulsions observed to be affected were implicated in a secondary manner. Dr. Clouston's observation regarding the precedence of the mental over the motor functions in such cases is borne out by the history of that now reported. There was no doubt as to the presence of a neurotic inheritance. Arrangements were being made with Dr. MacEwan to see the case with a view to operation, but the fatal event supervened before these were completed.

Dr. MACKENZIE then read a part of a paper on "Sulphonal and Caffeine." It dealt with his observations on the action of sulphonal as used in the Northumberland County Asylum.

Dr. G. M. ROBERTSON—We have treated many patients at Morningside Asylum with sulphonal, and many of our observations have corresponded exactly with those of Dr. Mackenzie. The dose we give is about 30 grains morning and evening, and one of the marked symptoms is this appearance of



drunkenness, the inco-ordination and placidity of the voluntary muscles. Some patients seem utterly collapsed, but really are not so collapsed as they look, for their pulse is pretty fair, and they all get over it. We have had one or two good results. A woman, who for five months suffered from acute mania, after twelve doses of 30 grains each, quieted down, and became quite reasonable. At the same time her bodily weight increased 17 lbs. in six weeks, and she has since been discharged recovered. In another case of chronic mania there has been an interval of quietness over thirty days, such as never occurred before in the history of the patient. In ordinary sleeplessness it has done very well. It acts very slowly; we usually give it four hours before its action is desired. The action lasts a long time, and the patient looks exhausted next day. There has been more vomiting in our cases than Dr. Mackenzie reports. The sleep produced is a very natural one. It seems to produce a state of the brain such as natural sleep does. A paleness of face is seen in the patients. It may act in this way—relieving the excitement of mania by relieving the congestion of the brain. It is best administered powdered up and in mucilage, but it is taken very easily in soup or milk. It has a slightly bitter taste.

Dr. WATSON—I think sulphonal is one of the very best hypnotics we have, and I have used it largely, not only in the asylum, but in the parochial hospital, with which I am connected. In addition to its hypnotic action, it seems in cases of chronic arthritis and other painful affections to have an undoubted analgesic action. Dr. Leech, in his paper in the "British Medical Journal," denies this, and attributes the relief of pain to sleep coming on; but I am not at all satisfied that he is correct in this view. I have not had the experience of pushing the drug as Dr. Mackenzie has done, rarely giving more than 30 or 40 grains once a day, and although the effects continue sometimes during the whole of the following day—the patient waking up, taking food and falling asleep again—the symptoms detailed by him and others as following more frequently administered doses were not observed. Neither have I observed either vomiting or purging to follow its use. If a patient is suspicious, perhaps the best way to give sulphonal is to mix it with porridge and sweet milk (if it is his usual supper), which very effectually conceals the slightly bitter taste.

Dr. URQUHART—We all owe our thanks to Dr. Mackenzie for his valuable paper. I have lately had the pleasure of personally observing his valuable experimental researches in the use of sulphonal. In my own practice I have often been disappointed with ineffectual results; but, now that we are made aware of the limits of safety up to which this drug can be pushed, and at which the greatest benefit is to be expected, we shall continue to employ sulphonal with greater confidence and hopefulness than hitherto.

The CHAIRMAN—I heartily agree with all that has been said in regard to the paper. I think this kind of work is of extreme value, for it settles the question with reference to this particular drug. In this exhaustive and bold series of experiments, what has struck me most is the extent to which it was pushed. I have never ventured to give sulphonal in such doses as Dr. Mackenzie uses. I should like to know if he has never seen from these extreme doses any alarming or perilous results?

Dr. MACKENZIE replied that he had seen prostration, in which the heart did not seem to share.

The CHAIRMAN—Is it a common feature that the ground seems to rise? One man, who always seemed dazed after sulphonal, complained lately that the ground had risen, and had gone into waves; "as in a ground swell" was his expression.

Dr. MACKENZIE—It is frequently expressed as sea-sickness.

The CHAIRMAN—That is perhaps a different way of expressing the same thing.

Dr. CLARK—What I want to say is what I believe a good many would like to say also: the great difficulty they feel with regard to all these remedies that

are introduced. They cannot be said to be a panacea for all forms of mental disease; and the difficulty is to know in what particular case you are to give a specific remedy, for the question is whether you are producing certain results or whether they are coming about in a natural way. To give an illustration, I had two cases of general paralysis—one a female and the other a male. I called in a surgeon to see the male, who had been in a state of acute excitement night and day for six months, and in hitting his elbow against the side of his room had possibly chipped off a bit of the bone. The surgeon soon had to deal with extensive cellulitis, and had to make deep incisions about three inches long in the upper and lower arm. In order to get surgical rest he tried him with sulphonal. He got about 30 grains, and slept. The surgeon thought that was the effect of the sulphonal. I said I was not sure, but that it was the effect of the depletion. However, we tried it on the female, with the result that double and triple doses had no effect whatever. These are cases that show we are rather uncertain as to what we should do with hypnotics. My experience is that general paralytics are most unsatisfactory patients to treat with hypnotics of any kind whatever. I am sure we value highly the most excellent paper read to us by Dr. Mackenzie. I feel that he is working up the subject in a scientific and precise manner, and that is the only right way of taking up such questions at all. Only I fear he was rather hurried, and possibly we have not so exhaustive an account of the results as we would like. The paper is one which we will enjoy much more to read than when read to us; and I think we are much indebted to him.

The CHAIRMAN—Has Dr. Mackenzie anything to say about the differentiation of cases, and as to whether general paralytic cases are amenable to sulphonal?

Dr. MACKENZIE—I have tried it on a series of cases, almost representative of the different forms of insanity—puerperal mania, melancholia of the different varieties, chronic mania, acute mania in males and females, and acute mania in old men and melancholia in young people; and I cannot say that I have found it fail in any case. If it had at any time failed I simply doubled and repeated the dose, a treatment by which they were invariably overtaken.

The CHAIRMAN—What about the excitement associated with palpable organic change?

Dr. MACKENZIE—I think all muscular excitement is allayed by it. As its action progresses they have no desire to speak; destructiveness ceases, because they cannot destroy. They have nothing to say; their great desire under sulphonal is to sleep—there is intense mental and muscular drowsiness.

The CHAIRMAN—You have not been contrasting or comparing it with other hypnotics?

Dr. MACKENZIE—Yes; I have contrasted it with paraldehyde, and several cases will show that where paraldehyde in my experience failed, sulphonal was attended with great success. I have seen several cases put under its influence of, *e.g.*, excited melancholia, chronic mania, and other varieties of the muscular or objective insanities, while hyosein and chloral would produce a form of toxic sleep from which they did not always emerge improved, but frequently with signs of the severity of these drugs on the circulation. In sulphonal the heart's action was always good. I never saw a symptom of failure. It might take about a week to completely saturate them with the drug, then it was discontinued, and it took less than another to enable them to leave their beds—a change for which many of them were indebted to sulphonal.

Dr. WATSON—Have you used sulphonal in dementia, and with what results?

Dr. MACKENZIE—Yes. It allays the noise, excitement, and destructiveness. But I did not see it attended with very much mental improvement in the case of dements of long standing after they had recovered from the effects of the drug. Of course there are cases where we seldom look for mental recovery.

Dr. ROBERTSON—What is your biggest dose?

Dr. MACKENZIE—180 grains in twelve hours.

The CHAIRMAN—The gratifying thing about sulphonal is this—that while it quells excitement as efficaciously as hyoscyamine, the man when he awakes is much better. Hyoscyamine does no permanent good; that is the experience of most people; but it is said that after sulphonal the patient emerges another man altogether. That is a great matter. But 180 grains in twelve hours is something solemnizing; it is something very much further than any of us in the North have dared to do so far as I know.

It was resolved to hold a joint meeting with the English members at Manchester in March, instead of the usual spring quarterly meeting in Glasgow.

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#### THE NEXT QUARTERLY MEETING.

This will be held in Manchester, in March, 1890. The Honorary Secretary, Dr. Fletcher Beach, Darenth, Kent, will send out a notice to every member, with full particulars as to time and place.

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#### CONGRÈS DE PSYCHOLOGIE PHYSIOLOGIQUE.

During this last Exhibition year, with its more than forty Congresses, Paris has played her part admirably—a most courteous and attractive hostess, with the rare gift of putting her guests completely at their ease, and of affording them every opportunity of getting to know her and each other. In almost every branch of knowledge there was a Congress, and it is not surprising, therefore, that on one subject in which the French are deeply interested, “*La Psychologie Physiologique*”—or, as the English not inaccurately translate it, *Experimental Psychology*—there was a Congress which lasted five days, and was successful beyond the hopes of those who planned it. Some eight years ago such a project was talked of, but no attempt was made to carry it out, as it was feared it was not likely to excite a wide enough interest to secure success, and that it might launch its projectors on too wide a sea with too many sunken rocks. But the last eight years have made a very great difference in the spread of interest and knowledge in this subject throughout Europe. The Chair of *Psychologie Physiologique*, which M. Ribot so well fills, has been created; the *Société de Psychologie Physiologique*, under the Presidency of M. Charcot, with MM. Paul Janet and Ribot for Vice-Presidents, and M. Ch. Richet for General Secretary, was founded in 1885, and has included many well-known men in science and literature—M. Helmholz, M. Taine, M. Sully Prudhomme, M. Wundt, M. Donders, and from England Mr. Galton, Professor Bain, Dr. Bastian, Dr. Broadbent, Dr. Hack Tuke, Dr. Ferrier, Mr. Sully, Mr. G. J. Romanes, and others. Its Bulletins, though not widely noticed in England, have contained many valuable contributions from first-rate observers to the very difficult subjects of experimental psychology. In England in 1882 the Society for Psychical Research was founded, under the Presidency of Mr. Henry Sidgwick, Professor of Moral Philosophy at the University of Cambridge, with Professor J. C. Adams, Lord Rayleigh, Professor Oliver Lodge, Professor Alex. Macalister, Professor J. J. Thomson, Professor Barrett, and Dr. Lockhart Robertson now on its Council, and which has not been by any means inactive, and similar societies have since risen up at Berlin, Munich, Moscow, Boston, U.S.A., and elsewhere with the same objects, showing a rapid growth of interest in these subjects of *Experimental Psychology*.

An attempt at an International Congress on these matters was boldly resolved upon at Paris in the spring of last year with M. Charcot as President, and M.