

death. There were three or four bags of pus about his body, and it was just a question whether to let him die as he was or to evacuate these abscesses. I decided to evacuate them, and then he improved, and instead of dying passed into a quiet, weak-minded condition—well, not so very weak-minded—and he has remained in that condition since 1884, and two or three times lately he has challenged me to play lawn tennis with him.

The PRESIDENT—This very interesting paper is full of subjects for discussion had there been time for it. I am inclined to think that in the traumatic cases mentioned the disease really existed previously, and the blow merely developed it. With regard to the apparent recovery from general paralysis, I think that many alcoholic cases wonderfully resemble general paralysis, and I suspect that some of those recoveries are in cases of alcoholic origin. General paralysis may develop in the course of another insanity. That is a statement which may probably be received with a good deal of doubt; but I believe I have seen that. It would be interesting to know what the experience of the meeting is, but it is too late now to enter on the question. Some one mentioned *trephining* in general paralysis. I am disposed to think it one of the most unjustifiable developments of brain surgery that we have yet heard of. (Hear, hear.) We all thank you, Dr. Fox, for your very suggestive paper. Before we separate, let me say that those who have not looked into Brislington House ought certainly to do so. It is a most interesting monument of what was done in the early days of the century, when the treatment of the insane was very different from what it is now. (Applause.) The beautiful grounds and the villas you may take for granted, but in the old house you will look with much interest at the kindly and thoughtful provision which was made for the treatment of the insane in years long gone by. (Applause.)

The meeting then terminated.

Members dined together at the Royal Hotel, Bristol, in the evening, under the presidency of Dr. Yellowlees.

THE MEDICO-PSYCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

A Quarterly Meeting of this Association was held in the Hall of the Royal College of Physicians, Edinburgh, on 12th March, 1891. Dr. Keiller was called to the chair, in the absence of the President.

The SECRETARY (Dr. Urquhart) read the minutes of the previous meeting, which were approved, and signed by the Chairman.

ELECTION OF NEW MEMBERS.

The meeting unanimously elected the following as members of the Association:—John Bruce, M.B., C.M.Ed., Asst. Med. Off. Crichton Royal Institution, Dumfries; Herbert W. Greatbatch, M.B., C.M.Ed., Jun. Asst. Med. Off. Montrose Royal Asylum; John G. Havelock, M.B., C.M.Ed., Sen. Asst. Med. Off. Montrose Royal Asylum.

THE IMPAIRMENT OF THE ARITHMETICAL FACULTY IN INSANITY.

Dr. IRELAND then read a paper on "The Impairment of the Arithmetical Faculty in Insanity" (see Original Articles).

Dr. SHUTTLEWORTH said that, had he known sooner of Dr. Ireland's paper, he would have come better provided with facts and figures which might have had some bearing upon the subject. He had sent home for one of the reports of the Institution of which he was the medical officer (the Royal Albert Asylum), where they had 580 imbecile children; and in an appendix to that report there were statistics which would bear out to some extent the views of Dr. Ireland as to the marked deficiency in arithmetical power of that class of patients

Out of 580, there were only 27 who were able to work sums in the simple rules, and ten of these were able to work sums in the compound rules—he supposed that included compound division. The highest point of mathematical proficiency reached seemed to be the rule of three. At the other end of the scale it was noticeable that of the 580 there were as many as 205 who could not count at all, and 148 who could count but a little; 77 could count only up to thirty; 54 understood the value of unit figures—that was, they could count and show what the meaning of figures was; 69 could work simple addition sums; and 27 worked easy sums in the simple rules. Dr. Ireland had referred casually to some children who were reputed to be imbeciles, but who were said to have phenomenal powers of calculation. He rather agreed with Dr. Ireland that these children were not usually, in the strict sense of the word, idiots—at any rate, not congenital imbeciles. They were children who, during the developmental period, had had certain of their faculties impaired by some fever or something that had caused atrophy in a portion of the brain, leaving the arithmetical powers unimpaired. He had, however, in his Institution a remarkable case of a young man with a history of congenital imbecility, who was able, without much mental effort, to give the day of the week corresponding to the day of the month for several years past and for several years to come. He was puzzled to find out how the young man arrived so speedily at his results, which were invariably correct; and it seemed that there was a certain amount of calculation in the process, but there was more of mechanical memory. This young man had made it a speciality to study the days with which each year began and each month of the year began, for a great many years past; and having excited interest amongst his companions and visitors as to his powers in this way, he had devoted a good deal of attention to the matter. And these fixed dates—the days on which the years began, and possibly the days on which the months began—seemed to be fixed points in his mind, which he had no trouble in recollecting, and it was easy for him to calculate from them forwards and backwards. His ready answers were certainly very surprising to a stranger. He had met one other similar case in an American Institution. It was remarkable in that youth, when he was asked the dates for years back, within his own memory—for nine or ten years—that he gave the answer correctly. When he was asked to give a date a year forward he replied, “No; I cannot see so far ahead.” In his case it was more an effort of memory than an effort of calculation. With regard to training the power of calculation in imbeciles, the great difficulty was their very imperfect powers of abstraction, and it was necessary to use concrete forms, such as beads, balls, etc., for demonstration. In his Institution they had cubical rods, divided into smaller sections, like wooden bricks. The smallest was one inch long, and they increased in size from one inch up to ten. Pupils were taught to arrange these in their order of size, so that there was a series of gradations, counting one to ten, from the smallest brick up to the largest one. In that way they got an idea of the relation of numbers to dimensions. After getting them to understand elementary notions of figures, they found a very convenient plan to give them practical ideas as to the value of money, weights, etc., was the “shop lessons,” which they had in most institutions. There was a cabinet in which were displayed canisters of tea, coffee, and sugar, etc.; and for the girls, tape, ribbons, and other articles. One pupil was made shopkeeper, the others being sent in succession to make purchases. The articles were weighed and measured, and then came the problem of paying for them. The calculation was made under the supervision of the teacher of the class, and the purchases were paid for in actual coins. Problems of change of money were also gone through. By such means one got a number of the imbecile children to have a pretty good idea of the value of small sums of money. Dr. Ireland had mentioned that it was remarkable that, whereas the faculty of number was so much impaired in idiots, the faculty of music was prominent. He had remarked that himself, but as regards any idea of the theory of music they would find that that was entirely absent and not under-

stood in the least degree by the imbecile class. It seemed to him, indeed, that the humming of tunes by idiots amounted to little more than a pleasant titillation of the auditory sense, and might be compared to the to and fro rocking movements of the body, or the passing of the fingers backwards and forwards before the eyes, producing alternations of light and shade, so commonly noticed with low grade cases.

Dr. CLOUSTON said he was sure they were much indebted to Dr. Ireland for his paper, which was learned, interesting, exceedingly instructive, and suggestive. It was a subject to which he himself had paid almost no attention. The arithmetical power and faculty was absolutely innate in the brain, and they knew that a person who had not begun with being fond of numbers and fond of calculating could not be made a good and ready calculator. It was absolutely innate in such cases as Zerah Colburn. He was not aware that there were any figures that showed the exact heredity of the arithmetical faculty. It did run in families in some cases. In many cases the power was automatic. He was somewhat surprised in seeing the results amongst his own patients to which Dr. Ireland had referred. He had not been prepared to see a complete dement sum up large columns of figures, as Dr. Ireland had showed some such cases could do. For those who had to go into the witness-box and be examined as to the medico-legal condition of patients, especially when the question was as to imbecility, and also in dementia and mania, it was a test—that of calculation—that ought always to be applied in every case. Quite lately he had been asked to examine a woman whether she was able to manage her affairs; in fact, whether a *curator bonis* should be appointed. It was alleged on the one side that advantage was being taken of her. She was a person who looked fairly intelligent. In her dress and ordinary conduct she was quite normal, and also in her expression of face. Beyond the fact that she was simple looking, they could not see much wrong with her. It so happened that she derived her income from the interest of a capital sum of money, and part of her income was derived from the rent of a house, on which there was a bond. On examining the lady he stumbled on the fact that she had absolutely no conception of what interest was, and she could not be made to understand what it meant. She was inclined to be very honest, to be ultra-philanthropic in her ideas, and she objected very strongly to the idea of taking interest for money. Then he said to her, "How do you live? Do you not get so many pounds a year from So-and-so, who has your money in his hands?" She replied that she did not know. She thought that taking interest for money was a device of Satan, and she could not be persuaded that the money she was yearly receiving was such interest. The most he could get her to admit was that one sovereign for a hundred in the year must be enough, and beyond that it would be swindling and very wrong. Yet she was receiving four or five per cent. interest. He had made that the chief point of his diagnosis, and pointed out that she was thus at the mercy of anybody who would take advantage of her. Talking of heredity in regard to the arithmetical faculty, while dining in the hall of the Royal College of Physicians on one occasion, he happened to be sitting next a gentleman very well known in the engineering world, the son and grandson of engineers. During dinner that gentleman said that he was next to devoid of the faculty of calculating. He was a first-rate witness before Committees of both Houses of Parliament in regard to engineering subjects, and had devised important engineering projects. He could not himself carry through the minute calculations necessary for these works.

The CHAIRMAN said that he himself was of the same stamp as the gentleman to whom Dr. Clouston had referred as being defective in regard to the arithmetical faculty. He felt that it was a defect, and knew many other people in the same position. There are those of weak judgment who when called upon may exhibit even a wonderful facility in dealing with and correctly calculating figures. This common-enough "Medico-legal test" of determining doubtful intelligence ought to be carefully applied.

Dr. CLARK said he had met cases in which the arithmetical faculty was hereditary. The difficulty was to find out whether it was a case of a rule or exception. Dr. Clouston had said that he was not aware of any data, but he thought that if the subject were investigated it would be found to descend from one generation to another. The spelling faculty had also interested him. Some children learned it more easily from seeing, and others from hearing. There was a visual and an auditory perception and memory in children as in adults, and some could learn better the one way and some the other. This was a question which might be investigated with great advantage to them as psychologists.

Dr. BATTY TUKE, junr., said that in insanity the musical faculty was often the last one to go. He had two lady patients who, though quite incoherent in speech, played with great accuracy on the piano, the one by ear, the other by reading music, although the latter was quite unable to read a book, and had not dressed herself for twenty years.

Dr. IRELAND said that he had no facts which would enable him to decide whether arithmetical ability was hereditary or not. The only instance which occurred to him was that of the celebrated calculator, George Bidder, whose son was also an excellent arithmetician as well as an engineer. He also thought that the arithmetical faculty was well sustained in the family of the Gregorys, who were professors for several generations. Dr. Ireland observed that Galton had stated that some people conceived of numbers as figures in space as if written on a board in a certain series. Dr. Ireland showed to the meeting a form drawn up by a lady at his request to illustrate the mode in which figures were presented to her mind. It appeared that about five per cent. of the people examined had some such form in their heads. The question in what degree the arithmetical faculty was affected in dementia was far from being settled by the few cases which he had himself examined, but the inquiry might be readily taken up by those who had a large number of such patients at their disposal, and it is likely that curious results might be brought out. What had led him to begin the investigation was the idea that since the arithmetical faculty was the weakest in imbeciles it should be the first to go in dementia. This, however, did not seem to be the case.

The SECRETARY drew the attention of the meeting to the Pathological Index lately published by Dr. Howden, and craved a hearing for Dr. Greatbatch, as Dr. Howden could not be present that day. It would be in the memory of the members that the question of formulating pathological tables was referred to a Committee. That Committee held one meeting at York, which, as yet, remained fruitless. In the interval Dr. Howden had published his scheme in the "Glasgow Medical Journal," and it was now laid on the table for the information of the Association. It was, no doubt, of great importance that this question should be pushed to a conclusion. Take such a branch of this subject as brain weights. It is clearly desirable that the Association should formulate a scheme which could be adopted by all, and place aggregate numbers at the disposal of those making a study of such facts. Dr. C. M. Campbell had given much time to this question, but opposed Dr. Howden's scheme, inasmuch as it took no note of clinical symptoms. He concluded that Dr. Howden's index would be the ground work of any report of the Pathological Committee, and rejoiced that he had again wakened the question.

Dr. GREATBATCH then proceeded to give a description of Dr. Howden's Pathological Index. He said that the post-mortem examinations were recorded in the usual manner, and they were afterwards analysed, the lesions being entered in this index referring to the page in the record where they were described. The index, therefore, was simply an analysis of the pathological record from the reports made in the post-mortem room, and had no relation to the clinical records. The index had been kept for nearly thirty years. It was divided into sections relating to different parts of the body. Each of the tissues were separate, and underneath each heading were the different lesions to which those tissues were subject. Dr. Howden proposed to prepare a book, having the

headings printed, with spaces provided for entering the pages in the record where each lesion was described.

Dr. CLARK asked if Dr. Howden wished to have the matter carried out by the Association.

Dr. GREATBATCH said that Dr. Howden's idea was that the index would be applicable to infirmaries and general hospitals as well as to asylums.

Dr. CLOUSTON said that they had to thank Dr. Howden for sending his index to the meeting. He was sure of this, that the Association was very glad to see one of its oldest members, Dr. Howden, who made the very best pathological records when he was an assistant at the Royal Edinburgh Asylum, now showing an index in the kingdom such as nobody else could produce. He thought it was a most impressive thing to look through that index embodying the result of thirty years' work. It filled one with envy and despair.

Dr. JOHNSTONE moved, "That the Secretary be instructed to request the Pathological Committee to consider Dr. Howden's scheme, and to embody their opinion of it in their report to the Association," which report he trusted would be furnished at an early date. The Committee had now been in existence for over two years, and the Association were still in ignorance as to the result of their deliberations.

Dr. CLOUSTON seconded the motion. Dr. Howden's index would give them some data on which to prepare a report, and they could then give their opinion as an Association.

The motion was unanimously adopted.

DEVELOPMENTAL GENERAL PARALYSIS.

Dr. CLOUSTON then proceeded to describe "Two Cases of Developmental General Paralysis." He said they all knew that general paralysis was a disease of retrogression, and occurred most frequently between the ages of 35 and 45. There had been a few cases published of this disease which had occurred at very early ages—a few sporadic cases. There was one published by Dr. Turnbull, and he had himself also published one in which the disease had begun about the age of 12 or 13. A few cases had been published as occurring at early ages in France and Germany. So far as he knew general paralysis had not been considered in any case as a developmental disease or in connection with puberty. Lately, when he was investigating the developmental diseases, there were in the Royal Asylum, at Morningside, two very remarkable cases. One of them was that of A. K., 19 years of age on admission, and had been four or five years ill. She had been a smart and genial girl, and worked as a book-folder up to the age of 14, and had passed the fourth standard at school. No signs of puberty had occurred. Her father was undoubtedly syphilitic. She herself had syphilitic teeth, and a certain kind of choroiditis, which almost invariably indicated hereditary syphilis. The mother was a smart, intelligent woman, who had one miscarriage before and two after the birth of the patient, and another sister was deaf, dumb, hydrocephalic and epileptic. She had several convulsive fits when she was six years of age, but otherwise she had been free from neurosis or any other disease. About the age of 15 she began gradually to become stupid. In consequence of this stupidity and carelessness and inattention she became unable to follow her occupation. She made mistakes, and could not be trusted to go about the streets. It was a gradual enfeeblement of memory, judgment, volition all along the line. Along with this paralytic speech symptoms appeared. She was sent more than once to the Royal Infirmary, and she was very carefully examined, and there was a kind of provisional diagnosis made of cerebral spinal sclerosis. Another physician thought he had seen a case of locomotor ataxy very like it. On admission to the asylum she was stupid and had an idiotic expression, and she was with difficulty made to speak. She made incoherent remarks in answer to questions, and answered slowly and listlessly. She was quite uninterested in anything that took place around her. Her memory was very much impaired. Her appearance was that of a young woman

before the age of puberty. The mammæ were not developed. Her nervous symptoms presented very great interest. There was more than ataxy in her walk. When she laughed the characteristic trembling of the muscles about the mouth of general paralysis was apparent. The tongue was exceedingly tremulous. She hesitated in her speech; began a sentence and did not finish it. In fact it was exactly like a typical case of general paralysis. As is usual in the second stage of general paralysis there was a sort of wiping out of the expression of her face. She could not equilibrate well, and could not turn round without walking into her dress. The pupils were unequal, very much dilated, and very sluggish. There was disseminated choroditis, which, as Dr. Argyll Robertson said, almost invariably arose from syphilis. When put down on the floor she could not rise. The muscles were flabby and soft. He was in the habit of showing this patient to many physicians, but no one would venture to make a definite diagnosis, and he suspended his own diagnosis for a time at first. He asked himself—Was this not a case of diffused syphilitic inflammation with degeneration of the cortex, but non-general paralytic? She was admitted on the 11th July, 1890, and she gradually and steadily became worse and died on the 12th January, 1891. After her death Dr. Middlemas made a very careful examination, and he found that the skull-cap was adherent, that there was some convolitional atrophy, that the membranes were thickened, that the adherences were chiefly on the lower surfaces of the frontal lobes, also on the vertex to some extent, the two hemispheres being adherent. The convolutions were well marked and numerous. The grey matter was not congested. After giving some further details of the post-mortem examination, Dr. Clouston exhibited portions of the brain under the microscope, and pointed out that the characteristic lesions in general paralysis were found. He then went on to say that at the same time that they had A. K. in the asylum they had also another patient, J. F. This girl was 16½ years of age, and had been lively and playful up to the age of 14. J. F. had never menstruated. The family consisted of eight, of whom the one older than the patient and the three next younger were stillborn. There had been syphilis on the father's part. She had been a particularly bright and clever girl at school, having passed the sixth standard. She was nearly two years in a compositor's place, and did her work well until about ten months before her admission to the asylum. She then became forgetful and stupid. In her case there was a short period of elevation, during which she thought she had money, but without maniacal excitement. On admission she presented all the symptoms of general paralysis. Her walk was not ataxic, but it was a general dragging walk. Dr. Clouston then exhibited the patient to the meeting, and demonstrated the characteristics of the case. He then went on to sum up the facts connected with these two cases. In these cases they had diseases developed in which there were mental and motor symptoms occurring before puberty in the undeveloped stage. Both of them had hereditary syphilis. His theory was that in these two cases general paralysis was developed at puberty and before menstruation, with hereditary syphilis as the predisposing cause and the putting forth of the nervous energy for full reproducing development as the exciting cause. The novelty of those cases seemed to be that this disease, which in 999 cases out of 1,000 was a disease of retrogression, might happen when puberty should occur under the conditions of hereditary syphilis and of heredity towards neurosis, and might run on all-fours with the other developmental diseases that so much abounded at this period of life.

Dr. B. TUXE, junr., said that he had heard general paralysis described as an inflammatory and as a degenerative disease, but if a third viz., developmental, was added, what became of the pathology? the three conditions being obviously quite incompatible. He could not see anything in these cases at all distinctive of general paralysis, but looked on them as being purely syphilitic. Both syphilis and alcohol produced symptoms closely simulating general paralysis. Dr. Clouston seemed to look upon general paralysis not as a distinct disease, but merely as a congeries of symptoms.

Dr. CLOUSTON said that he believed in the degenerative theory of general paralysis and not the inflammatory, and in the absolute unity of the disease. If they had all the symptoms of general paralysis and death as in the case of A. K., what was wanting to make a case of general paralysis? And what other disease could have the same symptoms with the same pathology? He affirmed that no known type of brain syphilis explained these cases, and that having most carefully watched and studied them, he had no doubt whatever they were cases of general paralysis. The microscopic appearances in brain syphilis were entirely different from A. K.'s case.

Dr. B. TUKE said that they could get similar symptoms in alcoholism and syphilitic cases.

The SECRETARY said that the impression left on his mind was that these cases more resembled syphilitic diseases than general paralysis. The heredity pointed that way. Then there was the great confusion of the symptoms—the symptoms not going in regular progression, but alternating. There was another point, and that was in regard to the motor symptoms being as it were deferred. He had reported to this Association some four or five years ago two cases of syphilitic insanity which precisely resembled general paralysis. These were cases of primary syphilis, and the patients were alive yet. The remission had now endured for so many years that he would be perfectly justified in claiming these two cases as syphilitic, and not as general paralytic.

Dr. JOHNSTONE said that they had not seen the first case, and were accordingly unable to confirm Dr. Clouston's diagnosis, but the case exhibited did not strike him as being distinctly one of general paralysis. He quite admitted that female general paralytics presented very vague symptoms, but his experience of such cases led him to be very cautious in diagnosing general paralysis.

Dr. SHUTTLEWORTH had amongst his imbecile patients cases resembling those described by Dr. Clouston, and had been in the habit of regarding them as cases of syphilitic dementia, there being invariably either history or evidence of inherited syphilis. A break down, both mental and physical, took place about the period of the second dentition, previous to this the children having usually passed through three or four standards at school. The first onset was often attributed to a "fit," followed by muscular inco-ordination. The gait, tremor, etc., certainly resembled the features of general paralysis. Three or four such cases had been received into the Royal Albert Asylum, though utterly hopeless as regards training. Progressive degeneration had ensued with, more or less, frequent convulsive seizures, and in the cases that had died thickened meninges and vessels, with atrophied convolutions, had been observed.

Dr. IRELAND said that he could not recall any cases in which congenital syphilis had been assigned as the predisposing cause of general paralysis. In this respect Dr. Clouston had a just claim to originality. He did not clearly make out what was the conception in Dr. Clouston's mind as to the exciting cause. Apparently he attributed the insanity to the strain of the developmental process at the period of puberty. Dr. Ireland thought that the girl's constitution had been struggling with syphilis, and that at last the affection had invaded the nervous system and induced a morbid process, resulting in dementia. He had observed girls who for years showed a tendency to scrofula, and about the age of 14 the cachexy got the upper hand of the healthy processes of nutrition, and there was scrofulous disease of the bones or joints, or strumous ulcers, or tubercle appeared in the lungs.

The SECRETARY proposed a vote of thanks to Dr. Keiller for his conduct in the chair. He said they also would be right to let Dr. Keiller understand how very much obliged they were as an Association for having had the hospitality of the Royal College of Physicians extended to them for their meetings. (Applause.)

Dr. KEILLER briefly acknowledged the compliment.

The members dined at the Edinburgh Hotel in accordance with custom.