Discussion.

The PRESIDENT said he had nothing to say beyond this, that Dr. Clapham confirmed the statements made by Professor Cunningham at the Dublin meeting in reference to two brains of idiots of a particularly low type, which were characterised by the almost total absence of the occipital lobes.

Dr. JONES said it seemed to him that it followed from Dr. Crochley Clapham's paper that they ought, when selecting their nurses and attendants in future, to look at the back of the head rather than the front. Of course there was a considerable want of the posterior part of the skull in idiots, but there was also a very considerable want of the anterior part of the skull, and comparing the brain of the monkey with the highly developed brain of man, the thing which struck him was the increase in the part between the frontal and the occipital—the so-called motor area. If they looked at the angular gyrus in a monkey it was almost vertical. Looking at it, of course, in man it was much more horizontal, which would have a tendency to push the posterior lobe back, so that the development claimed for the occipital lobe was more apparent than real.

Dr. YELLOWLEES said they all believed that the brain acted as a whole, and that it was very difficult to differentiate one part from another in regard to mental and intellectual processes. They would have to reverse all the teachings of experience if they were to believe it true that the people with retreating foreheads were the intellectual giants of our race. With regard to the pathological aspect, they seemed to have the strongest testimony against Dr. Clapham's theory in the brain death which they called general paralysis, where the morbid changes unquestionably affect the anterior lobes. That seemed to him a very great difficulty, which could not be explained away.

Dr. CROCHLEY CLAPHAM.—With regard to what Dr. Jones said as to the posterior lobe being a very small part of the brain in man, I say that it is very much smaller in the case of an idiot—a diseased man—in comparison with the *whole* brain than in an ordinary man. Dr. Yellowlees says it is difficult to differentiate the locality of intellect in the brain, and no doubt it is. I do not wish to say that the seat of intellect is in this place or in that, but that as regards the two the posterior has more to say for itself than the other. As regards the necessity in that case of reversing the teachings of old, of course we do not mind doing that if we can improve upon the teachings of old. As regards the general paralysis, there is a very large implication of the whole brain in general paralysis, as the brain has spots all over, and especially in the motor region of the parietal lobe. I do not see that that affects very much the question of the paper.

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*The Osseous System in the Insane.** By J. F. BRISCOE, M.R.C.S., Westbrooke House, Alton, Hants.

IT would appear, by reference to the Blue-book of the English Commissioners for 1896, that, out of 7182 deaths in the asylums of England and Wales, thirteen resulted from diseases of joints and bones, and eleven from fractures or dislocations. In 1897, out of 6783 deaths, fifteen resulted from diseases of joints and bones, and thirteen from dislocations and fractures.

* Read at the General Meeting of the Medico-Psychological Association, November, 1897.

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The text-books on insanity have very little to say on this matter, but Mr. Bryant, in his *Practice of Surgery*, states that "fractured ribs in the insane generally arise from direct violence." Dr. Mickle, in his work on General Paralysis, writes on the bone condition in insanity. In Holmes's *System of Surgery* will be found a good reference of authors on the subject of the pathology of the osseous system as at present understood. Virchow and Eberth, in 1856 and 1878 respectively, describe synostosis of the base of the skull in connection with cretins and idiots. Parrot and Charcot have also contributed important observations on this subject. Mr. Arbuthnot Lane, in the *Pathological Society's Transactions*, vol. xxxv, states that "taking the ribs as the criterion of density, the strength of the bones bears a direct proportion to the dentition of the patient," and also that "in the edentulous the ribs can usually be cut with a scalpel." He goes on to say that "when once the teeth are lost the osseous system degenerates even more rapidly."

After examination of many pieces of bone in acid solution, I conclude that rachitic bones are morbid, because the physico-chemical union of animal and earthy matters is very feeble. Dietetic errors in the feeding of fowls result in their laying soft-shelled eggs; but Mr. Bland Sutton informs me that bone softening of any kind is extremely rare in birds.

I show here a series of skulls and other osseous specimens representative of hyperostosis, osteoporosis, mollities ossium, osteitis deformans, syphilitic thickening, and erosions, from sane and insane subjects. Among these is the calvarium of an Arab child which I brought before you on a previous occasion, and which I believe to be a good example of rickets.

Specimen 1669[20] is labelled osteoporosis. The history of the case was reported by the late Dr. Hilton Fagge. For fourteen years the patient suffered from pain in the bones, immobility of the chest, and brittleness of the ribs. Towards the end breathing was difficult. Dr. Mickle repeats Mr. A. Durham's opinion as expressed in the *Guy's Hospital Reports*, "that the nervous system has a distinct influence in producing malnutrition of bone." Those calvaria illustrating hyperostosis are separable into two classes. Typical of these is (1) the Arab specimen, which is of a spongy light consistence; and (2) a skull-cap from a general paralytic, which is relatively dense, hard, and sclerosed.

Do these thickened skulls cause mental aberration? From

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what I can gather there is a difference of opinion in the psychological world. I believe that flattening of one side of the skull, obliteration of the sutures, and other iregularities are the precursors of affections of the brain; and that the Pacchionian bodies when enlarged may cause cerebral disturbance. We know what serious results may follow from various peripheral irritations—such as an aural polypus. While I am prepared to admit that ill-proportioned skulls may cause no morbid affection of the brain, we must be aware that thickened skulls are not uncommon, and I suggest that these may result from the carrying of heavy weights on the head. With regard to mollities ossium in the insane a difference of opinion seems to exist. Some observers believe that it is not frequent, and certainly not peculiar to general paralytics. I show the illustrations of a case of mollities ossium reported by Dr. William Bromfield in 1773. These plates show the woman before death, and her complete skeleton of softened and distorted bones. I believe that this disease may arise from gross dietetic errors, and that rickets is a disease of growth, and that mollities ossium is apparently a disease of decay. The pathological conditions of bones, specimens of which I have brought before you, will explain the fragility of the ribs of the sane and of the insane. When, in April, 1895, Drs. Campbell and Mercier brought before the notice of this Association the results of their inquiries on the breaking strain of the ribs of the insane, they asked, what are the forms of insanity which are accompanied by a low breaking strain of the ribs? This breaking strain must vary considerably at the different periods of life, and we have not only to consider the diathesis, but also the athletic powers and previous occupation of the individual.

In conclusion, had I been able to expend more time and observation in examining these osseous affections I might have claimed the privilege of being original. So far I have only introduced the skeleton of the subject, and it now rests with others to further the pathology of these diseases.

Discussion.

Dr. Conolly Norman.—The fragility of the bones of the insane has been under discussion for such a length of time that it is difficult to find anything new to say about it. I am a little sceptical about the excessive fragility of a lunatic's bones. I am clear about this, that an infinite deal of nonsense has been talked upon the subject, because when lunatics die with broken ribs the medical opinion given is usually to the effect that the bones of lunatics generally and in the abstract are fragile. Whereas the question is not are the bones of all lunatics fragile, but are these bones fragile? I have been perhaps

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more unfortunate than other people, for in twenty-two years' experience as an asylum medical officer two patients of mine have been killed by having had their ribs broken. They were both general paralytics, and I can safely aver that the ribs were not in the least fragile as tested by ordinary methods, and both patients were proved to have been subjected to treatment that would have broken the ribs of any person. Mr. Briscoe showed us a number of skulls. I am not quite clear about the clinical history and antecedents of the former owners of those interesting bones. A good many presented a condition that we are all pretty familiar with, irregular thickening of the interior of the skull. This is much more common in cases of chronic insanity than amongst other folk. I do not know why it should be so, and I have no fine theory to account for it. I believe it has been suggested that it is a condition similar to hyperæmia and œdema *e vacuo;* but that bones should grow inwards to supply the place of wasted brain is too strong a proposition for me to accept. A deep curve for the meningeal arteries is, of course, very common in old people. I was rather surprised to find that Mr. Briscoe did not refer to the work that Krause has been doing lately under Professor Meyer at Göttingen, where he has held very careful investigations into the condition of the bones in the insane. He disposes satisfactorily of the old idea that the insane are liable to osteomalacia, which is a disease characterised by certain definite microscopical and chemical conditions, neither of which is present in the case of fragility of the bones of the insane, or not more frequently than in the bones of other people. He points out that the giant-cells are absent in these softened bones in elderly lunatics or general paralytics, that the change is one of simple atrophy; that the osseous matter which is reduced in quantity is replaced by fat, that the change is essentially senile, and that it does not occur in general paralysis as frequently as in cases of chronic dementia in the aged. It depends more upon the general physical condition of the patient than upon his mental state, and that is my own experience so far as I have been able to test it.

Dr. R. PERCY SMITH.—I remember two fatal cases at Bethlem Hospital in which ribs were found to be broken. In one case the ribs were so extremely fragile that they could be broken with the finger and thumb like a biscuit, and in the other there was certainly no history of any injury in the institution. At the post-mortem it was evident that we had discovered an old fracture which had united with fibrous capsule, probably of several months' date. Nobody knew of any injury at all, and one would think that there was a probability at any rate in that case that the rib must have become fractured from some very slight cause, which would not have acted in health.

Dr. RICHARDS.—It seems to me somewhat extraordinary that this theory about the softening and fragility of the bones of the insane only occurs in reference to the ribs and sternum. I do not know whether any of the members here present can state that the other bones of general paralytics are equally softened, and whether fractures frequently occur. In my experience I have met with very few fractures amongst cases of general paralysis of the insane, and fractures are not more frequent in cases of general paralysis in the limb bones than they are in other cases of mental disease, or in persons who are not afflicted with insanity.

Dr. HAYES NEWINGTON.—Some twenty or thirty years ago I made many post-mortem examinations at University College Hospital, and came to a certain conclusion as to the normal resistance of an ordinary person's ribs. At Morningside I made still more post-mortems, and paid a good deal of attention to skulls and ribs, and there can be no question as to the relative frequency in which one could easily break a lunatic's ribs, especially in general paralysis of the insane. In these cases ribs rapidly become weakened, and bend like brown paper. It would be absolutely impossible to establish, even on the authority of Dr. Norman, that there is not excessive softness, not perhaps always to breaking point, but to bending point, in the post-mortem room. I have heard of a case

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in which it was suggested that the breaking of several ribs was due to auscultation.

Dr. ROBERT JONES.—I think it has been established beyond all doubt that the bones of old people are soft. I believe also from considerable experience that the bones of certain cases of general paralysis are very much softened. I have twisted them and broken them one after the other, and it is a question to me whether these fractures do not occasionally occur spontaneously. I have a case now in my memory of a patient who was an epileptic. He never went out of the attendant's sight, night or day, but after a very severe fit one day he was discovered to have five or six ribs broken on each side, which probably occurred from muscular spasm, and he made a good recovery.

Dr. CROCHLEY CLAPHAM.—I have seen a case as regards the long bones. The patient, a woman, broke the humerus of one of her arms on two occasions during an epileptic fit.

The PRESIDENT.—I would like to bear witness, after the remarks made by Dr. Richards, to the fact that I have on more than one occasion observed great softening of the bones without fracture in male and female general paralytics, and that I have been able to break them across with the greatest ease. That condition of bone, however, is more frequently seen in senile cases.

Mr. BRISCOE.—I have to thank you very much for the kind attention you have given to my paper, and for the remarks which have been made thereupon. When one considers the mechanical arrangement of the thorax, one knows that when one strikes a man he immediately if possible seizes his opponent, draws his chest up, and takes an inspiration so as to fill his chest. Mr. Ward in his *Osteology* says "it is easy to explain the altered condition of the chest, it is like hitting a barrel." Dr. Mickle in his book on *General Paralysis* lays stress upon it, so that he is rather inclined to believe that the ribs of insane people are liable to fracture, and in this he agrees with the late Dr. Sankey. The fact is that the nervous system is blunted, the thorax becomes placed disadvantageously, and the ribs correspondingly more liable to fracture than when the chest is fully distended. My experience has been limited, and I cannot give you any practical information. I, however, do believe that it is quite possible that these friable ribs, as has been mentioned by Dr. Newington, are not uncommonly to be found in the post-mortem room. We know that fat is one of the commonest products after the taking to pieces as it were of the various higher organic constituents of the body. When degeneration runs to absorption excessive fat is always to be found.

Reminiscences of "After-care" Association, 1879—1898.

By the REV. H. HAWKINS, Colney Hatch.

As far back as 1871 a paper named "A Plea for Convalescent Homes in connection with Asylums for the Insane Poor" was admitted by the Editors, Drs. Maudsley and Sibbald, into the *Journal of Mental Science*. In 1879 an article called "*After-care*," by the Rev. H. Hawkins, Chaplain of the Colney Hatch Asylum, was allowed a place in the same Journal. The then Editors were Drs. Clouston, Hack Tuke, and Savage. On the 5th June of the same year a meeting

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