clinical combination may be produced in quite a different way, as may be seen by reference to a very remarkable case, previously cited from Pick, of destruction of the auditory word centre in each hemisphere.

These are the only 3 cases of "isolated word deafness" known to me.¹³ It will be seen from what I have said that this rare group of symptoms is capable of being induced in two very different modes—just as we shall find subsequently that what Déjerine has called "pure word blindness" may also be produced in two different modes, and that the modes are analogous in the two cases. Pick was fully aware of the very unusual nature of his case. He recognised that it could not be a case of subcortical word deafness of Lichtheim's and Déjerine's type, though he was not prepared to advance any other interpretation. Mirallié, however, has been so very uncritical as to cite it¹⁴ as an example of Déjerine's type, notwithstanding the fact of the existence of the double cortical lesions occupying the sites of the auditory word centres.

REFERENCES.

- ¹ *The Brain as an Organ of Mind*, 1880, p. 685. ² *Le Langage Intérieur*, 1886, pp. 91 and 166. ³ *On Aphasia*, 1887, p. 119. ⁴ Excepting that I omit Mirallié's Case 10, and include instead his Case 2, where the only lesion beyond the destruction of the first temporal convolution was a very minute "plaque jaune," no more than a millimetre square, situated in the upper border of the foot of the third frontal convolution. ⁵ Numbers of the cases of "sensory aphasia" hitherto recorded are comparatively valueless for the purpose of any critical study of their symptoms, either on account of the nature, extent, and complication of the lesions, or from the paucity of the clinical details, or perhaps from two or three of these causes in combination. Among such more or less vague cases I include thirteen in Mirallié's list, and three in Amidon's list. In four other cases there was a lesion in Broca's centre as well as in the auditory word centre. ⁶ *Der Irrsinnfreund*, No. 6, 1883. ⁷ *Brain*, 1890, p. 100. ⁸ *Der aphasische Symptomen-Complex*, 1874, p. 43. ⁹ *Revue Médicale*, 1882, p. 448. ¹⁰ *Vierteljahrsschrift für praktische Heilkunde*, No. 1, 1879, p. 6. ¹¹ *Philadelphia University Medical Magazine*, November, 1891; and *Brain*, 1891, p. 468. ¹² *Fortschritte der Medizin*, Band i. No. 6, 1883. ¹³ *Lectures on Cerebral Localisation*, 1890, p. 89. ¹⁴ *Archives de Médecine*, New York, 1882, p. 80. ¹⁵ *Loc. cit.*, p. 634. ¹⁶ On this subject see Ferrier on *Cerebral Localisation*, 1890, and C. K. Mills in *Brain*, 1891. ¹⁷ *BRITISH MEDICAL JOURNAL*, i, 1885, p. 1242. ¹⁸ The next explanation is, however, equally applicable to this class of cases as well as to those in which word blindness coexists with the word deafness. ¹⁹ *Archiv für Psychologie*, 1892, p. 909. ²⁰ *Loc. cit.*, p. 460. ²¹ Yet Mirallié actually quotes it as an example of a sub-cortical lesion. ²² *Loc. cit.*, p. 483. ²³ *Physiology*, fifth edition, 1890, p. 1089. ²⁴ The anterior commissure seems mainly to connect the convolutions of the tip and under surface of the temporal lobe, so that it is more probable that its upper and posterior regions should be brought into structural and functional relation through fibres of the corpus callosum. ²⁵ *Paralyses: Cerebral, Bulbar, and Spinal*, 1886, p. 267. ²⁶ On this subject see what has already been said towards the end of the last section but one of the first lecture. ²⁷ What has just been said concerning the right auditory word centre applies almost equally strongly to the right visual word centre. We want to know also to what extent and for how long the comprehension of written and printed words is impaired by destruction of the right angular gyrus and supramarginal lobule. ²⁸ *Ziemssen's Pathologie und Therapie*, Band xii, 1876, p. 168. ²⁹ *Revue de Médecine*, 1885, p. 625. ³⁰ *Lectures*, translation by Bazire, pp. 253, 267. ³¹ *BRITISH MEDICAL JOURNAL*, 1884, i, p. 593. ³² *Journal of Physiology*, 1890, p. 658. ³³ *Loc. cit.*, p. 634. ³⁴ *Archives de Physiologie*, August 5th, 1883. ³⁵ It has been shown by Sherrington and others, in their studies of "secondary degenerations," that some of these double motor effects may be accounted for by the distribution in the cord of the fibres of the pyramidal tracts. It is known also that Broadbent explains some of the bilateral movements by reference to commissures existing between functionally related bilateral centres in the cord. But the voluntary movements of the right fore-paw in Goltz's dog must have implied the development in the only existing right hemisphere of the animal of all the nervous arrangements needful for the "conception" of separate movements in this right limb—that is, the passage to it and registration of kinæsthetic impressions from this limb, as well as the bringing of this centre into relation with the visual centre, in the manner that would be needful for the production of its voluntary movements. ³⁶ *Paralyses: Cerebral, Bulbar, and Spinal*, 1886, p. 262. ³⁷ *Journal of Physiology*, 1886, p. 429. ³⁸ *Natural History Review*, vol. i, p. 296. ³⁹ *Brain*, January, 1885, p. 460. ⁴⁰ *Ibid.*, January, 1885, p. 482. ⁴¹ *Mémoires de la Société de Biologie*, 1891, p. 112. ⁴² *Revue de Médecine*, 1893, p. 733. It is quoted also by Mirallié (*loc. cit.*, p. 190). ⁴³ Though Wernicke says a few words concerning a case that had come under his observation (see *Fortschritte der Medizin*, 1886, p. 474). ⁴⁴ *Loc. cit.*, p. 171.

(To be concluded.)

On April 2nd the University of Vienna, for the first time in its history, conferred the degree of *Universæ Medicinæ Doctor* on a lady, the Baroness Gabriele Possaner von Ehrenthal. The Baroness, who is 37 years of age, and who already possessed a medical degree obtained from Zurich, passed all the examinations required by the Vienna University. The Rector, Professor Reinisch, in conferring the degree, specially congratulated the new Doctor.

OSTEOTOMY OF THE FEMUR AS A TREATMENT FOR TUBERCULOUS DISEASE OF THE HIP IN ITS EARLY STAGES.*

By R. F. TOBIN, F.R.C.S.I.,

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HAVING in a few cases made, with successful results, a departure—new at least to me—in the treatment of tuberculous disease of the hip, I beg leave to submit it for your consideration. I shall take it as granted that in the early stages of morbus coxæ the direct removal of the affected parts yields unsatisfactory results, and that the problem of cure is narrowed into one of giving rest to the joint, combined, of course, with constitutional treatment. The difficulty of this problem lies, it seems to me, in the fact that the position of greatest ease for the joint is one of great awkwardness for the limb, which is flexed, abducted, and everted.

Experiments on the dead body show most clearly that any attempt to straighten the limb when the capsule is distended increases the tension of the joint. Mr. Swan distended the capsule with glycerine through a hole drilled into it through the ileo-pectineal eminence, whereupon the limb assumed what is called under such conditions the natural position of rest; he fixed the limb in that position and the capsule retained the injected fluid; he next straightened the limb, whereupon the fluid was forcibly squirted out.

The chief means of treatment at present in use seem to ignore this injunction: extension by a weight and pulley does so, in so far as it is used to straighten the limb; for this appliance does not act in the way it is represented as doing in the plates in handbooks of surgery. In these you see a patient with a weight attached to the leg, lying supine, his back and knee flat and both touching the mattress. What happens in reality is this. If the weight is heavy enough to keep the leg straight, the spine is dragged into a position of lordosis; if it is less heavy, there is less straightness of leg and less lordosis; in each case the lordosis is an indication of force exerted on the joint, to its discomfort. As to Thomas's splint, it is of course, as a support for the limb, an excellent contrivance, and when properly fitted and carefully worn it does all that a splint can do to make a distorted position easy for a patient; but it does not get over all the drawbacks of that position both by night and day.

I do not mean to say that many excellent cures are not effected by the treatment at present in use. Its general adoption by the profession proves it to be efficient in some degree. But I do say that it leaves much to be desired, that it not seldom fails, and that always the process of cure is a very protracted one, requiring throughout most careful and judicious supervision. This last-named condition alone puts it beyond the reach of very many patients. The number is large for whom hospital accommodation cannot be provided from start to finish, and who cannot carry out in their own homes any treatment that is not simplicity itself. Going back only on my own experience I am ashamed to say how many patients I can recall whom I have treated for two or three months in my wards with a weight and pulley, and fitted with a Thomas's splint, who were then unavoidably discharged and lost sight of for a time, and who at a later period turned up with a suppurating joint, due in part, no doubt, to the Thomas's splint having been thrown aside as soon as it had got in any way awry.

Being then convinced that the awkward position the thigh assumes in cases of morbus coxæ is a great obstacle to obtaining satisfactory results from treatment by rest, I have in some recent cases met the difficulty in the following way. I have, in the early stages of the disease, done an osteotomy of the femur on a level with the lesser trochanter (Gant's operation), and put the limb in a straight position as regards the body generally, leaving the upper fragment to retain its position of ease. The following case is illustrative:

P. R., aged 11, was admitted into St. Vincent's Hospital on February 11th, 1896, with tuberculous disease of the hip. The disease, which was of some months' standing, had come on insidiously, and he was sent for treatment only when lameness was very pronounced. There was no history of accident. All the usual signs of morbus coxæ in its first stage were present. On February 18th I did an osteotomy of the femur on a

* Read before the Dublin Biological Club.

level with the lesser trochanter. To prevent jarring of the joint a large moist sandbag was made to support and steady the bone on its inner aspect as high up as possible, the patient lying on the sound side, and the affected limb drawn well in front of its fellow. In this position, with a sandbag of suitable size and shape, an assistant can, by depressing the knee, divert all concussion from the joint. The osteotome was made to fully divide the bone. The patient was then turned on his back, and while an assistant kept the spine in contact with the table by flexing the sound thigh on the abdomen, the affected one was brought down till the posterior surface of the knee was also in contact with the table. To guard against abduction or adduction both limbs were "dressed" (using the word in its military sense) by a straight rod resting transversely on the anterior superior spines of the ilia.

The wound in the soft parts was partially closed, and a gauze aseptic dressing applied. The splint used is shown in the accompanying sketch, or rather the lateral portion of it, for I hold that in fractures of the lower extremities, pelvis, or spine, the bed is a posterior splint. From this point of view a woven wire mattress is for such a case as the present one most unsuitable, and should be replaced by a plank covered with a hair mattress.

The bands on the rollers, when drawn out and fixed on to buttons on the opposite board, convert the splint into a stretcher on which the patient can be raised.

The wound ran a perfectly aseptic course under a single dressing, and the patient complained of very little pain. At the end of the fifth week the splint was removed, and the fracture was found united. He remained in bed for three weeks longer without the splint, and was then allowed up, to feel his way about on crutches, and to use the limb at his own discretion. The crutches I consider to be an essential part of the after-treatment, for, the affected leg being straight and slightly shorter than its fellow, they cause it to swing in good position till ankylosis is complete. Shortly afterwards he went to the Convalescent Home at Linden, where he remained a month. On his return he could walk without pain. The limb was quite straight, ankylosed at the hip, and three-quarters of an inch short. Yesterday, exactly one year after the operation, I received the following report from Dr. Burke, Oranmore: "Present condition of P. R. is thoroughly good; he has had no pain whatever since he returned. The

P. R. February 15th 1896, showing that the position of case for the joint is one of awkwardness for the limb.

leg is straight, no movement at hip, the amount of shortening very little noticeable. He has walked here to-day, a distance of four miles, and, not feeling anything tired, is going to do the same back, so that he can walk very well.

P. R., March 1st 1897

The foregoing report answers also for the other two patients—P. McD., aged 14, operated on October 15th, 1896, and Mary McD., aged 4, operated on November 3rd, 1896. Their condition prior to the operation was very much that of the case just described, except that the disease was in each case not of such long standing, and was apparently advancing more rapidly. In all three cases most satisfactory results were obtained. In all the period of rest required for the union of the fracture was sufficient for the establishment in the joint of a condition which allowed the patients to move about at ease on crutches, and to find their way more or less rapidly to what I may call a cure, using the word with such reserve as a knowledge of the habits of tuberculous disease inculcates. Two of these cases I showed here recently, and those who were present will remember that they walked well without pain, and that ankylosis and some infiltration of the joint were practically the only symptoms that indicated the disease from which they had suffered; the other I shall in a few minutes submit for your inspection.

Of course, I do not mean to generalise from these few cases—the only ones admitted under my care during the last year. I submit them rather with a view of illustrating the plan of treatment employed than of proving its utility, and with no suggestion that anyone should use it who is getting good results by other means. It commends itself to me not because I think that rest is all-sufficient for a cure of morbus coxae, but because I know that unrest is fatal to such an issue.

The patients to whom I consider this treatment applicable are cases in which there is no real shortening, in which there is no indication of suppuration, and in which the thigh on the affected side (the patient lying on his back and lordosis guarded against) makes an angle of 30° or more with the bed.

In very early cases the operation is not required, for the disturbing element of flexion may be present in only a slight degree. It is wonderful, however, how many limbs that appear fairly straight as the patients limp about are found markedly flexed when properly measured.

In very late cases where suppuration is present, the operation is barred by the danger of sepsis.

The patient by drawing up the sound limb demonstrates the degree of flexion.

CONCLUSIONS.

The following is a summary of my views :

1. That no treatment better than rest, combined with constitutional remedies, is known for tuberculous disease of hip.
2. That a large proportion of cases of this disease, especially those in which flexion has occurred, go on to suppuration, and that one of the chief causes of their doing so is the difficulty of giving the joint rest.
3. That much of this difficulty lies in the fact that the position of greatest ease for the tuberculous hip-joint is one in which it is very awkward for the patient to carry the limb, very difficult for the surgeon to fix it, and therefore one in which the joint is constantly exposed to disturbance.
4. That it is possible, and in many cases advisable, to remove this difficulty by such an osteotomy of the femur as will allow the limb to be put straight, while the upper of the fragments retains "the natural position of rest."
5. That the operation also does good in some cases by relieving tension in the bone.
6. That an osteotomy of the femur when done in this respect is not as formidable an undertaking as it is under ordinary circumstances, for it is not the division of the bone that is formidable in this operation, but the constrained position in splints and the long period of rest required for union. Now since these latter incidents are a great gain for the tuberculous joint, they must be put to the credit of the operation, thus leaving very little to be entered on the debit side.

SPONTANEOUS FRACTURE OF RIGHT TIBIA AND FIBULA IN A CASE OF LOCOMOTOR ATAXIA.*

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F.R.C.S.ENG.,

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SINCE Weir Mitchell¹ in 1873 and Charcot² in 1874 pointed out that spontaneous fracture is liable to occur in the course of locomotor ataxia, many cases have been observed and recorded, especially in France. But in our own country it would appear that such a complication in this disease is either very rare or it escapes notice when it occurs, for there are but few references to such a condition, and I have failed to discover reports in our periodicals, though accounts of many instances of the joint-lesion, arthropathy, are to be found here and there. Mr. Lunn,³ it is true, mentions incidentally in an account of a case of fragilitas ossium, which

he showed before the Clinical Society of London, that he had met with three cases of spontaneous fracture in locomotor ataxia; and Dr. Byrom Bramwell⁴ mentions a case of spontaneous fracture of the femur, which he saw at Newcastle. In the latter there was absence of pain on movement to detect crepitus, but there was so much swelling of the thigh that the case was at first regarded as one of sarcoma of the bone complicated with fracture.

Although spontaneous fracture of bones may be rare in tabes dorsalis in this country, yet we do not infrequently meet with it under other conditions; for example, in subacute osteomyelitis, in quiet necrosis of the shaft of a long bone, in primary central sarcoma, in secondary carcinoma, and occasionally in the condition—which is still in nature quite obscure—called fragilitas ossium, in osteomalacia, and in some of the diseases of the insane, especially general paralysis.

My excuse for bringing this case before your notice is, therefore, the absence of any reports in our own journals and the desire to elicit information as to whether tabetic patients in this country are as liable to this complication as are those in France, where locomotor ataxia has been especially studied.

The notes of the case are as follows: R. R., aged 46, tailor, admitted into Addenbrooke's Hospital under my care February 19th, 1896. Sallow, tall, thin, and narrow chested. Pulse 108, strong; breathing natural; tongue slightly furred; appetite good, but suffers from recurring attacks of dyspepsia; urine is natural, micturition usually normal, but at times the urine dribbles away. Both bones of right leg were broken near the middle a few hours before admission into the hospital, the fractured ends of the tibia being easily felt, and but little, if any, pain complained of when the parts were manipulated. The leg was much swollen, especially at the seat of fracture, owing to extravasation of blood. The fracture occurred while turning round to enter his house after feeding fowls in the garden, the right leg suddenly giving way under him. He at once caught a support, and thus saved himself from falling to the ground. Three weeks previously he had felt a "crick" in the calf of the same leg when running upstairs, after which his leg felt weak and "as if he ought to be careful how he trod on it."

On further examination it was found that his patellar and plantar reflexes were absent, the cremasteric and abdominal reflexes very slight, if present; pupils contracted; each reacted to light, though only to a slight degree, the movements for accommodation being normal; colour vision was normal; field of vision was not contracted, and he says he can thread a needle as well as ever. Over both legs, especially in front, sensation was imperfect and distinctly delayed; this change was pronounced in patches only. Over the remainder of the body sensation appeared normal. Grip of hands was good. There was distinct inco-ordination of movements of the left lower limb.

He says that for the last six or seven years he has suffered from a staggering gait, but that he can feel perfectly well with his feet, and can recognise what he is treading upon. For the last twenty years he has suffered more or less from lightning pains, which at times increase in severity and culminate in an attack of gastric crisis. These attacks come on after periods varying from two to three months. He has suffered from "dribbling of urine" at times. Father, 76 years of age, is alive and well. Mother, 78 years of age, is also alive and well. Two brothers and three sisters all well.

The day following his admission into the hospital there was great effusion of blood into the tissues around the seat of the fracture; and, owing to the size and persistence of this swelling for several days, it was deemed advisable to investigate the fracture in order to be quite sure that there was no malignant disease at the bottom of the mischief. Accordingly, on February 15th, 1896, six days after admission, a longitudinal incision was made over the fracture, and the broken ends examined. There was no trace of malignant disease, and all we could discover was the tibia harder and more brittle than natural. The wound was closed and the limb fixed in plaster-of-paris. Afterwards the patient was comfortable, and union in due time became complete.

In the absence of malignant disease the case was pronounced, without doubt, to be one of spontaneous fracture

* Read before a combined meeting of the East Anglian and Cambridgeshire and Huntingdonshire Branches of the British Medical Association.