see the wisdom of accepting, the aid of one of his distinguished colleagues and friends. While there, he received much comforting and valuable advice and encouragement, but his symptoms increased in severity. He wrote on August 18th: "There is now much more irritation than when I last saw you; stooping and turning cause sharp pangs, and the close of micturition is very torturing." He returned to Norwich; and the question of operation, lithotomy or lithotripsy, presented itself. Either must be attended with the greatest hazard in one so worn and unhealthy; but the thought of doing without operation was simply intolerable, and not to be considered. In favour of lithotripsy, were the fair quietude and healthy condition of the bladder and urine; but there were serious drawbacks. Dr. Bennett was a man of high spirit and courage; but his courage fitted him rather to encounter one great risk than to endure the wear and tear of repeated operations, frequent use of instruments, and the probability (made more probable by the presence of glycosuria) of troublesome cystitis. The size of the stone alone could decide the point; and, to ascertain this, Mr. Clover kindly came down and administered nitrous oxide, followed by ether; while, with the lithotrite, I found that the stone measured $1\frac{1}{2}$ inches by 1 inch. Such a stone as this was fairly within the compass of lithotripsy in an otherwise favourable patient; but, in this case, I had not a moment's doubt that lithotomy, if carefully and accurately done, notwithstanding its greater immediate risk, afforded the best chance of complete recovery. In this view, the patient readily acquiesced; and, on the following day, September 16th, I removed the stone by lateral lithotomy, assisted by Mr. Crosse, Dr. Beverley, and Mr. Hooker. The nitrous oxide and ether was again used by Mr. Clover, with admirable effect; there was never a movement of the patient, nor the least headache or sickness afterwards. The operation was easy and satisfactory. The transverse artery of the perinæum was large, and spurted freely; it was easily tied when the stone was removed; the blood was so thin, and so little disposed to coagulate, that every little vessel continued to ooze; and I deemed it best to plug the wound round a silver tube, rather than allow any quantity of blood to be lost. The stone was composed of lithic acid; it measured $1\frac{1}{2}$ by 1 inch, and weighed 193 grains. No more blood was lost, and urine passed freely afterwards. He suffered considerable aching pain in the wound for some hours; but it was gradually checked by half a grain of morphia introduced into the rectum at the time of operation, and twenty drops of Battley by the mouth two hours after. At night, he turned cautiously on one side, took twenty grains of chloral, and had some hours' sleep. Pulse 90.

September 17th. Urine plentiful; he had pain only when he moved. Pulse 96; temperature 102 deg. Tongue dry but clean. He had taken egg and milk and a few teaspoonful of brandy in soda-water; he had frequent cough and expectoration, which caused temporary pain in the wound.

September 18th. The tube and part of the plug was removed; after which the bladder was able to retain urine and empty itself by the wound every two hours. This caused considerable pain in the parts from smarting and spasm; but in a day or two, when all the lint was removed, it abated, but never wholly ceased. Pulse 92; temperature 101 deg.

I need not record minutely the daily progress of the case. Suffice it to say, that for four or five days there was a good prospect of speedy recovery; he took food plentifully, and was in good spirits; and everything went on well so far as concerned the pelvis and bladder; the urine was easily caught and was clear, but loaded with sugar, with a specific gravity of 1030 to 1035. By degrees, however, the cough and expectoration became more frequent; and this, with the frequent spasm and larger amount of urine secreted, distressed him and prevented sleep. Opiates by the mouth or bowel relieved for the time, but were apt to be followed by sickness; chloral did not act well, and signs of increasing debility showed themselves. The pulse continued from 90 to 96, but became weaker and weaker. Aphthous patches gathered on the tongue and throat, and made swallowing difficult, and thus the prostration went on; and death from sheer exhaustion took place on the 25th, the tenth day after the operation.

Post mortem examination, forty-eight hours after death. The body was emaciated; the surface pale and bloodless. The blood was thin, and transuded through the vessels and stained the tissues. Only one small clot in the right ventricle of the heart was met with.—The bladder was perfectly healthy; its muscular walls were rather thin and dilated; its mucous membrane was pale and smooth.—The prostate gland was enlarged to the size of a small apple; it projected somewhat like a cornice into the bladder, and on this projecting part there were traces of slight ecchymosis beneath the mucous membrane. The lithotomy wound was clean, and so slight that, looking from the bladder, none could be seen, and on closer scrutiny it was found that the knife had only divided the mucous membrane and had scarcely reached the left lobe—this, doubtless explains the power of

the bladder to retain urine the moment after the tube was removed.—The kidneys were slightly congested, but not unhealthy.—The liver weighed 4 lbs. 5 oz., and was healthy.—The spleen was greatly hypertrophied, and weighed 2 lbs. 12 oz.; texture firm, of natural colour and appearance.—The stomach and intestines were healthy.—The heart was large and flabby, and weighed 1 lb. 1 oz.; its valves were healthy; the left ventricle was empty; the right contained a soft clot; the aorta was deeply stained by the colouring matter of the blood; its walls were atheromatous, and there were several calcareous scales.—The lungs were emphysematous and oedematous; there was some dilatation of the small bronchi; at the apices there were some small patches of collapsed lung-tissue; no tubercle; the right lung weighed $1\frac{3}{4}$ lbs.; the left, $1\frac{1}{2}$ lbs. There were some old pleural adhesions on the right side.—The trachea and larynx were pale and healthy.—*Head.* On raising the calvarium, a soft tumour was discovered situated on the right side of the head, about an inch above the ear, between the dura mater and the bone. It was about the size of a hen's egg, and projected towards the brain, so as to produce a deep pit or hollow into which it fitted. The convolutions were flattened and pressed down, but not otherwise altered; no softening; no congestion. The dura mater covering the tumour was somewhat thickened. The parietal bone was thickened and hypertrophied around the circumference of the tumour; over it, there was thinning by pressure and absorption, and at one point, about the size of a shilling, all trace of bone had disappeared, and it was replaced by fibrous membrane. The tumour had a cystoid character, with a distinct investing membrane, and its contents consisted of a blackish pulpy material resembling the interior of a recent aneurism, or more closely of a myeloid tumour. Under the microscope, there were seen cells of various descriptions, plates of cholesterine, fatty granules, and altered blood-corpuscles.—The brain itself was anæmic, but not, on the whole, unhealthy; it weighed 47 oz. The optic thalami, corpora striata, pons Varolii, and medulla oblongata had a somewhat shrunken atrophied appearance, and were, perhaps, harder and tougher than usual. The arteries were healthy, and, to the naked eye, the texture of the brain around them seemed natural. I will make no comment further than to say that, so far as I have been able to ascertain, Dr. Bennett never suffered from headache, giddiness, or any symptom directly indicative of such a lesion as that just described.

I may add, that Professor Sanders of Edinburgh, who happened to be staying in Norwich, visited Dr. Bennett a day or two before he died, and was present and kindly assisted at the *post mortem* examination.

TWO CASES OF MICROCEPHALIC IDIOCY.*

By G. E. SHUTTLEWORTH, M.D.,

Medical Superintendent of the Royal Albert Asylum, Lancaster.

A BRIEF description of two microcephalic idiots, whose head-measurements are extremely small in proportion to the amount of intelligence they evince, may possibly be of some interest to the members of the Psychological Section of this Association. Both are at present resident in the Royal Albert Asylum, Lancaster; and although a short notice of the first case, quoted from a description by Dr. Ireland, who casually saw it in 1871, appears in the last edition of Bucknill and Tuke, I may, perhaps, be allowed to give a few additional particulars, both for the sake of comparison with the second case, and also on account of certain alterations in the physical and mental characteristics of the patient, which have occurred during the last four years.

CASE I.—Frederick — is now eleven years of age, and has been under my observation in the Royal Albert Asylum during the last four years. He is a well-knit, straight-limbed boy, $46\frac{3}{4}$ inches high, weighing 47 lbs.; and, in spite of the peculiar conformation of his head, has a fairly intelligent expression, with large lustrous eye. The following are his head-measurements as given in Bucknill and Tuke, upon the authority of Dr. Ireland's observation in 1871, and, also, as recently taken by myself:

	1871.	1875.	Diff.
Circumference	$14\frac{1}{8}$ in.	$14\frac{1}{8}$ in.	$\frac{3}{8}$ in.
From root of nose to spine of occiput (tape) ...	$7\frac{7}{8}$	$8\frac{1}{2}$	$\frac{5}{8}$ in.
Ditto calliper measure	—	$4\frac{1}{3}$	—
From ear to ear over vertex (tape)	$9\frac{7}{8}$	10	$\frac{1}{8}$ in.
Ditto calliper measure	—	$3\frac{3}{4}$	—
From ear to middle of forehead	$4\frac{1}{8}$	$4\frac{1}{8}$	—
From ear to middle of occiput	4	$4\frac{1}{8}$	$\frac{1}{8}$ in.

The two measurements made, as I believe, by comparable methods,

* Read before the Section of Psychology at the Annual Meeting of the British Medical Association in Edinburgh, August 1875.

would seem to show that the increase in the size of the cranium during the last four years depends upon development in the occipital and parietal regions, rather than in the frontal. From the photographs which I exhibit, and also from the diagrams illustrating contours of the head in various directions, which I have made with the aid of flexible wire, it will be seen that there is nothing distinctively pithecoïd in the aspect or conformation of this boy's face or skull. Though his forehead recedes, there is no great flattening of the arch of the cranium; the skull is simply on a small scale. The profile, indeed, has somewhat of a bird-like aspect, and, it is remarked, bears strong resemblance to that of the so-called Aztec children exhibited in this country some twenty years ago.

The etiology of this case is by no means clear. Frederick H. is the son of a Yorkshire coachman; and both father and mother appear to be healthy, intelligent, steady-living people, without (so far as is known) any hereditary or acquired constitutional dyscrasia. He is the third of a family of five, all except himself being intelligent and well-formed. He was born at full time, after a rapid labour, consisting of but three pains; and his mother cannot recall any circumstance attending her pregnancy with him differing, in any respect, from the circumstances of her other pregnancies. It is impossible now to obtain any trustworthy evidence on the subject of premature ossification of sutures in this case, a cause assigned by Virchow for the occurrence of microcephaly.

The case, however, is chiefly remarkable for its mental characteristics. In Bucknill and Tuke, the boy is described as "quarrelsome and unmanageable", and, though comparatively intelligent, of a disposition the reverse of amiable. This is by no means his condition now. As a result, no doubt, of discipline, he is now well conducted and fairly sociable. Though unable to articulate clearly more than a few monosyllabic words, such as "look", "come", "see", etc. (which he uses appropriately), he has evidently a fair degree of understanding. Nothing appears to escape his notice; and, on my morning round, he is in the habit of persistently directing my attention to any new thing (such as a fresh toy or some change of clothing) which has fallen under his observation since he last saw me. At school, he tries to imitate writing on a slate, to match colours, and to join in the drilling exercises of the children. That he is able to carry on a train of reasoning may, I think, be deduced from the following incident. A few Sundays ago, having been kicked by one of his companions when walking in the grounds of the asylum, two hundred yards from the house, he left the nurse and children, and ran as fast as he could to the room in which I am in the habit of seeing patients; and, ejaculating "Look, look!", would not rest till I had examined his leg, and accompanied him to investigate the circumstances of his injury.

CASE II.—Albert —, a boy aged 7, has been under observation only since November last. He is a rickety, knock-kneed child, 34½ inches high, 30 lbs. in weight; and, on account of the feebleness of his legs, at present not very active in his movements. His head-measurements are as follows:

Circumference	...	...	...	14½ inches.
From root of nose to spine of occiput	(tape)	...	9½	"
Ditto	ditto	(callipers)	4½	"
" ear to ear over vertex (tape)	...	...	10	"
" ear to ear (callipers)	...	...	3½	"
" ear to middle of forehead	...	...	4	"
" ear to middle of occiput	...	...	4½	"

Though the circumference of the head of this case is not so large by three-eighths of an inch as that first described, the microcephaly is less striking at the first glance. The superciliary ridges are more prominent than in the first case; but the forehead, though low, recedes somewhat less rapidly. The cranium itself is well vaulted. Like Frederick, this boy has a large lustrous eye and well formed features; and his mental characteristics are not dissimilar. He speaks but rarely, but, according to his mother's statement, is not devoid of the power of articulation, having, under the influence of excitement, used even dissyllabic words, e.g., "Jesus Christ". I cannot personally vouch for his ability to make any but simple ejaculatory sounds; but he certainly makes efforts at school to imitate the words he hears. He is, like Frederick, very inquisitive and observant, and is able to point out when they are named most of the garments he wears. He is, as Frederick used to be, rather quarrelsome and masterful; and was stated, on admission, to be at times dangerously violent.

The history of this boy is as follows. He is the youngest child of a family of eight; the other seven children, five of whom now survive, having been free from bodily and mental defect. There is a history of consanguinity between the parents' families, the father having been the mother's second cousin, and there had been instances of mental weakness and of phthisis in previous generations. During her

pregnancy with this child (who was born after the full period of gestation), the mother was in delicate health, much depressed in mind, and in the middle of pregnancy much affected by the shock of seeing one of her children fall violently on his head. This shock has been suggested by her as the cause of Albert's idiocy; but amongst all the circumstances just detailed there is not much ground for surprise that the child should be an idiot. Why he should be a microcephale is another question. One would not suppose that the rickety diathesis, of which the boy presents in his long bones unquestionable symptoms, is one in which premature ossification of the cranial sutures would be met with. Is it possible that the maternal shock referred to may have been an element in determining the abnormal conformation of the skull? I am aware that mothers' statements on these matters are to be received with very considerable caution; but I think they are not to be indiscriminately rejected.

I will not attempt to enter upon any general disquisition upon microcephaly. Suffice it to remark that the two cases just described do not lend any support to Vogt's theory of the pithecoïd characteristics of microcephales.

CASE OF PARALYSIS OF THE SERRATUS MAGNUS.*

By SAMUEL WOODMAN, F.R.C.S.,
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THE recorded cases of paralysis of the serratus magnus muscle are not numerous, and in very few is the paralysis clearly complete. I have, therefore, thought it worth while to publish the following well-marked case.

Francis E., aged 39, after fifteen years in the service of the Trinity Corporation as seaman, was in November 1873 promoted to be lamp-lighter in a temporary ship, the lamps of which (eighteen in number), with reflectors and apparatus, were placed so high above the platform on which he stood, that *all the work was above the shoulder*. In six months after his appointment—i. e., about May 1874—he felt a weakness in his shoulder. At first, he says, "there was a dead sleepy feeling came down over the shoulder-blade"; and he had a difficulty in raising his arm. In the July following (about a year ago), in coming down the hollow mast of his light vessel, he missed his footing and fell twenty or more feet, bringing himself up by throwing out his elbows as breaks. He does not consider that he injured himself by this accident, nor that it had any effect in increasing the affection of the shoulder. The abnormal sensations soon disappeared, but the "weakness" increased, and it is now many months since he has been able to raise the arm above the shoulder. He did not seek medical advice, but continued to do his work, using the left arm instead of the right; but, on returning home early in May last, after being two months on board his vessel, his wife for the first time noticed that his shoulder was "out", and he came at once to me.

On examination, it was found that the usual signs of paralysis of the serratus magnus were present; but the points particularly noticeable were the bulging of the ribs and the raising of the whole of the affected side (the right). In a state of rest, the tip of the right shoulder was an inch and a half higher than the left; and, in the anterior inferior triangle of the neck, the sharp superior angle of the scapula could be seen and felt projecting only an inch and a quarter from the clavicle. The lower angle of the scapula on the affected side was two and a half inches above and an inch and three-quarters nearer to the spine than that of the sound side. It projected one inch from the surface; and, on raising the arm forwards, it started out an inch and seven-eighths from the side. He was able to raise the arm so that the elbow was within two inches of the level of the nipple, but could raise it no higher. On lifting the left arm to an equal height, the measurement at a point corresponding to the acromial process of the sound side was three inches and three-quarters higher on the right than on the left side. The outline of the neck was formed by the levator anguli scapulae, which was much hypertrophied. The spine was considerably curved towards the affected side, but still the girth of the chest was two inches more on that side than on the other. The serrations of the muscles were very plain on the left side, but were not visible on the right. With the exception of this muscle, there was no loss of power whatever in the arm or shoulder; and, when his arm was once raised, he could hold on or pull as strongly as ever.

The application of the induced current caused no contraction of the

* Read in the Medical Section at the Annual Meeting of the British Medical Association in Edinburgh, August 1875.