those which occur in the same organs in parent and offspring can be supposed to be merely local, surely some difference must be shown plainly to exist between the cancer which occurs in the two groups of cases (those in the same and those in different organs). For, while there is every reason to believe that a constitutional disease will always be found to prefer certain organs as its site before others, there is no reason for believing that a disease, not traceable to external influences, can spring up at one time as a local and at another as a constitutional disease.

If the number of cases in which there occurred unlike cases in successive generations were very small in proportion to the number of those in which the disease was, under the same circumstances, alike, there would be, of course, an increased chance that the exceptions might be only coincidences. But, if it be granted or proved that such cases as those referred to really occur, then one such case would weigh more in the decision than a hundred or a thousand on the other side, and for the reasons just given. But the case is not reduced to such straits. Under all circumstances, the occurrence in question seems to be as frequent as the reverse; and, if we except the cases of cancer in those organs towards which it always has a very strong tendency, there really seems to be comparatively little chance of an inherited cancer attacking the same organ in the child with that which it affected in the parent. At least, if we except cancer of the breast and uterus, such an event happened in Mr. Paget's forty-five cases of direct inheritance (from parent to child) not once, and in Mr. Moore's eight cases only once.

CONTRIBUTIONS TO PRACTICAL MIDWIFERY.

By ARTHUR B. STEELE, Esq.,

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I.—THE USE OF THE FORCEPS.*

IN the following observations, I lay no claim to originality—the subject having occupied the attention of obstetricians ever since the art of midwifery has been cultivated as a branch of medical study. Nevertheless, as it is one of much interest and importance to all who are engaged in obstetric practice, and as on certain points much difference of opinion exists, I have thought that a critical commentary upon the conflicting opinions of high authorities, with such practical hints as my own experience have suggested, might be worthy the attention of the Society, and lead to a discussion at once interesting and instructive.

The particular points to which I propose to direct your attention are, first, that the tendency of the teaching of the British school of midwifery, as laid down in the text-books, is, for the most part, to discourage the use of the forceps in a wide range of cases, in which clinical experience has shown their application to be not only justifiable, but eminently calculated to diminish suffering and lessen the chances of mortality both to mother and child; and, secondly, that there exists among obstetric teachers a want of uniformity in their directions as to the best method of operating and as to the most appropriate form of instrument to be used, arising from a

non-appreciation of certain mechanical principles, which, although clearly understood and taught by some accoucheurs of eminence, are, nevertheless, misunderstood or ignored by others of equal repute. Much of the difficulty and difference of opinion connected with the general question as to the proper use of the forceps has, I believe, arisen from an arbitrary distinction between what are called long and short forceps cases. Dr. Ramsbotham, for example, in common with most obstetric writers, treats of the long forceps in a distinct chapter; and, while fully recognising their value in special cases, to which he considers them exclusively appropriate, at the same time describes them, as more capable of inflicting injury than the short forceps, and limits their use to those cases in which the principal bulk of the head remains above the brim, or in which it has not descended sufficiently low to admit of the application of the short forceps. Dr. Robert Lee altogether discards the use of the long forceps, substituting craniotomy, as, in his opinion, a less hazardous alternative. Dr. Tyler Smith describes the long forceps as “not merely a variation of form, but that it is applied to an order of cases altogether different from those in which the short forceps is useful.” (*Manual of Obstetrics*, p. 578.)

A general review of the opinions of British obstetricians, on this question, leads to the conclusion that they may be classed under two divisions; namely, those who either oppose the use of the long forceps altogether or resort to them only in certain extreme cases of exceptional difficulty; and, secondly, those who more freely admit their utility, and who sanction their use in a wider range of appropriate cases, but who, nevertheless, follow Dr. Ramsbotham in limiting their use to those cases in which the short forceps are inadmissible. As opposed, however, to the views of both these classes of teachers, we have the more advanced, and, as I hope presently to show, the sounder doctrines enunciated by the Edinburgh school, represented by Sir James Simpson, and also by a certain number of obstetricians in this country, of whom Mr. Roberton, of Manchester, may be considered the representative. These authorities are not only favourable to the use of the long forceps in the abstract, but consider them to be equally applicable to all cases with the short forceps, and in some respects even better adapted. Mr. Roberton in his work, published in 1851, thus expresses his opinion: “For reasons the readers will gather, I discard the term ‘short,’ and approve as little of the other term ‘long,’ persuaded that only one kind of forceps is required.” (P. 263.) Having described the construction of his own instrument, which closely resembles that known as Ramsbotham's long forceps, he adds, “they are fitted for seizing the head either in the brim, or when it is in the cavity of the pelvis, or when it is at the external orifice; moreover, it is in the latter description of cases, hitherto left to the short forceps, that, that my forceps are especially useful, and superior to the short.”

The mechanical advantages of Mr. Roberton's forceps are as follows, transcribed pretty closely in his own words: “When the head is at the brim, and the bulging part more or less engaged, or when the base of the head is arrested in the brim; the length of the blades facilitates their introduction, and enables them to lay hold of the head in the proper manner—the parallel shanks in advance of the lock prevents that distention of the orifice laterally, which is unavoidably produced by forceps, the blades of which spring directly the lock, and which is a frequent cause of laceration.”

This lengthening of the shanks in advance of the lock, I consider a *sine quâ non* in the construction of

* Read before the Liverpool Medical Institution, Oct. 18, 1866.

midwifery forceps; for, with those constructed without this provision, there must often be considerable risk of laceration, from stretching of the vulva laterally, especially in primiparæ, when the soft parts are comparatively rigid, and the orifice small. Indeed I have more than once seen, even in the hands of skilful operators, such lacerations occur, which were clearly attributable to the faulty construction alluded to.

To resume Mr. Roberton's description:—"The lateral curve of the blades admits of the force being applied posterior to the line of traction, that is, in the axis of the brim, and facilitates the use of the instrument in completing the delivery of the head along the curved line of the outlet. In order to have lever power with the forceps, it is necessary that they be of a certain length. In using short forceps it will be found difficult to employ any extracting force, except by pulling or working from blade to blade, until the head is all but completely born; consequently the natural curve of the cavity is not and cannot be attended to. If there be much resistance, and considerable force requisite, the operator will pull not in the curved line of the outlet, which is not in the direction of his power) but in a line towards himself; and thus it is that frequent lacerations of the perinæum occur. On the other hand, the delivery being conducted in the curved line of the outlet, and with the forceps, whose use I am recommending, no laceration in general takes place; and the reason is this: while, even in a labour left to nature, the head will often, at the conclusion, be projected somewhat too rapidly into the world, and thus tear the perinæum more or less, the forceps, held and managed as I have directed, so retard and regulate the final exit of the head, as to allow the perinæum time to dilate and escape injury." (*Op. cit.*, pp. 264-268.) I have ventured to quote thus freely from Mr. Roberton's book, because my own views, founded on practical observations, are so fully embodied, and so perspicuously and intelligibly expressed in his graphic language; and further, because I have not found, in the writings of any other obstetric author, so clear and conclusive an exposition of the superior utility of the long over the short forceps.

Sir James Simpson, in his *Obstetric Memoirs* published in 1855, has an article on "The Mode of Applying the Long Forceps," from which we gather that he also recommends their use in all cases where forceps are required. He considers that one pair of proper form and workmanship would answer for all forceps cases, and he believes that an obstetrician would be much more likely to become dexterous in manipulating, who confined himself to one pair of forceps, and studied that form carefully, than if repeatedly changing the form of instrument, according as the foetal head was situated high or low in the pelvis. The forceps used by Sir J. Simpson, known to the makers as "Simpson's long forceps," although differing in some minor points, are constructed on the same principle as those of Mr. Roberton. By some they would probably be considered an improvement; for my own part I believe that, while each has certain special advantages of secondary importance, either is, in all essential particulars, adapted to any case in which forceps are required. After alluding to the teaching and practice of those who reject the long forceps and substitute craniotomy, in all cases in which the bulk of the head is unable to pass the brim, Sir J. Simpson goes on to say "that the long forceps afford a chance of life to the child, and, when used with proper views of their mechanism and mode of application, their employment, as is often seen in Edinburgh practice, is by no means so difficult and dangerous as some authorities seem to believe."

(*Op. cit.*, p. 492.) He then proceeds to show in what respect the directions for their use given by Dewees, Burns, Churchill, Davis, Ramsbotham, and others, are wrong in principle, and points out that, instead of their being applied on the lateral or aural surfaces of the child's head, as some aver, or over the occiput and forehead, as stated by others, the correct method of applying them is, so that the blades are placed obliquely upon the child's head; one, the posterior, over the side of the brow, or temple; and consequently they should generally be situated somewhat in the oblique diameter of the brim, and not in the direct transverse diameter, as laid down by some authorities, nor, as described by others, with one blade in front of the sacral promontory, and the other behind the symphysis pubis.

Having thus shown that, for all forceps cases, one form of instrument, namely, the long forceps, is not only sufficient, but preferable to any other, we have solved the difficulty of the choice of instruments, a question upon which considerable difference of opinion exists among accoucheurs, and which, in the estimation of some writers of eminence, is said to be "one of the most difficult and embarrassing in the practice of midwifery, and one that to decide aright, requires the exercise of a sound judgment, matured by ample experience." (*Pract. Obs. on Midwifery*. By McClintock and Hardy: Dublin: 1848: p. 88.)

I have dwelt thus fully upon the relative superiority of one particular form of forceps; because, although the more frequent use of the forceps as a means of lessening mortality has of late years been most ably advocated by accoucheurs of high repute and extensive experience, among whom may be mentioned Dr. Tyler Smith and Mr. Harper, yet, neither in their writings, nor in those of any other author with which I am acquainted, except those of Sir J. Simpson and Mr. Roberton, do we find any distinct allusion to the superiority of the long over the short forceps.

In attempting to advocate a greater reliance upon, and a more frequent recourse to the forceps, than has been generally recommended in standard authorities, it will be impossible, within the limits of a single paper, to enter into all the circumstances which in various forms of dystocia justify instrumental interference. I will endeavour, as concisely as possible to review those doctrines of the schools which forbid instrumental interference in circumstances in which, according to my view of the case, it is not only justifiable, but calculated to lessen the mortality of both mother and child. In entering upon the consideration of this part of our subject, it is important to bear in mind that the responsibility of the accoucheur does not terminate with the birth of the child, but that in addition to safe delivery it involves the favourable recovery of the mother. Now it has been shown by Sir James Simpson, that puerperal mortality is to an appreciable extent dependent upon the duration of labour, independently of any other circumstance; so that the length of time during which a woman is allowed to remain undelivered may become, even in the absence of other unfavourable circumstances, an element of danger. The physiological explanation of this fact is, by Dr. Tyler Smith, thus explained; "The discharge of the vis nervosa and the vis insita, in the muscular contractions of each pain, has a depressing effect, quite distinct from, and independent of, the mere painfulness of each uterine contraction. Each of the great contractile efforts of labour has an exhausting effect; but, when more severe or continued longer than usual, every returning pain is a distinct shock, and thus a woman may sink and perish from the spinal shock of labour." Tyler Smith *On Parturition and Obstetrics*, London, 1849: p. 172.)

The conclusion of Sir J. Simpson just alluded to, is borne out by the statistics of Johnstone and Sinclair, which show that not only is the danger to the mother and child increased by the prolongation of the second stage of labour, but that the convalescence of the mother is thereby rendered more tedious and unsatisfactory.

[To be continued.]

CASES FROM PRIVATE PRACTICE.

By HENRY EWEN, F.R.C.S.,

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CASE I. Injury of Arm; Crushing of the Soft Parts without Fracture; Erysipelas; Amputation at Shoulder-Joint; Recovery. March 13th, 1866. I was requested to visit Mr. O., a miller, residing at Wisbech. He was 44 years of age, a delicate man, of temperate habits. About a week previously, he had been oiling some part of the works, whilst his mill was in slow motion, when his right arm became entangled in the machinery, and was severely crushed without fracture of bone, and without much obvious injury to the integuments. The injury was followed by severe erysipelas, affecting the whole limb, and extending, when I saw him, as far as the insertion of the deltoid on the outer side, and as far as the axilla on the inner side. There was gangrene of the integuments to some extent both of the fore and upper arm. Countenance anxious; tongue furred; pulse 120. My own impression was that the deep seated textures had been more seriously injured than the integuments, and that the only chance for life was to remove the limb at the shoulder-joint. In this opinion the Messrs. Bury, who were in attendance upon the patient, and my son, Mr. A. B. Ewen, concurred. The patient, when the nature of the case was explained to him, consented to the operation.

My son gave chloroform, I made pressure upon the subclavian artery where it passes over the first rib, by means of a large door-key well padded with lint. Messrs. Bury removed the limb. Only a small quantity of blood was lost during and after the operation. After the vessels were secured, and the flaps brought together by sutures, the wound was dressed with lint soaked in water. A dose of Battley's liquor opii sedativus was given when the effects of the chloroform were passing off. Two hours after the operation, he was quiet and comfortable. He had a fair night's rest, and seemed progressing favourably the first two or three days; but the erysipelas extended over the stump, shoulder, and upper and right side of the chest. A large abscess formed in front of the scapula, which was opened; some sloughing of the stump took place, and he was in great peril during many days, with evident symptoms of pyæmia, but ultimately he made a good recovery. On examining the arm after removal, the muscles were found to consist of a mere mass of putrilage.

CASE II. Pleuritic Effusion; Paracentesis Thoracis; Recovery. March 27th, 1866. I visited Mr. J. F., aged 32, residing at Tydd St. Giles. He is a school-master, and a delicate person. He had been ill about three weeks when I saw him and had been exposed to wet and cold, and much fatigue. His illness commenced with febrile symptoms, and pains about his left side, for which sinapisms and turpentine epithems had been applied. His countenance was anxious; respiration hurried; pulse 130. He had a troublesome cough, with copious muco-purulent expectoration; there was loud bronchophony below the clavicle on the right side. There was dulness on percussion throughout on the left side, and total absence of respiratory murmur. The heart was displaced and pulsating on the right of the sternum. Finding that he was in a club and had been attended by the club doctor, I called upon the latter gentleman, and found that his attention had been chiefly directed to the broncho-pneumonia. I recommended him to watch the case diligently and carefully, and, if after a time there should be no evidence of the pleuritic effusion becoming absorbed, and the heart returning to its natural situation, it might become necessary to perform the operation of paracentesis thoracis.

March 31st. The patient's condition was in all respects the same.

April 9th. There was no improvement. A grooved needle was introduced just below the inferior angle of the scapula, and between two ribs on the left side; and, as we expected, serum escaped along the groove. A trocar and cannula was then introduced at the same spot, and fifty ounces of serum were drawn off, to the great relief of the patient. A compress of lint, and adhesive plaster, were applied to the wound. In the course of a few days the patient was able to leave his bed, and his improvement was gradual and steady, so that in the course of a few weeks he was able to resume his employment. I saw him in October, when he was on his way to Bicker, where he now resides, and at that time his health was fairly established.

CASE III. Pleurisy with Effusion; Tuberculosis? Paracentesis Thoracis; Death. June 28th, 1866. Master A. B., aged 10 years, was placed under my care, having returned home from school near London the preceding day. He had been under medical treatment about a fortnight, and his breathing had been noticed to be hurried about a month, so that he could not play at cricket, nor go up stairs, without becoming "short of breath." His illness was attributed to unusual exertion at cricket, and to taking a swimming bath when heated. Mr. P., who attended him whilst at school, wrote me the following history: "About a fortnight ago I was asked to see him on account of hurried breathing. On examination I found a considerable amount of fluid in the right side, the left side appearing quite free. I applied a blister to the side and gave him diuretics with a grain of calomel and squill nightly. His pulse was quick and weak, and his appetite not good, but still he has been able to take light nourishment. After the blister healed, tincture of iodine was applied daily over the right side. On June 25th, I took him to Dr. P. C., who found, as I had done, the right pleura very full of fluid effusion; the whole of the left side clear and resonant, excepting a very limited spot about two inches below the clavicle, and at that part there was slight dulness or percussion, and there he thought the respiration bronchial. The great question in the case is that of tuberculosis. It seems that about a month ago he had slight cough and was flushed for a day. A mustard poultice was then applied to his chest, and a dose of medicine given, after which he seemed so little ailing that it was not thought necessary that I should see him. Previously to that time he was perfectly well, free from cough or chest symptoms of any kind, plump and active, and with a well developed chest. Moreover, his parents and brothers and sister are all healthy. Dr. P. C. recommended him to take a teaspoonful of syrup of iodide of iron in water once a day, and his diuretic twice daily, and to have two grains of blue pill, and half a grain of powdered squill every night; compound iodine ointment to be applied to the chest,