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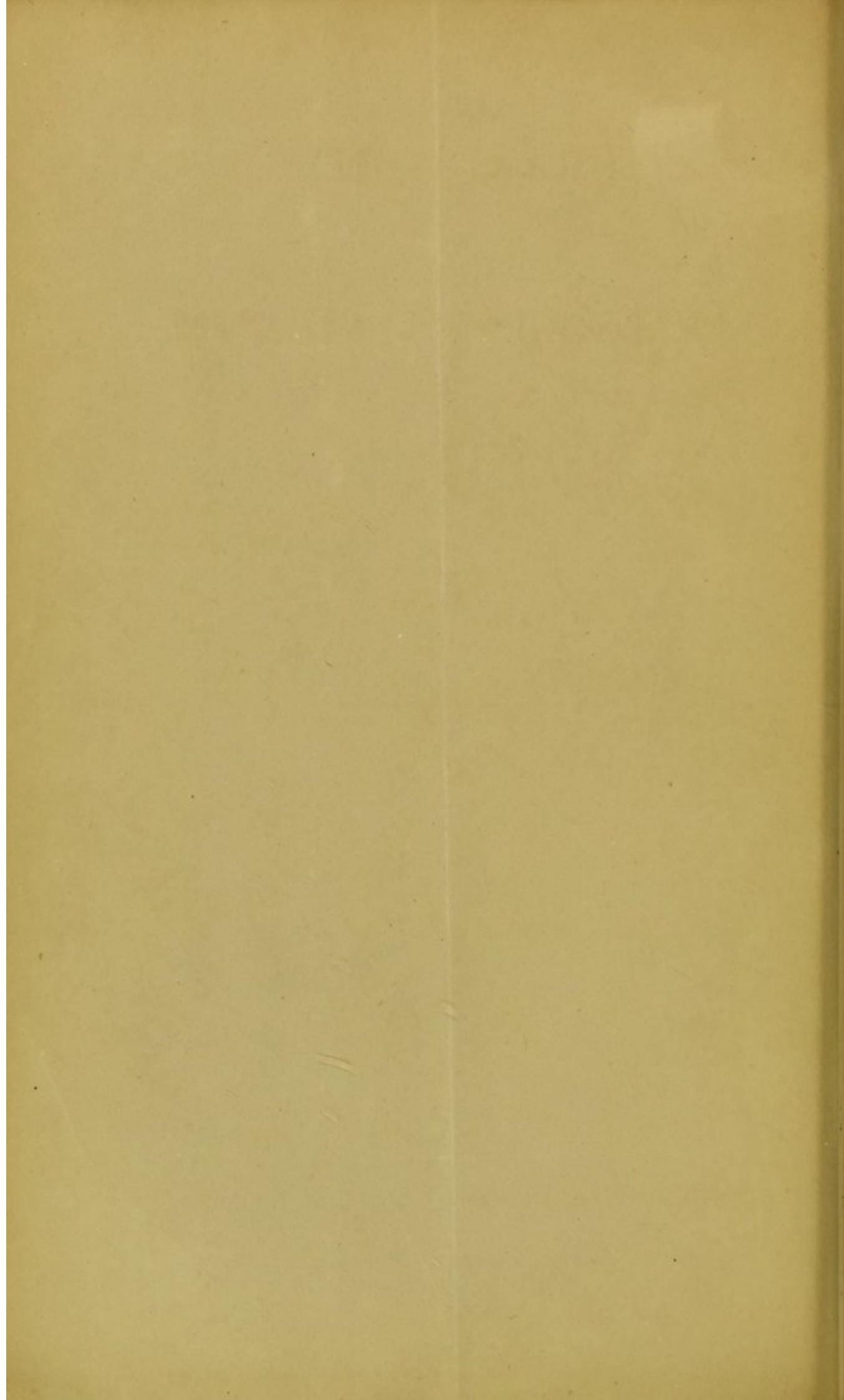
Craniotomy and Cephalotripsy

by

A. Milne



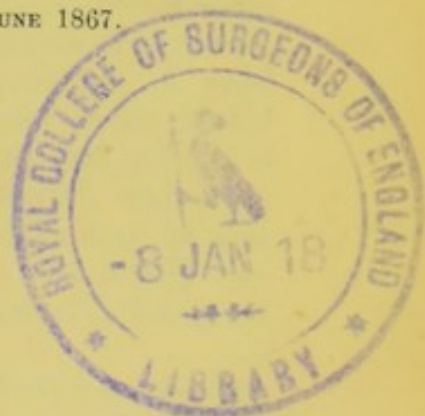
1868



CRANIOTOMY
AND
CEPHALOTRIPSY CONTRASTED;
WITH CASES.

BY
ALEXANDER MILNE, M.D., L.R.C.P. & S.

READ BEFORE THE OBSTETRICAL SOCIETY, 26TH JUNE 1867.



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CRANIOTOMY AND CEPHALOTRIPSY CONTRASTED.

CASE I.—On the 12th June 1865, I was called by Mr, now Dr Monro, to see a case of tedious labour in a primipara at No 9 Monteth's Close. The woman had been in labour for about thirty hours, and the liquor amnii had long escaped. The head was high up, and had made little progress for hours, and the pains were becoming irregular and weak. The os was pretty well dilated, but the soft parts were exceedingly swollen and dry, and painful to touch.

After evacuating the bladder, Mr M. put the woman well under the influence of chloroform, and I introduced my left hand, in order, if possible, to effect version. I soon found that this was out of the question, and for a triple reason—viz., 1st, The existence of a projecting promontory which debarred the ascent of the hand, and which, as it involved a great diminution in the conjugate diameter, would have debarred also the descent of an unreduced head; 2d, The presence of a tetanic condition of the uterus (a tonic contraction so obdurate that nothing short of powder and shot could have prevailed against it, and which the anæsthetic, in this instance, failed to overcome); and, 3d, A wretchedly dry and tumified state of the vagina. In these circumstances, there was nothing left but to perforate. This was easily accomplished, but about a couple of hours was occupied in getting home the child, or the remains of it rather, the crotchet and craniotomy forceps slipping frequently. A good deal of trouble was experienced with the shoulders. After it did come home, by the face as recommended by Burns and others,¹ it was found, as usual, that though the parietal, occipital, and other bones were considerably picked away, the base (which may be said to be the basis of the whole concern in such cases) was totally unassaulted. The woman made a somewhat slow recovery, being on her legs only in about three weeks.

CASE II.—On the third of April last I was requested to see Mrs. S., a young married woman in labour with her first child. On arriving at ten A.M., I found that the pains were few and far between, and hardly genuine, and left, promising to call in the evening. At nine P.M. the pains were true, but moderate. I passed my finger

¹ Dr Braxton Hicks, whose paper on the best method of delivering the foetus head after perforation, is well worthy of perusal.

to the os, but found it opened only so far as to admit a finger. It was somewhat rigid and unyielding. No presentation could be felt. There being a suspicion of an impacted rectum, I ordered an enema of warm water and *ol. ricini*, and left. I was sent for again at one A.M. The enema had done its work; the pains were pretty strong, regular, and frequent, but the os expanded slowly. No presenting part could be detected during a pain, but by pushing two fingers of my left hand well up, I could make out the head lying well up above the brim. While searching for the presenting part, I could detect a most suspicious sacral promontory, projecting and dipping as it did over the brim. I waited a little to see what the natural power might effect, but a couple of hours of excellent pains gave almost nothing in the shape of advance of the head. I knocked up Mr. Thomson, Nelson Street, to relieve me a little. I said to him on leaving, "I suspect a narrow brim here, but wait on, and encourage the woman; give her good cheer, mental and material, and now and then apply the finger, well larded, to the os." I was summoned again at seven A.M. The os was now dilated to about the size of half-a-crown; it was softer but yet undilatable. The head, notwithstanding that the pains had kept strong and regular, was still high up. I resolved to measure the brim. Mr Thomson anæsthetized the woman, and I introduced two fingers of my left hand, the fore and the middle one, into the os, pushed them well up, and separated them, and found that the extremity of the one impinged on the promontory, and that of the other on the pubis, and that without much stretching. As the tips of my fore and middle fingers, when voluntarily stretched to the utmost, only extend to a space of three and a quarter inches, I concluded that, in this case, I had a brim to deal with which antero-posteriorly measured probably not more than two and a half inches. Craniotomy was therefore (the child also being at the full time) necessitated. I was quite prepared for the disagreeable work, but subscribing, as I did heartily, to the canon that it is desirable to destroy singly as seldom as possible, I resolved on having a consultation. Sir James Simpson was communicated with, and, with that kindness and unbounded self-denial which, as is well known, characterize him in an extraordinary degree, responded to the call. On arriving, he speedily made out the nature and necessities of the case, and resolved on employing the cephalotribe. After failing to detect the pulsation of the foetal heart by means of the stethoscope, he began the operation. The patient being placed under the influence of chloroform by my friend Mr Thomson, Nelson Street, Dr Black being also present along with Dr Suttie, the head, notwithstanding that it was very high up, and the os not fully dilated, was perforated with consummate ease and skill. One of Sir James' own cephalotribes—a pigmy beside the gigantic one of Baudelocque—was then introduced with some difficulty, but with much coolness, tact, and skill, and traction begun. Great force, after the blades were brought together,

was necessary, and the instrument slipped.¹ Quickly another was brought from the inexhaustible bag, and as quickly applied, and it retained a good hold, and after a good deal of force delivery was effected. The whole time occupied was only twenty-five minutes, and less would have sufficed if the instrument had not slipped. I feel persuaded that with the crotchet or craniotomy forceps, so contracted was the pelvis, a much longer time—probably several hours—would have been required, and much more difficulty experienced. There was little discharge afterwards, and the uterus contracted well. The after progress was very satisfactory. There was a little pain over the uterus twenty-four hours afterwards, but it was effectually met by an opiate. She was able to pass water soon. On the eighth day she was moving about the room. On examining the head afterwards, the bones, including the base, were found to be effectually crushed, and the widest part was about two inches. I may just add that the distortion was due to rickets, Mrs S. being six years old before she was able to walk.

Remarks.—Instead of simply commenting on these cases, or on the more prominent features of them, I have thought that it would not be out of place were I to enter more fully into the general subject, seeing that there is a growing feeling of dissatisfaction with old tools, and a waxing desire for new ones; that we are, in fact, in the middle of a kind of transition period, when old implements are being weighed in the balance, and when new ones are asserting their claims, and struggling hard to attain the vantage-ground of general acceptance and use. My remarks, I thought, might properly take the direction or shape of a contrast of the old system and the new—the crotchet and the cephalotribe—in order, if possible, to find out on which side most merit or advantage lay; to which practice our support and suffrages should go; which instrument we should adopt when placed in the trying position of being called upon to reduce the foetal head. I say called upon, for there is no doubt that pelves will continue every now and then to cast up through which heads unbroken will not be able to descend, any more than the Irish elk or the mastodon, if they were resuscitated, could go through the eye of a needle. Of course there is a way of escape from the perforator, viz., the Cæsarian section; but this has been found, at least in this country, to be an outlet bristling with more perils, a pathway paved with more of ill-fortune to the mother. Abroad—in France and elsewhere—they are said to manage things better (that is, save more lives) by incising earlier; but the statistics are probably not altogether reliable,—are, perhaps, in fact, like certain guides in outlandish parts of a country, fitted only to lead one into a region of chaos and doubt.

In beginning the comparison, I shall take the older instruments first—the instruments in common use for the purposes of

¹ This was solely owing to the screw having given way.

reduction and extraction. I need not go over the black catalogue of tools of destruction, nor enter into a minute description of the many instruments which have been invented; it will suffice that I notice the more common and prominent of them, and especially the manner in which they have performed their unpleasant work, even in skilful hands. There is the perforator, the crotchet, the blunt-hook, and the craniotomy and bone forceps. The first instrument, the perforator, must be excluded from the comparison, because it also precedes the cephalotribe, perforation being the necessary preamble of successful cephalotripsy. The other instruments have one function mainly—they are used chiefly for the purpose of traction. Of course, by means of the craniotomy and bone forceps, and even in pulling with the crotchet, you may gradually break down the cranial bones, and reduce the volume of the head; but then you cannot at the same time employ anything like extractive force with respect to the bulk of the head. The system, in fact, is legitimate—that is, in extreme cases, and even in the most skilful hands, is one of pulling and picking, seizing hold and letting go, like a dog with an unmanageable bone; every slip, if not every fresh seizure, being pregnant with risk to the mother. Yes, crotchet, and blunt-hook, and craniotomy forceps, are all open to the objection of losing hold, and requiring re-application, over and over again. I repeat that I refer only to extreme cases of contraction, for heads in some cases have come down after mere perforation; in others the fingers have served the purpose of forceps and crotchet to boot; but in these cases I should say there might be well-founded doubt whether perforation were necessary at all—whether, in fact, the grand, yet simple and generally safe, operation of turning might not have been the soundest practice on the occasion.

But I shall now go from mere assertion to evidence,—to the recorded experience of some of the worthies of the obstetric art. Every one knows that Hamilton has spent nearly half a day upon it, toiling and resting a bit, and beginning again; and that able veteran and arch-craniotomist (I do not use the term offensively), Dr Lee, has spent nearly as long a time, often sweating like a gladiator in a ring, or a mariner in a storm. Here is a sentence in corroboration from case 32,¹ in his record of difficult labours:—"I opened the head," says he, "at one o'clock, but four hours elapsed ere the delivery could be completed. After all the bones of the skull had been torn to pieces with the crotchet in extracting, I passed the crotchet up between the head and the uterus, to fix its point on the face, or in one of its orbits. Unfortunately the point of the instrument came in contact with an arm, instead of the outside of the head, and the slightest force brought the arm into the vagina, converting the case into one of arm-presentation." Case 31 is equally striking. Denman—simple-minded, yet acute and

¹ Clinical Midwifery, p. 47.

experienced, and imbued in a peculiar way with everything obstetrical—says:¹—“Where the resistance has been very great, after making my efforts (*with the crotchet*) with all the force and skill I could exert, without success, I have desisted for an hour or longer, and then renewed my attempts.” Meigs has taken an hour or two to remove as much osseous matter as would be equal in bulk to a parietal bone; and Burns, whose work is still a quarry rich in worthy material, depones also to the skill, and force, and time required.²

Tyler Smith bears similar testimony. He says,³—“With any of these instruments the greatest care is necessary in guarding the soft parts of the mother from injury, and avoiding lacerations of the vagina and perineum by the instruments, or by spicula of bone. Great force is sometimes required with the crotchet and craniotomy forceps, and the completion of delivery may occupy many hours.”

Again, Dr Ramsbotham observes,⁴—“If the pelvis be considerably contracted, we may expect that much exertion will be necessary, and much time will be spent, before the head passes through the brim, and we must not be disappointed in finding the bones break constantly, and piece after piece come away.”

Lastly, not to multiply references unnecessarily, Smellie says,⁵—“I have been so fatigued from the crotchet slipping its hold so often, that I have scarcely been able to move my fingers or arms for many hours after.”

Experience thus testifies that with the crotchet and craniotomy forceps, the operation has been, as a rule, a tardy and prolonged one, and as “time is,” as Denman observes, “equal to force,” and force almost equivalent to injury, we are, I think, also justified in characterizing the system as one open to grave objections—as one, in short, injurious to the mother. Statistics bear this view fully out, for they show that about one in six of the mothers has perished. It is true that they may have died in some cases as much from the delay prior to the operation, as from the operation itself; in others from attendant complications; still, few will deny that unusual delay in cases of this kind is a decided evil, and that brevity, other things being equal, is a most blessed boon. Why, labour itself is potential enough to kill if unduly prolonged, and needs not the finishing stroke of a tedious and protracted operation.

Death, suffering, sorrow, and woe, therefore, like the prophet's roll, have marked craniotomy in the past; shall there be less of this in the future, or shall it be but a repetition, a reproduction, of the past? Time alone will be able to tell. One thing, however, will be freely conceded, viz., the desirableness of doing everything in our power to render an unavoidable operation as harmless as possible, of leaving no stone unturned whereby we may, while

¹ Introduction to Midwifery, p. 310.

² Principles of Midwifery, p. 450.

³ Manual of Obstetrics, p. 601.

⁴ Obstetric Medicine and Surgery, p. 311.

⁵ Theory and Practice of Midwifery, p. 304.

inevitably sacrificing one life, spare the other, on which a higher value is commonly set, in relation, if not to supernal interests, at least to mundane concerns.

With this worthy view various instruments have been invented from time to time—some good, some bad, some indifferent—and, in later years, one very prominent tool has been given birth to, viz., the cephalotribe. Of it we shall now speak.

The Cephalotribe.—This instrument, the chief credit of which is given to Baudelocque,¹ has not made much progress in Britain as yet, if we except our own metropolis, where most things, at least of a decent and reasonable and feasible nature, get an early footing and fair trial; it has yet its way, as it were, to fight,—it has yet its laurels to win. When first introduced, it was viewed with suspicion and distrust, with dislike, and even dread. Obstetricians, when they viewed it, stood aghast; they shrank back as a small animal would on the approach of a lion, or as Soult recoiled when he saw the formidable lines of Wellington. The obstetric manuals, too, discoursed of it in forbidding terms, and declared that it must go to the lumber-room or limbo, where many odd and useless things rest till the crack of doom. Now, this indifferent reception and greeting was, no doubt, due in some measure to the formidable character of Baudelocque's instrument being, as it was, by far too bulky and heavy, and, in fact, more like a mill for grinding dry goods than anything else; but also, doubtless, in great part to that somewhat prevalent conservative spirit which leads those animated by it to cling to ancient ways and things, like ivy on a mouldering ruin, and almost to shut their eyes to the sight and their ears to the mention of a novelty;—a spirit under whose benighted reign many useful inventions have progressed with the tardy movement of the snail, or been strangled altogether; a spirit that, had it been general—which happily it has not, and, in these days of unrest and innovation, of searching inquiry and keen experiment, and astounding liberalism in every sphere, less likely to prevail every day—might have seen and found us yet withdrawing the life's-blood, *ad deliquium* and *ad libitum*, in all kinds of disorders; convulsing the intestines, with all the zeal and zest of a Hamilton, on the smallest occasion; loading our maniacs with heavy chains; and in ignorance of the blessings of chloroform.

But although the cephalotribe did not escape the usual reception—did not find a ready niche in the regards of the bulk of the obstetric profession—it failed not to secure the consideration of enterprising men. These, as became men of wisdom and liberal spirit, surveyed it carefully; they segregated the good of it from the bad of it, the beauties from the defects; retaining and adding to the former, and casting aside the latter. Among these we recognise the leading obstetric men in our own “romantic” city, and chief among them our own distinguished president.

¹ The earliest known cephalotribe was invented by Assalini. It is described in a work published at Milan in 1811.

But, now, what are its merits? Is it superior to other instruments, or is it not? Probably a longer probation is yet requisite before the question can be fully or fairly answered. At all events, now that it has been cleared of some of its more formidable points—made lighter in construction by Sir James Simpson, Braun, Dr Charles, Dr Kidd, Dr Hicks, and others—it is achieving unwonted success. It is now not much more bulky than a pair of long forceps.

The principle of it is excellent; it has a twofold function; it both crushes and extracts; it is, so to speak, forceps and blunt-hook and crotchet in one. While you are crushing you are also seizing a bull-dog hold for the purpose of extraction—a hold of tenfold security as compared with the craniotomy forceps, or any kind of hook under the sun. The advantage here is, that you may require only one introduction and one withdrawal, and thus happily and mercifully escape the weary and painful seizing and losing hold, pulling and picking, and ceaseless twisting and tearing, until the exhaustion of the operator is nearly equal to that of the hapless and suffering patient. With it your work may be over, and done well too, in the course of a very few minutes—ten, fifteen, twenty. Moreover, its crushing power is great, and herein lies one of its most favourable features; for it breaks down swiftly the cranial bones, including also the base, which latter is hardly reducible or assailable by the other instruments even after the expenditure of much time and skill and pains. Indeed, if you survey the crushed heads in the obstetric museums, you will find that, as a rule, the base has escaped all the assaults of the craniotomist, who, mayhap, has bestowed hours on the work of reduction.

But a further advantage is that, by means of this instrument, you reduce the bones without much, if any, tearing of their coverings. The spicula then, if there are any, do not protrude, but are encased in the safe envelope of an almost unbroken scalp. Soft parts thus escape the chance of injury always dreaded under the other system from sharp edges of bone during the descent of the mangled head. Swiftmess, in short, characterizes the cephalotribe in contradistinction to the interminable delay of the crotchet—a delay the evils of which are too well known to require repetition—and greater security and safety, directly and indirectly, so far as the mother is concerned.

But in case these advantages should be deemed merely fanciful or theoretical, let us inquire a little into the practical working of the instrument. Theory and practice, it need hardly be said, do not necessarily comport; nay, they are often widely different, from unforeseen elements casting up, and coming into adverse play. But abroad, Baudelocque, Champion, Cazeaux, Scanzoni, Dubois, and others have employed it very successfully; and in this country, Simpson, Keiller, Kidd, and others, have also tested its value.

The case I have detailed illustrates most strikingly the worth of

the implement; it shows how quickly and thoroughly and safely it can accomplish its appointed work. One or two other cases may be briefly referred to. There is Dr Balfour's case, recorded in the *Edinburgh Medical Journal*.¹ Here there was a very contracted brim, and turning had been resorted to on previous occasions, after the induction of premature labour. The cephalotribe did its work speedily and well in the hands of Sir James Simpson.

Another is that in the same *Journal*² by Dr Keiller. Here the long forceps and turning were found quite impracticable, but complete success attended the use of the cephalotribe, and the mother again recovered well.

The last case I shall refer to is one that happened in the practice of my friend Dr Bryce, Dalkeith.³ The case was one of extreme contraction, and Dr B., after opening the head, had "three hours' fruitless effort with the crotchet." Yet Sir James Simpson, who had been sent for, succeeded in effecting delivery by means of this instrument in the course of twenty minutes. The patient was able to be out of bed on the ninth day.

Such are the merits and advantages of this instrument, then, not theoretical merely, but as exemplified by successful practical work; but it is now proper that we should inquire whether it has any demerits or drawbacks. There are two sides to most questions: the famous shield had two aspects; and the cephalotribe may not yet be a model of perfection, though vastly improved; it may have some fault or defect fitted to mar its usefulness, calculated to depreciate our estimate, to lessen somewhat our jubilation. The chief, if not the only one, I can perceive, lies in the bulk of its blades⁴ (this bulk being necessary in order to give strength and crushing power), which must ever render it of difficult application in cases of high distortion. Still, though the task may seem in some cases nearly equal to that of Sisyphus, skill and tact will triumph.

Dr Tyler Smith,⁵ no mean authority, avers that it is quite inapplicable in these extreme cases; but he does not add whether this view is the result of personal experience or mere fancy and conjecture. I rather think the instrument is as little in vogue in the south yet as oatmeal is in the diet of Englishmen.⁶ If Dr S. means to affirm that it cannot be applied where the antero-posterior diameter is only, say, $2\frac{1}{2}$ inches, then we demur; for it has succeeded well in pelves not exceeding that limited dimension; nay, Dr Kidd of Dublin has succeeded with a conjugate of 2 inches. Under this you are almost safer to go to the Cæsarian section, according to Churchill, Cazeaux, and others. You may, it is true, drag a foetus, or the remains of it, through a conjugate of $1\frac{1}{2}$ inch ac-

¹ Feb. 1865.

² *Ibid.*, Nov. 1864.

³ *Ibid.*, Aug. 1864.

⁴ Most of the instruments are now made much lighter, and yet compress very effectually.

⁵ *Manual of Obstetrics*, p. 597.

⁶ My friend Dr Braxton Hicks is using it (and has his own instrument), and so also are Dr Graily Hewitt and Dr Greenhalgh.

according to Gardien, and Hamilton and others—Dr Davis says even through one of a single inch—but what a miserable wreck must your patient be after the protracted and sanguinary work implied in the reduction of the child to an attenuated mass capable of emerging from, or rather being dragged through, a gap so contracted as this, and how small must be her chance or prospect of survival! The high distortion cases have seldom done well, at least under the old system, the mother having, in many instances, been *morbund when the remains* of her offspring were being hauled through her unfortunate pelvis; having in fact succumbed immediately after the terrible work was accomplished.¹ How much better, in such cases, might it not have been to have brought the living infant through the abdominal wall, which is now-a-days cut with an impunity that one could hardly have dreamed of, and which would startle Hippocrates were he to arise from his grave!

Such, then, are the advantages and disadvantages of the cephalotribe, imperfectly set forth it may be; and I think, on the whole, we are justified in claiming for it higher value—a more exalted platform than the crotchet and its companions. Success has crowned its employment as a rule; it has fairly realized expectation, and it has not withered confidence and hope. It is true, as before hinted, that it is perhaps not yet so perfect as it might be—that it is mayhap not the handiest and fittest instrument we shall yet get from the hand of genius (perfection, indeed, in mechanical appliance may never arrive, any more than the philosopher's stone, or a catholicon, or Utopia itself),—still it is a step in advance to be hailed with gladness by the obstetrician—an impression on the obstetrical sands not to be effaced—a stand-point from which fresh and real progress may be begun.

The imperfection of instruments, it may be remarked in passing, constitutes a call upon our mechanically-inclined brethren to be up and doing, in order, if possible, to eclipse even the greatest inventors who have yet evoked our hearty thanks and praise. A really good and useful obstetric instrument is about as rare as an angel's visit, but its advent, when it does come, is seraph-like—a mission of good, a crusade against ill. Should this barrenness exist? Certainly not; there is no occasion for it in these days of wonderful invention. There are wondrous machines for cutting the mellow grain, and transforming natural products into the most beautiful fabrics, and even for the despicable work of entrapping small animals, and making sausages, etc.; and shall it be said that we are still badly-off for safe and suitable means of launching children into the world—that many still land infants as men land fish, by hooks? Surely not.

In pursuing the work of obstetric invention and improvement,

¹ Boyer witnessed the mutilation and extraction of the child repeatedly by eminent men, but the mothers sank immediately. There are several such cases mentioned also in Dr Lee's clinical work.

it is true that no pension may await our highest and most successful efforts. No, our statesmen will remunerate fourth-rate poetry, and fifth-rate fiction, and puerile prose, and the fierce inventors of big guns for blowing up fellow-mortals by the score, and even now and then quietly pitchfork a dreary nephew into a snug berth—a square man into a round hole—but small gratitude awaits, and small lustre gathers around, the man who gives us a tool for the saving of those precious lives without which there would neither be statesmen to guide the vessel of the state, nor warriors to defend their country. However, there is one grand incentive to the work, apart from the bauble of renown, or even the “bubble of reputation,” which are sometimes only posthumous, and then avail you not, and often indeed “interred with the author’s bones,” and then avail his family not (if he has any); and that is the assurance that every advance you make into the region of real improvement is an aggression upon that of mortality. Yes, every defect you remove from, or useful addition you engraft on, your instrument, goes to conserve life, to lessen the percentage of death. Persevere, then, in the high interests of life, and help to consign all imperfect instruments, including the crotchet, to the curiosity shop, where finally repose rusty swords, lances, and even lancets innumerable, alongside of all sorts of ancient-flavoured and dismal dust.

Remarks on Case II.—I find I have left but little time or space for any remarks on the cases recited at the head of this paper, and which provoked the foregoing, I fear too lengthy, observations. There are, however, one or two points in connexion with case No. II, on which I should like to remark briefly. It will be observed that in this case the brim was made out to be a narrow one at a comparatively early period, and before the full dilatation of the os. Was there any advantage in this? Or in other words, did the woman derive any benefit from the discovery? I think she did. For instance, the operation was in consequence begun only fifteen hours after labour had commenced in earnest, and before exhaustion had set in. It thus gave her a better chance of recovery, for she had more of strength left wherewith to bear the brunt of the interference. It is true that there has always been a school that propounded the propriety of delay, even on to the unconscionable period of several days: but few are the disciples of it now; they dwindle beautifully down into that significant obscurity which is so worthy of the hurtful doctrine they espouse. Why, it is almost a law that an operation undertaken during great exhaustion will be followed by a fatal result. The surgeon is loth to lop off a limb when his patient is in a state of profound debility; and he will sometimes let him perish rather than run the risk. How much more cautious require not we to be when our operation may be much more prolonged and equally severe!

Now, in many of the cases of contraction recorded, great delay has taken place; days have been spent in the almost passive work

of waiting for an impossible descent—reminding one of the Arcadian sitting by the river's brim waiting for the stream to run dry; the consequence being that the patients sunk from sheer exhaustion soon after the operation. They died probably more from the delay than the interference itself. By this system the operation is discredited; the dark side of its statistics is increased; for the results are rendered less favourable than they would otherwise have been. This has been pointed out by Sir James Simpson and Drs M'Clintock and Churchill. The latter says¹—"This delay is unfavourable to the mother, and when at length the operation is performed, her condition has rendered her much more susceptible of injury from it."

Dr Lee frequently complains of this delay. Glance at case 52.² This one dragged its painful length over Saturday, Sunday, and Monday, and the mother died from inflammation. Dr Lee in remarking on it says—"She was left too long in labour." Case 57 is even more suggestive. It had been allowed to carry on from Saturday to Wednesday, and proved fatal twelve hours after the operation. Dr Lee says³—"The result of this case would probably have been very different had we proceeded to deliver twenty-four hours sooner; and I can never think of it without regret."

The great thing, then, is an early and correct diagnosis of the character of the pelvis. On this may hang the mother's existence. Whenever serious and impracticable disproportion is made out, early and energetic action should follow, and delay be swept unceremoniously from our resources as a hurtful expedient. I need hardly suggest again that for measuring the brim, the hand, especially the left, or two fingers of the same, is the best of all apparatus for the purpose.

There is just another point on which I would say a word before closing: it is in reference to the use of the stethoscope in this case. It is well known that there are not a few practitioners who shirk the perforator until the child is dead, or supposed to be so. They throw the heavy burden of killing upon Nature, feeling scarcely broad-shouldered enough to bear it, or having too little of fatalism about them to give them the necessary intrepidity. For them the stethoscope is a proper enough article to resort to, affording, as it does, some little negative evidence of the death of the child; but for those who deprecate delay, who set the highest price on the mother's life, it seems to hold no suitable place, to subserve no useful function. Their doctrine is this, and I agree with it: in a case of distorted pelvis, where the child unreduced cannot pass, the sooner delivery is accomplished the better for the mother, and the fact that the child is living is no bar. Dabbling with the stethoscope, then, is all very well for the procrastinating school, for the so-called conscientious and humane stock—and the feelings of such individuals are worthy of all respect—but it is useless, so far as the other and opposite side

¹ Theory and Practice of Midwifery, p. 372.

² Clinical Midwifery, p. 52.

³ Ibid., p. 53.

is concerned; for, according to their views, and consonant with their practice, they would perforate even though they heard the ticking of the foetal heart. Living or dead, the infant's bones must be crushed within a reasonable time, that the mother may not perish. I said "humane stock," but a qualification is necessary; for the system of sparing the perforator until the child is dead is in reality a cruel method in reference to the mother. You may hang on a day or two ere the infant succumb, the patient all the while suffering the utmost distress. However, while condemning the measures, let us yield all due homage to the men, for the motives by which they are animated are most worthy.

I fear I have dwelt too long on this subject; but I felt it to be one of the most interesting and important in the whole range of obstetrics. I trust, if I have not thrown any fresh light on the matter, I have at least not imported into it any unwonted darkness; and if I should contribute in the smallest degree to further the great cause of maternal safety, my intentions will be fully met, and my remarks will not be in vain.



