

In such emergencies, however, as M'Clintock and Bouchut have pointed out, and as I can bear witness, it is usually the clavicle that snaps and not the humerus. In those rarer cases in which the humerus is broken, the fracture is often partial,—viz., of the green-stick kind. By the aid of thin pasteboard splints and of straps of adhesive plaster, such injuries heal so readily and with so little deformity that they should weigh as trifles when life is at stake. In cases of pelvis known to be ample, I can conceive of its being perfectly justifiable to follow Giffard's and Froriep's plan of dragging the head through with the impacted arm extended above, rather than that of losing golden minutes in liberating it.

Supposing, then, that the trunk and arms are born, and the head, gripped by the brim, alone remains for extraction, is the forceps to be resorted to? I answer, "No;" for, although this instrument is handy enough when the head is at or near the outlet, in high operations its application is attended with so many difficulties that too much precious time is lost. The problem being to get the child's head out as soon as possible, the only factors for its solution are limited to supra-pubic pressure upon the head, and to traction on the body. But the former is not by itself trustworthy; while, as to the latter, the great majority of physicians labor under the idea that the neck of an infant cannot bear much traction. "Would you be willing," they triumphantly ask, "to lift up by its head an infant just dressed and lying in the nurse's lap?" "Would you," it may be retorted, "be willing to make as much traction upon the lower jaw of a newborn child as you have just made in flexing its head?" or would you compress its head with the forceps as viciously as you did a few minutes ago?" For obvious reasons, I object very decidedly to the nursery game of lifting a child by its ears to make it "see London." But, were one of my children drowning, I should not hesitate to grapple for its naked body with a boat hook, or to pull it out of the water by the hair, by the ear, by the nose, or by any prehensible portion of its body, regardless of any local injury it might sustain. Nay, were its limbs like those of canny James Lambert (Charles Reade's aquatic hero), weighted down by the death grips of some twenty other drowning persons, I should run the risk of breaking its neck in my frantic efforts to raise its chin above water-level. Now, a child presenting by the breech is in precisely this plight. It is under water, weighted down by the grip of the bony canal; it is drowning; and to any one drowning help must be sped,—help at all hazards.

The ancient Romans recognized this danger, and, as I believe, applied the only remedy for it. According to Pliny (*Historia Naturalis*, lib. vii. cap. viii.), they called all persons born in this manner, Agrippas. This name still puzzles etymologists; Aulus Gellius and Pliny himself derive it from *ægre partus*,—viz., *born with difficulty*,—but this is stoutly contested by others. With diffidence, I would suggest it to be either a derivative from

*arripio*,—to snatch away; to take by force,—or a compound from the Greek word *Τρύψα*—a griffin or fabled winged monster with four sets of talons,—from which our own word *grip* is derived. Thus interpreted the name Agrippa is descriptive of the mode of birth, and means one snatched away, or taken away by force. But such a mode of delivery necessarily hinges on the tensile strength of an infant's neck, and this will, therefore, next engage our attention.

The adult neck is strong enough to bear the immense strain of the gallows-drop without sustaining a luxation of the atlas on the axis. Criminals executed in this manner usually die from suffocation. What holds good with adults holds good relatively with children; and it is wonderful what a strain their necks will safely bear. From experiments made adversely to version in narrow pelvis, and, therefore, the less likely to overrate the tensile strength of the foetal neck, Matthews Duncan concludes (*British Medical Journal*, December 19, 1874, p. 763) that the neck of a dead child can, at term, sustain the average weight of one hundred and five pounds before the spinal column gives away, and one of one hundred and twenty pounds before the body parts from the head. These averages are, I think, under-estimated rather than over-estimated, for out of the four fetuses experimented upon, two of them weighed under six pounds; and the other two, weighing, respectively, seven pounds and seven ounces and eight pounds and fifteen ounces, sustained each weights of one hundred and forty-one pounds and one hundred and thirty-six pounds before decapitation took place.

In a difficult breech-case to which Julin was called in long after the child was dead, he delivered the woman, after employing, for twenty minutes a steady traction-force of one hundred and two pounds, made by a noose thrown around the neck of the child (*Traité complet d'Accouchements*, p. 1062). In conducting a series of experiments to determine the value of version in narrow pelvis, he delivered with unbroken necks (p. 1050) the heads of three dead infants after putting on their feet a steady force respectively, of one hundred and twenty-five, one hundred and forty-five, and one hundred and forty-eight pounds. But it must not be forgotten that these experiments were made upon dead children, and that the tensile strength of a living child's neck is presumptively greater. Again Joulin also proved with his dynamometer that, without any purchase for the feet, and by pulling merely with the muscles of the arms, a robust man can exert on the forceps a maximum weight of one hundred and thirteen pounds. From analogous experiments made by Delore, a force of only one hundred pounds was reached (p. 1065).

Now, with the woman lying on her back and myself standing in a stooping posture before her, I have repeatedly delivered living and lusty children by putting on their necks all of my weight possible in that position. By grasping a cane in an analogous manner, and forcing it down on Fairbanks's scales, I find that one can for thirty seconds exert a steady