always on hand, whilst the Carbonate is left optional with the pharmacist.

Potassium Permanganate is introduced into the Codex, but is left to find its own way into general favour; whilst Crystallised Acetic Acid is to be kept in all druggists' shops.

The foregoing remarks embrace the earlier portions of the Codex, containing the preface, the *matéria medica*, and the uncompounded drugs. Our future observations will relate to the compounds and other matters of interest in this work.

CHANGES IN THE SHAPE OF THE FŒTAL HEAD PRODUCED BY LABOUR.*

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THE change of shape which the foetal head undergoes during natural labour has long been well known to accoucheurs, and has been justly considered to be a wise provision of Nature for facilitating the process of parturition. By means of this change, the head becomes moulded and adapted to the passages through which it has to pass; and to so great an extent is this possible, that, as a general rule, there is no presentation of the head, which, when other things are favourable, will not admit of delivery by the unaided efforts of Nature. In a paper which I communicated to this Branch some years ago, I laid great stress on this point, and showed how favourably it operated in lessening the difficulty of what are called occipito-posterior positions of the head. In ordinary head-presentations, considerable alteration takes place in the shape of the head in all cases where it has been subjected to much pressure and the labour has been much retarded; nor is this alteration of shape usually incompatible with the safety of the child. The shape of the head becomes elongated; for, as Dr. Tyler Smith remarks, "as a general rule, it may be laid down that, in ordinary presentations, the longer the head remains in the pelvis, the more ovoid will it become, always provided that the pelvis is not absolutely deformed." M. Baudelocque has noticed at some length all these changes; and his description is so accurate, that I may quote it at length. He says: "The head, pushed forward for hours together by the natural agents of delivery, becomes insensibly softer and more pliable, and at length acquires the necessary dispositions for moulding itself to the form of the pelvis. If it then flattens in one direction, it really lengthens in another; the form of the cranium only changes, and its cavity contracts so little that the brain is scarcely affected by it. I have taken children whose heads seemed to have lost nine or ten lines of their natural thickness in passing the superior strait, and seemed to have lengthened in the same proportion without comprehending the tumour formed on the scalp before the posterior fontanelle. The heads of several of these children were above six inches and a half and even seven inches long, from the chin to the top of the aforesaid tumour; while the thickness from one parietal tubercle to the other was but two inches and a half, or two and three-quarters in some, and three inches in others. In a few hours after birth, the heads of these children spontaneously recovered

the thickness which they had lost in delivery, and lost the length which they had acquired by it." M. Baudelocque then adds in a note: "M. Solayres informed us one day in his lectures that he had taken a child the evening before whose head, at the moment of birth, was eight inches long all but two lines, measured between the points indicated above; while it had preserved but two inches, five or six lines in thickness. The day after, the head had recovered its usual dimensions."

In the *Obstetrical Transactions* for last year, there is an interesting paper on this subject by Dr. Robert Barnes, containing measurements of heads which had been much altered in shape by difficult labour. Dr. Barnes states that the deformation of the head is threefold; viz.: 1. Elongation or conification; 2. A symmetrical flattening of one side; 3. Twisting of the conified portion upon its axis. He states also that, as a general rule, "the part of the fetus which presents in the axis of the brim, which has to lead the way, so to speak, for the rest of the head, undergoes more or less bulging out or elongation." From a number of very accurate measurements, Dr. Barnes draws the following conclusions.

1. The ordinary dimensions of a standard head at term, not deformed by labour, are:

	Inches.
Fronto-occipital diameter	4½ to 5
Occipito-mental	5¼ to 5½
Greatest transverse (between parietal tubercles)	3¾ to 4
Lesser transverse diameter (between the ears)	3¼

2. In protracted labour, with vertex presentation, in a pelvis normal or nearly normal, the above dimensions are altered to:

	Inches.
Frontal-occipital diameter	5½ to 6
Occipito-mental	6½ to 6¾

The greatest transverse diameter is often merged in the lesser; that is, the parietal bones are compressed, so that the interparietal diameter becomes the same as the interauricular, which is fixed.

3. In a case of tedious labour, with the head in the third position of Nægelé, the elongation was greatest in the bregmato-mental diameter; i. e., the elongation more nearly approached the vertical diameter of the head than the longitudinal diameter.

4. Elongation of the head is due sometimes entirely, and often greatly, to the pressure the head experiences in passing a rigid, imperfectly dilated cervix uteri. Hence the conical elongation is most marked in primiparæ. Hence, also, one reason why the forceps is so much more frequently called for in first labours.

5. In turning, in contracted pelvis from projecting promontory, the transverse flattening of the head is much exaggerated; in extreme cases, the moulding capacity of the cranial bones being exhausted, space is gained by indentation or even fracture of the bone in contact with the promontory; the lateral or transverse compression is compensated by slight mento-occipital elongation—i. e., this diameter increases a quarter or half an inch, and also by fronto-occipital elongation.

In occipito-anterior positions of the head, the usual tendency, as mentioned above, is to elongate the head in the direction of the occipito-mental diameter, or rather a diameter a little in front of this. The elongation is most marked, and most exactly corresponds to the occipito-mental diameter, in the occipital variety of head-presentation, or that variety in which the posterior fontanelle presents, instead of the ordinary presentation of the posterior superior

* Read before the Bath and Bristol Branch.

angle of the right parietal bone. This variety of presentation is recognised by the smaller bulk of the presenting part, by the finger impinging on the overlapping angles of three bones, and also frequently by the circumstance that the accoucheur can readily reach both ears and the nape of the child's neck behind the pubes.

In the occipito-posterior positions of the head, when the usual turn is not effected, and the forehead continues throughout the labour behind the pubes, the shape of the head becomes very much modified if the labour be protracted, and varies very much from what we usually see in the ordinary vertex presentations. When the head is expelled with the forehead behind the pubis, the occipito-frontal diameter, instead of the trachelo-bregmatic diameter, is in relation with the antero-posterior diameter of the pelvic outlet. The result of this is, that the occipito-frontal diameter, instead of being lengthened as it usually is, becomes much shorter, and the transverse diameter of the cranium is increased; but the greatest increase is effected in the mento-bregmatic diameter of the head, which very nearly corresponds to the axis of the pelvic outlet. Thus the head, as viewed from above, becomes very much rounded in shape. This modification has a very favourable effect on the progress of these labours. The distension of the perinaeum, which in these labours would be increased to a very dangerous degree, becomes much relieved, and the mechanical disadvantages resulting from this position of the head are greatly lessened—in fact, so much so that instrumental assistance is but seldom required.

In face-presentations, a great alteration takes place in the shape of the presenting part, producing the disfigurement so well known in these cases; but this is the result of oedema from pressure, rather than from any displacement of the bones of the face, the articulations of which are not of such a nature as to admit of a moulding process like that which takes place in cranial presentations. This is one reason, perhaps, why labour is more difficult in face-presentations, although the actual diameters of the face are not greater than those presented by the cranium in ordinary labours. In brow-presentations, which are intermediate between those of the face and those of the vertex, the alteration of shape caused by the moulding process is sometimes very peculiar and startling. This was very marked in a case I once saw with the late Mr. Leonard. I found, on my arrival, the forehead presenting, with the head so firmly fixed in the pelvis that it was impossible to pass the finger sufficiently high to reach the chin, or in any way to alter the position of the head. We therefore allowed the labour to go on naturally, as the head was forced perceptibly lower by each pain. At last the forehead presented at the os externum, the root of the nose being pressed against the subpubic ligament, and the anterior fontanelle against the border of the perinaeum. The nose now remained stationary in that position, forming, as it were, the centre of the semicircle described by the rest of the head; whilst more and more of the vertex protruded with each pain. At last the whole was expelled—the vertex first, and then the face. The child was still-born—in consequence, no doubt, of the extreme pressure on the anterior part of the head, as the forehead was enormously swollen, and the whole face much distorted, as shown in the drawing, which was taken from nature immediately after delivery. (See Fig.)

The tendency of the labour in cases like that just described is to produce shortening more especially of the occipito-mental diameter, which is in apposition with one of the oblique diameters of the pelvis; and lengthening of the trachelo-frontal diameter, which

corresponds to the axis of the pelvic outlet. The shape of the head is thus altered in a very unusual manner; and, during this process, so much pressure is exerted upon it in the neighbourhood of the great

fontanelle, that the child's life is apt to be endangered. This, then, is another reason for endeavouring to alter presentations of the brow, in addition to the inherent difficulties attending labour with the head in so untoward a position.

ST. BARTHOLOMEW'S HOSPITAL. The statistical tables of the patients treated in the wards of this institution during the past year, prepared by Dr. Edwards and Mr. Willett, have just been issued. The number of patients admitted was 5,088. The patients remaining on the 1st of January, 1866, amounted to 527, bringing up the total number under treatment to 5,615. Out of this number, 3,980 were discharged cured and relieved, 250 were discharged unrelieved, 277 were discharged for other than medical reasons, and 563 died. Out of the 2,224 patients treated in the medical wards, 1,323 were discharged cured and relieved, and 418 died. Thirty-six, or 8.61 per cent., died within twenty-four hours of admission. Out of the 418 deaths in these wards, 71 were the result of consumption, 64 were caused by diseases of the respiratory organs, 42 by cholera, 36 by albuminuria, and 29 by fever. Cancer of the internal organs contributed 23 deaths. Out of the 3,391 patients treated in the surgical wards, 2,657 were discharged cured and relieved, and 145 died. Thirty-three, or 22.8 per cent., died within twenty-four hours of admission. Out of the 145 deaths in these wards, 30 were the result of fractures, 23 were caused by burns and scalds, and 10 by cancer of the external organs. The following is a statement of secondary diseases which occurred within the hospital among 126 patients admitted for other diseases:—Scarlatina, 16; typhus, etc., 15; cholera, 3; erysipelas, 31; cellular inflammation, 14; pyæmia, 17; rheumatism, 4; phagedæna, 1; gangrene, 2; and delirium tremens, 23. The report contains an elaborate series of tables recording the ages and occupations of the patients, extending over seventy-two pages.