The Midwife.

Moulding of the Head.

By "moulding" is meant the alteration in the shape and size of the head by pressure. The alteration in shape is more marked than the alteration in size, but the pressure on the blood vessels and on the brain has a minor effect and diminishes to some extent the amount of blood and cerebro-spinal fluid in the tissues. If, for example, the head of an infant with spina bifida is compressed the tumour becomes tense, indicating an increased amount of fluid therein.

The alteration in shape is brought about by the overlapping of the bones and obliteration of the sutures, which make this possible, by the difference of direction in the incompletely ossified and supple bones, which form the vault, and by the formation of the caput succedaneum.

Stadfeldt in 1863 was the first to study moulding of the fœtal head. Both Barnes and Matthews Duncan have made careful observations on what have been termed "the plactic phenomena" exhibited by the head after labour.

Most authorities agree that in a good number of cases the head is originally asymmetrical; this is proved by careful examination and measurements of infants delivered by Cæsarian section ; this asymmetry is persistent, while that acquired during the passage of the head through the parturient canal is usually temporary.

During the last weeks of pregnancy, if the head is engaged in the pelvis, there is occasionally some overlapping of the sutures; this can only be recognised by the "tactus eruditus" of those accustomed to vaginal examinations in patients in whom the lower segment is not unduly thick, and the bag of forewaters is small.

In vertex presentations, however easy the labour, the shape of the head is invariably altered to some extent; it is only in easy breech deliveries that the head is unmoulded. In those cases in which there is change in the shape of the aftercoming head there has been delay in delivery, and the child is usually still-born. The contractions of the retracted uterus do not mould the vault to the same extent as the pressure of the pelvic floor does in vertex presentations, but the occipito frontal is shortened, and the sub-occipito bregmatic somewhat lengthened. The dome shape of the head and perpendicular occiput are the chief features.

In normal labour with vertex presenting, the head is compressed by the pelvic floor, and particularly by the structures forming its posterior wall, the normal bony pelvis plays little or no part. In labour, where there is disproportion between the size of the head and the pelvis, the sacral promontory and the ischio-pubic rami cause flattening, and in severe cases grooving of the frontal and parietal bones, and materially assist moulding; marked asynclitism is also noticeable, *i.e.*, the horizontal plane of the head does not correspond with the planes of the pelvis through which the head passes successively. One parietal bone descends lower than the other, so that instead of the bi-parietal a super-parietal sub-parietal diameter engages; this gives a mechanical advantage, since the largest transverse diameter of the head is the bi-parietal.

The law of moulding is that it is always at right angles to the horizontal plane of the head, which is subjected to the greatest pressure. The circumference of the plane is termed the girdle of pressure.

The following table shows the girdle of pressure, and chief diameters, increased and diminished in the various presentations enumerated below:—

	Girdle of Pressure.	Diameters Increased.	Diameters Diminished.
Vertex reduced.	Sub-occipito frontal. Sub-occipito bregmatic.	Vertico mental. Occipito frontal.	Sub-occipito frontal. Sub-occipito bregmatic. Bi-parietal. Bi-temporal.
Vertex unreduced.	Occipito frontal.	Sub-occipito frontal. Sub-occipito bregmatic.	Vertico mental.
Face.	Cervico vertical. Cervico bregmatic.	Occipito frontal. Occipito mental.	Cervico bregmatic. Cervico vertical. Sub-occipito bregmatic.
Brow.	Vertico mental.	Occipito frontal.	Occipito malar. Vertico mental.
After coming head.	Occipito frontal.	Sub-occipito bregmatic.	Occipito frontal.