

The eminences of the temporary teeth having now become vascular, begin to ossify; layer after layer being deposited *from without inwards*, or from the surface to the centre of the tooth, in this respect differing from the formation of the other bones of the body.

The before-mentioned cavities of reserve are now observed above and behind the temporary teeth imbedded in the maxillary tuberosity, they soon acquire the appearance of dental pulps, and "remain in this position until the lengthening and irruption of the temporary teeth, when they gradually recede and insinuate themselves between the temporary teeth, until they are only connected by their proximal extremities, through the alveolo-dental foramina, or *itineria-dentium* of Delabarre."

Dentine is covered by a hard and beautifully polished substance called enamel. This invests the crown and neck of every tooth, and materially protects the subjacent osseous tissue from the action of injurious agents. The earthy salts greatly predominate over the animal matter in the enamel. The following is an analysis of 100 parts:—

Phosphate of Lime.....	85.3
Fluate of Lime.....	3.2
Carb. of Lime.....	8.
Phos. Magnesia.....	1.5
Soda.....	1.
Animal Matter.....	1.

According to Goodsir, Raschkow, and Nasmyth, three of the most eminent authorities on this subject, the enamel is formed from the gelatinous granular substance before mentioned, and which is situated between the follicle and the tooth germ, the latter of which it closely envelopes. This granular substance is surrounded by a fluid which Raschkow says bears a striking resemblance to the liquor amnii, and which, by a peculiar unknown process, is transformed

into a membrane which attaches itself to the pulp.

According to this author the inner surface of this membrane consists of an infinite number of short fibres, each of which he considers an excretory duct, whose function it is to secrete "the enamel fibre corresponding to it."—These fibres, at a certain point in the ossification of the dental pulp, begin to secrete the earthy salts which chiefly make up this substance. This membrane is believed to be the bond of union which exists between the enamel fibres and the bone of the tooth.

The enamel fibres are of an hexagonal form, and radiate from the centre to the surface of the tooth. The cells of the enamel, says Mr. Nasmyth, "are of a semicircular form, and the convexity of the semicircle looks upwards towards the free external portion of the tooth." These cells are arranged in undulating curves, thus securing infinitely greater strength and resisting power than if they were straight regular columns.

There is yet another substance included in the structure of the human teeth, called the "crusta petrosa," or "cementum," and which invests the fang only: from its being more vascular than dentine it serves the admirable purpose of preserving a close union between the tooth and the bony substance in which it is imbedded. As regards the structure of the "crusta petrosa" it is very similar to that of dentine, having an infinite number of minute cells and tubuli intersected in its thickest layers by vascular canals. This substance can be detected by the naked eye on the teeth of all the herbivorous mammalia: but it needs the aid of a microscope to discern it on the human teeth.

In concluding our remarks on this