Other herbivorous quadrupeds, as the horse, and animals belonging to the ruminant tribe, have also complex teeth composed of these three substances; and their grinding surfaces present ridges of enamel intermixed in a more irregular manner with the ivory and crusta petrosa; but still giving the advantage of a very rough surface for trituration. Fig. 278 represents the grinding surface of the tooth of a horse, worn down by long mastication. E is the enamel, marked by transverse lines, showing the direction of its fibres, and enclosing the osseous portion (o,) which is shaded by interrupted lines. An outer coating of enamel (*e*) is also visible, and between that and the inner coat, the substance called *crusta petrosa* (c,) marked by waving lines, is seen. On the outside of all there is a plate of bone, which has been left white. In ruminants, the plates of enamel form crescents, which are convex outwardly in the lower, and inwardly in the upper jaw; thus providing for the crossing of the ridges of the two surfaces, an arrangement similar to that which is practised in constructing those of mill-stones. The teeth of the lower jaw fall within those of the upper jaw, so that a lateral motion is required in order to bring their surfaces opposite to each other alternately on both sides. Fig. 279 shows the grinding surface of the tooth of a *Sheep*, where the layers of bone are not apparent, there being only two layers of enamel (E,) and one of crusta petrosa (c.)

These three component parts are seen to most advantage in a vertical and longitudinal section of the grinding tooth of the elephant, in which they are more completely and equally intermixed than in that of any other animal. Fig. 281 presents a vertical section of the grinding tooth of the Asiatic Elephant, in the early stage of its growth, and highly polished, so as to exhibit more perfectly its three component structures. The enamel, marked E, is formed of transverse fibres; the osseous, or innermost structure is composed of longitudinal plates. The general covering of crusta petrosa, c, is less regularly deposited. P is the cavity which had been occupied by the pulp. In this tooth, which is still