

first permanent molar moved forward and caused the second bicuspid to be displaced inward.

Too early removal of the temporary canine may lead to irregularity by allowing the first bicuspid and lateral incisor to approximate and cause the permanent canine to erupt irregularly. Under certain conditions removal of the temporary canines to relieve a crowded condition of the incisors is advisable. Under certain conditions the early extraction of the first permanent molars may produce irregularity. In cases where the temporary molars are very carious the first permanent molars are practically the sole means by which mastication is carried on, and their early removal under such circumstances would transfer the whole force of the bite to the incisors, with the probable result that the upper ones would be driven forward, an irregularity at times difficult to remedy.

In pulpless or necrosed portions of temporary teeth absorption is carried on slowly and often arrested. The temporary tooth then acts as an obstruction to the erupting permanent tooth, and deflects its normal direction. The presence of persistent deciduous teeth with the corresponding permanent ones in irregular positions does not necessarily indicate cause and effect. Many persistent deciduous teeth, when extracted, are found to have quite normal pulps, and to have undergone but little absorption. In the majority of these cases the abnormality of the permanent teeth is due to their being developed in an abnormal position, which affects their direction when erupting; in such cases the abnormality of the permanent teeth is the cause and not the effect.

The frenum of the lip at times passes between the central incisors and is attached to the *muco-periosteum* covering the palate. Under such conditions, every movement of the lip causes the frenum to press on the teeth and thus separates them. This cause of divergent centrals was first pointed out by Mr. H. Moon.

Alveolar abscess in connection with the temporary teeth sometimes leads to irregularity in position of permanent teeth, because the pressure of the abscess may displace the permanent tooth follicle.

Supernumerary teeth often cause irregularities. A divergence of the upper central incisors is at times due to the presence of a peg-shaped supernumerary tooth. Displacement of the incisors internal or external to the arch, or a general crowding of the teeth, may be traced to the presence of supernumerary teeth. Thumb, lip, tongue and toe sucking produce irregularities.

Mouth breathing is held by many to be an active factor in the production of maxillary deformities, and the frequent association of chronic nasal obstruction with the high vaulted palate would seem to indicate the possibility of there being a connection