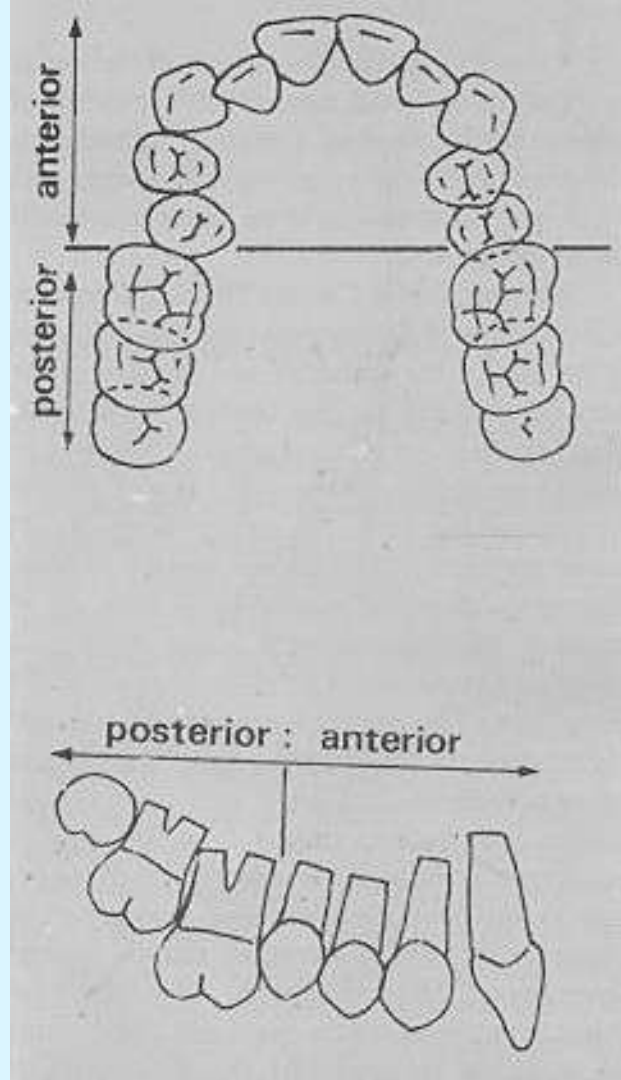


Diagnosis of Discrepancy

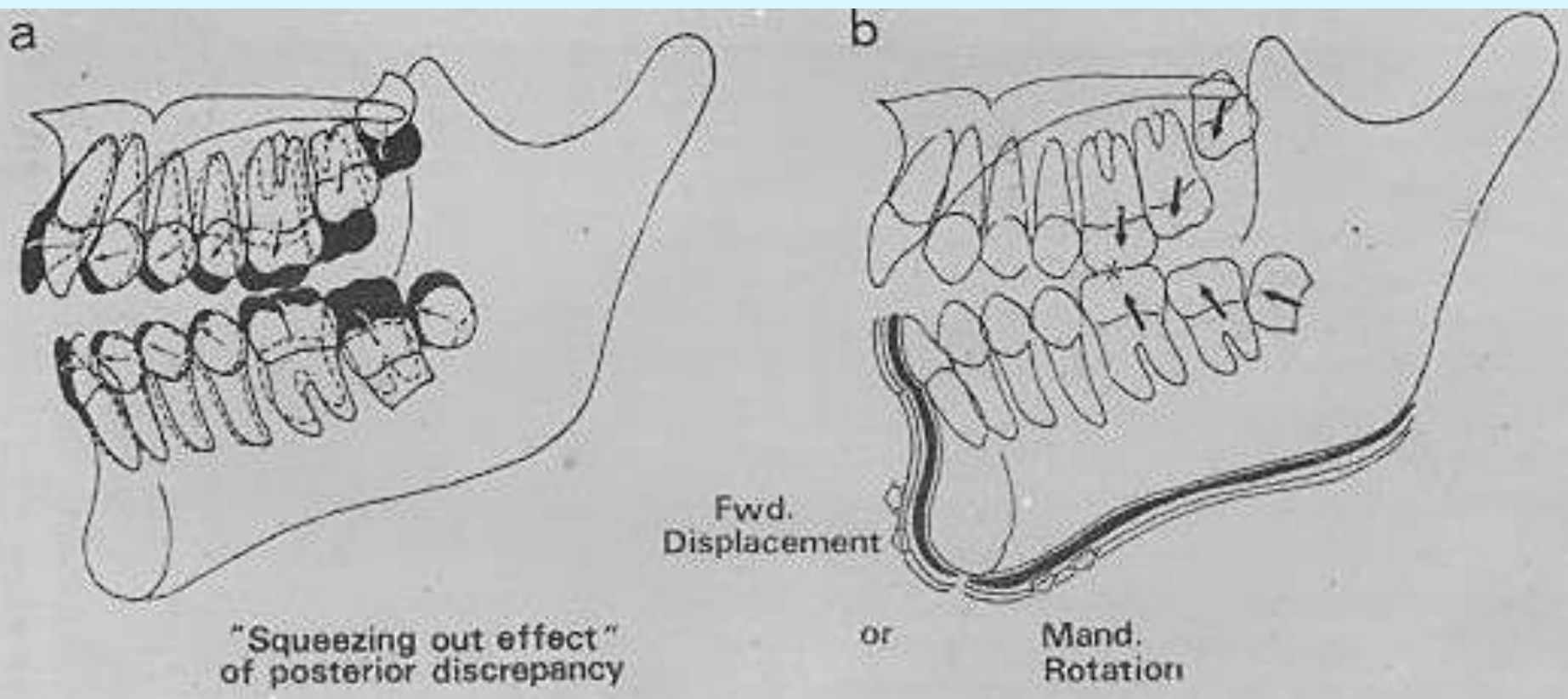
Prof. Sato



Clinical examination of discrepancy:

Discrepancy means the difference between the size of entire teeth and the size of the entire alveolar base. It can be conventionally classified into anterior and posterior discrepancy.

Symptoms of discrepancy are shown as horizontal crowding for anterior discrepancy and vertical crowding for posterior discrepancy.



Since posterior discrepancy has a vertical pushing effect on the teeth, occlusal interference can easily develop in the molar area. If this occlusal interference develops, the mandible adapts to occlusion by an anterior rotation associated with a forward displacement. In severe cases, it leads to the backward rotation of the mandible resulting to an open bite condition.



Discrepancy and mesial tipping of the molars:

Posterior discrepancy creates mesial tipping of the molars. Therefore, the mesial tipping of the canines and premolars shown here is a symptom of posterior discrepancy. In this type of patient, improvement of occlusion is usually through the removal of posterior discrepancy and the correction of mesial tipping of the teeth.

Difficulty of 1st molar eruption

Eruption of the 1st permanent molar associated with mesial tipping and resorption of the distal root of the 2nd deciduous molars, together with supraeruption

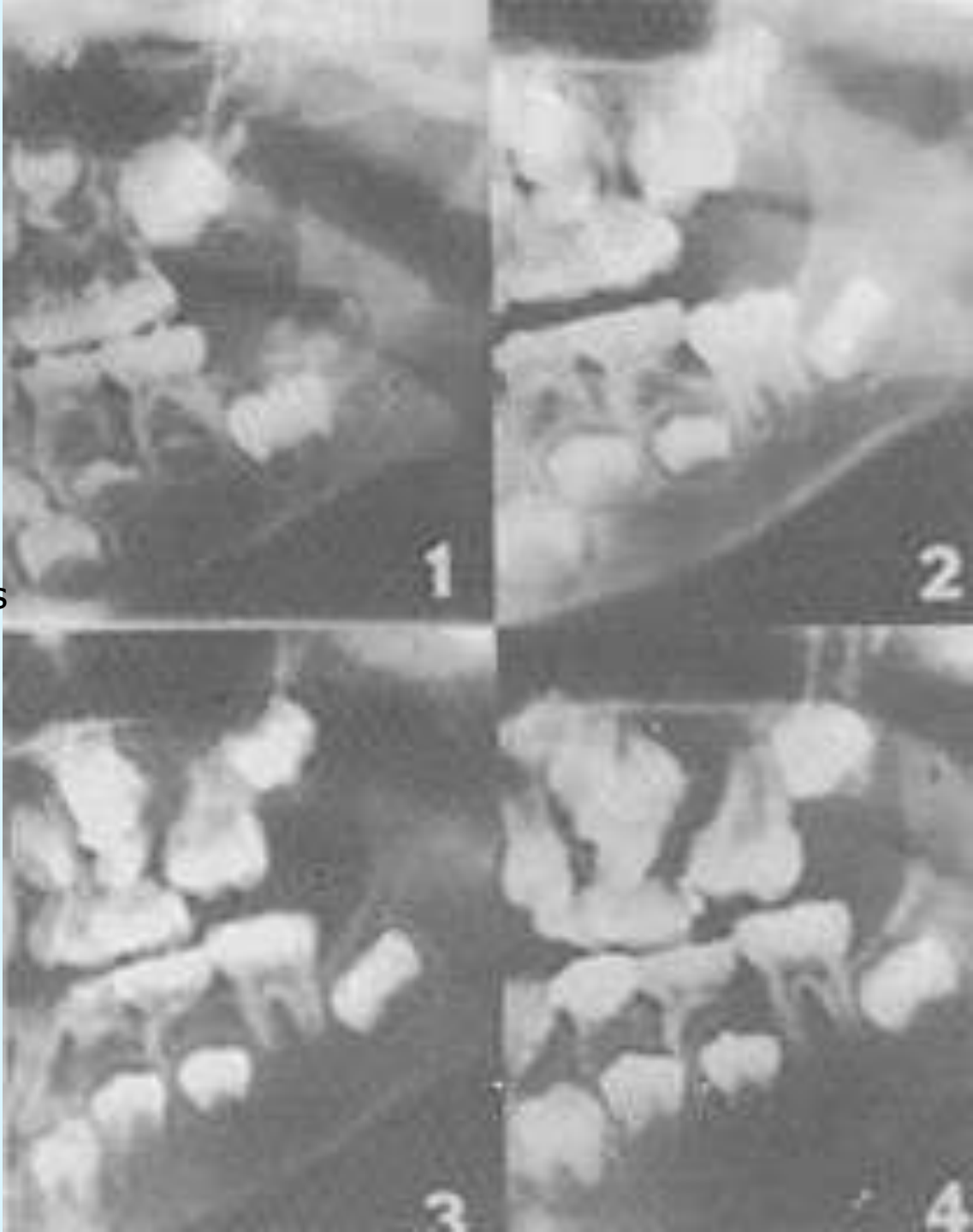


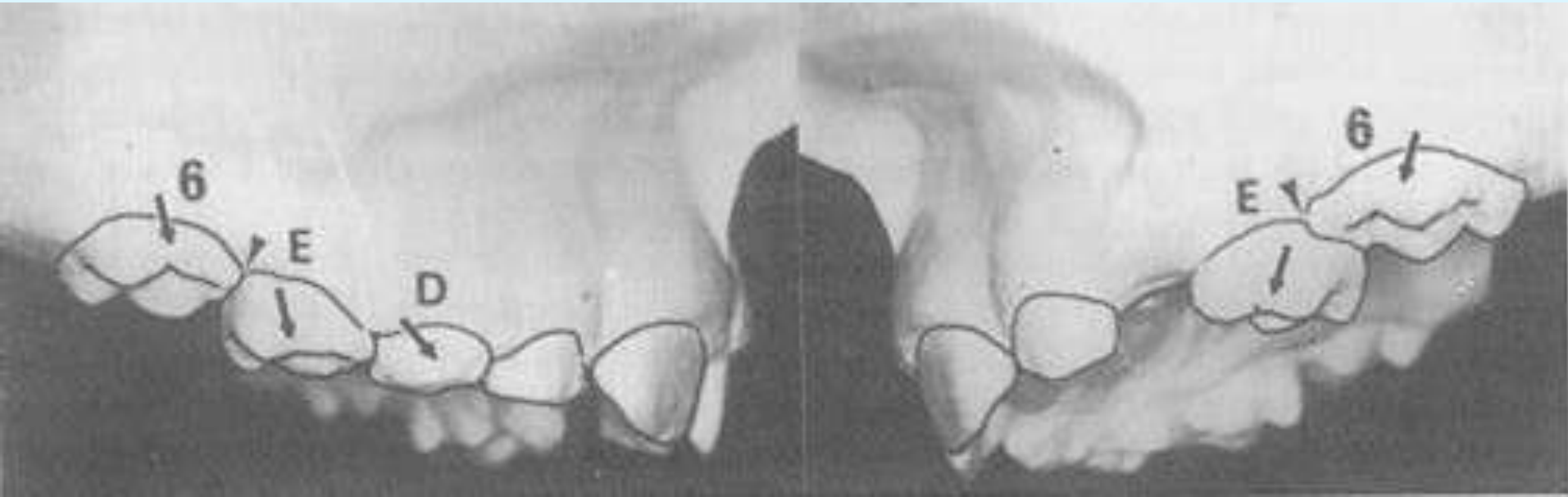
The 1st molar of the maxilla resorbs distal root of the 2nd deciduous molar and locks in the tooth crown.



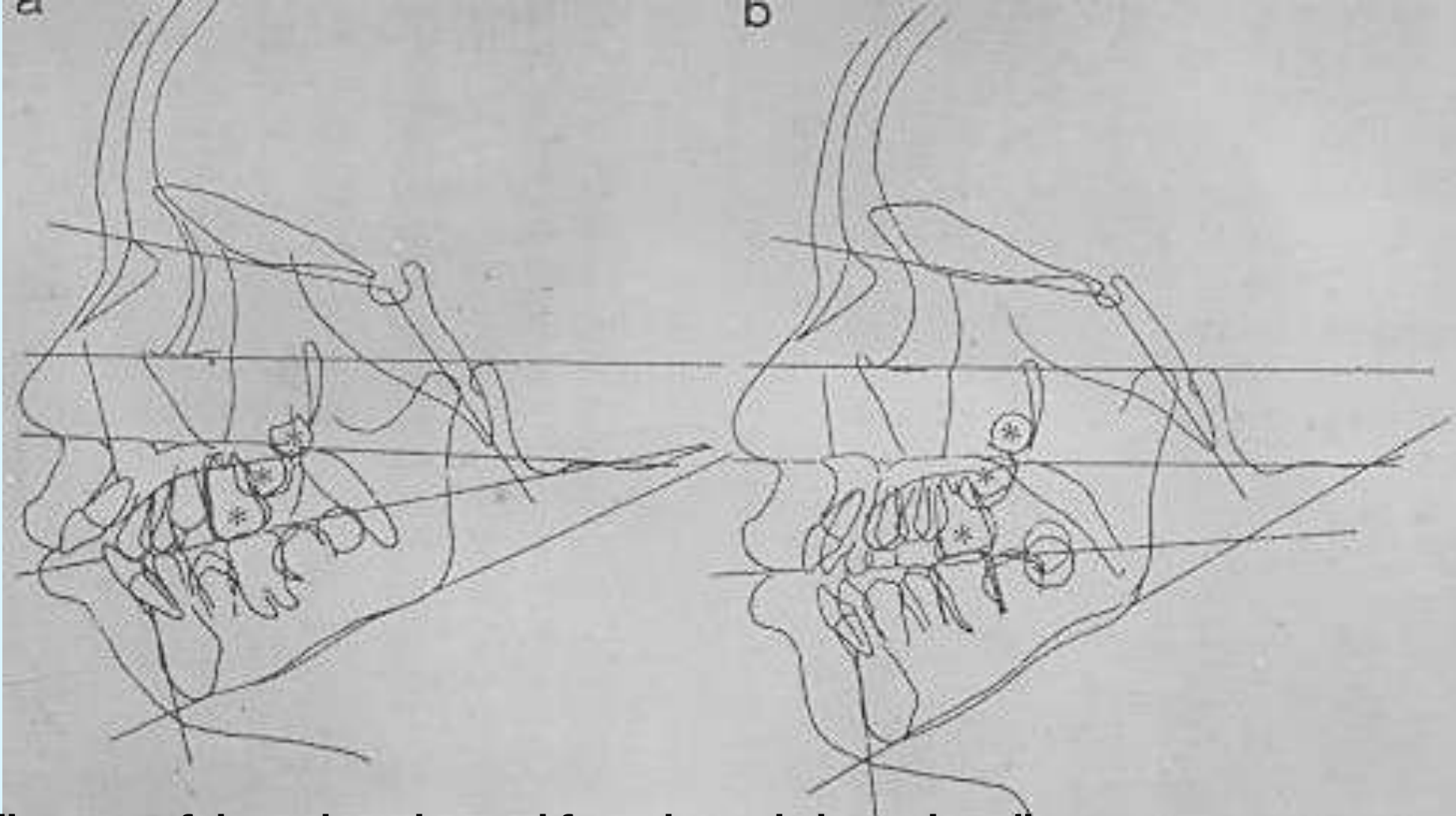
Similarly, the 1st molar in the left side of the maxilla locks in the distal part of the 2nd deciduous molar.

The successive panoramic x-ray of a patient showing difficulty of 1st molar eruption. Mesial tipping of the 1st molars and reorption of the root of the 2nd deciduous molar. In addition, mesial tipping and supraeruption is observed.





Study model of a patient with a pushed 2nd molar related to the eruption of the 1st molar.



Alignment of the molars observed from the cephalometric radiogramm:

- a: In a patient showing a tendency for extension of the maxillofacial skeleton, and protrusive rotation of the maxilla, with a sudden tipping of the occlusal plane, the direction of eruption of the 1st, 2nd and 3rd molars shows a slight tipping of occlusal plane.
- b: A patient having a tendency of maxillofacial flexion and inferior displacement of the maxilla, occlusal plane flattens because of the increase in posterior discrepancy, which makes the alignment of the molar teeth less vertical associated with the *crowding* of the 2nd and 3rd molar teeth on top of the 1st molar.



Primary dentition period (4 y. o.), reserved occlusion in primary dentition, the 1st and 2nd molars are crowded.



Mixed dentition period (9 y. o.), tooth germ of the 3rd molar is seen and protrusive displacement of the mandible is observed.



Terminal period of 1st molar eruption (6 y. o.), the relationship of the 1st and 2nd primary molars is further aggravated.



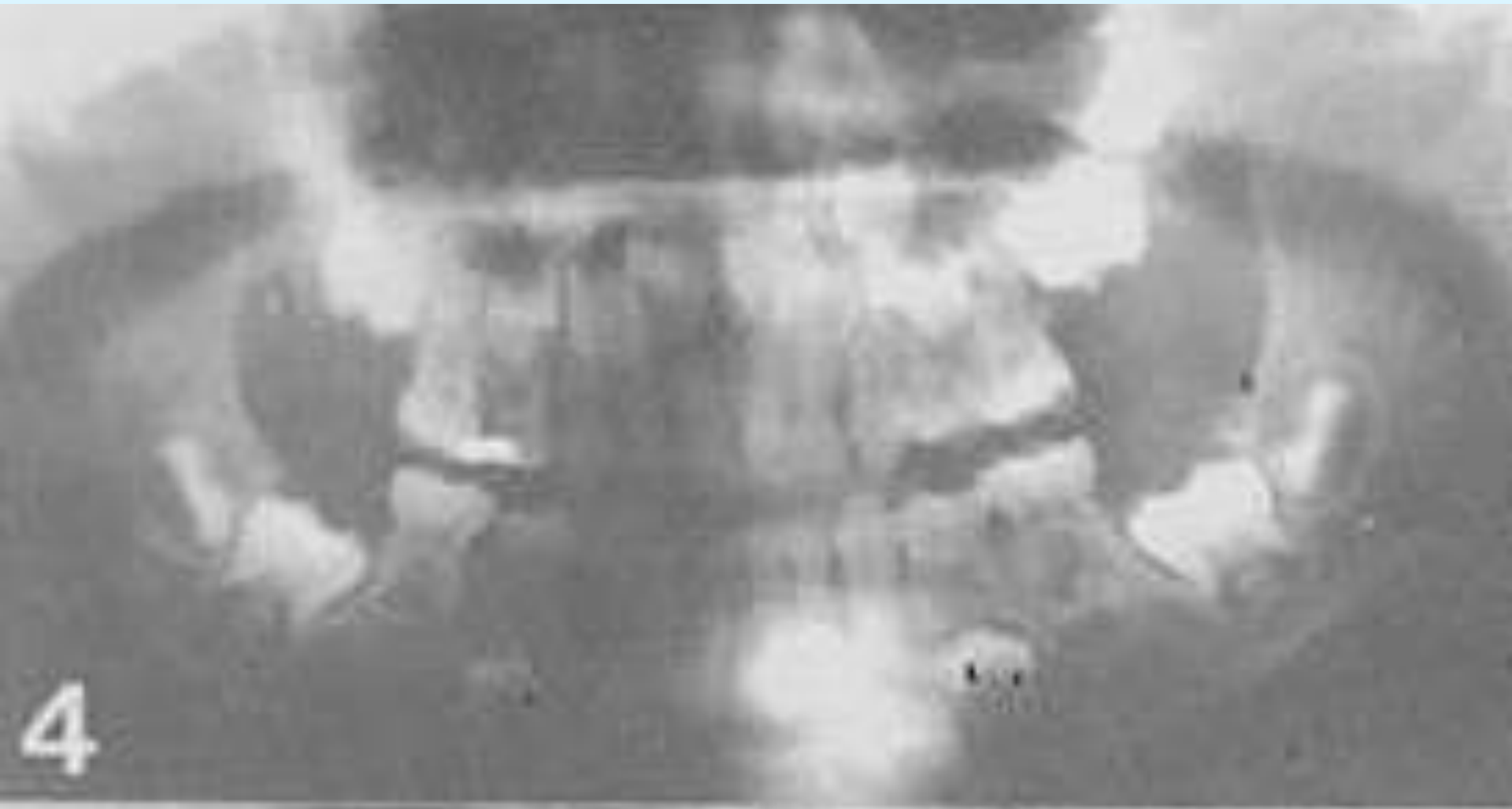
Post mixed dentition period (11 y. o.), occlusal plane flatters and the anterior teeth overbite has not improved.



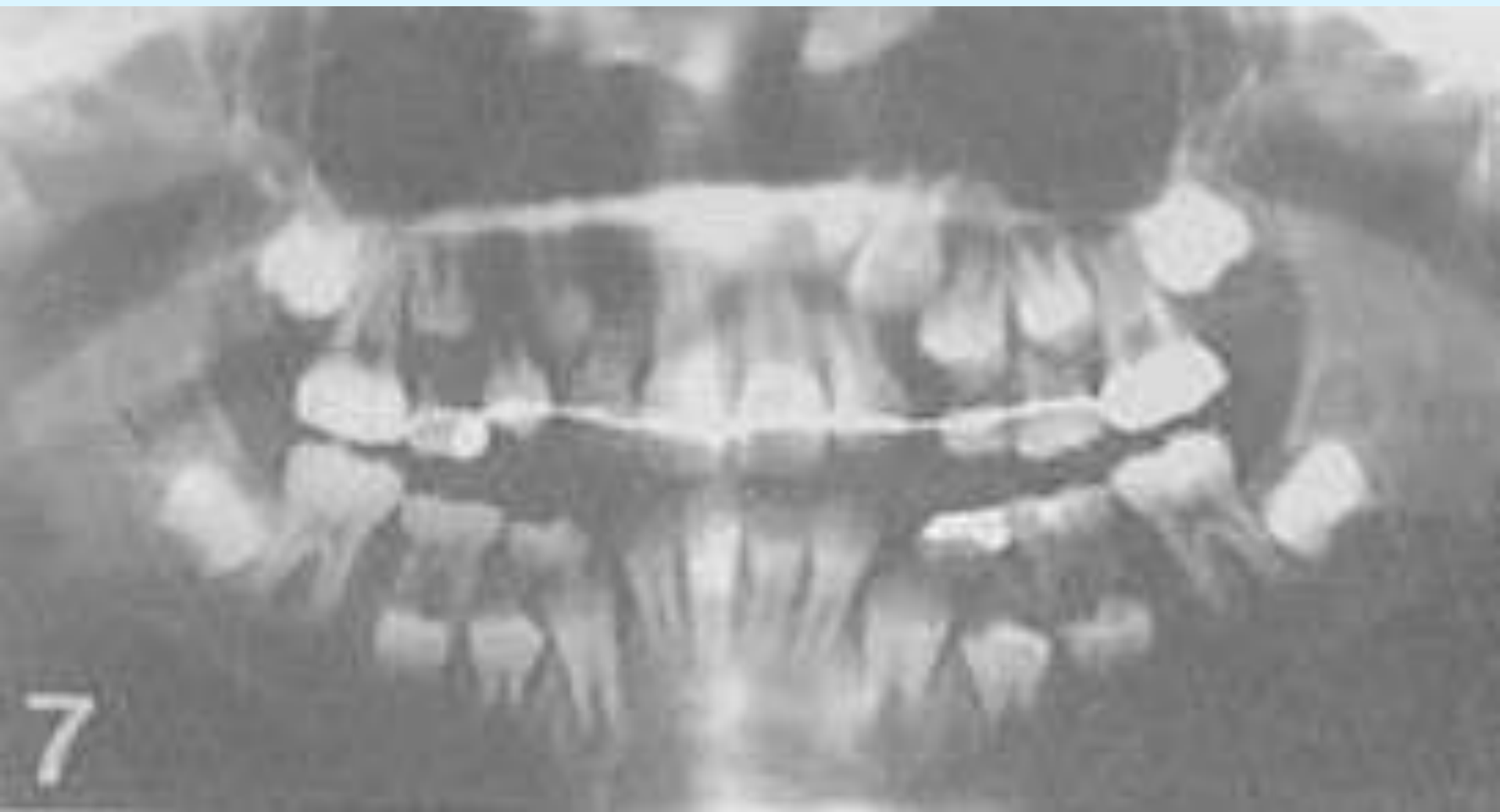
Permanent dentition period (14 y. o.), since the flattening aspect of the occlusal plane was shown, upper 2nd molar and lower 3rd molar were extracted to abort posterior discrepancy.

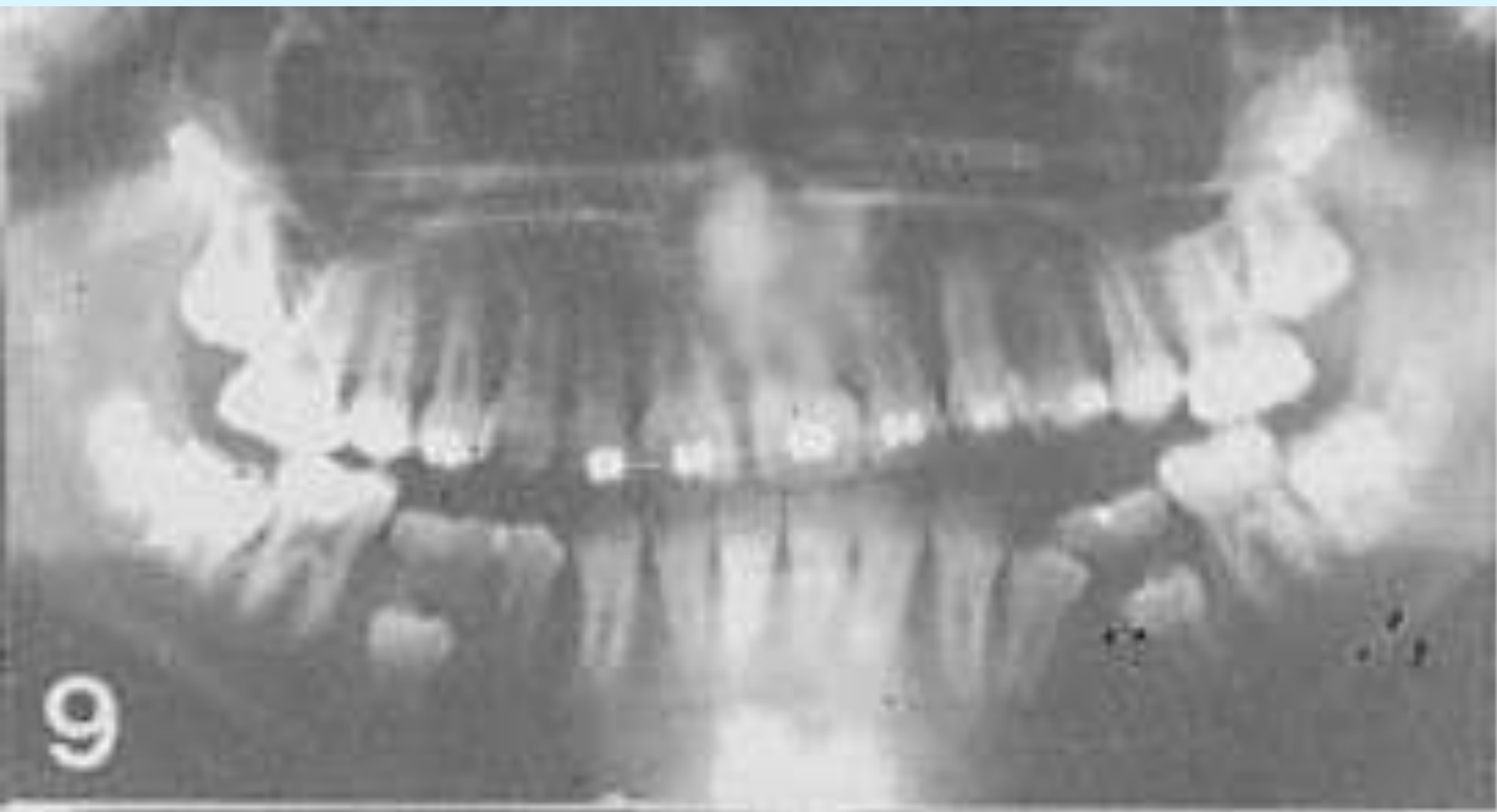
Successive panoramic radiographics:

The numbers show the chronological age of the patient. Pay attention to the supraeruption of the 1st molar especially at age 9 in response to the crowding of the teeth. This extensive anterior discrepancy in the primary dentition reversed occlusion is not corrected naturally, rather it is important that there are measures taken to eliminate the discrepancy at an early age because these skeletal symptoms have the tendency to exacerbate.





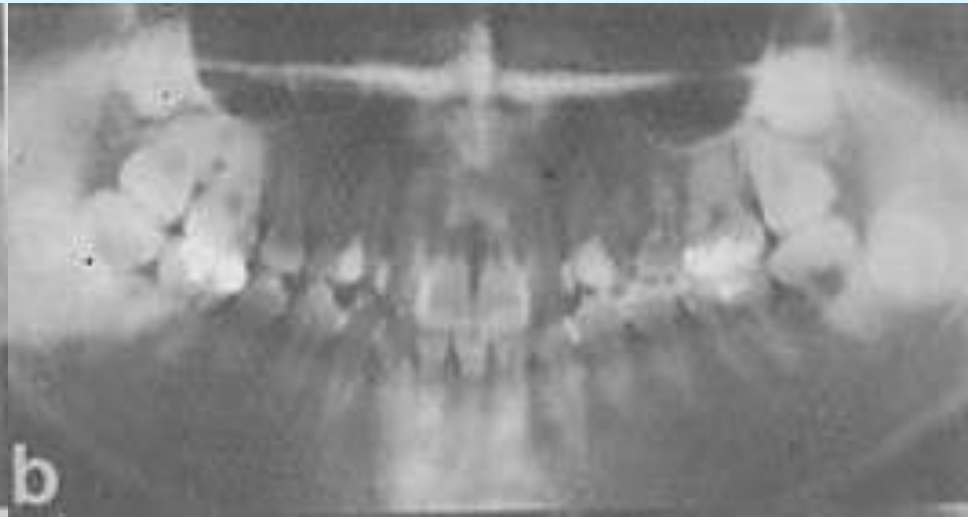








Panoramic radiograph of a patient with posterior discrepancy



Mesial tipping of the lower left 2nd molar

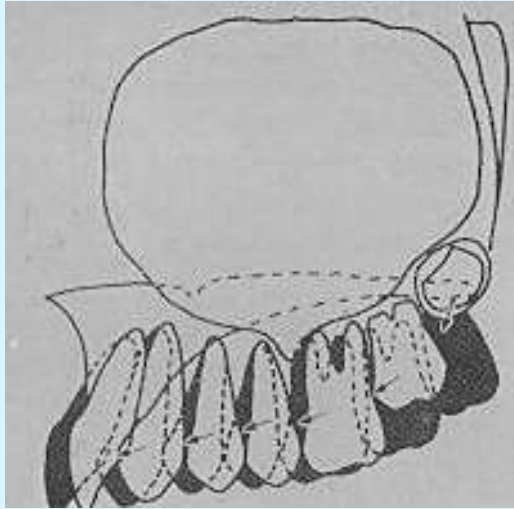
Presence of the 3rd molar just above the upper 2nd molar.



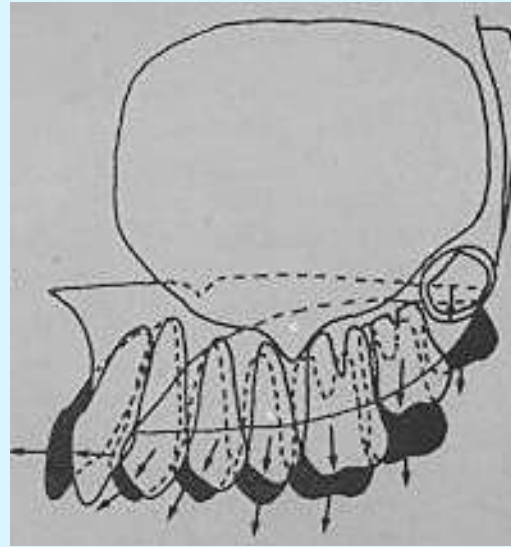
Distal lock of the upper 3rd molar on the 2nd molar

Crowding of the molars

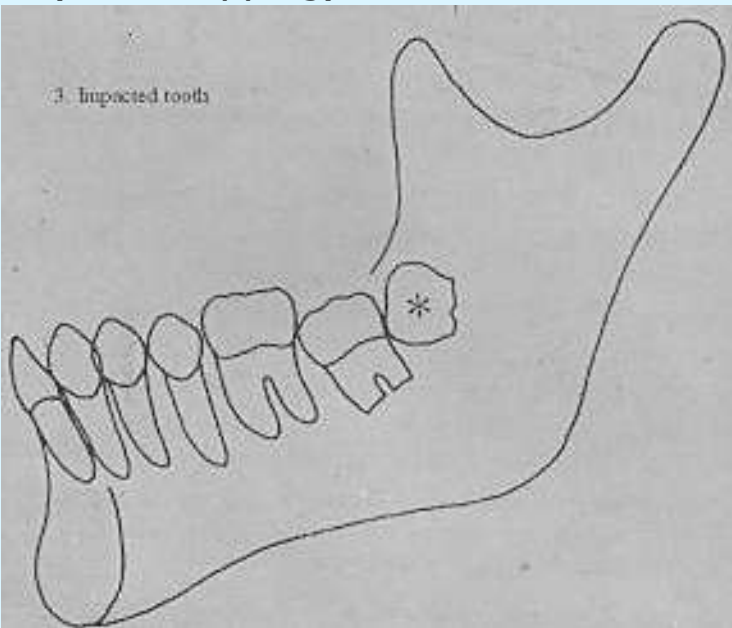
General symptoms of the posterior discrepancy



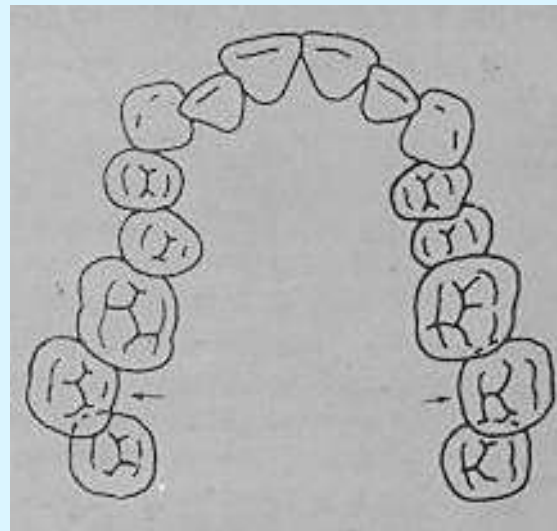
mesial movement of the molars
(mesial tipping)



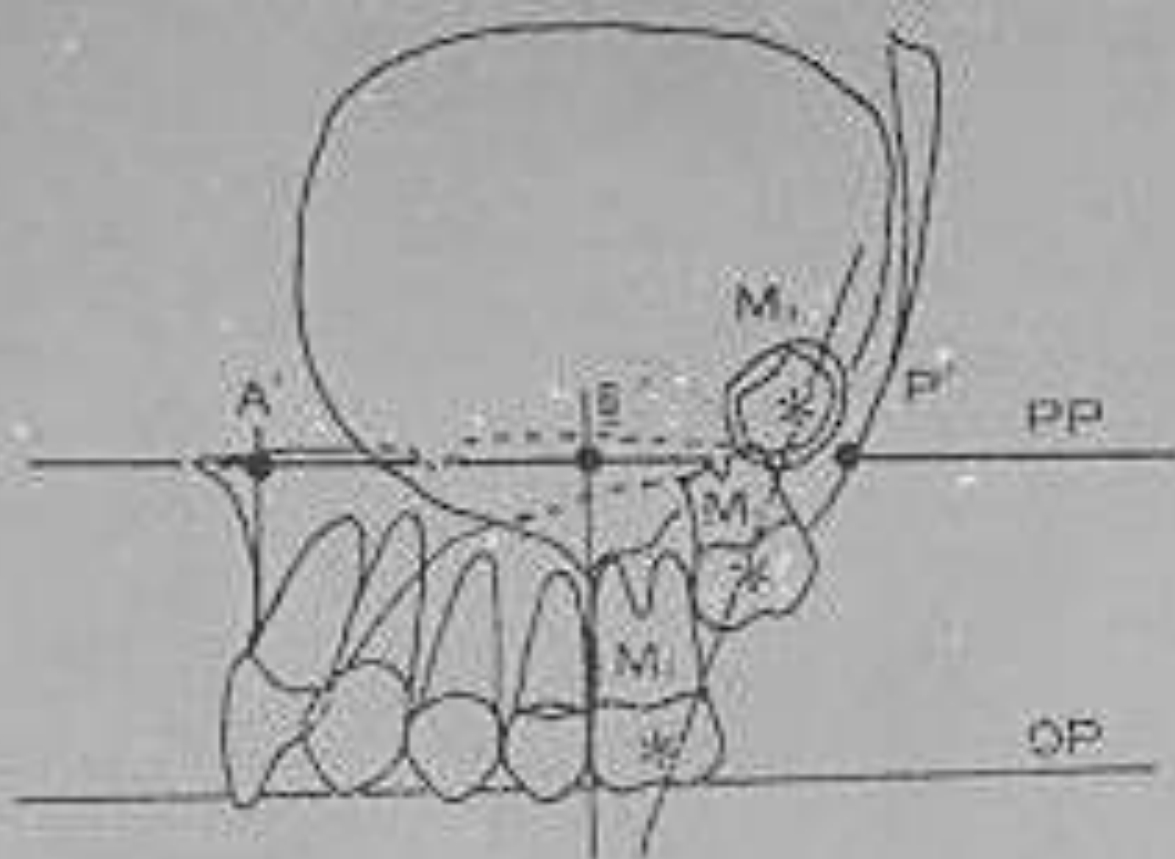
Elongation of the molars (supraeruption)



Impacted tooth



Buccal linguoversion



Examination of Posterior Discrepancy

1. Angle of 1st, 2nd, & 3rd molars in relation to the OP is high
2. OP-PP angle is low
3. Infraversion of the base of maxillary sinus
4. Medial tipping of the M1, M2
5. Clinical crown length is long