Case Report

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Orthodontic care for the patient afflicted with bilateral lip and palatal clefts can be an irreconcilable problem if there has been early surgical repositioning of the free and projecting premaxilla. If, however, the floating premaxilla has been managed conservatively and bilateral lip repair has established continuity of the perioral musculature, anterior growth of the maxilla can be expected to reasonably parallel that of the mandible; a degree of posterior positioning of the floating premaxilla may also occur.

In this report, early restoration of lip continuity and an exuberant facial growth trend made only minor orthodontic intervention necessary. While the face, at early maturity, was obviously that of a bilateral cleft lip and palate, it was infinitely improved over those where there have been drastic attempts to correct the projection of the premaxilla.

Initial orthodontic examination of this female patient was made in May, 1950 when she was three years and nine months of age. The bilateral lip clefts had been surgically repaired two months after birth, the palate at eighteen months, both interventions by Donald M. Glover, M.D. The premaxilla was acutely anterior and freely movable with the upper lip quite long and without function; the nose was flattened. The combination produced a grotesque appearance. It was difficult to examine the mouth but it was determined that the occlusion was correct mesiodistally; there was no reduction of maxillary width; the soft palate was of satisfactory length and speech was also satisfactory. There was rampant but relatively shallow caries. Two supernumerary teeth were visible in the palate.

Several office calls were scheduled in the ensuing year making it possible to secure clinical records at four years and nine months and thereafter at necessary intervals. Figure 1 shows the facial photos at that age. Figure 2 is a composite of tracings of the lateral films made at 4-9 and 5-6, superposed in the Bolton relationship, to demonstrate the lip's restraining effect on the floating premaxilla in less than a year. Figure 3 shows lateral views of the initial plaster casts at 4-9 (above) and nine months later (below) at five and one-half years. The latter casts also reveal the lingual movement of the maxillary deciduous cuspids.

The next illustration (Fig. 4) compares tracings of lateral films at 4-9 and 10-6. Of interest here is the delayed shedding of maxillary deciduous teeth as compared to exfoliation in the mandible and the further lingual pinching of the maxillary cuspids.

During the ten-year period following the initial examination at almost four

Fig. 1 Facial photos of patient at four years, nine months; the premaxillary prominence, the length of the upper lip and the flattened nose are obvious.

Given at the January, 1971 meeting of the Midwestern Component of the Angle Society.

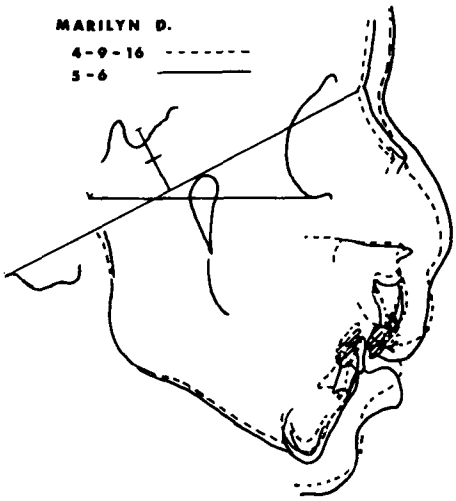

Fig. 2 Composite of tracings from lateral films showing the restraining effect of the upper lip on the premaxilla in a nine-month interval. The tracings are superposed on the "R" point; the Bolton planes were substantially identical.

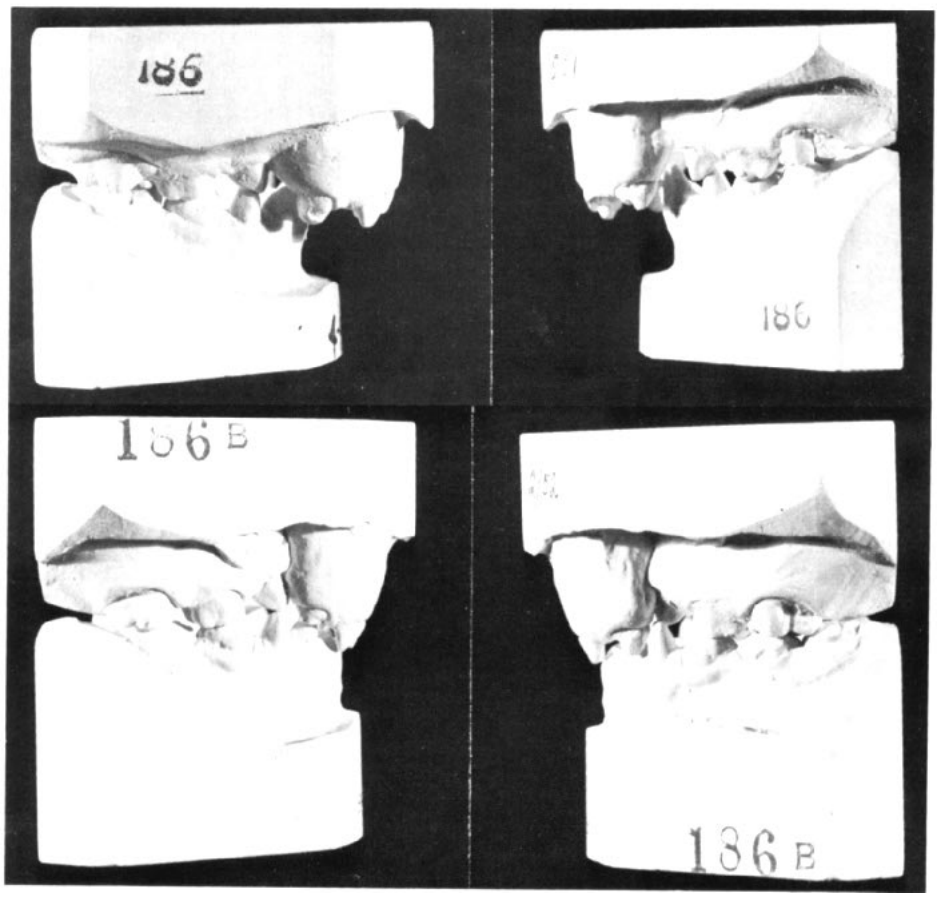

Fig. 3 Lateral views of the initial plaster casts at four years and nine months (above) and of those at five years and six months (below) further indicate reduction of the premaxillary prominence. This has adversely affected the buccolingual relations of the maxillary cuspids.

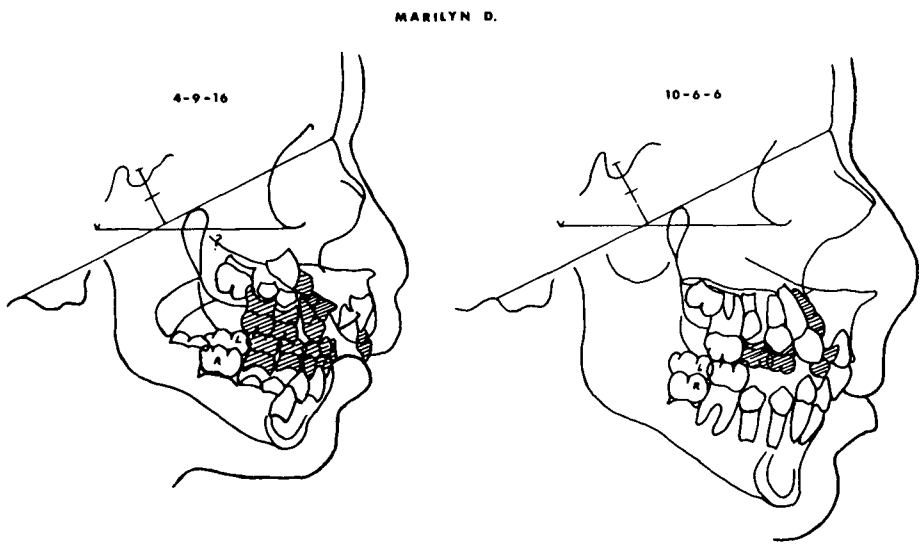

Fig. 4 Tracing of the lateral head film at four years and nine months may be compared with that recorded at ten years and six months; the maxillary incisors are now encroaching on the mandibular incisor segment, anteroposteriorly, but there is marked improvement in the soft tissue profile. Note the major difference in deciduous tooth shedding between upper and lower dentitions.

years of age, there had been no orthodontic procedures despite the entreaties of the parents. In the latter part of the patient's thirteenth year a removable lingual appliance was used in the upper dental arch for buccal movement of the left cuspid; the appliance was removed four months later and a palatal retainer inserted. A year later bands were placed on the upper buccal teeth to elongate and upright the permanent cuspid teeth; three months later the family moved out of the state and the patient was not seen for almost a year. Supervision in that period was ineffective and unhappy, according to the patient. Subsequently there was additional minor treatment to rotate the upper left second bicuspid and to correct a crossbite of the second molars on the left side.

Just prior to her seventeenth birthday, new clinical records were again made, (Fig. 5) her surgeon having agreed to remove the premaxilla because of its increasing effect on lower incisor alignment. This was accomplished in mid-July 1963. The family dentist had been alerted prior to surgery and he inserted the partial denture, soon after surgery, shown in the plaster records at age seventeen years, five months (Fig. 6) taken six months after surgery. Occlusal views of the lower denture are seen in Figure 7: above, prior to removal of the premaxilla and, below, six months after surgery. Significant improvement of the anterior segment is obvious. Additional treatment was urged for improvement in the functional relation of the maxillary left cuspid (Fig. 6) but this was rejected by the patient.

The final illustrations show first (Fig. 8), tracing of the lateral relationships six months after surgery, on the left and, to the right, superposed tracings of x-rays at four years, nine months and seventeen years, five months; the last (Fig. 9), the facial photos six months after removal of the premaxilla.

In summary, these records provide evidence that there is as wide variation among congenital facial defects as

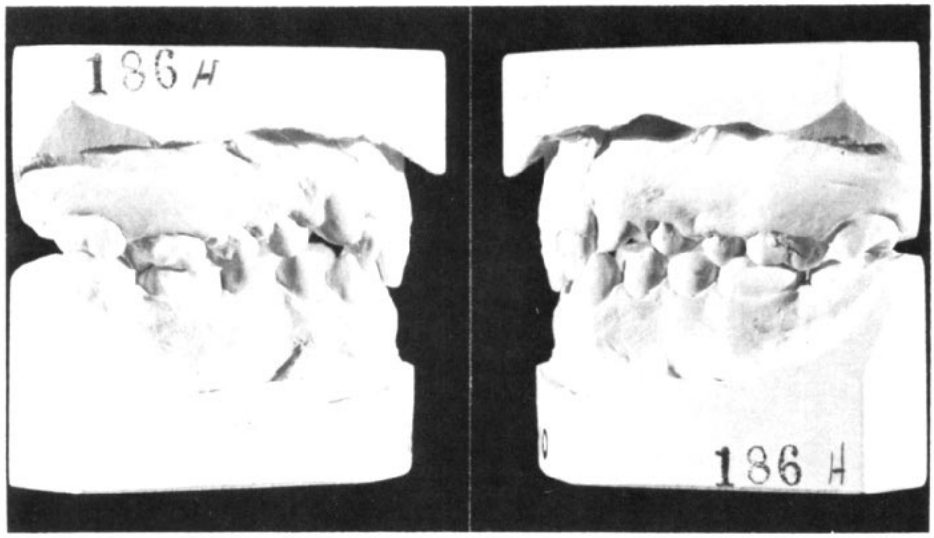

Fig. 5 Lateral views of the dentition just prior to seventeen years of age depicting severe lower incisor lingual positioning. The free premaxilla has been so influenced posteriorly as to show only a faint line of junction with the buccal segments.

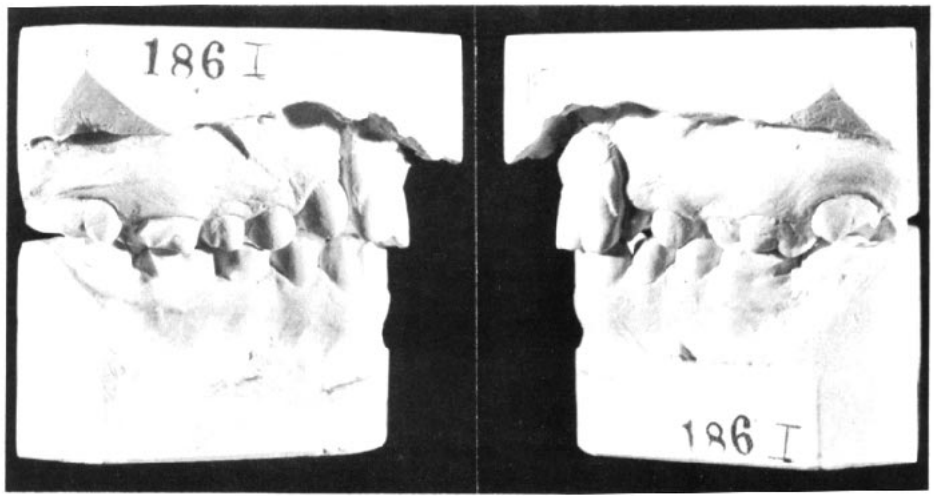

Fig. 6 Lateral views of the casts at seventeen years and five months, six months after removal of the floating premaxilla, with the partial denture inserted as soon as healing permitted.

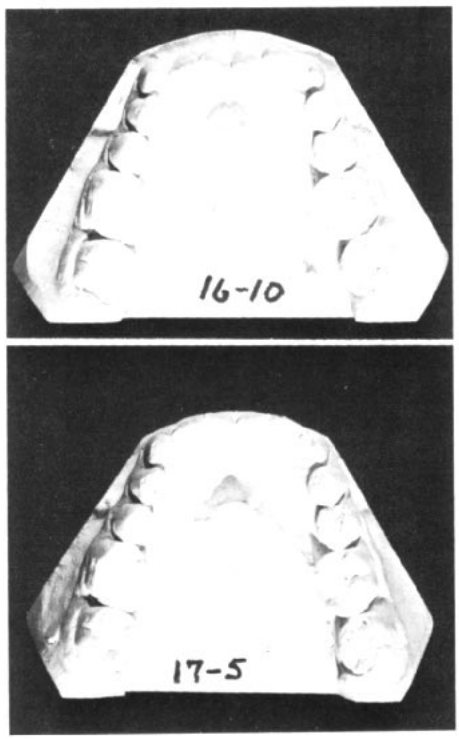

Fig. 7 Occlusal views of the lower denture just prior to surgical removal of the premaxilla and six months after surgery indicate the rapid improvement of incisor alignment.

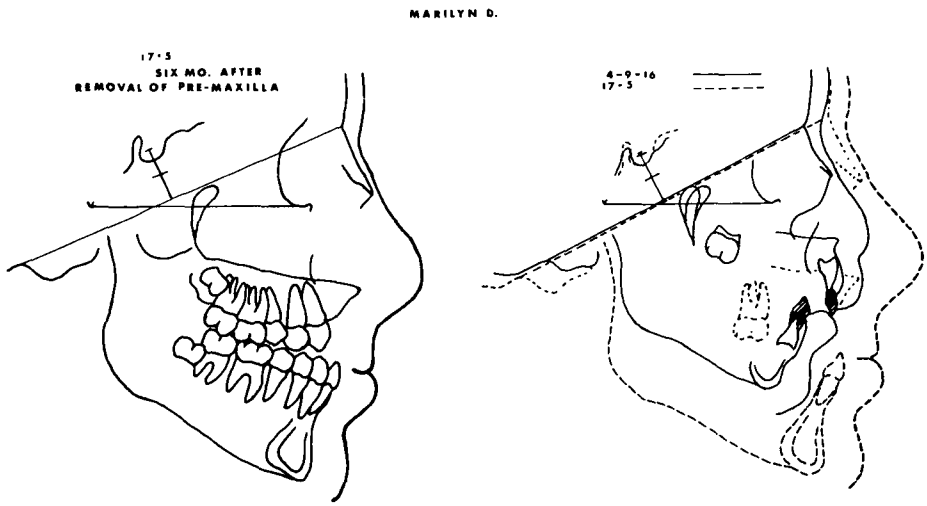

Fig. 8 To the left, the tracing from the lateral head film made six months after removal of the premaxilla: to the right, it is superposed on the tracing of the lateral film at four years and nine months. The trend and degree of facial growth and development may be noted, together with the favorable change in the soft tissue profile. Equally remarkable is the relatively small increase in the perpendicular from sella to Bolton plane and the relatively large increase in the length of the Bolton plane.

Fig. 9 Facial photos six months after surgery with prosthesis in place.

among our more routine orthodontic problems; her exuberant facial growth trend compensated in some measure for her congenital defects and made major orthodontic intervention unnecessary. Absence of any early surgical disturbance to the premaxilla preserved maxillary growth potential and early surgical closure of the lip restored the best possible lip function.

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