

2) Using Bjork Polygon to predict the direction of growth change in the lower face⁷.

The profile analysis is similar to Steiner's in S-Na is the reference line, and SNA-SNB, along with Go-Gn, provides basic skeletal evaluation. The incisor axis and incisor to A-Pog relate the denture to the skeletal base. A feature of the analysis is the use of the polygon N-S-Ar-Go-Me to assess anterior and posterior face height relationships and to predict direction of growth change in the lower face. The basis of this approach is the relationship of three angles-saddle angle (Na-S-Ar), articular angle (S-Ar-Go), and gonial angle (Ar-Go-Me)- and the length of the sides of the polygon.

Table 1. Bjork Analysis:

Measurement	Average	Clockwise pattern	Counterclockwise pattern
Saddle angle	123 $\pm$ 5		
Articular angle	143 $\pm$ 6		
Gonial angle	130 $\pm$ 7		
Sum	396 (Norm)	>396 $^{\circ}$	< 396 $^{\circ}$
Ant. cranial base length (N-S)	71mm $\pm$ 3		
Man. Body length (Go-Me)	71mm $\pm$ 3		
N-S: Go-Me = 1:1	71mm:71mm		
Ant. Face height (N- Me)			
Post Face Height (S-Go)			
Post. Face-ant. face ratio: 62-65%		56%-62%	65%-80%
SN-MP	32 $^{\circ}$		

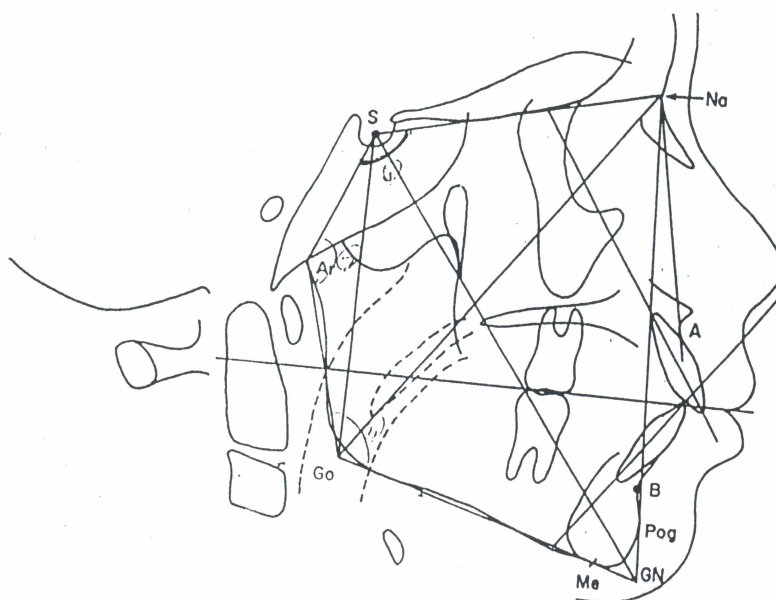


Fig. 18. Bjork analysis tracing on the patient.

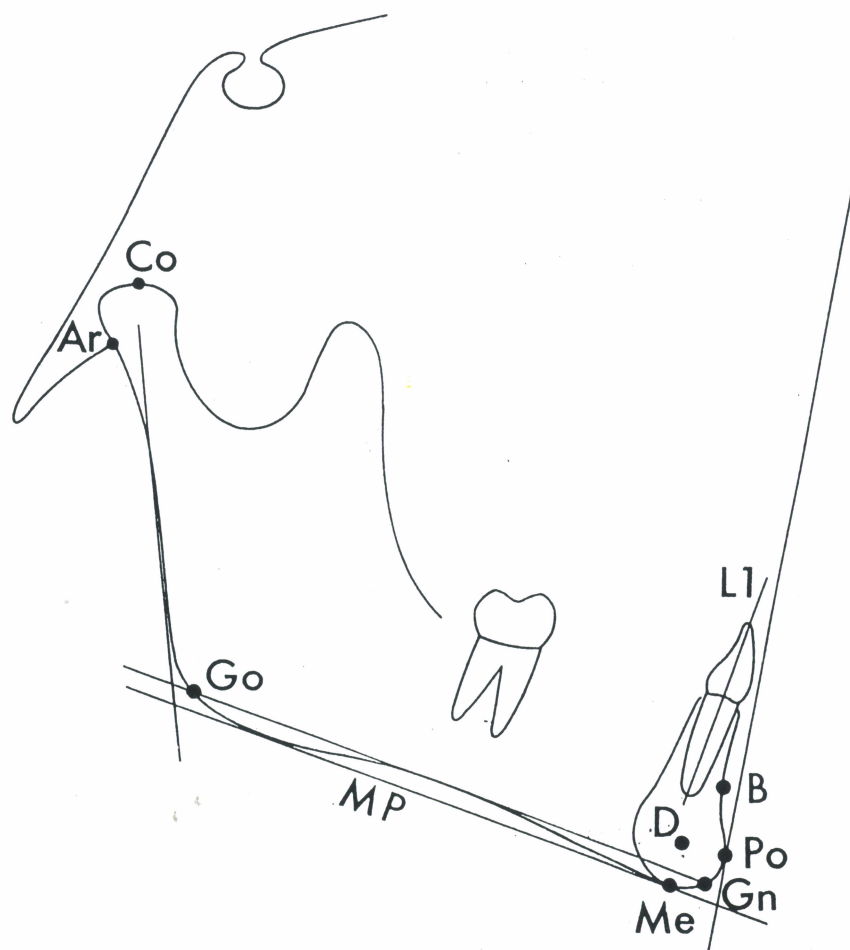


Fig. 19. Mandibular landmarks. *Ar* = Articulare; *Co* = condylion; *Go* = gonion; *MP* = mandibular plane; *Me* = menton; *Gn* = gnathion; *Po* = pogonion; *D* = point "D"; *B* = point "B"; *LI* = lower central incisor.

Downs used the angle of *convexity* for this purpose. This shallow angle indicates the degree to which the angle N-A-Po differs from a straight line. Fig. 13-43 shows this angle with its extremes of -8 degrees (a concave face) and $+10$ degrees (a convex face). The mean for this angle in the normal series was found to be 0 degrees with all three points lying on a straight line.

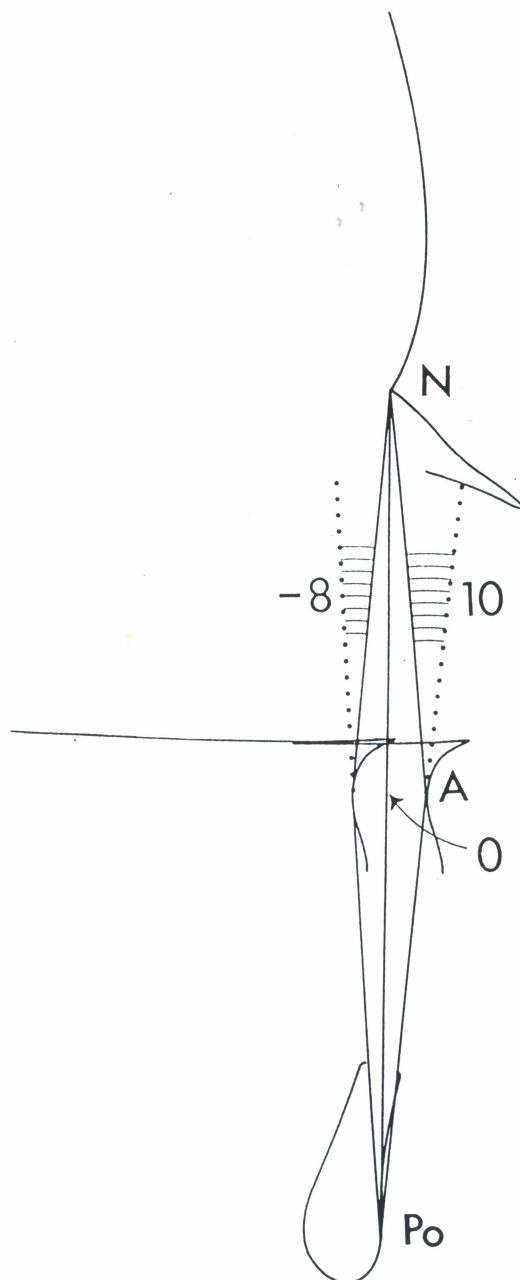


Fig. 20. Downs' range and mean for convexity, showing the maxilla as the variable component.