6. *Sliding the Prolabium into the Columella*

FOR well over a century a scattered band of surgeons, small in number but none the less dedicated, have sympathized with the plight of the nose and have maneuvered the prolabium up into the columella. Reviews of the champions of this approach reveal that it has been predominantly a French trick. With this small soft tissue termination of the frontonasal process so completely a part of the depressed nasal tip and in the absence of a columella, it seemed to some the expedient thing to do. Then, when histologists began reporting no orbicularis oris muscle in the prolabium, the argument grew stronger for a nasal destiny for this "muscleless" tag.

Georges de la Faye of Paris in 1743 wrote *Observations on Cleft Lip* which has been translated by Mary McDowell for *The Classic Reprint* in *Plastic and Reconstructive Surgery* 1976. His first bilateral cleft lip operation was carried out in 1733 in the presence of several elite surgeons such as Francois de la Peyronie of "Peyronie's Disease", Jean Louis Petit of "Petit's triangle" and "Petit's hernia" and Sauveur Francois Morand of cleidocranial dysostosis. In front of this austere audience de la Faye removed the premaxilla and brought the lateral lip elements together behind the prolabium which he left hanging free on the end of the nasal tip. He held the lip elements together with 2 pins, one passed up near the nose and the other down near the edge of the lip. Over these pins he wound strands of silk in figure-of-eight fashion. As he explained,

The pins I used were the German ones—flexible, long and slender; they are better for this purpose than pins of gold, silver or steel (and better than those one calls "larding pins").

Georges de la Faye discussed relaxing incisions sensibly.

When the separation of the two parts of the lip is very wide, Celsus, Quillimeau, Thevenin, etc. advise . . . that one make an incision on each cheek in the form of a cross. Some others prefer in such a case, to make incisions inside the mouth. However, the incisions in the cheeks produce a deformity from the scars which I think useless.

He reinforced the pins by crossing linen bandages under the nose and fixing them to the cheeks with plaster of Andrew of Cross. For postoperative treatment he reported

A slight fever the next morning obliged me to bleed him.

All pins were removed by the 9th day but the linen bandage maintained. His evaluation of his result is pertinent.

On this lip there is still a very small cleft which is the result, not of a faulty union, but because I could not cut close enough to the mounds. (These mounds are semicircular and it is necessary to cut into them if one wishes to unite the lip without leaving any cleft.)

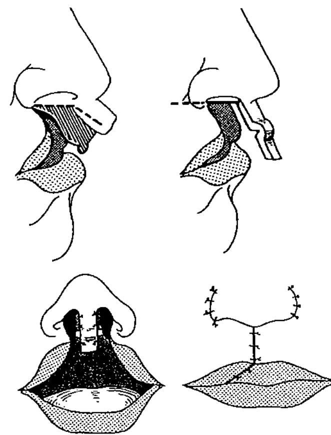
In 1839 in Paris Baron Dupuytren excised the premaxilla but used the prolabium to form the columella. Having dispensed with the obstructing premaxillary nob he was able to pull the lateral lip elements together beneath the prolabium in a midline vertical closure. One cannot but flinch at what must have been the flatness of these final faces.

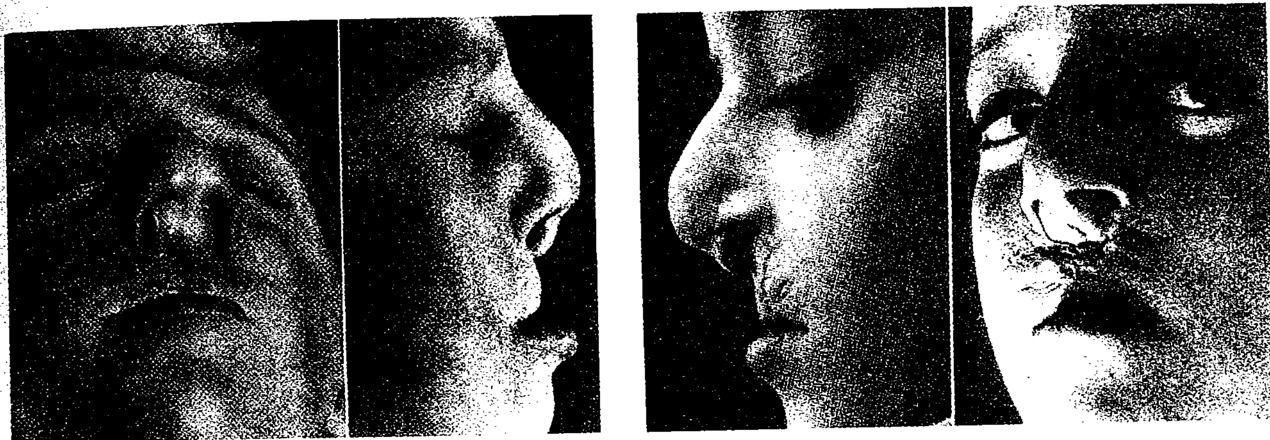
Even his Parisian colleague, Malgaigne, attacked him for discarding the premaxilla with the tooth buds but joined him in his columella lengthening. Malgaigne used Desault's preoperative cloth compression repositioning of the premaxilla and then shifted the prolabium into the columella.

LORENZ

Another French surgeon obviously obsessed with the short columella and depressed by the flat nasal tip was Lorenz, who in

1907 slid the prolabium into the columella and closed the lip segments in the midline beneath it. Not only did the side-to-side tension of the lip closure produce a tight lip but in time the lip became abnormally long in the vertical dimension. With any finesse it would seem that a surgeon should be able at least to improve the nose by feeding needed tissue into the deficient central zone of the columella. Yet here are a couple of cases presented by Veau of Lorenz' technique in which neither the lip nor the nose had benefited by this radical shifting of the prolabium.

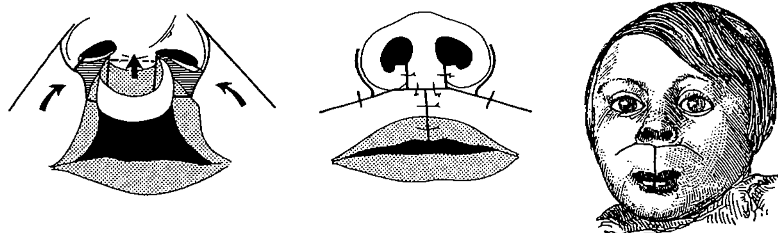




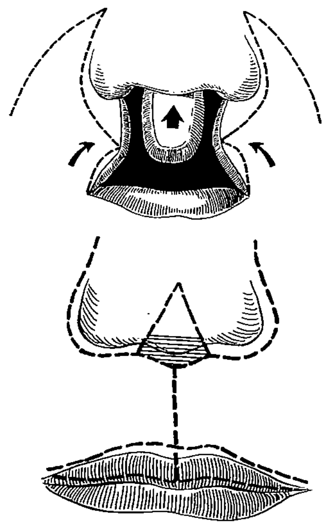
OMBREDANNE

Renowned French surgeon Ombredanne was reputed to possess a great black beard in his later years which, when preparing for surgery, he parted in the middle and tied up over his operating cap. He reversed this principle with the bishop's cap redundant foreskin in the treatment of hypospadias. In 1934 he mimicked his beard and the bishop's cap principle in bilateral lip clefts by shifting the prolabium up into the nose and suturing the lateral

Ombredanne

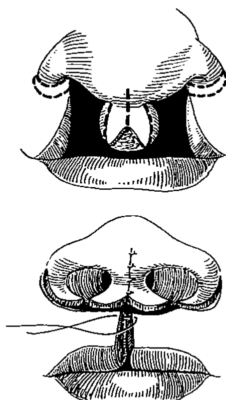


lip elements, with assistance from the cheeks, together in the middle beneath it. The result was an excessively long lip. Obviously Ombredanne made more of a contribution in hypospadias than he did in cleft lip.



LINDEMANN

German oral surgeon August Lindemann had such overwhelming early experiences during World War I on wounded jaws that he wrote a book which was obtained and used even by Gillies in the enemy camp. In 1941 he advocated utilization of the prolabium of bilateral clefts for the columella and designed the shifting of "war-like" nasolabial cheek flaps to assist the lateral lip elements in the construction of the upper lip. This procedure, of course, created the same vertically long upper lip as seen in the French renditions.



FORKING IT

It is interesting that in 1967 Rio's Ivo Pitanguy advised the same proportioning of tissues in Brazilian adults with unoperated bilateral cleft. His modfication bisected the entire prolabium into a "forked flap" and advanced most of it along the septum into the columella. Then, with the aid of circumalar incisions, he approximated the lateral lip elements together in a midline union without a philtrum. The freed alar bases join the tips of the prolabial forks much as I have described in a modification of the original standard forked flap.

GABARRO

Pere Gabarro

Another champion of moving the prolabium into the columella is Catalonian Pere Gabarro of Barcelona, who was with Gillies during World War II and learned to be daring with flaps! He also developed the chessboard grafts for the war burned. We became friends in 1948, and I wrote in "Plastic Peregrinations" in 1950:

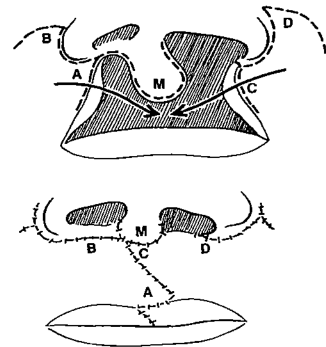
Hitch-hiking in Europe is an interesting method of travel. It may mean anything from the front cushion of a Dalahaye to a sack of onions in the

back of a truck. . . . In this rather undignified but pleasant manner I proceeded south into Spain and in Barcelona knocked at the door of Dr. Pere Gabarro. I had hoped he would appear in a black flat hat and red cape and proudly display a collection of Miura bull horns on his office walls. As it turned out, Gabarro, although a sportsman and enthusiastic mountain climber, has never seen a bull fight and was horrified at my description of the six bulls finished off earlier that evening in the arena.

In 1967 Gabarro, having had to correct secondarily the short columella in a multitude of bilateral clefts, advocated shift of the prolabium as a primary procedure. Often feisty, he completed his paper with a typical flourish:

I like to finish . . . by saying that I think I have proved:

1. That it is not necessary to use the soft tissues of the prolabium for the reconstruction of the central part of the lip.
2. That it is better to use the prolabium to build up a proper columella from the very beginning, avoiding the pitfall of a short columella and the lowering of the tip of the nose.
3. That the triangular flap from one or both cheeks at the same time, may give us all the necessary and proper tissue for the reconstruction of the lip, its central part included.
4. That because those flaps can be raised at the same time from both cheeks, repairs which were advised to be done in two stages, can be done in one operation with this technique.



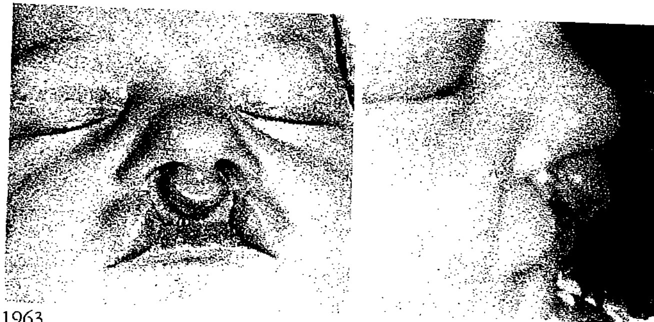
In 1974 Gabarro wrote:

The cheeks are very good areas to provide for the necessary tissues for the reconstruction of the lips, without much damage to the donor area. . . . In cases where there is a big defect, to try to cover it with a very limited local plasty, may not be so successful. . . . I believe, as Kilner did, that the prolabium belongs rather to the columella than to the central lip. Let me tell you about one of my cases which is a dramatic example of this approach. A girl, 14 years old, came to the out-patients clinic at the "Hospital de la Sta. Creu i de St. Pan" in Barcelona dressed in black, like her mother, dirty and looking like the worst possible hippies. The girl holding tightly the hand of her mother, crying and trying to hide her face into her mother's skirts. She did not want me to see her.

Gabarro used his method to lengthen the columella and close the lip.

Honest John Potter of Stockton-on-Tees in the Newcastle region in 1968 attributed much of the bilateral nasal problem of flattened nasal tip, short columella and wide nostrils to the fact that "the pre-maxilla bulges into the nostrils." He predicted that after any standard surgery there would be "obstruction of the airway and a chronic catarrh."

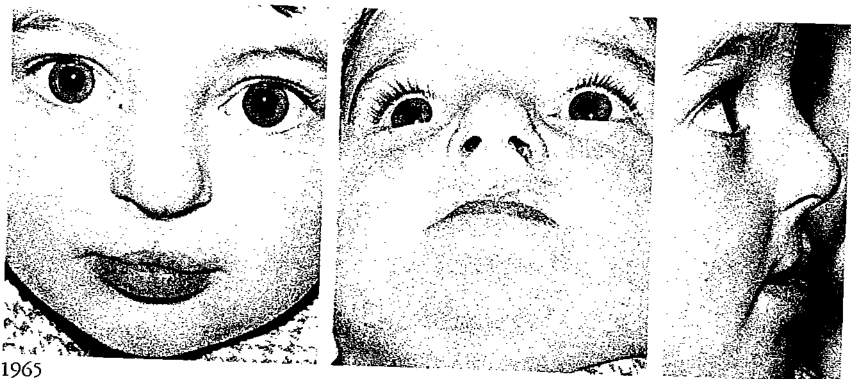
Experience with a complete bilateral cleft of the lip and palate with a pigmented epulis involving the premaxilla had forced him to remove the front of the premaxilla during the tumor excision. The result was an early, better than usual, nasolabial angle which inspired Potter to simulate this approach in the standard projecting premaxilla.



1963

Thus, in 1963, he operated on a new case which did not have a severely projecting premaxilla. He attacked the premaxilla by removing its anterior plate in the upper two-thirds, tooth sacs and central septum to bring it back in relation to the nasal spine. He then shifted the prolabium partially out of the lip and into the columella, bringing the lateral lip elements together in the midline.

Potter was genuinely encouraged three years later by the nasal imptovement in flatness and the lack of obstruction, as he expressed in the *British Journal of Plastic Surgery,* April 1968. As he



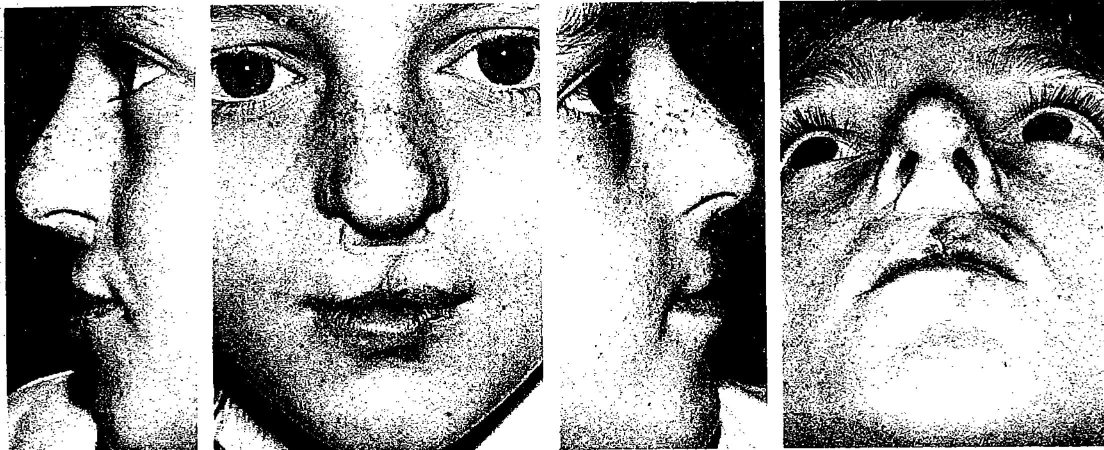
1965

had avoided nasal obstruction, he cited Proetz' 1953 work as further defense of this approach and elaborated:

Because the air passages are distorted, deposits occur on the nasal mucosa beyond the obstruction. This causes local drying, a loss of cilia and consequent infection. There is a chronic condition of discharge and frequent acute exacerbations. Usually these children are mouth-breathers with a chronic nasal discharge.

As taught by his chief, Wardill, Potter followed his case faithfully and, although still convinced that the gain had been worth the price, he candidly expressed regret over the loss of the upper incisors and the retroposition of the premaxillary area, probably requiring an Abbe flap. In fact, an Abbe flap must have been used subsequently, as suggested by the donor scar, but evidently was too small to construct an adequate philtrum. A 10-year follow-up kindly forwarded by Potter is available for your evaluation.

a prediction: most any lip without a prolabium will be benefitted by an abbe for a philtrum, if nothing else.



1973

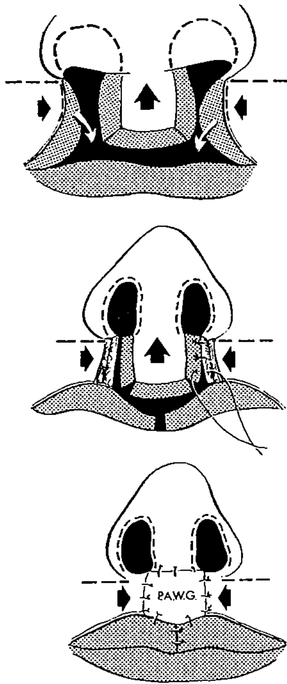
SKIN GRAFT TO THE PROLABIUM DEFECT

Jack Penn

British-trained Jack Penn of Johannesburg, South Africa, sculptor, six-day Israeli war expert and wild animal reserve guide, conceived a way to poach the prolabium for the columella and avoid a serious price of this action: lip tension. His observation when teaching cleft surgery is provocative:

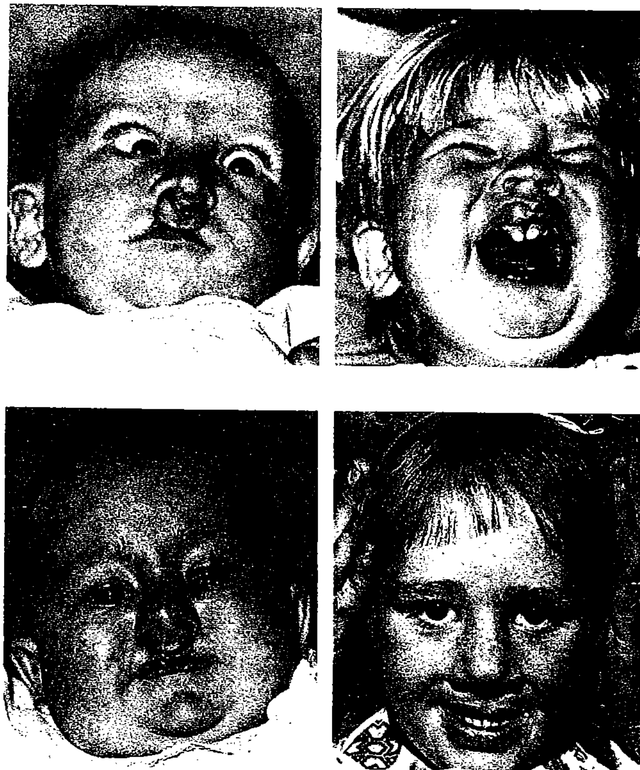
Remember, a cleft palate is also a cleft nose, and its correction is equally important at a very early stage. This applies to the flattening of the nostril in

the unilateral cleft and to the shortening or loss of the columella in the bilateral cleft. I deal with both of these problems at the first stage of three months.

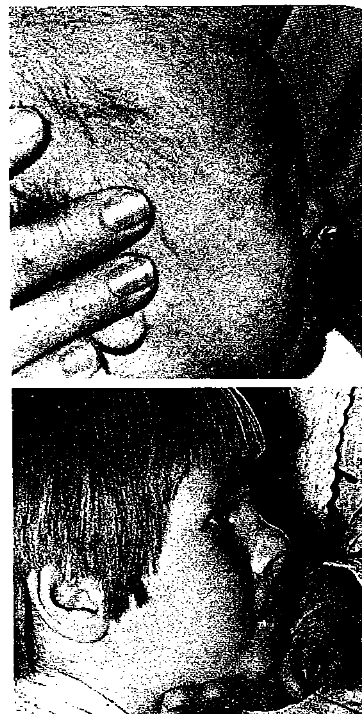


At the Melbourne Congress in 1971 Penn proposed his way of dealing with the problem of the flat nasal tip in the bilateral cleft. He advocated moving the total prolabium into the columella, joining the turndown flaps of lateral lip vermilion to form a free border and suturing the mucosal edge of the lateral elements to the mucosal edge of the premaxilla. This procedure leaves a defect of the philtrum backed by the raw premaxilla posteriorly. Penn covers this area with a full-thickness free graft of posterior auricular skin, which he maintains will give a philtrum appearance and maintain a short upper lip. He also mentioned that this graft can later be elevated and grafted behind to form a labial sulcus. For those who think that the orbicularis oris muscle is important, he gives this assurance:

> The fact that there is no muscle in the prolabial element does not interfere with the function or the appearance of the lip.



The fact that Penn received a major portion of his plastic surgery training from Sir Archibald McIndoe, who himself was renowned for his free skin grafting of burned Battle of Britain pilots, probably explains this unusually demanding performance of a free skin graft. The three interesting cases included here, forwarded by Penn from South Africa, although they are relatively early results, do indeed show a nose with the tip well up. It is important, however, to note the possible discrepancies of such an approach. In the male, it is not so much that the hair-bearing prolabium might produce a "bristling" columella as that the newly grafted philtrum will be noticeably bald. The lack of labial sulcus is unfortunate, but even with a skin-grafted one secondarily there is a most serious diastasis of the orbicularis oris muscle and the likelihood in time of severe flattening and horizontal spreading of the muscleless philtrum.



In general, the *prolabium's primary duty must be to the lip.* To shift it totally into the columella may offer a definite dividend to the nose, but this is overshadowed by the loss to the lip. Joining the composite lateral labial elements together in the midline with one vertical scar produces a bizarre lip shorn of its central philtrum. The side-to-side tightness will give an inartistic flatness which eventually will result in a long lip in the vertical dimension. If no attempt is made to join the muscles, the lack of muscle continuity becomes the deformity. Neither is natural.