III. Rotation-Advancement Conception
12. Personal Approach to Cleft Lip

The fascination of cleft lip surgery is primed with a double-barreled charge, the pathos of the deformity and the artistry of its correction. This combined appeal was directly responsible for my entering the specialty of plastic surgery. My early training in cleft surgery provided a preamble to the rotation-advancement approach.

As a surgical intern at Boston Children’s Hospital in 1944–1945, I was introduced to cleft lip surgery while assisting the fastidious and meticulous ”Blue Bonny Donnie” MacCollum to mark and do Rose-Thompson and Mirault-Blair procedures. The more primitive curved-angled paring seemed simple enough, but even with Hance’s diagrams from Blair’s 1930 article it took me six months to figure out the logic of the Mirault-Blair principle, and by that time I began to be suspicious of its merit.

While at Rooksdown House, near Basingstoke in England, from 1948 to 1949, as a trainee under Sir Harold Gillies I discovered that every other Saturday Professor Kilner and Eric Peet had a cleft lip and palate operative schedule at Lord Mayor Treloar Children’s Hospital in Alton. This was a two-hour ride on a red double-decker bus through Hampshire countryside which was rewarded by superb technical demonstrations of straight-line lip closures. Then, during my last few months at Rooksdown House, Bill Holdsworth, an amiable Australian, took me on his lip and palate service. Holdsworth was then writing his book, Cleft Lip and Palate, which Gillies later reported to be “so bursting with solid common sense.” This offered me the opportunity to do half a dozen straight-line lip closures.
Dissatisfied with the results, I began experimenting with a rectangular flap from the cleft side in an attempt to produce a cupid's bow. When I sketched an outline of my plan for John Barron, he asked if I had seen the new method recently described by a Canadian, LeMesurier. I was disappointed until I saw how cleverly LeMesurier had mastered the cupid’s bow construction. In my attempt I had not had the imagination or the courage to use the non-cleft side to cut and drop half a bow. This was indeed an exciting concept.

Six months with Brown and McDowell was excellent exposure to their simplified triangular flap. Then a visit to LeMesurier and six months with Straith put me definitely in the quadrilateral flap camp. While a resident in Houston I carried out the LeMesurier method on two unilateral clefts which prepared me to demonstrate and promote the technique in Gillies' clinic in England in 1952-1953.

GUIDANCE FROM GILLIES

As a student I had been extremely fortunate to have been exposed to so many pioneers and craftsmen in cleft deformities. I was thus provided not only familiarity with a variety of approaches but an awareness of their discrepancies.

Superimposed on this specialized background was Gillies’ teaching of empirical principles. So pertinent were these principles to all phases of plastic surgery, a cleft or a contracture, a hole or a distortion, that in 1949 I condensed them into 10 commandments. As it turned out, commandments 3, 4, 6 and
9 were to have, and still do have, a guiding influence in my personal struggle with the cleft problem. By way of review, briefly they are:

3. *Honor that which is normal. Return it to normal position and retain it.*

4. *Thou shalt not throw away a living thing until it has been proven absolutely useless.*

6. *Thou shalt never steal from Peter to pay Paul unless Peter can afford it. Thou shalt not commit tension.*

9. *Thou shalt not have a routine or make any graven image or any likeness of routine that is at East Grinstead or even St. Louis. Thou shalt treat each case individually.*

Upon my return to the United States in 1953, I volunteered for naval duty and somehow ended up in the First Marine Division, in the field, Korea.

**ROTATION-ADVANCEMENT CONCEPTION**

The arrival of a plastic surgeon in the U.S. Marine camp caused a Korean working for the Americans to bring in his seven-year-old son, who had a rather severe unilateral cleft lip. The LeMesurier method was used and, although the family was pleased, the more I studied my result the less I liked it.
Disturbed by this dissatisfaction, I kept going over and over the problem. An obvious priority was a method that would end up with a respectable cupid's bow. LeMesurier seemed to achieve this, but by taking the main flap from the weak cleft side, already deficient in tissue. This was the hang-up for me and while I was trying to reverse the process, George Brusseau, the division photographer, made up a number of 8 × 10 matte prints of the “before” picture of my first Korean boy and a couple of other children who had been seen around camp earlier but had not returned. The camp carpenter, when presented with an orange crate, constructed a drawing board. With the cessation of hostilities, except for the officers’ bar and an occasional old movie, after sunset there was absolutely no distraction. Many an hour was spent pondering over and marking on the photographs. In my quest for a flap from the strong non-cleft side, I began to concentrate on this portion of the deformity. As I recall, one night I had been restudying the cleft deformity in a group of Brusseau’s photographs which were propped up on my orange-crate drawing board. Evidently my eyes had closed for a moment and then I had fallen asleep. The bed light must have awakened me an hour or so later, and as I opened my eyes, they focused by chance on the photograph that was standing askew. The angle of its position suddenly made me aware that what we had been searching for had been there all the time! Two-thirds of the cupid’s bow, complete with tubercle, white roll of the mucocutaneous junction, one column and the dimple of the philtrum were all present but had not been accounted for previously because of their distorted position. To get this non-cleft component down into the correct position—that is, move what is normal into normal position—was merely a matter of releasing it from its abnormally high attachment to the columella base. The best method seemed to be a rotation incision which, while dropping the entire cupid’s bow, philtrum and dimple into normal position, would leave a triangular gap in the wake of the rotation. Thus, the main flap now became the entire non-cleft component, which had to be rotated to form two-thirds of the lip, leaving
the true defect as a triangle in the upper one-third of the lip. The next logical move was to maintain the rotation by supplying a filler for this triangular gap. A horizontal relaxing incision on the cleft side, extended laterally just under the alar base, would allow medial advancement of the lateral lip element into the rotation gap to complete the remaining one-third cupid’s bow and lip. This advancement promised an extra bonus, that of correcting the flare of the alar base. In principle it sounded promising and on paper it looked pretty good, but only by actual application could the value of the theory be proved. This required a unilateral cleft lip patient!

FIRST ROTATION-ADVANCEMENT

While riding in an open jeep through many a Korean village, I had noticed children with cleft lips hiding in the shadows of their huts. Yet how to entice even one into our native outpatient clinic proved to be quite a problem. Repeated appeals to the clinic interpreter were rewarded with a smiling “Ahhh, so!” but never a cleft. Finally, one day out in the rice paddies, I spotted a 10-year-old Korean boy with a unilateral cleft lip.

During earlier days in Texas I had spent numerous free afternoons roping calves. I carried a rope coiled in my footlocker for it can serve as a quiet, lethal weapon at night at close range in an emergency. Actually, I had been playing catch with a group of Korean youngsters several days previously. In desperation I dashed up the hill to my tent, grabbed the lariat, opened the loop on the way down and, on the flat run along a paddy path, lassoed the little lad. He seemed to get into the spirit of the game and allowed himself to be herded over to “A Med,” our quonset hut hospital. There, with two favorite corpsmen, Texan B. L. Parker, as shown, and Dakotan Richard Ward, I marked the planned incisions on the patient.

Then, under general anesthesia and without parental permission, the first rotation-advancement procedure was performed.
Once the stitches had been removed, the boy was turned loose, and soon other clefts began to appear. Eventually they came from all over Korea, on foot, in oxcarts and in crude baskets called "A frames" carried by shoulder straps.
Then, after only four months, there was a change of command, and suddenly all Korean native surgery was discontinued at the main hospital. This event forced me to shift my site of operation to Kum Chon Hospital, which was little more than a local Korean first aid station. As a matter of fact, on a clear day a dry paddy had about as much to offer. The hospital had no electricity, so the operating table had to be moved about the room to follow the sun coming through a window. On cloudy days or after sunset, Dr. Kim very kindly held a flashlight. When the temperature dropped down around zero, we tried the pot-bellied stove, but the smoke only added to the low visibility. It became routine for corpsman Parker and me to wear parkas, fur-lined caps and Mickey Mouse boots with our masks and gloves. Here is a day when it was warm enough and light enough for an easy rotation-advancement under local anesthesia and Dr. Kim could devote his entire attention to the surgery.

In the beginning, I was reluctant to use local anesthesia, feeling certain that after one needle an entire village, grass huts and all, would disappear down the dusty road. Such was not the case, for these people possess a stoical grace and even their
young children often accepted a needle without a whimper. As it turned out, following our shift to Kum Chon Hospital, of necessity rather than choice, the major part of the work was carried out under local anesthesia, and especially the cleft lips, whether infant, child or adult.

Most of the patients operated on in Korea were children from 5 to 10 years of age and an occasional adult. This was a fortunate eventuality as it offered an opportunity to develop the method under exceedingly favorable circumstances with robust patients presenting ample lip tissue. The results were promising, and, although the Oriental often shows a tendency toward keloid, the scars with this design healed happily.

**IGNORANCE IS BLISS**

With the Marines in the field there was seldom a chance to peruse up-to-date medical journals. It just happened that one appeared in our tent which had an abstract about Cardosa’s method for cleft lip. Although the abstractor was vague, this approach seemed to have similarities to what I was doing in Korea. Having been on the move for years in England and now in the Orient, I had not been able to keep abreast of cleft lip developments. Sometime before I had had a quick talk with Tennison about his stencil method but was completely distracted by the bent wire. Marcks’s “Further Observations” were not
known or available, so actually I came onto the vestige of the cupid’s bow independently. The same course of events has happened often in history and was a boon in this instance. Diversion by the advances of Tennison, Cardosa and Marcks toward the tempting inferior placement of a triangular flap might have caused me to bypass the more complete shifting of all normal structures into their rightful position.

My return to the states in 1955 from Korea was routed through Hong Kong, Delhi and London. It was great fun seeing familiar faces, and when the rotation-advancement method was outlined and diagramed at the London clinic at 149 Harley Street for Sir Harold Gillies, he snapped it up like “a trout on a dry fly.” He insisted it be presented at the “first” International Congress of Plastic Surgery, to be held in Stockholm in August of that year, and wrote the Congress secretary, Tord Skoog, a letter requesting that my paper be added to the already overcrowded program. Skoog courteously replied to me:

The Committee has reserved five minutes for your paper on “Cupid’s Bow Vestige in Harelip” and hopes you will be able to give the members the essential information in that short time.
13. International Presentation

IN the air on my way to Stockholm I went over my slides and the text of what was essential to describe the rotation-advancement approach. It just was not possible to condense it into less than seven minutes at the least. I had to get two more minutes somehow.

The program distributed at the Congress registration set the cleft lip and palate session at 2–5 p.m. Tuesday, August 2, in the concert hall. T. P. Kilner, with whom I had spent many a day at Alton, was designated as the session chairman. The vice-chairman was R. Trauner of Austria, who had visited Gillies during my time at Rooksdown House. The secretary was H. Schjelderup of Norway, an old student of Gillies. Still no chance was seen for getting extra time, but at least there seemed to be a friendly head table.

Fogh-Andersen was listed as the leadoff speaker with “Remarks on Etiology of Harelip and Cleft Palate with Special Reference to Heredity.” I dropped a couple of beats when I saw that my paper, “A Primary Camouflage of the Unilateral Harelip,” was set for second. Marcks was to follow with “Secondary Cleft Lip Repair” and Potter with “Nasal Tip Deformities Associated with Harelip.”

During the morning session I noted the strict timing on each speaker with a white light on the rostrum for the two-minute warning and the red light for the end. Even from the back of the great hall with its high ceiling the acoustics proved to be remarkable, and, as soon as the crowd left for lunch, I voice-tested to make certain one could speak anywhere in the hall and be heard by everyone.
By 2 p.m. the concert hall was full, and Kilner, with gavel pounding on the table, called the cleft lip and palate session to order. I sat in the back of the enormous room near the center aisle. When my name was called, I rose and started slowly down the aisle addressing the austere audience. In unison all heads turned toward the center aisle as I proceeded while saying:

Ladies and gentlemen, one of the principles of plastic surgery taught me by Sir Harold Gillies, the Honorary President of this Congress, is “Never throw away a thing until you are certain you do not need it.” With your permission I will make use of the time it takes me to get to the rostrum, as I may need it. Many surgeons have tried to camouflage the harelook, but the multitude of techniques actually being used today is indication enough that surgeons are still not satisfied. Then too one cannot help but be impressed at the number of papers being given at this Congress which are devoted to the secondary correction of the harelip deformity. One thought has been echoing in my mind for some years, "Make the strong side produce the major flap," but it was not until I was surrounded on all sides by grinning Korean harelips that a method crystallized. In my quest for a flap from the strong side I began to focus on this element and realized that here was two-thirds of a cupid's bow complete with tubercle, philtrum column and its dimple. They are merely in a distorted position.

By this time I was backing up the stairs to the speaker's platform.

For those who say "Only God can make a cupid's bow" it might be added that if God gives us a good portion of a bow, for His sake, it should be used as such.

Upon my arrival at the rostrum I turned to Professor Kilner, who in solemn officialdom started the clock, but not without the barest perceptible twinkle over his half-spectacles.

First I paid brief homage to the straight line of Rose, Thompson and Kilner, then to the flaps of Mirault, Blair, Brown and McDowell and of Hagedorn and LeMesurier and finally said:

We are in a new era which was spearheaded by Tennison's Z, soon followed by Cardosa and Marcks' further observations. Now I want to get into the act!
My first slide was a crude drawing of the rotation-advancement incisions sketched in Korea on the orange-crate drawing board.

IN INCOMPLETE CLEFTS
USE SIMONART’S BAND
IF IT IS STRONG ENOUGH

Then followed slides of the results on a series of Korean children such as this little girl and other earlier ones, later published in the First International Transactions by Williams & Wilkins in 1957.
It was suggested:

If the method produced these results for me in a Korean field camp without the aid of general anesthesia (sometimes), modern facilities, adequate lighting and post-operative nursing care, just think what you can do with it!

The lights were out during the showing of slides and just in case there would be a need for a “lifeboat,” I draped a black handkerchief over the rostrum light. As it happened, I was able to complete the slides, reemphasize the cupid’s bow, philtrum and dimple, natural position of the scar and simultaneous nasal correction and then pocket the black handkerchief before the red light began blinking. As I descended the stairs to my seat, I remember that Gillies, Aufricht and Denis Browne in the front row nodded approval.

Yet this unorthodox performance by an unknown was considered brash and even impertinent by many present and no doubt was responsible for setting back their acceptance of the method for a number of years.

Recently, in February 1973 during a visit to Miami, silvery Skoog with a puckish gleam recalled this presentation in the Stockholm concert hall 18 years before. In his retelling of the tale to my residents, he generously added that during the walk down the aisle I had held up placards of the operation, describing the method as I strolled slowly along, so that by the time I reached the rostrum, my paper was almost finished. This improvisation is rather nice, and an attempt to perpetuate it will be made.

REACTION TO ROTATION

The immediate and the delayed reaction to rotation and advancement was mixed. In general, the method seemed to arouse interest. The following afternoon was free for a boat trip to Drottningholm Palace, the royal summer residence. As we docked, Milton Adams, determined to get a Soviet visa for a visit behind the Iron Curtain, disembarked with a Russian plastic surgeon
under each arm. As he passed me on the gangplank, he called over his shoulder,

Good results but I couldn’t see your plan. Your diagrams were not clear and did not show up well.

In fact, those diagrams are still the bane of the method. They were not intelligible enough at the Congress presentation, and they have been resurrected by others too often since, as they have long been obsolete.

In Drottingholm Palace courtyard, after a performance in an eighteenth century theatre, Martin Enrin told me he would be more interested in the method after five years when the results could be better evaluated.

On the bus ride to Uppsala the following morning I had the good fortune to sit beside Professor Karl Schuchardt. His comment was encouraging:

The best cupid’s bows I have seen.

He invited me to visit his clinic in Hamburg after the Congress. His invitation was accepted and, along with the renowned Arthur Barsky, I observed his concise execution of a LeMesurier lip procedure. During the operation and the accompanying discussion, Barsky made the offhand comment that after all it was only a matter of whether the surgeon chose to use “a triangular or quadrilateral flap,” and I disagreed with him. After the operation, Professor Schuchardt asked my opinion, and I answered by saying that I thought he would like the rotation-advancement approach. He agreed it was possible and promised to try the method. It has been one of my disappointments that in all the years that have followed he has never tried it. Many of his students have, but as far as I know, never the professor.
14. Application in America

All previous patients had been Oriental. Although it seemed logical that the same general design would work for any race, until it had actually been done there was no way to prove it. In 1956, about one year after starting plastic surgery practice in Miami, Florida, I did my first rotation-advancement on a Negro infant with a complete unilateral cleft. The method worked well.

The next rotation-advancement procedure was used in a white Marine sergeant's son who had an incomplete unilateral cleft. The incorporation of any salvageable tissue in Simonart's band to add to the advancing tip of the lateral advancement flap, of course, provided more filler for the rotation gap and faithfully followed the fundamental principle of throwing nothing away. This band portion of the deformity heretofore had been scrapped by all methods. The result with the white baby also was most encouraging.
FIRST AMERICAN PUBLICATION

In 1958 Neal Owens of New Orleans, who had trained in England in 1937, dedicated one complete issue of the *American Journal of Surgery* to honor Sir Harold Gillies and called upon many of his old students to participate with papers. Mine was entitled "A Radical Rotation in Single Harelip" and using these two cases as examples, black and white, it began:

Sir Harold Gillies has long taught the principle of avoiding routine by treating each case individually.

The underlying theme of this first American rotation-advancement publication was *not to force a rigid method into the mouth of every cleft*.

The act of constructing or repairing facial features is in its very nature artistic and, as in all art, depends on freedom for its vitality. No two cases are exactly alike; not even two harelips of seemingly equal degree of cleft can boast this identity. In general, one cleft lip with its nasal distortion may be reminiscent of another; they may even be similar but never quite identical. Hordes of patients are run through the A, B, C blue-dot routine because of the temptation to latch on to a reasonably satisfactory method and drift merrily along mesmerized by a memorized blueprint. Yet the simple fact that no two lips are identical seems to demand a surgical solution for each, with a personality all its own.

With the normal as our goal we need only be guided by fundamental principles:

In the harelip deformity both the lip and nose have been short-changed. Not only has nature left out a portion but she has allowed distortion of
what remains. This distortion can be relieved by moving normal tissues into normal position and retaining them there. . . . With tissue actually missing we must throw away nothing, guarding what little we have jealously for use to its utmost advantage. The presence of a cleft necessitates the formation of a scar and this scar, if not hidden, more often than not will give away the secret. It would be well, if possible, to maneuver it into hidden crevices or use it to simulate natural landmarks.

To show improvements in the design and to rally from my orange-crate sketches, Neal Owens lent his fabulous artist, E. Freoret, to illustrate the method in incomplete and complete clefts for the *American Journal of Surgery* article. The incomplete cleft drawings were excellent except that B advanced too far into normal lip.

As so often happens when an artist tries to portray a surgeon’s idea, the design as drawn would never work. This discrepancy was apparent in the diagrams for the complete cleft and probably explains later fears by other surgeons of this method in complete clefts.
Freret's lovely drawings did facilitate the description:

With no effort toward making a routine procedure or pinpointing a rigid A, B, and C, let us proceed along a logical sequence. As suggested by Blair, there is no better measure than the human eye; this type of art is not strictly mathematical.

A, B and c were used not as strict points but as labels for flaps. Flap A with cupid's bow and dimple was rotated down. The description here as to how far the rotation incision should go could be misleading.

Usually it will extend slightly past the midline so that the rotation is radical and ever so slightly overcorrects the original distortion.

As shown in the diagram for complete clefts, the rotation incision would never have achieved normal position, and subsequent shortness or contracture would have been inevitable.

Yet, in the cases presented of the Negro and white babies, the rotation had been successful. This outcome possibly spurred surgeons to extend the rotation past the midline of the columella base and even further across into the lip on the normal side, producing an unattractive lip of abnormal vertical length.

A second misleading point in the diagrams and the description was in reference to little flap c.

In the process of rotating this main lip component the incision leaves a small triangular flap c attached to the columella. Flap c is destined to form the nostril sill and absorb a part of the pull at the tightest point in the closure.

Actually, flap c in the early cases was used to cross the entire nasal floor, but gradually this action was used less and less, and, as seen in the diagrams for complete clefts, flap c did not extend all the way across the top of the advancement flap.

The description of creating flap B noted use of any muscular Simonart's band in incomplete clefts and in complete clefts advised that the lateral incision

start high and curve down and out under the alar base. It is well to extend this incision cautiously and "cut as you go" so that by repeated trial flap B advances until it amply fills the gap and maintains the primary rotation.
The nasal bonus was noted:

One of the most satisfying after effects of advancing the lateral triangular flap B across into the gap between columella and flap A is the natural positioning of the flaring alar base.

This simultaneous nasal bonus is rather vividly demonstrated in this patient operated on at Princess Margaret Hospital, Nassau, Bahamas.

For those who were questioning tension at this key point of advancement into the rotation gap, it was admitted:

It is at this point in extremely wide clefts, however, that a moderate amount of tension is created. Yet if there must be tension this is the point of greatest advantage. Not only does this tension provide a reduction in the abnormally wide nostril floor but any relative tightening across the upper portion of the lip produces a pleasant protrusion of the lower portion resulting in the semblance of a pout. Another advantage is that tension high in the lip . . . is splinted by the maxilla beneath and distortion of the soft free border of the lip, as seen in other methods, is avoided . . . Thus the general effect of this final scar is a [scar] line running from the peak of one bow along a natural philtrum line beside the dimple and matching the opposite normal column. The scar proceeds obliquely up toward the columella swinging under and breaking into a zigzag, all of which is hidden in the shadow and crease lines of the nostril sill and alar base.

**DISCREPANCY IN DESCRIPTION**

From the first presentation of this method there had been some who feared the long oblique line of the lopsided Z because of the possibilities of its contracture. Some reported a notching. Advice in the 1958 paper had been:
If the primary rotation is radical, the advancement flap full-bodied enough to fill the gap adequately and the muscle approximation across the cleft thorough, the ultimate result can be nearly perfect. There may be a slight contraction during the first weeks of healing but as months pass the scar will soften and the lip smooth out. This sequence of events has been observed in numerous cases. A persistent notch merely indicates inadequate primary surgery and must be corrected simply as any other notch.

At the time I was irritated that others continued to complain about contractures and notching. Yet, as I look back, it is quite obvious that the original diagrams, if emulated as rigidly as points A, B and C had previously been followed in other methods, would lead to inadequate rotation, immediate shortness along the scar line and permanent contracture and notching.

Take, for instance, Professor Frantisek Burian’s Czechoslovakian 1968 diagrammatic interpretations of the rotation-advancement method in complete and incomplete clefts. They were similar to my original sketches, but if copied literally as he diagramed the procedure there would be no way to achieve matching sides or an artistic result.

Such glib phrases as “cut as you go” and “treat each case individually” did not explain how to get the last bit of rotation that made the difference in many cases. It was years before I realized that I had been responsible for allowing a “blind spot” that was acting as the main hang-up. It had been taken for granted that any rotation incision, when necessary, can be further rotated by a cut-back. This was hinted in 1964 and finally emphasized in Rome in 1967.

TEMPORARY CONTRACTURE

Whereas there was considerable concern with the inadequate rotation and the subsequent contracture, this was never a major problem. Many cases showed an early lift on the cleft side as the scar healed. This will be shown in several cases later. Yet, if the skin distance from the alar base to the height of the cupid’s bow on the cleft side was equal to that of the normal side at the termination of the operation, all would end well. In spite
of a temporary contracture, by six months to a year the lip would have settled down to a symmetrical bow.

EASE OF SECONDARY REVISION

One of the advantages of this approach has been the ease of correction. Seldom is it necessary to take the lip apart for more rotation and advancement, but when indicated it can be done without difficulty. No bridges are burned, and revisions can be executed along normal lines while continuing to preserve natural landmarks.

A CHALLENGE

The second American publication was a challenge to stop irreversible damage and to go for the ultimate potential.

Irreversible damage

In 1959 an appeal was made to all doctors in the *Journal of the American Medical Association* entitled "Preservation of Natural Landmarks in Unilateral Cleft Lip." It began:

The harelip deformity, with its twisted distortion of the nose and gaping cleft of the lip, utterly disfigures the center of the face and destroys any chance of normal expression—even a smile is grotesque. So horrible is it
that whatever the surgeon does will be an improvement [and will gain the
parents’ eternal gratitude]. Yet mere improvement is not enough and should
not be accepted as a triumph. . . . It never ceases to be a thrill that two
simple incisions [rotation and advancement] can set up such a consecutive
chain of happy actions.

Then came the punch line:

Several popular methods in use today ignore one or more of nature’s
landmarks and, what seems even more tragic, by actually destroying them
in the primary repair cause them to be lost forever.

Ultimate potential

Many surgeons have discounted the importance of a method by
saying that a surgeon should use whatever procedure he person­
ally believes will work best for him. This attitude can lead to
mediocrity. It is true that most experienced surgeons have their
favorite lip method, and with this their results are better than
with any other. Yet, no matter how skilled a surgeon may be,
his best results are limited by the ultimate of the method he favors.
A method’s merit must be measured by the closeness of its
approach to a natural looking and acting result. Cleft lip surgeons
must be perfectionists, free to aspire and willing to work in
millimeters. If the method scraps the cupid’s bow, violates the
dimple or allows the scar of union to cross natural lines, then
no matter how fastidious the surgeon is, he can never make up
the handicap. There is, however, one essential factor which
influences the outcome of any method. Before a technique can
be made to attain its greatest potential, the surgeon must not
only be familiar with it and believe in it but actually woo it to
its ultimate.
SKOOG

Among those surgeons attracted by the rotation but evidently unable to get the desired result was the dynamic and precise Tord Skoog of Uppsala, Sweden. Inadequate rotation forced him into a combination of the rotation-advancement and the inferiorly placed triangular flap of Tennison. It is best explained in his own words, appearing in the same 1958 American Journal of Surgery honoring Gillies, under the title "A Design for the Repair of Unilateral Cleft Lips."

In 1952 Tennison published a modified design for repairs of single harelips. . . . In 1955 Millard presented a new design for this type of repair. . . . I have used these two methods in cases of unilateral cleft lips with varying degrees of deformity, and the operative results with both methods have been very satisfying, particularly in incomplete clefts. The former method, however, involved considerable sacrifice of tissue in complete clefts, and using the Millard technic I found it difficult to avoid retraction of the scar line at the vermillion border. Based upon this experience a repair was designed which used two flaps for elongation of the cleft side.

Actually, in 1958 Skoog finally chose for his upper flap a vertical one based above, which he transposed horizontally at the columella base. This portion of the design was similar to Trauner’s earlier method. His lower flap was a Tennison type which achieved a double darting of the cleft edge.

As noted by Skoog, Trauner of Austria had also described closure of single cleft lips using two flaps:

Trauner combined a modified Hagedorn-LeMesurier technic with his original Z-plastic procedures for secondary correction of the nostril floor and upper part of the lip.
One adequate rotation incision can position the non-cleft element into normal position better than two small releases and at the same time avoid discard of tissue as well as inferior violation of the philtrum column and the dimple. When the healing produces a good scar, Skoog can show what many consider to be excellent results in spite of the unnatural position of the scar. Nevertheless, I feel in principle this modification is a step backward.

It is interesting to see why Joss and Rouillard in 1962 preferred the rotation-advancement "cut as you go" approach over the methods of Trauner and Skoog:

In this respect Skoog's method, which incorporates a Z-plasty resembling Tennison's, may be described as an advance over Trauner's method wherein a modified LeMesurier technique is used. However, the scar in Skoog's repair does not correspond to the philtral column and his design lacks the great merit of simplicity.

In 1969 in the *Scandinavian Journal of Plastic and Reconstructive Surgery* and again at the Melbourne Congress in 1971, Skoog added a modified Reynolds-Horton type of alar lift as a primary nasal procedure along with his periosteal repair for the alveolar and maxillary deformity and advanced the cleft side lip muscle toward the midline. He also revised his unilateral lip method, making more of the lower triangular flap and less of the higher vertical-to-horizontal nasal floor flap, which he by now had moved farther back into the nasal vestibule, like Collis and Blair, than in his earlier design, which was more like that of Trauner.

There is an interesting story in relation to this switch. While on his Foundation Award study trip in Europe in 1959, Peter Randall visited Tord Skoog in Uppsala. One evening after smorgasbord and a series of "skoals," Skoog asked Randall why he put his little superior flap inside the nostril and not at the base of the columella where it was needed for release. Randall explained that in his opinion it did as much good inside and the scars were hidden. A few more "skoals" and Skoog suggested a bargain: that Randall try placing the upper flap at the base of the columella and he try placing it inside the nostril. In Melbourne in 1971 Skoog's upper flap was shown disappearing
back into the nostril, but Randall admits "welshing" on his part of the deal.

Also in Skoog's 1971 design he emphasized sliding the attenuated orbicularis muscle of the cleft edge under the medial edge and, in addition, acknowledged his use of my "white roll" flap at the mucocutaneous junction.

Yet, in spite of all the minor variations, it seems that Skoog's 1971 unilateral lip method has become finally a slightly refined Randall design, 1958 vintage.

M E Y E R

In 1966 Rudolf Meyer of Lausanne, who can maneuver skis down the highest alp with the greatest of ease, evidently had more difficulty getting adequate rotation and reproposed a modification of the double flap that Skoog originally designed. He presented this approach at Schuchardt's Second Cleft Palate Symposium in Hamburg, stating that he had the same experience as Trauner with my method. He added:

We need an additional break of the suture line on the level of the vermilion border in order to get this ridge more prominent. So we add a very small LeMesurier quadrilateral flap.

W Y N N

Sidney Wynn of Milwaukee, whom I personally saw become a 10-second man in the 100 during a Peruvian earthquake, did some quick lip flap shifting in 1960 when he abolished the LeMesurier portion of Trauner's design and the Tennison portion
of Skoog's design. He actually did a type of rotation with his advancement being a vertical flap transposed horizontally as already used by Trauner and also described by both Skoog and me in 1958. Actually, this could be said to be a reversed Giraldes. The 90-degree transposition creates an unnatural kink which lacks the natural flow of advancement as the gaping cleft is narrowed simultaneously. The Wynn design has limitations, and the results, although good in certain cases, fall short of the possibilities.

**Kawrakirov**

Bulgarian Von W. Kawrakirov in 1964 described a lateral vertical triangular flap based upon the inside of the alar base to be transposed transversely into a releasing incision behind the columella in spirit similar to Trauner, Marcks and Skoog. He closed the rest of the lip in a straight line with results that did not seem better than others.

**Mustardé**

Jack Mustardé, a jolly fellow, an innovator and an honest bandit who could have drawn a bow in Robin Hood's band, was once an ophthalmic surgeon in Nottingham, not far from Sherwood Forest. Enticed into plastic surgery by Gillies and later trained by him and Kilner, he finally became a consultant in Glasgow where his early experience in eye work shot him off like a rocket into orbit. As he is indeed a shrewd chap, few have ever caught him short. This little section may do so, and then there was another time . . .
Mustardé had constantly commented on the beauty of tree and bush reflections on the water surface of a painting by Sir Harold Gillies of an old mill with its stream and weir. He was finally presented with the painting and promptly stored it in a drawer until time and finances would allow its elegant framing.

About a year later he invited Gillies to his home for dinner and, suddenly remembering the painting, scurried off to the local antique shop, bought a frame and hung it in an important position in his home. Gillies came along, spotted the painting and requested: "Musty, do you mind terribly if I borrow this rather nice painting for my exhibition in London?" Mustarde, of course, agreed and in due course went to London to see the exhibition in Foyle’s Gallery. He bought a program and eventually came upon his painting, which was tagged with a small red dot in the bottom right-hand corner. Assuming this mark to indicate “privately owned,” he questioned one of the ladies in attendance to find it actually meant "sold" and in fact had been purchased that very afternoon by Lord Harmsworth. He never even got a refund on his frame.

Mustarde and I have been friends since our early days with Gillies and evidently because of his loyalty to me and to LeMesurier through Matthews, the author of the cleft section of his book, Plastic Surgery in Infancy and Childhood, he felt a compulsion to combine us. These are his words in 1971:

I for one have often felt that some sort of combination between a Millard operation and a LeMesurier would combine the best of both worlds. Other surgeons have obviously been thinking along similar lines and in 1969 Ciarpella and DeLongis, in Italy, reported a series of children with cleft lips in which they had used a technique combining a Millard operation with a LeMesurier quadrilateral flap.

Mustarde, pleased with the LeMesurier pout but disenchanted by the immediate lateral drift of the cleft ala, came up with a vertical flap from the lateral element to be transposed across the entire columella base and even into the opposite nostril in an attempt to tie in the delinquent ala once and for all. As he later discovered, Trauner had been thinking along this line 16 years before, as had Marcks and Wynn later. Mustarde’s tie flap is

with friends
like this
who needs enemies!
longer and his relaxing incision more extensive, but this does not seem to improve the principle. He adapted this approach to incomplete and complete clefts and has followed his cases for a year, reporting no drift of the ala. Yet, as the original LeMesurier lip "grew" too long on the lateral side in time, then the same criticism should apply here. Regardless of lip length, the nightmare of crisscrossing scars is unacceptable even if they all heal perfectly, and this outcome is not invariably assured even in Glasgow.

TALAAT

Samir Talaat, from Cairo University, presented a Z-plasty modification in Rome in 1967 which he described as

similar to the Millard procedure, differing only in that the line BF is not at the base of the columella but follows an oblique line in the philtrum.

There were other differences, but the results shown did not seem to warrant the changes.

ORTICOHEA

Then there is an even more "far-out" design by Miguel Orticochea of Bogotá which "outflaps" Trauner, Skoog or Mustarde. He presented this approach at the Congress in Rome and further
complicated a complex problem. He gets off to a deceptive start:

The basic principle of cleft lip surgery is: once the normal structures of the medial lip side (Cupid’s bow, affected philtral line and its hemi philtrum) have been properly repositioned, the lateral side is adapted to the new orientation and location of these structures. 

Hence the lateral side acts as a satellite to, and instrument of, the medial lip side.

Except for this satellite metaphor, many of us have been chanting this refrain for years. Orticochea continues by drawing a line AA’ and indicates that as long as nothing crosses this line to affect the non-cleft side, “anything goes” on the other side. “Anything” includes “a Giraldes sub-alar horizontal incision” plus a subcolumellar incision and a mid-medial horizontal incision. He concludes that these incisions plus a vertical splitting of the alar base afford the best alar rotation, enabling the surgeon to bend and manipulate the ala with the same facility and ease that a South American farmer bends a divining rod when looking for underground water.

Finally, he continues,

At the end of surgery the cutaneous lip suture forms a zig-zag and has four segments shaped like an M or a W on its side. This suture produces a less noticeable scar.

It is tempting to suggest that the unnatural quality of having one column of the philtrum look like an M or a W sitting on its rear, depending upon which side of the cleft it is viewed from, might displease a South American farmer even after he had found water! Although Orticochea mentioned a 10-year experience with cleft lip, his published results either still had sutures present or were only a few months postoperative without definite evidence of justification for such complicated maneuvers.

While visiting Miami in August 1971, he informed us that of all his contributions he was proudest of this lip method. Yet from the slides he showed of his palate procedure it was possible to judge, in part, the lip results in the periphery of the pictures, and there did not seem to be sufficient justification for such radical lip surgery.
This last example prompts the suggestion to us all that any surgeon obsessed to climb and cut his way to *identity* must make certain that he does not inadvertently over-scar his patients during the ascent.
ALONG with the criticisms and modifications of rotation-advancement occasionally came enthusiasm. Sir Archibald McIndoe wrote a personal note:

This is the best method yet devised for the cleft lip deformity.

Sir Harold Gillies, who had taught all the principles involved in the rotation-advancement method and had looked at many a cleft through the years, never quite saw it. Yet once it was called to his attention, he became its most enthusiastic booster. At age 75 he married his wonderful theater sister, Sam Clayton, and whisked her off to India on a honeymoon. During this trip he taught surgery and, in spite of an occasional distraction, even took time to demonstrate the rotation-advancement method to the surgeons of India.

For instance, after a surgical demonstration in Bombay he and his party set off for Poona, ordinarily a three-hour journey. Seven hours later, when they finally arrived, it was explained that Sir Harold had enjoyed four hours painting a water buffalo. Yet Gillies, typically late, faithfully proceeded with his surgical demonstration. This is a quote from a letter from an Indian surgeon present in Poona at the time:

It was in 1958 when Sir Harold Gillies first visited India that he performed the Millard operation for the first time in Poona. After finishing it he took me aside and said: "Dr. Maneksha, try this operation and you will not regret it!" Ever since that day I switched over from the quadrangular flap
method to the rotation-advancement procedure—both for primary and secondary clefts. It is thirteen years now and the results speak for themselves.

It is because of Gillies that the rotation-advancement principle has long been the method of choice throughout most of India. In fact, in 1959 Rusi Maneksha sent an exciting Christmas card from Bombay to Miami. Under a small before-and-after photograph of an Indian baby, who had greatly benefited by a rotation-advancement procedure, was written

"Merry Christmas from the children of India."

His first paper was read by title "Experience with the New Millard Principle in Harelip Repair" at the Second Congress of the International Society of Plastic and Reconstructive Surgeons in London in 1959. In 1963 he published his experience with the method.
FREE HAND

Many surgeons have been attracted to the rotation-advancement method because of its freehand design. George Joss of Norwich, England, with Rouillard stated it succinctly:

His method is simple; it demands that the skin markings be drawn by eye, which is at least as accurate as caliper measurements of landmarks and the potential cupid's bow can be readily defined. The incisions are not irrevocable; Millard recommends a “cut as you go” technique, but if there has been slight enthusiasm with the blade the unwanted addition to the incision can be sewn up without detriment to the result.

GRADUAL ACCEPTANCE

In 1961 Michael Lewin completed a survey of American and Canadian plastic surgeons and found, among other facts, that the rotation-advancement principle had been accepted by 19.6 percent. He concluded:

Almost 20 percent of the surgeons have adopted Millard’s technique, which is remarkable in the light of its very recent introduction into the literature.

FROM THE CANADIAN SIDE

Fred M. Woolhouse of Montreal, former football halfback at McGill University and ardent teacher of Canadian plastic surgeons, was trained by A. B. LeMesurier and “Doc” A. W. Farmer in cleft lip surgery at Toronto Sick Children’s Hospital. Upon discharge from the Navy, Woolhouse introduced his own modification of the LeMesurier method to the Montreal Children’s Hospital, where the Mirault-Blair procedure was still in vogue. As Woolhouse wrote to me in 1972:

This being a teaching hospital several other repairs which seemed to possess some merit of their own were tried, i.e. Tennison, Randall etc.

We had for a long time been dissatisfied with the residual nasal deformity remaining after an otherwise satisfactory LeMesurier lip repair. Conse-
quently, when the Millard repair was introduced it was principally with a view to improving the nostril sill and the "set" of the alar base—which it did—that we changed. In our early Millards, however, we sometimes had to cut back on the lateral side to achieve enough length at the tip of the cupid's bow on the cleft side and this took away the natural pout.

Another dissatisfaction with the LeMesurier repair was the occasional overgrowth of the cleft side. We never found this to occur as consistently as Brauer and others had suggested but at the same time recognized that it happened too often. In an attempt to have the best of both worlds we even, on one occasion, combined a Millard "advancement" (nostril sill creation) with a LeMesurier lip repair—but this was complicated beyond all reason.

Finally we learned to do the Millard repair consistently well—particularly after the introduction of some refinements by yourself and possibly one or two of our own.

We now use the Millard rotation-advancement almost exclusively. Our procedure is as follows:

The lip is repaired when the baby weighs ten pounds—under general anesthesia. We close the alveolar cleft (with a nasal and oral closure) and the remaining cleft in the primary palate. We then use the Millard lip repair with the small back cut (as a rule) at the columellar end of the rotation flap; the columellar advancement with the small unilateral forked flap; freeing the attachment of the posteriorly displaced base of the medial crus of the alar cartilage on the affected side from the anterior nasal spine; increasing the advancement component by extension into the excess skin of the stretched vestibule, and occasionally extending the upper lateral incision around the alar base; freeing the lateral element from the maxilla and the nasal vestibule to release the alar base from the maxilla; occasionally also freeing the posterior end of the lateral crus and closure with a "V to Y" or "Z"-plasty when the web persists in the nostril following all of the preceding. Finally we use the mucocutaneous interdigitation with your 1 × 2 mm. flap to preserve the "white reflex."

TESSIER

I had heard of Paul Tessier of Foch Hospital, Paris, but missed a visit with him during my European peregrinations in 1948–1949. The failure to meet him is understandable because at intervals during this time Tessier joined Jacques Cousteau’s second underwater team as physician and could be found only in the waters off the coast of southern France and 50 meters
below the surface, the limit for that era.

It was in 1961 that Tessier first started using the rotation-advancement method. Some might suggest that accepting this method that early was an omen of his courage later to be displayed in the treatment of hypertelorism, Crouzon’s disease and Apert’s disease. I prefer to think it was rather the same principle of moving displaced parts into normal position that pleased him. Anyway, at Christmastime 1971, in a personal note he added:

I still use it, almost every time on unilateral cases.

And I hung the letter on our Xmas tree!

**NORDIC APPROVAL**

Henrik Borchgrevink reported that the rotation-advancement method had been the routine approach for primary clefts since 1960 at the Rikshospitalet University Hospital in Oslo, Norway, and that he himself had used it for all primary unilateral clefts, complete or incomplete, without exception since 1962. His 1970 endorsement is quite convincing:

The rotation-advancement principle in primary cleft lip repair has been adopted by an apparently ever increasing number of surgeons throughout the world . . . and the reservations against the method are gradually expressed with less enthusiasm. The advantages usually mentioned are as follows: the method offers good possibilities for simultaneous lip and nose correction, for preservation and positioning of natural landmarks, tissue saving, non-conspicuous scars, and less difficulty for secondary corrections.

**LINTILHAC**

In 1966 Jean Paul Lintilhac with J. P. Cochain of Paris wrote that they had shifted to the rotation-advancement method in 1960, expressing it in a rather charming manner:

Besides the pleasure in operating which one cannot help feeling when everything comes together perfectly and which for a plastic surgeon already speaks in favor of this technique.
Ivo Pitanguy and I have always had a camaraderie probably partly based on his having antagonized almost as many surgeons over the years as I have. Yet his great personal charm usually wins most of them back again. In spite of being an old friend from our bachelor days in London in the early 50’s, or because of it, he acknowledged graciously in 1963 in one of his seven languages:

La technique de Millard, employée dans la phase initiale, permet une reconstruction intéressante du plancher narinaire et une rotation de l’aile du nez ne nécessitant aucune manipulation du cartilage alaire. Les premiers résultats observés sont très satisfaisants et permettent d’augurer que ladite technique occasionnera moins de séquelles dans l’âge adulte. Le temps en jugera.

He not only used the method and suggested extending the lateral advancement incision farther around the alar base but also adapted its use to secondary cases and allowed me to demonstrate my procedure in his fabulous Brazilian clinic in Rio in 1969.

Joseph Galambos of Budapest, Hungary, defended the rotation-advancement principle at Schuchardt’s Second Cleft Palate Symposium in Hamburg in 1964. I was there and was encouraged by the sagacity of his stand. He opened with

The variety of the harelip, the different developments of the lip stumps, the variations in the height of the lip, the discrepancies in the severity of the deformity and occlusion obviously require methods of correction which can be flexibly adapted to the given conditions.

The great variety of methods published in the literature since World War II shows characteristically that there is an increasing endeavour towards perfection in this field. . . . If we consider that the methods of Z plasties, which in spite of their large-scale similarities differ very much from one another, are used in different patients, after the methods of various surgeons, at different ages, the significance of the statistical figures diminishes immediately.
Galambos proceeded to condemn such methods as LeMesurier with

The upper-lip portion on the cleft side grows unproportionally,

and Giraldes with

obviously destroys the philtrum harmony in the cupid's bow,

and Récamier's method with

The postoperative scarline however is of an entirely vertical direction.

He concluded with remarkable insight for this time:

The advantages of the Millard operation are as follows:

1. The normal position of the alar base will be automatically retained, the nostril sill is arched, the nostril floor is not depressed or flared and the nose requires only rarely intranasal manipulation.

2. The scar runs as a philtrum column on the side of the cleft and shows no tendency to contract because the incision is radially branched out in its upper portion.

3. A natural cupid's bow is formed with a central dimple and normal philtrum associated with a straight columella.

In 1968 at a Yugoslav Symposium at Maribor, Galambos praised the rotation-advancement method's revolt from established doctrine.

Millard (1955) disregarding any skin excision broke from the dogma of Veau where the soft tissue above the peak of the cupid's bow is unfitted for plastic aims.

He recalled that Ingelfrans, Poupard and Lacheretz in 1963 criticized the rotation-advancement with the following points:

1. The procedure is difficult to perform.

2. In the case of a total cleft the curved incision is placed below the columella and this may result in a conspicuous scar formation.

3. The maximum transverse tension is below the nostril instead of the middle or the lower third of the lip for bringing about a pleasing profile line and avoiding pressure upon the alveolar arch.

Then Galambos countered incisively,
According to our opinion Millard offers more than LeMesurier and Tennison in this point. Through the very fact that the transverse tension is in the maxillary region the upper lip is placed loose, soft and without scars in front of the maxilla . . . the physiological pressure upon the maxilla simultaneously exercises a slight pressure upon the dental arcade and . . . may be regarded as a surgical procedure of orthodontia. Regular examinations of our patients (687 operations) through many (10) years prove this opinion of ours.

Late in 1972 I wrote Galambos inquiring about his present stand and was answered with a reminder that since Stockholm he had been fascinated with the rotation-advancement, not only because it terminated the century old misbelief that the tension must not be placed on the area of the maxilla but because the artistic freedom without numerical scheme entrusted the operating surgeon with the solution. . . . Then too I am in possession of several illustrations of patients operated on by other methods which clearly demonstrate the wrong principles of past methods. In Hungary I am recorded as an expert in Millard's technic and have published papers in Hungarian and German and presented films on this method in West and East Germany, Yugoslavia and at the Hungarian Academy of Sciences.

**PROOF OF THE PUDDING**

In 1964, just prior to our Society of Plastic Surgeons meeting in San Francisco, dapper Ed Brown, trained by Albert Davis, invited me to a cleft lip clinic on Post Street and demonstrated
some very lovely rotation-advancement results. It was exciting to see how well he had mastered the principle.

HONORABLE ORIENTAL ACCEPTANCE

As the method was conceived in the Orient, it was poetic justice that some of its early acceptance occurred in Japan. Ohmori said in Honolulu in 1962,

Lately, Millard's method is also being applied as one of many valuable procedures.

ODA

One of the earliest proponents of the rotation-advancement principle was the late Kentaro Oda of Osaka City. He sent me a colorful Japanese geisha doll and then one day in 1963 arrived in Miami to observe a cleft lip surgical demonstration. He reported having used the method for years with superior results and explained that it had been responsible for many patients' traveling to him from all over Japan, amounting to at least 100 new cases each year. The results he showed were impressive. He was a frail, gentle, charming man, and we became good friends. One day I hope to visit his clinic and give a lecture in his honor.

Another important proponent following the rotation-advancement method and publishing results in 1965 was Professor Shojiro Takahashi of Tokyo Dental School.

MOTOMASA SASAKI

Motomasa Sasaki, professor and Chairman of the Department of Oral Surgery, Sapporo Medical College, Hokkaido, Japan, was a student of Oda. Between 1961 and 1968 he did 282 cleft lip operations by the rotation-advancement approach. Since 1964 he has been grading the results of the various aspects of the unilateral cleft deformity after surgery:

Labial deformity: cupid's bow, mucosal tubercle, vermilion,
mucosal margin, philtrum dimple, philtrum column, vestibule of the nose.

Nasal deformity: nasal tip, nasal alar base, columella, septum, nostril, nostril floor, alar web.

Profile: nasal tip, lack of pout, mucosal margin of upper lip, proportion of upper to lower lip.

Scar: extent, form, shade, tension, consistency.

A grade of 10 was a bad result; a grade of 0 excellent. Sasaki reports that most of his rotation-advancement results range from 0 to under 2 points.

EVEN IN WAR-TORN SOUTH VIETNAM

I am particularly proud of the work of Tran Van Khang, a 30-year-old Vietnamese medical student from the University of Saigon, who wrote a 100-page thesis for his Doctorate of Medicine in 1967 entitled “Étude de la Technique de Ralph Millard dans le Traitement des Becs-de-Lièvre.” In a charming Oriental manner he dedicates his work to his professors, parents, relatives, friends, acquaintances and even his battle comrades of the 31st Regiment serving southwest of Mekong in 1963–1964. His thesis is based on 118 cases operated on by Professor Dang Van Chieu using the rotation-advancement method at La Clinique Chirurgicale A from May 1962 to May 1966. Of the 118, 47 were unilateral incomplete clefts, 59 unilateral complete, 4 bilateral incomplete, 7 bilateral complete and 1 bilateral asymmetrical. One hundred were from 1 to 18 years of age while 73 of these were from 5 to 18 years old. This work was written without knowledge of the later publications on refinements and extensions and was a most complete and encouraging report. Khang wrote:

Les résultats le plus souvent excellents, quelquefois stupéfiants, nous laissent plein d’admiration tant pour la dextérité de notre maître que pour l’ingéniosité de cette technique.

He outlined with clarity the many advantages of this approach and explained that failures were not due to the technique but
probably to the inexperience of the operator. He acknowledged that early scar contracture did occur but subsided in a short time if the method was executed correctly and the "suture musculaire" accurately applied. For wide total clefts, he emphasized that the difficulty is no greater than with other methods and that a tight lip was rare. He did warn that there is less chance of danger from tension if the patient is at least three months of age and if the lip is dissected quite free from its attachments to the maxilla.

ONIZUKA

Takuya Onizuka, Professor of Plastic Surgery, Faculty of Medicine, Showa University, Tokyo, in 1972 stated:

I have been using the rotation-advancement method or its modification for several thousand cases during the past ten years. Now I suppose the operative method for the primary case is near the final goal. Therefore the most progress should be in philtrum plasty, functional muscle alignment and rhinoplasty.

He continues to practice what he preached by proposing new methods of philtrum construction and columella lengthening.

OTHER EASTERN PROPOONENTS

Charles Pinto of the Bai Lerbai Wadia Hospital for Children, Bombay, trained with Barrett Brown in St. Louis and with Eric Peet at Oxford. H. S. Adenwalla of Trichur, India, student and friend of the late Pinto, wrote to me in 1972 soon after Pinto's untimely death. He reminisced about his teacher's exploring mind and the dexterity of his craftsmanship:

Nothing seemed difficult when you saw him execute it... he had a certain old world concept of chivalry, charity and supreme magnanimity... He splashed the canvas of life with bright colours taking a puckish, schoolboyish delight in everything he did.

Another excerpt from Adenwalla's letter was pertinent:
In our country, patients do not return for secondary corrections which a straight repair on a complete cleft so often requires, and so he started looking for an answer in one stage. He did extensively try out Barrett Brown's modification and to a lesser extent LeMesurie's and Tennison's operations. He however came to the conclusion that the rotation advancement method was the answer. I quote from one of his publications, "The Millard repair, in our experience is a great advance—it produces a nice nostril sill, the height obtained on the cleft side is of good length and the scar produced by this operation looks like a philtral line. We have been extremely pleased with the results obtained by this operation."

Adenwalla also noted:

With the rotation advancement method he often mounted a small "Z" on the web that forms on the inner surface of the roof of the nostril.

H. S. Adenwalla is chief consulting surgeon and principal medical officer to the Christian Jubilee Mission Hospital, Trichur, Kerala, South India. In the hospital's twentieth-year report, which recorded 9,000 operations in the year 1971 with cases coming from as far as the state of Madras, Adenwalla commented:

Plastic surgery was therefore really born in our country . . . the clay potters of Satara near Poona . . . and Charak talks of reconstructing a cleft lip some nine hundred years ago . . . has now come back to us through the West.

In the 1972 hospital report Adenwalla presented two lovely results of the rotation-advancement method in complete unilateral clefts. He noted:
Excellent nostril symmetry as you can see in Nadesa's pictures.

He also pointed out:

DayalaPs is a wider defect and here I mounted a small "Z" on the web that forms on the inner surface of the nostril roof as Charles Pinto suggested in 1965.

This Z of Pinto's must be similar to that described as a secondary procedure by Straith. In the lip of this case, a posterior mucosal transposition primarily would have filled or a V-Y posterior mucosal roll-down still will fill out the weak free border on the cleft side for better symmetry.

As much poet as "potter," Adenwalla philosophized:

A plastic surgeon is really a general surgeon with a hobby and this hobby lies in the aesthetic realm of a refined reverence for tissue and true appreciation of the dignity and beauty of the normal human form. . . . Thus he has taken the clefts of lip and palate from the paediatric surgeon. . . . His art would be quite meaningless if he reconstructed a face but failed to put a smile on it. The true plastic surgeon must always hope that the skill of his surgery will help towards the healing of all the internal scars that external wounds can cause.

OUT OF A FORTUNE COOKIE

In January 1974 the first symposium on reimplantation surgery was held at McGill University and the team of Chinese surgeons made Montreal the first stop of their North American
tour. Gaston Schwarz asked them what method they used in cleft lip and they explained that as orthopedic surgeons they did not do clefts but would have one of their plastic surgeons answer. This is a translation of a letter dated February 28, 1974 from the Division No. 3, Plastic Surgery Department, The Peking Medical College:

Since 1963, we have been using the Millard method for repair of unilateral harelips . . .

This is quite exciting as the Chinese did the first recorded cleft lip operation over 1,500 years ago, adding quite a bit of credence to their present judgement!

ALSO GAINING IN THE WEST

Twenty questions were sent to the approximately 200 members of the California Society of Plastic Surgeons, and the result of the questionnaire was presented at their Annual Meeting in April 1969. To the question "What kind of cleft lip repair do you use?" they answered: "Millard 60 percent; Tennison 20 percent; LeMesurier 12.5 percent; other 7.5 percent." And, as everyone knows, how California goes is important.

THE LATEST RATINGS

A survey by resident John Osborn, of John Kelleher's unit in Toledo, was begun at the plastic surgical chief residents' conference at Duke University in April and completed in June 1974. Response from a total of 80 residency training programs in the U.S.A. and Canada recorded the various methods being used in these units:

Usual unilateral cleft lip repairs:

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<thead>
<tr>
<th>Method</th>
<th>Count</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Straight line repair</td>
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<td>1%</td>
</tr>
<tr>
<td>Triangular flap</td>
<td>30</td>
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<tr>
<td>Quadrilateral or rectangular</td>
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<td>7.5%</td>
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<td>Rotation-advancement</td>
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