A Guide To Intelligent Practice of The Murray Flute

by Lynne S. Lasser

This article is meant to serve two purposes. First and foremost, it is meant to guide flutists in the transition from the standard Boehm system flute to the Murray system. It began as a series of reminders I jotted down after my own trial-and-error experimentation proved successful. I was then struck by the fact that a guide written while in the process of switching from one system to another, as opposed to looking back a year later, could be valuable to another flutist considering the transition or in the beginning stages of it.

No doubt all flutists have different problems to begin with, whether on Boehm system or Murray system. Which problems one carries over from one system to another is also a subjective matter. In describing my own difficulties, I hope to at least make other flutists aware of the endless array of bad habits one can succumb to, consciously or unconsciously. Ideally, one hopes to rid oneself of the old bad habits without gaining a host of new ones. The key to success is in being consciously aware of what you are doing while playing the flute. If you think back to the beginning stages of learning to play the flute, you will no doubt recall that certain bad habits disappear only to be replaced by new ones. Learning to play the flute is thus an evolutionary process in which we discard one habit for another as we progress toward an ideal technique. As creatures of habit, the best we can do is be aware of the changes we effect and the way we use ourselves to effect them.

Written as much for my personal improvement as yours, this guide embodies my ideals of flute playing and is therefore, opinionated at times. These ideals were shaped largely (but not solely) by my study with Alexander Murray to whom I am gratefully indebted for his time, patience, and wisdom. Thus, this guide is secondly a personal inventory of the factors which have shaped my own playing.

I. Tradition and the Murray Flute.

At last! Someone has applied present-day mechanical and acoustical knowledge to Boehm's principles yielding a superior instrument. Many people do not realize that the Murray flute is the embodiment of these principles; some even attach the system as if it were a gimmick.

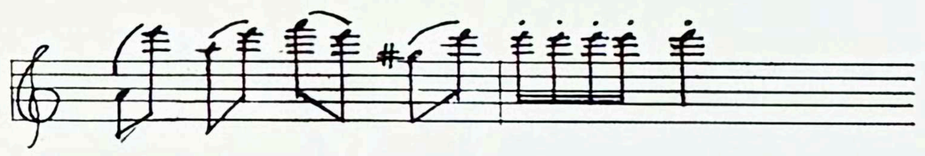
When I played on the standard Boehm system (approximately nine months prior to the writing of this) I possessed what I call the 'Traditionalist Attitude': I felt that there were so many good players using the Boehm system that I could overcome the system's deficiencies as these players had done. I ignorantly viewed the Murray system as an overly complex mechanism designed to facilitate technique only.

Although I practiced diligently, I eventually came to a point with the Boehm system where my desire to overcome its acoustical and mechanical shortcomings was hindering my desire and my ability to make music. As an experiment, I began to play a flute with an open g# and reverse thumb mechanism. After only three weeks, I became mechanically comfortable in the left hand of this 'half-Murray'flute.

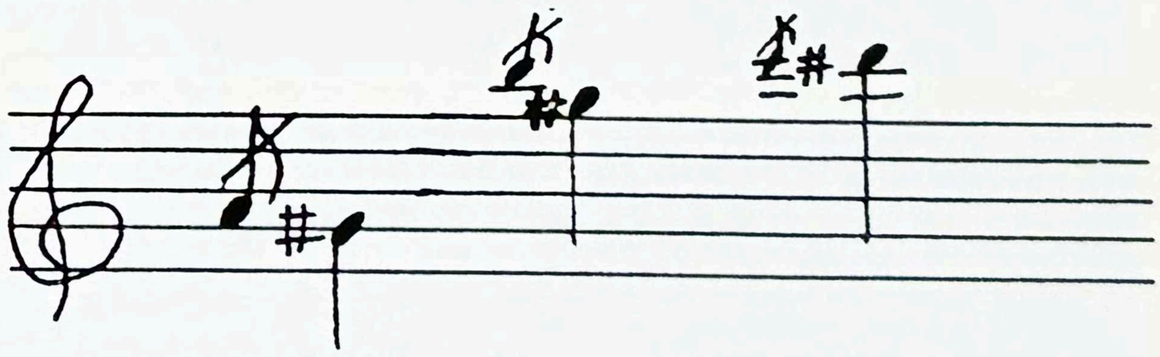
Acoustically, I was impressed with the clarity and pitch of E3, and the ease with which I could move to it from notes like A2 and A3. Importantly, I also realized that I had been doing various subtle things on the standard flute to compensate for the stiffness of response and sharpness in pitch of E3, which in the end were detrimental to my overall playing (e.g., covering the tone hole, rolling the flute inwards, squeezing the sound with my lip). These efforts to compensate came into clear view when I had to play the open g# flute and the closed g# picccolo side by side in a wind ensemble. Whenever I had to switch to piccolo (closed g#) after playing the open g# flute, I found my left hand free of the tension that once plagued it. I then experimented with two flutes: one with an open g# and the other with a closed g# and found the same result. This newfound freedom also manifested itself in my sound which became more open and resonant when my left hand felt free and relaxed.

Wondering why the closed g# remained in favor so long, I did some research into the history of Boehm's flute. I discovered to my surprise that Boehm actually preferred the open g# for both logical and acoustical reasons. Boehm says the following in a letter to Mr. Bornshein (one of the first to introduce the Boehm system to the U.S.) dated March 16, 1870:

"Flutes are often ordered with the G# closed and are also made as ordered, but my construction of this key is quite otherwise than that made in Paris and is not so complicated and therefore more easy to play. My keys work better. I do not like to make them, because the closed G# key in comparison to my open G# key is only botch work on my system: for in both a disadvantage. As the key cannot be opened alone, the upper E3, suffers an uncertainty of response, that in slurring with A1, A2, A3, and G#, is perceptible as is also in staccato, vis:

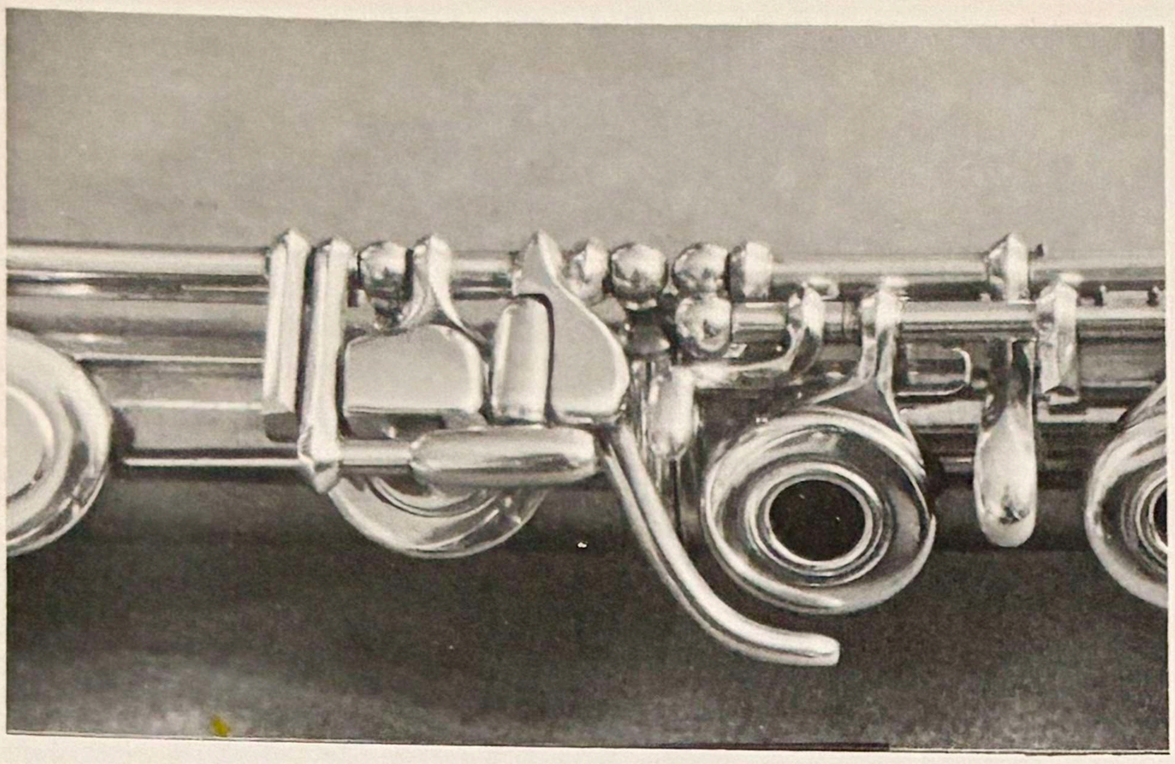


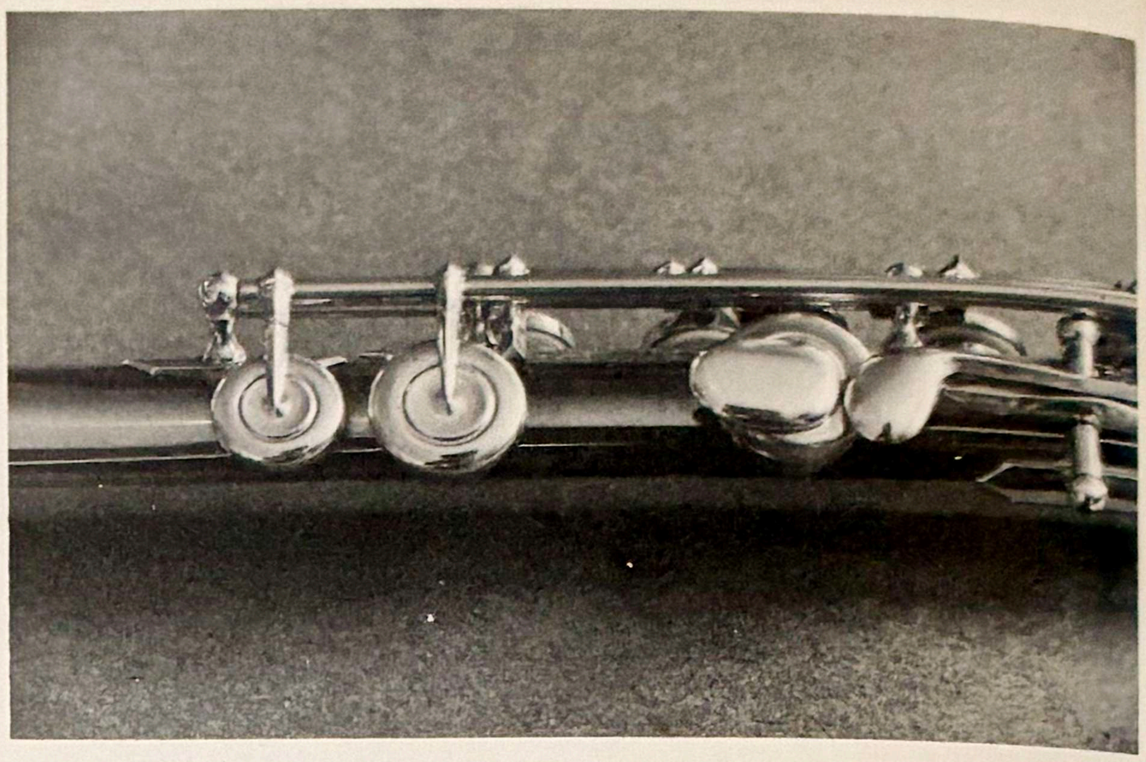
In mechanical relations this key in its connection with the A key is so complicated that both keys very often fail to work smoothly and close perfectly, and in playing present difficulties that are not found with the open G# key. First, the shakes:

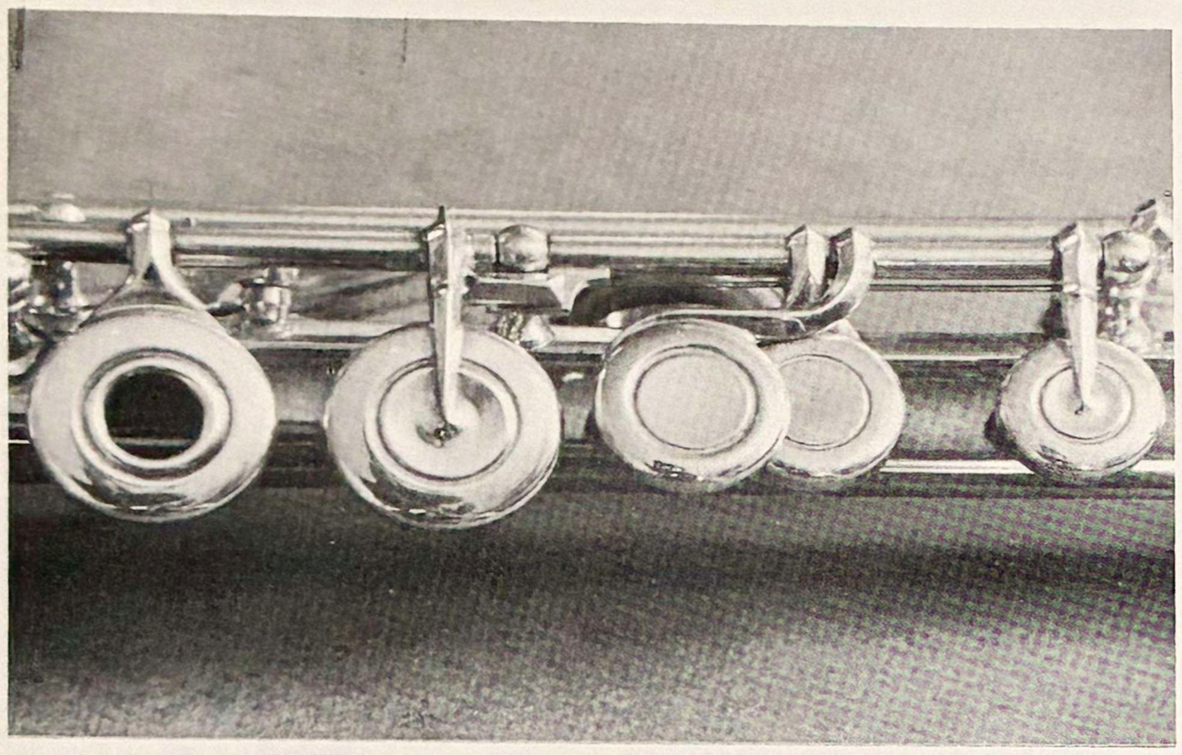


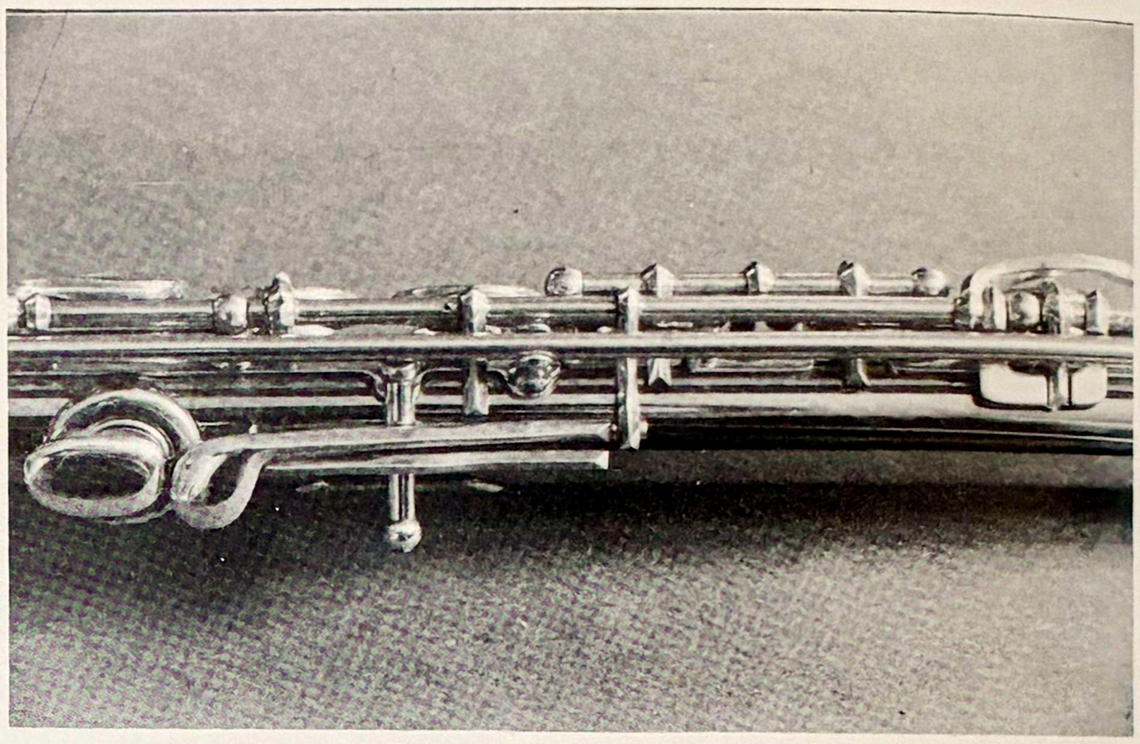
are very difficult. The two keys are held open in combination (and) must work against the strong spring required to make the G# key close perfectly airtight. Second, the first finger of the right hand in contrary motion with the little finger of the left hand or the reverse in such passages as the following:

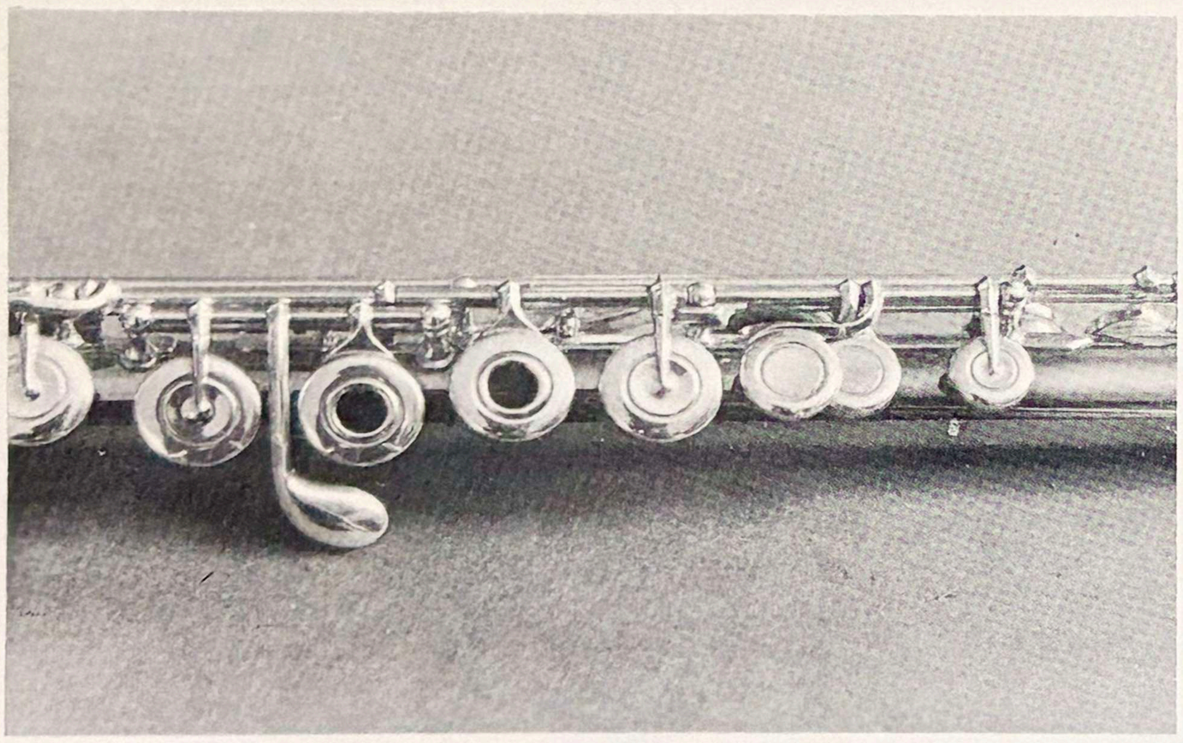
and the same in the 2nd and 3rd octaves; which in my system these fingers always move together; that similar motion with

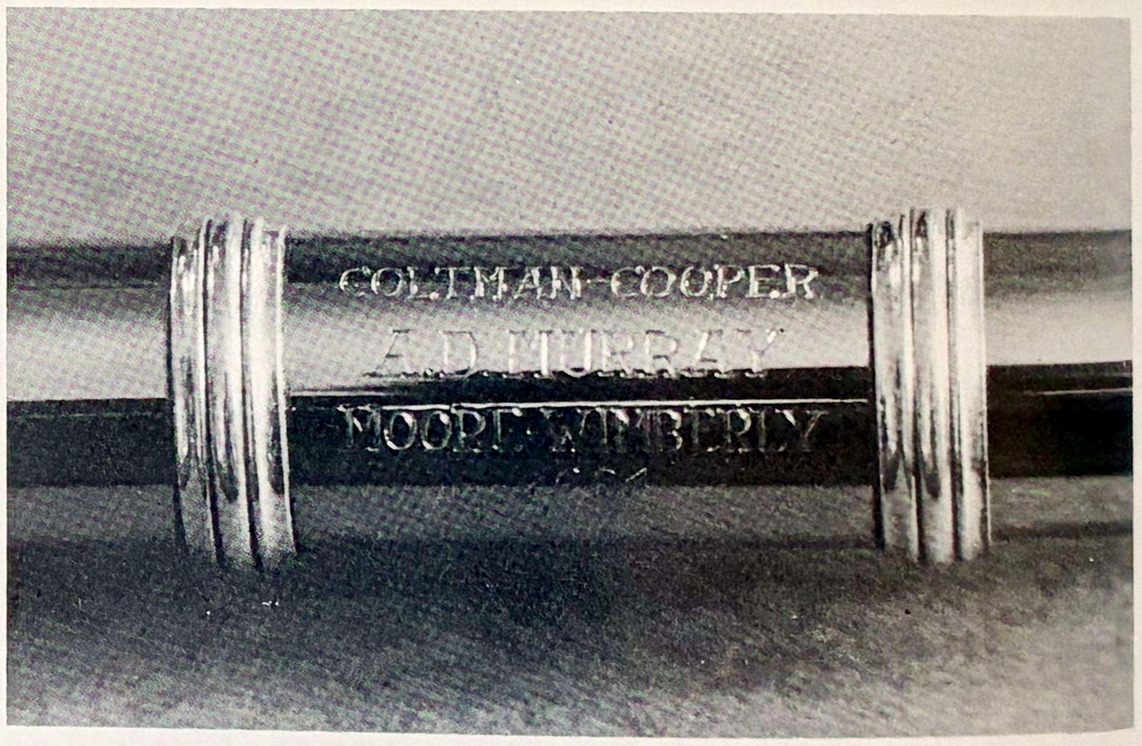








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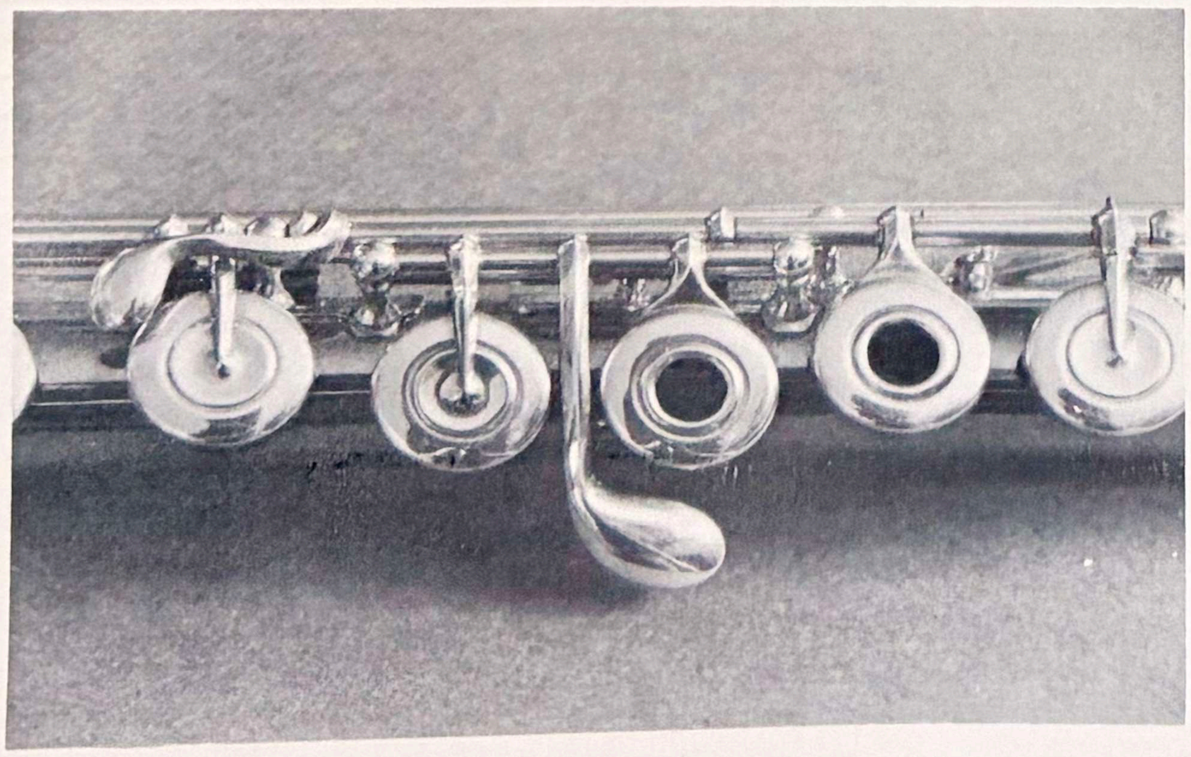
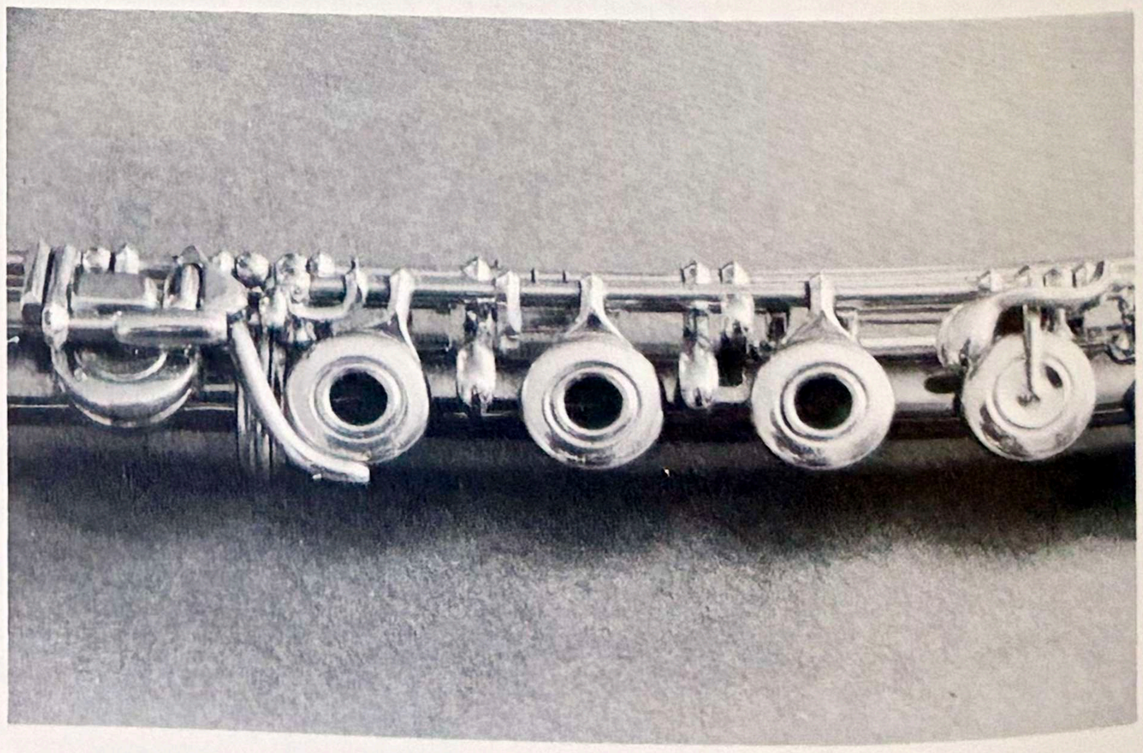




the fingers of both hands, instantaneously and is easier than contrary motion no thinking person will deny!

For those who make the change from the old flute to the new system the closed G# key offers some advantages which are however, but apparent, because one can, in a few weeks becomes accustomed to the open key with which, the performance in all the different keys is made much less difficult and more equal. It is therefore very wrong to place future hindrances in the path of beginners. Artists of great reputation after long investigation, have become convinced of the advantage of the open key and have adopted it in use and are thankful to me for my information regarding it. You may convince yourself of this if you will compare the fingerings with each other carefully and you can then act as you choose."

Conceding the logic of Boehm's reasoning, one might wonder why the open g# arrangement went out of use to such a great extent. Lawrence Taylor offers one explanation:
"Probably the main reason for its having gone out of favor was the fact that the little finger not only had to put its key down for g natural, but also had to be down for all the notes below it, i.e., f# through d natural. This would be extremely confusing for doublers on sax and clarinet, where the action and use of the G# little finger key is exactly as we have it on our closed G# flute."3,4

Nancy Toff, author of The Development of the Modern Flute, claims that:
"Boehm's original design called for the open type; he claimed that it was acoustically superior, more logical in fingering, and produced a clearer E3. Players accustomed to the closed g# of the old system demanded a return to that variety but the Dorus key of the 19th century had been replaced by a first order lever with a duplicate g# hole on the near side of the flute for venting."
One can likewise find historical precedent which supports Murray's open d#. Boehm's system, often called the "open-keyed system", is again the basis for Murray's improvement. Boehm said:
"I chose the open keys as giving the greatest possible ease in playing, since they easily follow the movement of the finger, and the only weak springs are required to raise them quickly. On the contrary, closed keys require strong springs in order that large holes may be stopped airtight and their motions are contrary to those of the fingers."

The closed d# key, although inconsistent with the open-key principle, was never intended to stabilize the instrument. Boehm said, "I have retained the three foot keys for c#, d and d# for the little finger of the right hand in the form already well established."9,10 The "form already established", i.e., the baroque flute preceding Boehm's flute, used the right hand pinky intermittently. It was depressed only for d# and f# in both octaves. Since e and f were played without it, the key could not adequately stabilize the instrument.

Boehm instead relied on a crutch for the left hand to stabilize and balance the flute. "The crutch," said Boehm, should be inserted so that the weight of the flute rests between the thumb and index finger of the left hand, then the movements of the fingers will be much freer than when the thumb is used for holding the flute."

(Murray's earliest model flute featured a similar crutch which he later deemed unnecessary.) Thus, the rationale for open d#, like open g#, was in Wintizer's words, "adherence to pre-established form."

Similarly, preference to adhere to pre-established form also explains the Briccialdi thumb key arrangement now widely used on most standard Boehm flutes. Philip Bate cites,
"On the original model of the cylinder flute of 1847, Boehm provided no b thumb lever. About 1849, however, Briccialdi, a distinguished Italian flautist then living in London, invented a thumb mechanism which is almost universal today and in that year he had it constructed for him by Rudall and Rose. Soon after Briccialdi's invention Boehm himself designed a Bb thumb lever on a somewhat different principle and employing, as he claimed, a more rational movement of the digit in that in passing from b to Bb the thumb moved down the instrument not up as with the Briccialdi."

Briccialdi, in his mechanism, retained the position of the touches on the 8-keyed flute, on which the Bb touch is nearer the headjoint than the long c.

Thus, the Murray flute returns to the logical principles enunciated by Theobald Boehm whose design of 1847 is similar in many respects.

Alexander Murray, currently professor of flute at the University of Illinois, has spent a lifetime of experiment and research on the flute. He has enlisted the help of acoustics experts Elmer Cole, John Coltman, and Arthur Benade, as well as flutemakers Albert Cooper, Jack Moore, and David Wimberly.

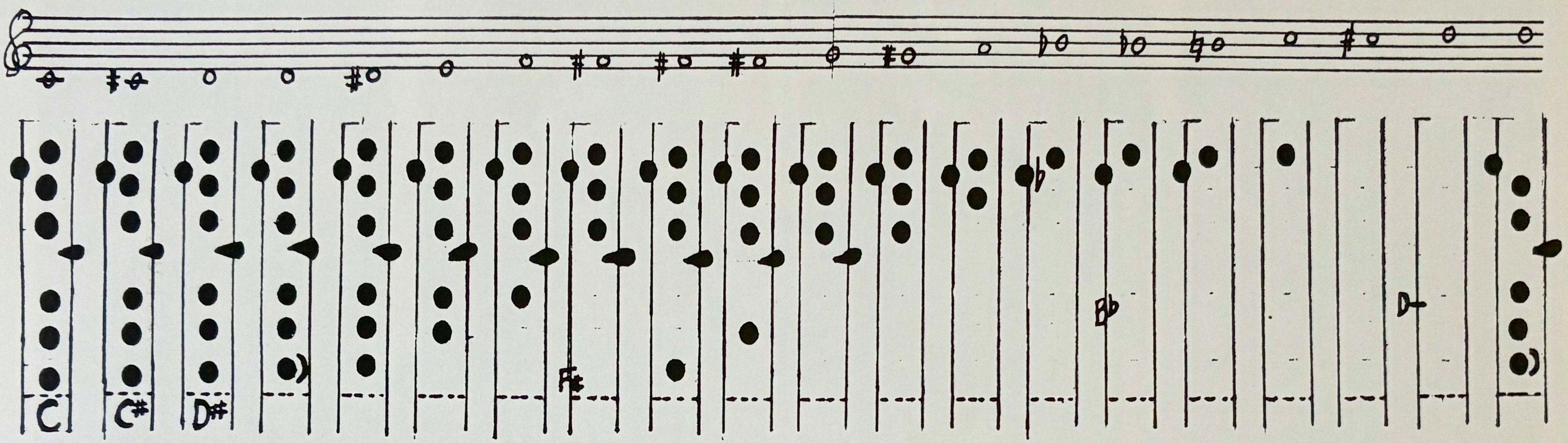
First described publicly in 1971, the original model of 1960 has undergone many transformations. Trudy Wintizer, in her thesis The History of the Murray Flute, spells these out quite clearly. In its present form, the Murray flute is now greatly simplified and can be compared to the standard flute with the addition of several options. Carefully designed for use, reliability, and elegance, each individual option improves the flute's performance. The underlying acoustical and mechanical principles are as follows:

1) The tone holes are as large as possible and in the correct acoustic position.
2) For each note there is one tone hole and key; keys are sprung open, closed and opened individually in the sequence of their placement on the flute.

The specified options are as follows, excerpted from David Wimberley's, "The Murray Flute: State of the Art in Development." (See Basic Guide to Fingering Chart for pictures.)

1) Open Hole
Allows for increased venting, shading, and multiphonics.
2) Offset G
Recommended but not essential. An offset mechanism is stronger and more reliable.
3) Coltman C#
The standard c# is sometimes out of tume, muffled and a problem note. This is because a small hole is placed as a compromise between the ideal position for c# and that for the vents for D5, Eb5, G#6, A6 and Bb6. Artistic flexibility is lost in the unnecessary effort to adjust these notes. The Coltman c# solves this problem elegantly without change of fingering through a simple, mechanical linkage and the addition of one tone hole. One hole vents D5, Eb5, D6, G#6, A6 and Bb6 and then another is added for c#. These notes are fuller, clearer, quicker to respond and easier to play.
4) Open G#
This gives a correctly vented high e. The smothness of the scale is improved, it is mechanically more reliable and is the original Boehm design.
5) Murray F#
Situated below the d cup, a small touch for the little finger closes the f# cup. This gives optimum venting on trills such as e-f# and f-f#. (Until 1981, this f# key was always linked to the a key giving a correctly vented f#. The additional linkage and wieght on the little finger was discarded when it ws found that by "shading" the a key on a conventional flute the benefits of the "split f#" are retained. This is a technique easily learned by practicing the octave slur from 2nd octave f# to high f#, keeping the middle finger of the left hand in contact with the key and not opening it completely.)
6) Thumb
A more logical fingering with better overall balance. A Briccialdi mechanism is now preferred with the b touch

basic fingerings murray 1985



* see fingerings for lower octave

higher up the flute than the Bb. The fingering is the logical Boehm sequence.

7) Murray Trills

Are in tune and of good quality when played slowly. Fingerings are slightly improved and simplified. High G to A trill is available without extra keys. Two sizes of larger than usual trill holes are connected to three touch pieces. The upper two touches are situated one beside and just behind the other, between the F and E cups. They can be operated independently or simultaneously b the index finger. The third touchpiece, used for high B only, is located between the E and D cups. It opens the upper trill cup just a crack and simultaneously closes the D# cup in the open D# footjoint.

8) Open D# Footjoint

All cups on this are spring open, including the d# cup. This gives better balance to the entire flute with less work for the little finger which now has fewer movements. Fingerings are logical and consistent. New tremolos, such as low c# to d# and c to e are possible.

II. Principles of Playing the Murray Flute

A. Balance

The balance of the Murray flute is very different from that of the standard flute or even the open g# flute. For example, on the standard flute the right hand supports the flute in one of two ways: either the thumb is placed underneath the instrument and supports with an upward motion or it is placed slightly higher on the tube and is used to push out (Rockstro position). Neither position is wholly satisfactory. In the former it is difficult to support the instrument from underneath when the pinky is down most of the time. The thumb can have a tendency to stiffen and cramp since it cannot move to accomodate the fingers (especially in the low register). In addition, the thumb must take the near-constant downward pressure of its friend the pinky, not to mention the weight of the flute itself. Rockstro position alleviates this problem to a certain extent but creates another in its stead; pressure on the lower lip. Pressure on the lower lip causes the lip to cover the tone hole more, which can result in loss of resonance (higher harmonics). Pressure can also deaden the delicate nerves in the lip, resulting ultimately in a loss of flexibility. Thus, one can either support the standard flute through side to side pressure or up and down pressure (but not both).

On the Murray flute, however, balance is attained through both the side to side axis and the up and down axis of balance in combination. The combination of these axes of balance creates a flexibility which is unbeknownst to the standard flute. Where the Boehm system supports the flute, the Murray system balances it. The vertical axis is created by the abilbity to support the flute by the right hand thumb and left hand first finger crook. The left hand is infinitely more stable and comfortable due to the open g# and reverse thumb mechanism. One need only try the pattern g-g#-a-g#-a and the trill b to c# on both instruments to find this true. The left hand thumb supports only the weight of the instrument, since the pinky need not be depressed unless one is playing first or second octave d in a chromatic passage. Without the pinky down, the thumb is free to move to oppose the other fingers. The flute touches the lip but cannot press upon it since the right hand does not push the flute out. When this delicate balance is struck, the head is free to move up and down th accommodate the headjoint and the sound one is trying to make.

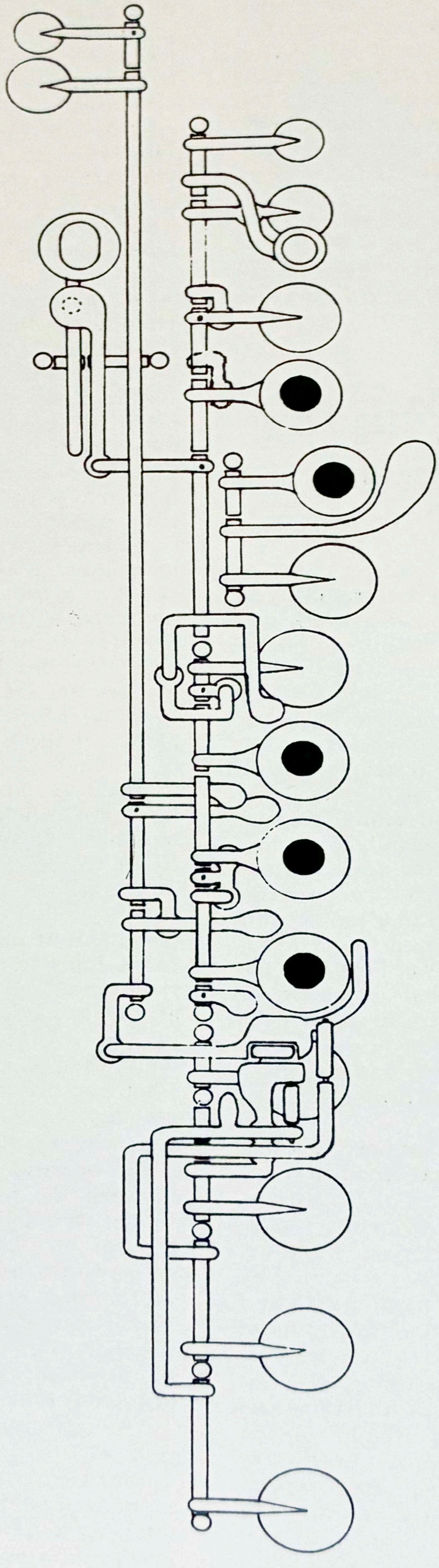
The horizontal axis refers to two things: 1) The ability of the head and neck to move from side to side freely without pressure on the lip, and 2) the gentle and subtle use of the elbows in their ability to direct the flute to and from the body. Because a delicate balance must ensue, the flute cannot be gripped. Coming from the "white knuckle shool of flute playing", I found this concept hard to put into practice at first. Every time I gripped the flute I knew it. The minute my fingers came off the keys, the flute would roll toward me. The more it rolled toward me the more frustrated I became and the more I gripped the flute. I eventually overcame this vicious circle and struck the balance by doing several valuable exercises in conjunction with the Alexander technique. (The Alexander technique, in a nutshell, is a means whereby one's behavior is put into observable and controllable channels.)

A1-An exercise on the vertical axis.

Holding the flute horizontally by both hands, palms up, toss the flute easily and lightly into the air. Do not grip the flute tightly with the hands and let the elbows bend as you catch the flute. Do not move down towards the flute when you catch it. An Alexander teacher would say, "Stay up and away from the flute," and indeed, this is valuable advice. Generally speaking, you will find your playing greatly improved if you make a conscious effort not to move down toward your music stand while playing. It is a difficult notion to grasp without some knowledge of the Alexander technique but an analogy might be useful. If an object, say a paper cup, were suspended from the ceiling and you were instructed to hold it still with one hand, you would doubtless discover yourself moving subtly down in the direction of the cup. This kind of motion, although habitually natural, hinders one's ability to play freely in several ways. First, bending from a 'hinge' in the middle the back hinders th ability of the back to support as a whole. The free use of one's hands ultimately stems from the use of one's back due to the way our musculature works. The "coming down" motion is usually accompanied by the elbows and shoulders moving in toward the body. This, in turn, brings the flute closer to the body. The closer the flute is to the body, the more difficult it is to come "up and away" from it. The vicious circle I described earlier in regard to my tendency to grip the flute has thus been described again in terms of what I was doing to myself to cause the end result. If you want to rid yourself of a bad habit you know exists, or are not attaining the end result you think you should be, then perhaps it is time to think about your playing on this level. Only when you are consciously aware of what you are doing when you play the flute are you free to effect changes in your playing.

Throwing the flute into the air in the aforementioned manner helps because it makes one sensitive to the connection between the hands and the lower back. In addition, the weight of the flute is felt symmetrically to the back when thrown into the air by both hands equally. When the back supports the hands symmetrically, one can lessen the torque on the torso created in the playing position by the head and neck twisting to the left and the rest of the torso twisting to the right. The more symmetrically one can support the flute via the back, the freer the head, neck, back, and hands will ultimately be.

The next step in this exercise is to move the right hand palm down while the flute is in the air. Try to maintain the symmetrical support of the back even though your hands are asymmetrical. Now place the flute on your left shoulder with the body of the instrument parallel to the ground. Guide the headjoint to your left earlobe, letting it slide gently from the earlobe to the lip. (Ideally, your head and neck need twist no more than this in true playing position.) To maintain a symmetrical use of the back, alternate playing briefly g and



c# with left and right hands, respectively. As you play g with the left hand, let the right hand swing in a natural, gracious arc. As you play c# (with three fingers of the right hand) let the left hand swing freely in the same manner. The movement should be as natural as swinging ones arms when walking. Concentrate not on the sound, but on the free and symmetrical use of the back.

Once one has attained a sense of balance, one can consciously alter it to suit the technical passage one is playing. For example, if one encounters a passage which is difficult for the left hand, one can shift the weight of the flute so that 60% of it rests on the right thumb. Just the thought of shifting the weight via the vertical axis is often enough to completely free the hand which needs to do the passage work. To get the feel of this, try this exercise: Toss a ball alternately from one hand to the other, remaining still as you do so. If the ball thrown by the right hand misses the left, pick it up and start over. (If you lean down toward the ball, the ball will miss your other hand.)

Similarly, to shift the balance of the flute from one hand to another one must remain "up and away" from it.

A2-An exercise on the horizontal axis.

To encourage free movement on the horizontal axis, try this: Standing comfortably, without the flute, turn your head to look at a spot directly behind you. Notice how the head leads the torso as it gently spirals. Let the arms swing freely as the body spirals to the left and right in turn. (The heel opposite the direction you are turning will move slightly to accommodate the spiral.)

The purpose of these exercises is to keep the horizontal and vertical axes mobile and flexible when playing the flute. Think of the back as made up of two springs–one spirallying vertically and the other spiralling horizontally. Linked at various points, the springs must work as a team in whatever movement they do. As the vertical spring lengthens, the horizontal spring widens, giving the back optimum ability to support the vertical and horizontal axes of balance. By trying to hold a playing position by fixing the body in a rigid stance, the springs will tighten and the optimum support of the back is lost. Since the hands balance the flute via the support of the back, the flexible balance of the flute may be lost when the springs tighten in a fixed stance.

At the opposite extreme, one need not move around constantly. A moving target is harder to hit and excess external movement makes a technical passage harder to play. Furthermore, theatrics in music, e.g., bobbing the head with an accented note, detracts from the music. One can compare this musician to a magician whose tricks can be seen up his sleeve; both let the cat out of the bag.

Thus, to optimally balance the flute one wants to remain mobile internally (via the springs) while not necessarily moving externally. In this manner, when one is playing sitting down one does not lose the freedom and flexibility of the standing position. As you begin your daily practice, walk around with the flute, playing something simple from memory. Apply your sense of balance to different situations, e.g., sitting on a stool or chair, or perhaps walking backwards.

B. Breathing

A teacher once told me, "Breathing is 80% of all technique," and I believe it. Most of my technical errors occur when I am running out of breath. This is due to the fact that breathing freely is the internal control which keeps the springs in the back flexible and mobile. It is the internal motion described in the previous section. When one squeezes out air to finish a phrase, one may actually be compressing the springs that make the back work. If the back is not free to support the hands, a technical error can occur.

Watch yourself in a mirror as you breathe in playing the flute. When you are running out of air do you also move down toward your music stand? If so, does the action of inhaling involve your shoulders moving the upper body back up to the original playing position? Both these habits are detrimental to playing for they make the back work as if it were hinged in the middle. Recall that it is the use of the back as a whole that provides optimum support for the hands.

Gasping is another nasty habit which can really detract from the music since it is audible. A good exercise to avoid gasping is this: In the spot in the music where you notice your gasping, exhale completely, letting the breath return naturally. Play the music in time but take your time to breathe freely and naturally before playing the next phrase. When you do not practice the gasp with the music, you may be able to divorce the two.

Another good exercise is as follows: Lie on the floor with your head supported by your flutecase and your knees bent. Let your hands rest comfortably on your stomach. Breathe freely as you imagine the springs of the back expanding. As you exhale, think of your head moving away from your body. Lie for no more than twenty minutes. When you want to get up, roll on you side, then on your hands and knees before standing. If you practice alternately playing for twenty minutes and lying down for ten minutes, you will find your practice time used infinitely more efficiently.

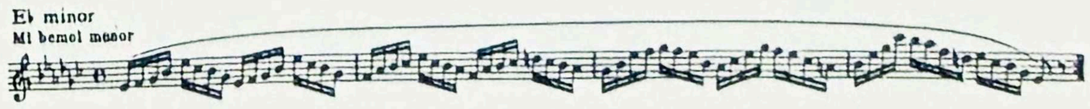
C. The Use of the Fingers and Hands

The logic and symmetry of the Murray system flute is also reflected in the use of the hands. Murray's concept is simple: the hands remain where they are used to play most often and move as minimally as possible. The most important principle regarding the use of the hands is the opposition between the fingers and thumb. There are ten times as many nerves in the thumb connected to the brain as there are in the other fingers. It is therefore of paramount importance to keep the thumb sensitive in its opposition to the fingers. The left hand of the Murray flute, with its reverse thumb mechanism, places the thumb and first finger in a position of nearly direct opposition. On the standard Boehm system, the thumb more nearly opposes the middle finger. Compare the b to c# trill on both instruments. The first finger-thumb opposition is more comfortable and natural and consequently leads to a more stable left hand.

Likewise, Murray's right hand thumb is better able to oppose the fingers than on the standard flute. Murray's thumb is mobile in its opposition to the fingers and carries only the downward weight of the instrument needed to balance it with the left hand. The standard Boehm system thumb opposes the pinky in its resting position but remains far from it, an awkward position from the standpoint of stability and comfort.

The way one's fingers move in their opposition to the thumb is also important. Clean technique is a result of how fast the fingers come up, not how fast they go down. The fingers should stay close to the keys and come up as if one were flicking drops of water off them. Practice this motion with each of the fingers in turn imagining you have something small stuck to your thumb and you want to use your finger to send it flying.(This is a Suzuku technique.)

In order to move the hands minimally, one should try to play in the 'cracks' of the instrument. To practice this, try the following excerpt from the Maquarre Daily Exercises using thumb Bb :



Let the thumb of the right hand move slightly toward the pinky when playing a technical passage in the low register so it will be in a better position to oppose it.

To practically apply these principles, I suggest the following series of exercises.

1) Start by touching the thumb to each of your fingers in turn. Let the fingers rise quickly and easily (flicking motion) as the thumb moves to oppose each one in turn.
2) Holding a pencil vertically, do the above exercise, moving cleanly up and down the pencil. Take care not to raise the fingers more than necessary or place the fingers down so hard that they move the pencil to and fro.
3) Sitting down, balance the flute vertically directly in front of you, letting the end of it rest on the chair between your legs. Finger a c major scale up and down while concentrating on a light upwards flicking motion of the finger, a closeness of fingers to keys, and the opposition of thumb to fingers. (Make sure the flute is not too close to you, i.e., forcing the elbows in toward the body. The elbows should be comfortably bent, a if you were playing the clarinet.)
4) Do the same process outlined above, resting the head of the flute on your left shoulder and balancing the body of the flute parallel to the ground.
5) Gently guide the flute into playing position with the headjoint touching your left earlobe and sliding to the embouchere plate. Play the scale but concentrate on the principles of finger movement, not on the sound.

When warming up, I find it very useful to finger a short (one breath) passage very slowly before actually playing it. As I finger it, I whistle it through my teeth so I can practice the inflections I intend to do with my breath. When I actually play the passage, I concentrate on the music and try to make the principles second nature.

While I can blow the flute similarly to the way I did on the open g#, my fingers are still "beginners" and need twice as much warmup. I recommend the Maquarre Daily Exercises, as they go quickly and musically through various keys. This gives one the opportunity to subtly shift the balance of the flute to facilitate the fingering of the key one is playing in. Play through the keys in a different order each day so you make balance shifting second nature. (This is infinitely useful when sightreading.) If a particular passage still presents problems, play it backwards.

D. Blowing the Flute

Now that the hands are comfortable and well supported by the back, one must find a happy medium between embouchere and hands. I originally had difficulty finding a place where both lip and hands coould work together comfortably. Since I had (have) the tendency to blow out of the right side of my mouth, I needed to twist my head and neck to the left to blow the flute. This resulted in a painful torque on the body since my head twisted to the left and my torso to the right. The twist tightened the horizontal spring in my back, also upsetting the vertical spring's ability to function. To alleviate this problem, I now make a conscious effort to blow 'down the flute'. In other words, I blow slightly from the left of the center of the mouth and try to turn my head slightly to the right. It is much easier on my head, neck, and back since the painful torque is lessened and ultimately results in greater freedom for my hands. One can practice this in several ways. Try playing third octave d where it is usually played and slowly unwind the torque. (Do not worry about the sound, it will come with practice.) Remember not to press on the lip and take care that the right elbow does not lead the flute too far from the body. If this is too difficult, practice this motion with the headjoint alone.

One may also encounter difficulty on the vertical axis of balance between lip and hands. If the headjoint is rolled out too far, the flute will roll towards you. One may be tempted to grip the heys to compensate. If the head is too close, the sound will lose its resonance. One may try to compensate by lifting the head and chin to blow at a higher angle. Both the action of gripping the keys and playing with the head lifted all the time create unnecessary strain on the back. One should take care to avoid these actions.

Watching oneself in the mirror while playing is a good place to start in finding a position in which one's body can perform optimally and comfortably. Remember, if you want to change the way you play, you need to be consciously aware of what you do to yourself when you are playing. What you think you are doing and what you are actually doing to yourself are oftentimes two separate entities.

III. Artistic Flexibility and the Murray Flute.

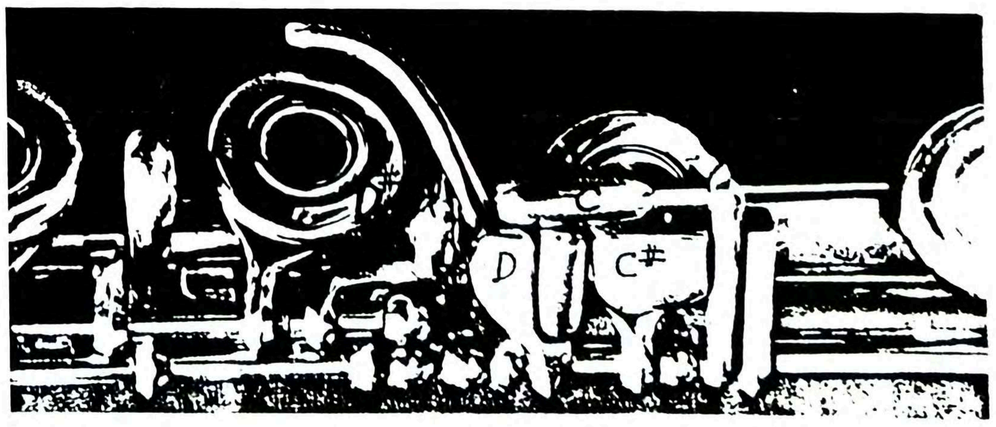
As you have not doubt noticed, the information and exercises in this guide are not designed merely to imporve any one aspect of flute playing. Taken together, they constitute an approach to flute playing through which I have been able to gain the artistic flexibility to make music. The inherent logic and symmetry of the Murray flute works hand in hand with the principles of the Alexander technique to formulate this approach.

While any one of the exercises in this guide could improve ones playing on the standard flute, the consummate approach lends itself only to the Murray flute. In sum, this is the result of my experiment with both the Boehm and Murray system flutes.

When I played on the Boehm system flute I did many of the same exercises but was unable to play with the artistic flexibility I do now. I could never overcome its acoustical shortcomings and technical flaws without doing something detrimental to myself which, in the end, marred my ability to make music freely and naturally. My transition, first to open g# and then to full Murray system, brought with it a heightened sense of awareness of the detrimental way I habitually used myself when playing the flute. My problems were at first maagnified in the transition. Through this magnified awareness, however, I was made to rethink my approach to the flute. Having done so, I am pleased to say that my step back has resulted in a giant leap forward.

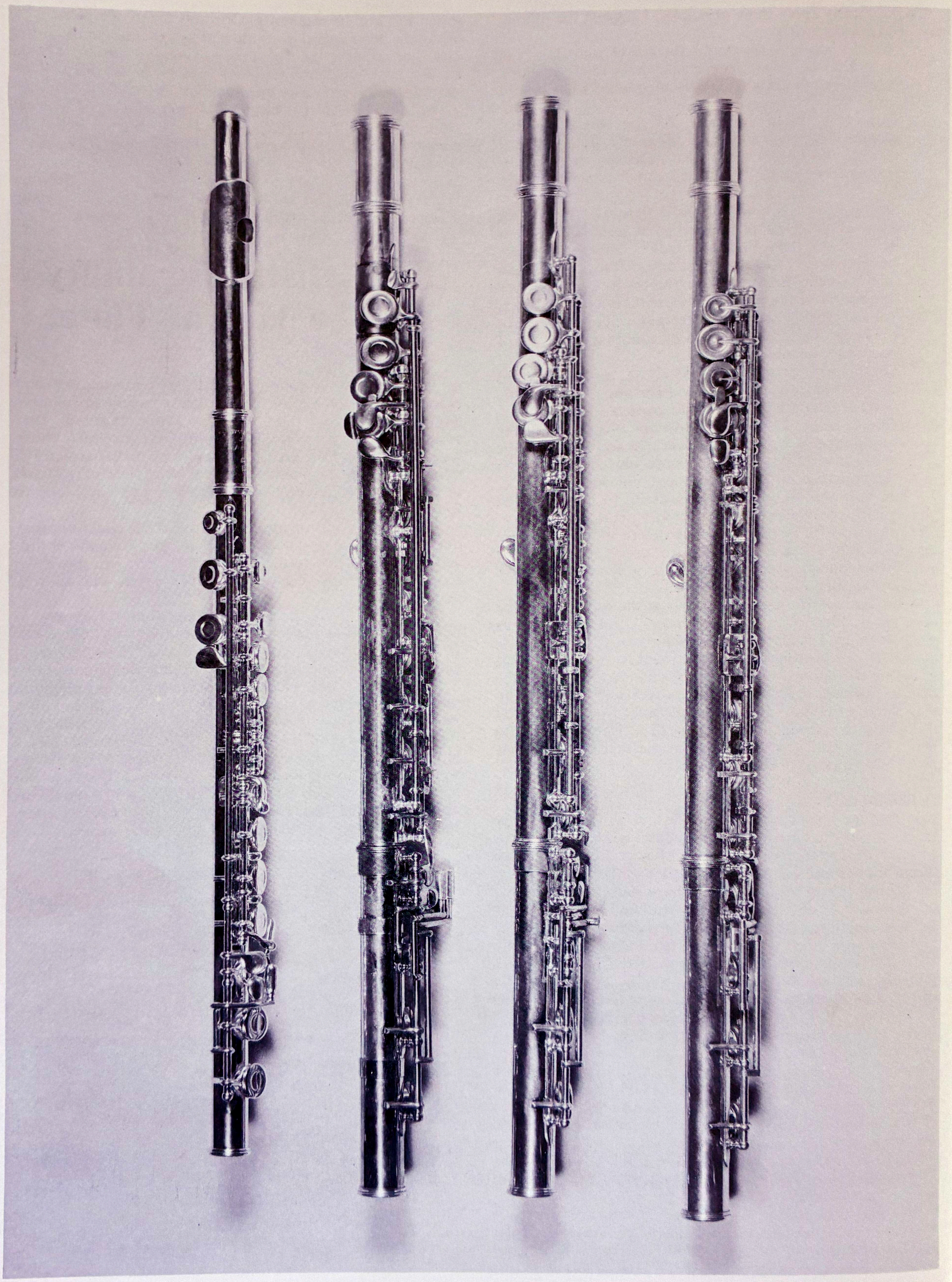
8-keyed flute — Briccialdi's arrangement

Figure 1



C-D-Eb: position pinky on C and D#
C-Db-Eb: " " " C, D# and C#
C#-D : " " " C# and D

Figure 2



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