Keep your chest expanded while your abdominal muscles are contracting during the exhale. If, after expending all the air you can with your diaphragm, you find that you still need more, you can exhale a little more by contracting your ribcage. Hopefully you will create breathing places frequently enough that you will not find yourself in such need.

You can also use the back of the tongue to reduce the amount of space in the throat, thus causing the air to move faster. Many classical flutists feel that this "closed throat" adversely affects tone. The glottis can be used to create resistance as well, a technique which is used by singers. However, glottal resistance does not seem to be used by flute and whistle players, though the glottis is used by many of them, instead of or in addition to the tongue, for purposes of articulation.

The flute and whistle themselves provide virtually no air resistance. Many other wind instruments, such as oboe, clarinet, and other reed and brass instruments, do provide air resistance.

Flute Embouchure Offers Much More than Just Resistance

Through the use of embouchure, coupled with breath control, we can govern and continuously vary the speed, volume, shape, and direction of the airstream. We can also change the distance between the escaping air and the cutting edge of the embouchure hole.

Why the Tin Whistle is Limited in Comparison with the Flute

It is the control of these last three variables, the shape and direction of the airstream and the distance of the airstream from its cutting edge, that give the flute player a much broader range of dynamic and tonal expression than a tin whistle player can have. The tin whistle's windway, not the whistle player's lips, directs the air flow to the whistle's cutting edge. The direction and distance of the air flow in relation to this cutting edge are fixed by the physical dimensions of the whistle's windway and mouthpiece, though the shape of the airstream is somewhat controllable with embouchure. On the bright side, these same limitations make the whistle a much easier instrument to learn to play.

The Essential Mystery of Flute Embouchure

It is impossible to explain every nuance of flute embouchure or to design a teaching method that will work for everyone. Ultimately each player has to discover her own way. The most important element of success in this regard is *listening*. Listen to the sounds you produce, notice their character, and, as you observe what is happening in your body when you produce them, try to understand and feel the relationship between the sound and your body. If you do this diligently, you will over time develop a very fine sensitivity to the subtle movements and disposition of your lips, tongue, and facial muscles and how they affect the sounds of your flute.

A Closer Look at Relaxation

Certainly by now you've noticed that I am an ardent advocate of relaxation. As stated in the last chapter, there is a difference between being relaxed and being limp. When you sit or stand in a relaxed manner there are a great many muscles that are working to hold you up. But none of them are overly tense, and those that don't need to work are relaxed. So it is with playing music in general, and with flute embouchure in particular.

Relaxation is key, but there are some muscles that have work to do. If you are new to flute playing, you will be encountering some new uses of facial muscles and it will take time for you to get those muscles in shape. Consequently, they may get tired or sore in the process. Be gentle and patient with yourself. For most people, the production of beautiful flute tone remains an elusive goal for quite some time. These new skills are difficult to master, not only because our muscles are untrained, but because it is impossible to see all of the subtle and interactive physical changes that are taking place in the lips, face, and mouth.