

## **"On Finger Technique"**

**By James Collis, Editor, Woodwind World**

Most serious woodwind players reach a stage of finger development beyond which farther progress, if any, becomes extremely difficult. Years of practicing scales, arpeggios, and difficult exercises yield almost nothing but experience, and the player begins to realize that he has reached the end of the road as far as virtuosity is concerned.

The tragedy in this situation is that the average experienced player has not really developed half of his technical potential. This writer regularly receives letters from clarinetists - probably due to a professional card in this journal - who have finger-technique problems. The great majority of these letters concern themselves with this "dead end" of technical development, and such descriptions as "a tiring in my hand," "a pain in my arm," "a freeze-up of my fingers," etc., are used.

### **Control of Tension**

The control of tension in order to allow muscles to function at their maximum effectiveness outranks in importance even hand position, with its consequent saving in waste of motion. A finger, when moving up and down or back and forth, is operated by two opposed, or contradictory, sets of muscles. One set is designed to raise the finger, the other set, to pull it down. A muscle can only pull - it cannot push. When a muscle contracts, it shortens itself by drawing itself into a ball and thereby pulling a tendon which is attached, for instance to a finger. To lower

that finger again, the muscle that raised it relaxes and the opposed muscle then contracts and pulls the finger down. Of course, the finger could fall because of the force of gravity, but one could not play an instrument in this fashion.

If an excessive amount of tension is present, both sets of muscles are partially contracted. Under this condition, when one set of muscles pulls a finger up, it does so only by exerting more force or pull than the opposed set. This is comparable to trying to start a car without releasing the brakes. For most players it is precisely this friction that is in great measure responsible for blocking the further development of finger control and speed. Under these circumstances, what possible good can the endless repetition of difficult exercises and monotonous scales do? None whatsoever.

The only solution of the problem lies in achieving peace between the two sets of muscles so that they work together rather than against each other. When the one muscle pulls the finger in one direction, the other should say "Godspeed to you" rather than try to prevent the departure. When the finger is inactive, both sets of muscles should be relaxed. It would be difficult to find a woodwind player, or any other musician for that matter, who has not been admonished at one time or another to relax; but there is a world of difference between the wish and the deed. It is of no help to a person to be told to relax if he/she does not know how. It must also be remembered that we are never fully relaxed, even when we sleep.

### **The Muscles**

In order to reach our goal, we must achieve control of each muscle, or set of muscles, involved. The muscles that bring the little finger and thumb toward each other -

press a key down - are in the palm of the hand; all the other muscles used for raising or lowering the fingers are in the forearm. All can be distinctly felt by the other free hand when they are contracted.

Since all of us can contract a muscle although we may not always be able to relax one, let us begin at this point.

Place your arm on a table with the wrist projecting beyond the edge and with the palm of the hand face down. Clench the fist for five seconds, then let the hand fall limp from the wrist for five seconds. Repeat this exercise while concentrating on the difference of feeling between the contraction and relaxation of the muscles in the hand and forearm. Mental concentration is all-important here. Notice how the muscles in the forearm swell when the fist is clenched.

Once you can realize this difference in feeling, you are ready for the next step. With your arm and hand in the same position, imagine that you are clenching your fist, but let your hand hang limp from the wrist. Work at this exercise until the forearm swells just as it did when you clenched your fist. The third step is to forget about clenching the fist and concentrate only on the feeling in the muscles in the forearm and/or palm of the hand as you contract and relax them. If you succeed in doing this (and why shouldn't you?), you have achieved the very important first step in muscular control.

### **Control is Object**

The same steps can be used in achieving control of the bicep and tricep muscles. It is this control of the muscle that is our object, for without it we cannot

achieve peace between the pairs of muscles that pull the fingers in opposite directions.

Space does not permit more than our peeking in the door of this fascinating subject of muscular control, nor can we here discuss the important subjects of the strength and suppleness of muscles, the obstructing ligaments, the nervous mechanism, the mental organization of technique through scales, arpeggios, phrases, accents, etc.

It should be remembered that there is a great variation in the nervous-muscular mechanisms among individual players. A great virtuoso such as Gino Cioffi, solo clarinetist of the Boston Symphony Orchestra, is truly gifted by nature. Yet most serious woodwind players could achieve a great measure of Mr. Cioffi's facility by conscious, deliberate efforts along the right path.

There is an old and true saying that "technique is mental". Start on your path to technical liberation by acquiring mental control of the muscles in your hand and arm. You will be amazed at the result.

From ***WOODWIND WORLD***, January - February, 1959