CHAPTER THREE

BREATHING DISCUSSION

1. What is generally regarded as the old-fashioned method of breath control?

The old-fashioned method of breath control was unfortunately based on tradition, rather than on logic or common sense! It always demanded that the player inhale a tremendous quantity of air, whether it was consumed during the playing or not. Some instructors expressed themselves in such a manner that you were to understand, in no uncertain terms, that this exaggerated inhalation would build your playing reserve and confidence. It was further related that if you were to "hit another person", you would naturally take in a tremendous quantity of air to enhance your confidence; thus, you were led to believe that this same "feeling of bravado" would be experienced during your performance on the instrument, providing the same idea was carried out.

To expel this tremendous quantity of air, you were told to protrude consciously your diaphragm and abdominal regions during the playing and especially when ascending into the high register. This antiquated physical fallacy for the expulsion of your air makes your chest fall or push inward, your throat area tighten and constrict, and your lower extremities suffer from unnecessary pressure and strain. This incorrect method of breathing has caused many players (especially trumpet performers) to develop hemorrhoids, ruptures, hernias, etc. Some advocates of this old-fashioned school of breathing insisted that their students purchase unusually wide trouser belts and in many cases abdominal belts and other means of support were insisted upon. This group of unthinking instructors told their students that it was correct, when ascending into the high register, to protrude or force their abdominal regions against their belts in order to gain proper physical support.

This so-called "breathing instruction" was further confused by vague-

ly suggesting to the student that he should "learn to breathe from his abdominal regions", while other instructors averred that he should "learn to breathe from his chest". In both cases, this limited, incomplete, and highly illogical breathing instruction was all that was mentioned regarding this very important subject. There were times when the student was given exercises (labelled as breathing drills) to be repeated many times on one breath, and as the student progressed, the number of repeats was to be increased. In short, the student was always left to understand that all the term "breath control" implied was that a surplus of air was a definite requirement and that he must always protrude his diaphragm and abdominal regions while expelling his air but especially when attempting to play the high register. When the high register did not "speak", the student's breathing was always blamed and he was informed that "all would come in time"...

2. What is meant by the term "belt breathing"?

The term "belt breathing" is intended to convey the idea that the performer should protrude his abdominal regions against a rather tightly drawn trouser belt, an abdominal belt, or both. This idea of leaning against the belt is to occur at all times during the blowing, and especially when ascending into the high register of the instrument. Some instructors stress this point by telling their students to wear their trouser belts much tighter than usual, particularly if their assignment includes work in the high register.

Any player who protrudes his abdominal regions while exhaling (whether playing or not) causes his chest to fall, his throat to tighten and constrict, and such a tremendous strain occurs in his lower extremities that ruptures, hernias, hemorrhoids, etc. are quite common, especially among trumpet players. Belt breathing is just one of the many physical playing farces that have been perpetuated down through the years by illogical, outmoded instruction. The entire idea of "leaning against the belt" was, is, and always will be completely incorrect from a physical standpoint.

3. What is the correct method for executing a playing inhalation and a playing exhalation as prescribed by the PIVOT SYSTEM?

Since both the playing inhalation and the playing exhalation must pass into and out from the mouth, it becomes quite obvious as to why this lengthy breathing discussion must commence with the embouchure formation itself. It must be thoroughly understood that all embouchure facts presented herein fall well within the realm of breathing.

One of the basic essentials in this method is that the lips must be formed in such a manner that they are just touching, and the player must blow them - not tongue them apart! The idea of the lips making a very light contact against one another at the vibrating points must occur during the embouchure preparation (prior to placement) - throughout the mouthpiece placement - throughout the inhalation - and at the completion of the blowing. The lip aperture (the space blown open) must occur only during the actual playing of the instrument. Naturally, the lip aperture created by the blowing must be smaller in the upper register than it is in the lower register; this is controlled by the compression (the pinching power) in the lips themselves. When the idea of the just-touching lips is carried out as prescribed, every bit of air blown is utilized in the vibration of the lips. You can see that from this fact alone, many cases of chronic short-windedness are overcome without even striving to increase the lung capacity.

Throughout normal playing, the inhalation must occur after the mouthpiece placement has been enacted - never before! While inhaling, think of the mouthcorners as the intake valves and the center of the embouchure formation (the vibrating points) as the outgoing valve. In early stages, while developing the correct method of inhalation, the mouthpiece pressure against the lips should be the same as when playing, or more - never less! The purpose of this stringent rule is to prevent embouchure distortion because of excessive mouthpiece movement during the inhalation. To some players, this seems very drastic at the outset, but they are not long in convincing themselves as to the necessity of this hard and fast correc-

tional requirement. After the correct method of inhalation has been mastered, the player may then determine just how much mouthpiece pressure he must use during a normal playing inhalation.

Generally speaking, the idea must be to inhale without molesting the embouchure and jaw formations; therefore, little or no alteration must be permitted in the formation of the lips, the position of the head, the position of the jaw, or the angle of the instrument. During the inhalation, some performers duck their heads and simultaneously raise the angle of their instruments, while others raise their heads and lower the angle of their instruments. In both cases, the evils mentioned cause excessive and unnecessary movement in the embouchure and jaw formations. These evils must be avoided or eradicated!

Inhale the high-pitched, whispered inhalation "IM", not "OM" or "UM", through both mouthcorners (not the mouthcenter) simultaneously. While the inhalation is being accomplished, make certain that the tongue recedes very slightly (about a sixteenth of an inch) away from the teeth. This allows the inhaled air to pass all around the tongue, making even a rapid inhalation possible without resorting to an abnormal mouthcorner stretch to execute it. If the tongue fails to recede slightly during the inhalation as prescribed, then the mouthcorner stretch becomes so exaggerated that lip distortion takes place under the mouthpiece rim. This evil permits many new playing problems to arise. Think of the mouthcorners, the tongue, and the air being inhaled as one unit and all moving backward together.

Whenever time permits, inhale slowly! This slower inhalation makes it possible to prevent the cutting of corners (in a muscular sense) while the air is being inhaled. This is not intended to encourage the evil of overbreathing. Both overbreathing and underbreathing are very common brass playing hazards. A slower inhalation gathers much less tension in the throat area. As a general rule, relate the speed of the playing inhalation to the particular dynamics demanded during the performance. Pianissimo (very soft) playing suggests a very slow and relaxed inhalation; whereas, fortissimo (very loud) playing demands a more forceful, much tenser

inhalation. Therefore, the speed of the inhalation for soft speech and soft playing must be quite similar; likewise, the speed of the inhalation for loud speech and loud playing must be much the same. To prevent over-breathing and underbreathing, strive to inhale the exact amount of air that is to be consumed during the playing - no more, no less. This is called "timed-breathing", and the mastery of this factor is a necessity in modern, relaxed brass playing.

Along with the timed-breathing idea, it is necessary to keep in mind that the upper tones on the instrument require more air pressure but less air quantity; the lower tones require less air pressure but more air quantity. Air pressure and air quantity must not be confused!

Regardless of the speed of the inhalation, no lifting of the shoulders must ever be tolerated. Permitting the shoulders to lift during the inhalation is a positive guarantee that the player will be short-winded. If you are the possessor of this common playing fault, make every effort to eliminate it!

At the completion of each and every playing breath a physical slump or point of muscular neutrality must occur in the diaphragm and abdominal regions before the new playing inhalation is executed. This relaxation of the muscles in the diaphragm and abdominal region area, intervening between the conclusion of the blowing and the new inhalation, enhances the playing endurance and makes it possible to retain a relaxed, free sound throughout the playing. It must be borne in mind that the physical slump as presented is not intended to encourage any loosening or relaxing of the embouchure formation, or to permit any exhaling of surplus air during its execution. The slump must be confined to the diaphragm and abdominal regions. The timed-breathing and the physical slump go hand-in-hand for developing and maintaining essential playing stamina.

While the standard or normal mouthcorner playing inhalation is being

executed, the diaphragm and abdominal regions must gradually expand and slowly protrude. As this inhalation is continued and completed, a slight expansion will be noticed in the chest and an open, free feeling will be felt in the throat. This is the correct procedure for any normal playing inhalation. Think of blowing air into a paper bag; the bottom fills first and then the top. This analogy expresses the physical idea to be utilized throughout all standard or normal mouthcorner playing inhalations.

When time does not permit, then use the sniff breath - the gasp breath - the quarter breath - the chest heave - etc. During the execution of these rapid but incomplete inhalations, the chest expands and the diaphragm and abdominal regions seem to be drawn inward and upward simultaneously. This shallower inhalation must be used only to augment but never to replace the normal slower mouthcorner inhalation. It is far better to develop a more rapid technique for the standard mouthcorner inhalation, than to resort to the much shallower form of air intake. Utilize the standard or normal mouthcorner inhalation whenever and wherever possible!

At the peak of the inhalation, positively never delay the attack. Consider the inhalation and the exhalation as one unit, combined for a gradual and smooth increase of momentum. Actually, the exhalation must gain momentum from the inhalation, in one uninterrupted process. The professional golfer never stops at the top of his back-swing, realizing that the sudden loss of momentum would completely upset his timing and reduce his power and smoothness in the swing. In our normal speech we inhale and speak immediately (exhale) without the slightest hesitation between the inhalation and the exhalation. Strive to develop and maintain this principle throughout all modes of playing.

A general misconception of the physical factors and functions that are involved is the chief cause of the unwanted delayed attack. Some players are in the habit of placing the tongue against their teeth during the inhalation, thereby permitting a bank of air to form in the forepart of their mouths before releasing the tongue for its backstroke to produce the attack. This idea of bottling up the air to produce a clean, crisp attack is

utterly preposterous. A fine musical delivery (attack) must be the direct result of proper nervous and muscular timing - never from delaying the attack. Think of the inhalation as the up beat and the exhalation as the down beat which follows immediately. Master this form of nervous and muscular synchronization, as it is a prerequisite for modern brass playing.

With each and every initial attack the diaphragm and abdominal regions must lift (not protrude) in a firm, positive and co-ordinated manner. The higher the note being played, the more pronounced this lift must become. This makes it possible to create the added air pressure (not air quantity) that is required to play the upper register, without the all too common strain in the neck and the lower extremities. It is true that at the conclusion of the normal or standard mouthcorner inhalation that the diaphragm and abdominal regions are in a firm outward and downward position. It is from this physical position that all lifting commences for the initial attacks in the various registers of the instrument. It is for this reason that it is always to the player's advantage to utilize the slower inhalation, whenever and wherever possible. Remember, positively never protrude the diaphragm and abdominal region area while ascending the register of the instrument, as this physical playing fallacy is directly responsible for many ruptures, hernias, hemorrhoids, etc. Regardless of the form of articulation being employed, always strive for even blowing, rather than a series of diaphragmatic jolts or thrusts occurring in the diaphragm and abdominal region area. Remember, the synchronized lift of the diaphragm and abdomen must occur only on the initial attacks!

Feel that the tongue is being blown forward from its "IM" (receded) position, so that it strikes the back of the upper teeth, the upper gums, or higher - depending upon the register being played. Never permit the tip of the tongue to penetrate between the teeth and lips, in any register, at any time! After the tongue makes contact, it snaps back (and down in some cases) in the mouth. Thus the air column is allowed to move forward and strike the back of the compressed embouchure formation, causing the lips to vibrate for the particular tone being played. It is the backstroke of the tongue that delivers the attack and it must be synchronized with the lift on each and every initial attack. As far as the tongue is concerned, its backstroke is a basic factor for volume and speed; its arch-level, range!

To summarize the inhalation and the exhalation as prescribed by the *PIVOT SYSTEM, keep the following points in mind:*

1. Always place the mouthpiece upon the lips, inhale through both mouthcorners (not the mouthcenter) simultaneously, and attack without the slightest delay; never inhale before the mouthpiece has been placed upon the lips to play, or inhale through the mouthcenter, or delay the attack by bottling up the air. In short, always place - inhale - play; never inhale - place - play!

2. If the proper embouchure compression (the pinching power in the lips) is used, the air blown is utilized by producing the lip-vibrations for the particular tone being played. This, in many cases, reduces or eliminates short-windedness!

3. During the early stages in the development of the proper inhalation the mouthpiece pressure against the lips must be the same as or more than when playing - never less! However, this rule may be modified just as soon as the player has mastered the correct method of inhalation.

4. Learn to inhale without molesting the embouchure and jaw formations by unnecessary head, lip, and instrument movement.

5. Inhale the high-pitched, whispered inhalation "IM" through both mouthcorners (not the mouthcenter) simultaneously. While so doing, make certain that the tongue recedes very slightly (about a sixteenth of an inch) away from the teeth.

6. Whenever time permits, always inhale slowly! Use the rapid inhala-

tions (sniff breath - gasp breath - quarter breath - chest heave - etc.) only to augment - but never to replace the standard mouthcorner inhalation.

7. Strive to inhale the exact amount of air to be utilized during the playing - no more, no less! This timed-breathing principle prevents the player from overbreathing and underbreathing.

8. Relate the speed of the inhalation while playing to the speed of the inhalation while speaking, for similar dynamic levels!

9. The upper register of the instrument requires more air pressure but less air quantity; the lower register demands less air pressure but more air quantity.

10. At the completion of the playing breath, a physical slump or point of muscular neutrality must occur in the diaphragm and abdominal regions before the next inhalation is executed.

11. At the outset of any standard mouthcorner inhalation, the diaphragm and abdominal regions must gradually expand and slowly protrude with firmness. While this inhalation continues, a slight expansion will be noticed in the chest and an open, free feeling will be noticed in the throat - this is correct!

12. Never permit the shoulders to lift during the execution of any inhalation, at any time!

13. Whenever time does not permit, then use one of the rapid forms

of inhalation (sniff breath - gasp breath - quarter breath - chest heave - etc.), in which case the chest expands rapidly, and the diaphragm and abdominal regions seem to be drawn inward and upward simultaneously.

14. At the peak of the inhalation, positively never delay the attack!

15. With each and every initial attack, the diaphragm and abdominal regions must lift synchronously.

16. Positively never protrude the diaphragm and abdominal regions when ascending into the high register of the instrument. This was wrong, is wrong, and always will be wrong!

17. When executing the attack, feel that the tongue is being blown forward from its "IM" (slightly receded) position. Never drive it forward with nail-like stiffness. The tongue must strike the back of the upper teeth, the upper gums, or higher, depending upon the particular register being played.

18. Never permit the tip of the tongue to penetrate between the teeth and lips, in any register, at any time!

19. It is the backstroke of the tongue that delivers each and every detached attack.

20. For each and every initial attack, the one immediately following the inhalation, the backstroke of the tongue must be co-ordinated with

the diaphragm and abdominal lift.

21. When attacking detached notes in succession, the synchronized lift in the diaphragm and abdominal regions must occur only on the initial attack.

22. The principle of even blowing must prevail, regardless of whether the player is slurring or tonguing.

4. What is the "tube of toothpaste" breathing illustration and why is it used in the PIVOT SYSTEM manual?

The "tube of toothpaste" breathing illustration, used in the PIVOT SYSTEM manual, is intended to be an analogy of the player's diaphragm and abdominal region manipulation while he is expelling or blowing the air from his body to play a cupped-mouthpiece brass instrument.

Logic demands that a tube of toothpaste must not be squeezed in the center, but rather rolled up from the bottom, to expel its contents. Similarly, when a player's air supply is being expelled from his body, the all-essential synchronized lift from his diaphragm and abdominal regions must commence in his pelvic regions, not from the diaphragm and abdominal region area. If the player should squeeze the tube in the center, it would be analogous to pulling the diaphragm inward, thereby forcing some of the air supply to remain unused. Remember, the diaphragmatic and abdominal region lift must start all the way down in the pelvic region. This must apply to all playing postures, whether standing, sitting, or marching.

Hence, the illustration is intended to exemplify the correct physical procedure to start the air column in motion for the playing, and to assist the player in remembering and utilizing the principle.