I am not a tubist. In fact, I'm not even a brass player. My instrument happens to be the clarinet and my specialty is one of training school band and orchestra directors. Yet I feel a unique pedagogical closeness to tubists in particular, mainly because of my good friend and former colleague, Daniel Perantoni. It was through Dan that I had the good fortune to meet and get to know Arnold Jacobs in the early 1970s. Ultimately this resulted in my writing the book, Musical Performance (published by Prentice-Hall, Inc.), which was dedicated to Jacobs. What I am and believe as a teacher today is due in large measure to his untiring and unselfish efforts in helping me learn new ways of viewing the teaching-learning process. In this article I will summarize some of the concepts I learned from him, which are discussed in detail in the above book.

The Four Elements of Good Musical Performance

Good musical performance depends on four prime elements: good musical conception, relaxed concentration, awareness of body feedback and good posture.

Musical Conception

Before a performer can play or sing even one note accurately and musically, some sort of musical conception (mental image, idea or perception) of that note is needed in terms of its pitch, tone quality, duration, and all of the other acoustical and expressive qualities involved. Without musical conception, we operate in an acoustical and musical vacuum. Musical conception, therefore, is essential. It is the first and foremost of good performance.

Musicians acquire good musical conception initially through listening-listening to superior performers performing musically. The second step is learning to reproduce one's musical conception through singing. This is to make sure that the messages being sent by our musical ear to the motor control section of the brain are valid and accurate. The human voice, the instrument which exists inside our body and is thus most closely connected to our brain, allows us to evaluate the accuracy of those messages. Reproducing our musical conceptions on a wind, percussion or string instrument (all external instruments) is the last phase of this process.

Certainly most of us agree that singing before playing is a good idea, but let us be sure that we give it more than mere lip service. Let's pledge that we will use it as an integral part of our teaching and learning procedure, if it isn't already so.

Relaxed Concentration

Concentration is the act of focusing one's attention. Relaxed concentration means being totally absorbed in what you are doing, to the exclusion of all other stimuli. In Eastern psychological terms it means achieving the ideal of mind-body integration where the mind and body function as one. In other words, it means that the musical ear, the relevant parts of the brain and musculature, are in perfect sync with each other. When this happens, we are said to have excellent coordination, superior command of our instrument, at least at our level of advancement. In extreme cases, we seem to "play way above our heads."

To achieve this kind of coordination and control, Jacobs says we should focus on training the brain which controls the muscles, not the muscles themselves. In so doing, we should study mental stimuli more so
than the mechanism itself. We begin this process through listening and singing that is aimed toward development of good musical conception, as described above. The second step is what the eminent tennis teacher, W. Timothy Gallwey, refers to as "focusing on the goal, not the process." By this he means that we should simply let our body try to reproduce our mental conceptions (performance goals) without interference from our ego. Deliberate attempts to exert direct conscious control over muscular function should be avoided. It is impossible to exercise this kind of control in the first place. Instead we should focus on the performance goal itself and thereby train the brain so that it sends the right kinds of messages to the muscles.

One of the easiest ways to train the brain is through use of mental practice. A specific application of this idea is to practice a new piece of music mentally first without your instrument. Go through it slowly and work out all of the hard spots. Then practice it physically, that is, with your instrument.

Body Feedback

Body feedback involves sensory information that we use to monitor and evaluate our performance, which in turn provides us with the means for error detection and correction.

We receive two types of body feedback: external and internal. Our ears and to some extent our eyes, serve as our external type of feedback. Internal feedback comes to us in the form of kinesthesis and body balance. Presumably we all know how to use our ears in evaluating and improving our performance. Knowing how to recognize kinesthetic and body balance feedback and how to use it to our advantage probably isn't as familiar to most readers. For this reason it will be discussed in some detail here.

Kinesthesis. When we perform, certain physical sensations are generated inside our body and automatically monitored by the brain. If we repeat a specific performance act enough times in a similar way, these sensations eventually become established as a memory pattern or "groove" in the brain. This allows us to recall these sensations later and use them to duplicate specific movements at will during performance. This type of feedback is called kinesthesis. It is the type of feedback our teachers were referring to when they said, "That's it, that's correct! Now try to remember how it felt and play it again."

Some persons use the term "muscle memory" to describe kinesthesis. Recent research indicates, however, that the source of kinesthetic sensation may be in the bone joints rather than the muscles. In any case, the important thing is that kinesthesis keeps us apprised of our disposition in space in terms of position, speed, tension and force. With regard to tone quality and intonation in particular, I believe kinesthesis is at least as important to us in detecting and correcting errors as is our ear, if not more so.

Body Posture

Located in the semicircular canals of the inner ear is a liquid called endolymph. When our heads tilt in any direction, this fluid moves accordingly, like the fluid in a carpenter's level. This is our body balance mechanism which affects muscular tension throughout the body in the process of assisting the brain to maintain body equilibrium. Without it we would not be able to stand or sit without continually falling down.

Our biggest physical problem in performance is excessive muscular tension. Maintaining good posture (with the head up, eyes focused straight ahead and a slight inward arch at the base of the spine) will do
much to prevent excessive tension. "Tuning in" to kinesthetic sensations through practice helps us become aware of what it feels like for given body areas to feel tense as opposed to feeling relaxed. This, in turn, allows us to monitor excessive tension so we can do something about it.

The Imitation Method

Musical conception is the first and foremost aspect of musical performance. We acquire it through listening, singing, and through imitation of superior performers. According to Jacobs, "Imitation was, is and always will be the best method of teaching that we have." And yet in a world so drastically changed by scientific advancement and technology during this century, simple logic makes us wonder if the imitation method is not out-dated. But it is not out-dated; it is just as valid now as it ever was. And despite the opinion of some, imitation does not stifle creativity. It actually fosters it by serving as a preliminary step toward learning to play by ear and eventually learning to improvise. Nor does teaching via imitation produce poor music readers. Poor methods of teaching music reading produce poor music readers.

A primary feature of the imitation method is its focus on training the musical ear of the brain. In other words, the imitation method is a direct approach to ear training, something we all agree is important and something most of us feel our students need more of. It consists of watching and listening to a superior musical model (most often the teacher), recording a mental image of that model in our brain, and then trying to duplicate that same model and image through repetition - in the form of simple trial and error experimentation! Yes, I really said that - trial and error experimentation - and I've heard Arnold Jacobs say it many times. So you see, musical performance learning is not all that complex; it is really fairly simple, so long as we teachers allow it to remain that way.

Common Teaching Errors

Probably the most common error made by all teachers, including teachers of musical performers, is that they talk too much. Entirely too much time is devoted to telling and explaining what to do as well as what not to do. The reason why verbal telling and explaining is of such little value to musical performance teaching is because music is a non-verbal form of artistic expression. Its modes of expression are sound and silence, not words. Therefore, we should teach (communicate) musical concepts and ideas primarily via the media of musical sound and silence. Sing it and play it for the student. Use the imitation method. One aural picture is worth millions of words!

Another common error made by instrumental and vocal teachers alike is that they try to teach complex performance tasks like breathing through analysis of physiological function. Merely directing attention to the abdominal muscles, the throat or some other body area usually creates still more muscular tension in that same area. Then, if we also try to consciously control muscular action, "things really get bad." The usual result is one of mental overload, this precluding any real chance of achieving relaxed concentration. Together these muscular tension and mental overload problems bring about what is best described as "paralysis through analysis." Therefore, analysis of physiological function and attempts to consciously control muscular action should be avoided. Instead, focus on the performance goal. Train the brain which controls the muscles. To use Jacob's specific words, "Concentrate on the musical message you want to convey."

Breathing
Finally, a quick word or two about breathing... I say a quick word or two because I believe that in most cases the less said about breathing, the better.

In singing and wind playing, breathing is simply an amplification of the normal breathing process. We inhale large quantities of air quickly; we exhale that air against a resistive vibratory source over a longer period of time than normal.

The most common breathing problem experienced by most musicians (except oboists) is lack of sufficient air to support the tone properly. In most cases, this is due to insufficient and/or shallow inhalation of air. To inhale correctly, pretend you are sucking on a soda straw. "To really fill up the lungs, think of Dolly Parton," says Jacobs. When exhaling, think of blowing up a giant balloon. Perhaps the easiest and best approach is simply to whisper "oh" during inhalation, "toh" while exhaling, and let it go at that. Those persons desiring detailed information on breathing including the anatomy and physiology of the breathing apparatus plus what I refer to as the Jacobs Complete Breath are urged to read Part 11 of Musical Performance.

Conclusion

I am honored to have been invited to participate in this commemorative issue, since I consider Arnold Jacobs to be the finest teacher of wind instruments that I know of. Rumor has it that he is thinking about writing a book himself during retirement. I hope this is true. Our profession needs his own thoughts and ideas recorded in print for posterity.

About the Author. Daniel L. Kohut, a graduate of North Texas State University and the Eastman School of Music, has been a member of the University of Illinois faculty since 1967. He is presently in charge of instrumental music education at Illinois where he previously served as Chairman of Music Education and Assistant Dean of the College of Fine and Applied Arts.

Dr. Kohut is nationally known as an instrumental music pedagogue and gave lectures and workshops in Australia in May and June of 1987. He is the author of Instrumental Music Pedagogy (1973), Musical Performance: Learning Theory and Pedagogy (1985), and co-author (with Joe W. Grant) of Learning to Conduct and Rehearse (scheduled for January, 1989)(all published by Prentice-Hall, Inc. He is also a published arranger/transcriber of music for band and orchestra.