

Bounce and Stroke - Technical Considerations

Some of the college students I have taught, in the last thirty years or so, possess very ingrained, but not necessarily very good, habits of playing with a technique that is limited, in terms of the amount and the diversity of motion necessary to become excellent drumset players or versatile classical percussionists. Typically, they acquired these ingrained habits in their marching band experience and we often spend considerable time trying to undo these habits. Usually, we are successful, but the process consumes considerable time that might have been dedicated to other musical endeavors.

Percussion pedagogy, particularly much marching percussion, but not it exclusively, often teaches a “default technique” that is based almost entirely on wrist movement. Attention to the interrelated upper body relationships of shoulders, arms, wrists, and fingers is often under-emphasized or absent altogether. Such instruction represents an ignorance of musculoskeletal knowledge is a limited or even harmful technical method for many students.

When teaching multiple attacks per hand (doubles, triples, fours, etc.), advising someone to use only their wrists is akin to advising a runner not to move their arms. While such a feat is certainly possible, it is physiologically ignorant. The result, in both drumming and running, is a partial usage of the available musculoskeletal system and a seriously compromised technique that is neither fluid nor efficient and presents significant sound production problems. Further, over-use of one musculoskeletal group of muscles and bones, at the exclusion of others, creates a physical disconnection from neighboring joints and muscles. Such disconnection inevitably creates overly stressful playing and often results in injury, even if it is not manifest for many years.

Why is technique, the wrist-only approach, taught this way? For one, it is simple and many people are suckers for the simplest answer. Everything seems so clear and easy –instructions such as - wrist movement only, 9" forte stroke, 6" mezzo-forte stroke, etc. It should be obvious that a comprehensive technique is more complex and requires a much longer learning curve. So one could answer, that a simplistic technique serves a purpose, and I agree -it does – the purpose is to quickly train people. The question becomes, when and to what extent should a player engage in the more complex issues of a comprehensive technique? I think the answer is as soon as possible. If a student wishes to play other percussion instruments, other musical styles, or develop a comprehensive technique, it should be addressed throughout all their studies. In fact, it should be mastered before marching technique is introduced so that the student will possess the necessary perspective to compare the advantages and disadvantages of each technique. The answer to “what extent” is to the degree where the student can understand the implications, advantages, and limitations of their technique across a relatively

broad musical palette. In the end, they should be able to perform in a physiologically wise manner.

On the one hand, some people strive to develop techniques that are machine-like. This may be their goal and a wrist-only approach may be acceptable for that purpose. On the other hand, it has been my experience that very little music is supposed to sound like a machine. I believe that a hand technique that is based on a fluid upper body “dance” concept is more appropriate for the vast majority of musical styles, especially groove and improvised music. It is possible to achieve extreme consistency with a fluid, comprehensive technique.

The wrist-only technique is often considered a default technique for all percussion playing. This is an example of using a single tool for all jobs, rather than the appropriate tool for each job, or in other words, an over-application of a limited resource. Unfortunately, many young percussionists, and some not so young, do not understand this.

Basic concepts of a comprehensive technique:

1. Efficiency - distributing a workload relatively evenly between two or more muscle groups - causes less tension and physical stress than using just one muscle group. I deliberately say muscle groups because muscles work in pairs – as one extends a complimentary one contracts. Efficiency might also be interpreted as using the least amount of movement or work necessary to execute a particular task. Although this basic pedagogical concept is advocated by many teachers, there are other important factors that may be considered. For example, is the desired musical effect best achieved through minimal movement? Too often, players are taught to hold their hands still or "in-check" (1" from the drumhead) whenever they finish a phrase, despite the fact that a continuous rebound movement would yield a superior aural and physical result. The reason for the “check position technique” is primarily one of visual symmetry in a marching drumline, but has little or no application outside the idiom. The check position technique requires many notes to be played as down-strokes, notes that should be played as rebound or up strokes - if sound quality and fluidity were the primary considerations.

2. Tension - any muscle held in a fixed position over an appreciable period of time will accumulate tension; movement releases such tension. Therefore, we should seek to use enough movement to relieve tension but not so much as to create excess tension – in other words an ‘optimal’ amount of tension. The clearest examples of excessive tension are the widespread habits of holding the forearms in a fixed position and the fingers in a fixed/closed position on the stick, as in much marching percussion technique.

3. Stroke and bounce- are best conceived of as two terms on opposite sides of a continuum. On one side is stroke - i.e. muscle manipulation of the stick beyond what is possible from gravity and momentum alone. On the other side is bounce - i.e. utilizing as much momentum as possible to connect adjacent stick movements.

Rather than feel like we must pick a side, we should seek the optimal middle ground. Curiously, bounce is considered almost an “evil” element in some percussion instruction – it is said to lead to inconsistent movements and a sloppy sound. To the contrary, I consider bounce to be the first and foremost concept to be mastered. Learning bounce technique first, assures a relaxed full-sounding technique that is firmly based on wise physiological principles.

4. Volume is primarily determined by velocity and to a lesser degree by stroke height...not the other way around. Determining dynamic levels entirely based on stick heights is an overly simplistic method for any thoughtful percussionist. Of course, relative stroke heights do make a difference, but it is more a matter of pedagogical emphasis – a pedagogy based on the appropriate stroke height in any given context is a far more useful tactic. For example, perhaps a certain note would sound best and feel most appropriate musically, with a low velocity, but a long-slow 12” stroke at a piano dynamic. Obviously, this is not in-accord with the strict stick height gradations of much marching percussion instruction. In short, a strict stick height philosophy does not permit subtlety or nuance in sound production, does not adequately consider the musical feel produced, and it limits a player to only one style of movement.

5. Momentum - is the ability to connect one motion to another so as to efficiently utilize energy. The common practice of initially teaching double strokes slowly in order to get them perfectly even, rhythmically and dynamically, creates disconnected movements between adjacent attacks on the same hand and from hand to hand. A better approach is to play doubles at moderate tempi, bouncing them as much as possible, strive to maintain as much movement as possible, especially in the early learning stages, and gradually introduce the necessary amount of hand and finger manipulation to evenly execute both attacks in each hand.

In order to achieve this type of fluidity, you must abandon the restrictive physical idea that every note of a given dynamic in a constant rhythm must be played from exactly the same height. While height is an important factor in gradating dynamics, there are other factors that must be considered. For example, in a double stroke roll, what occurs in the left hand while the right is playing? Too often, players hold the left stick motionless at its "correct dynamic stroke height - often 9 inches for forte". Or worse yet, they hold it “checked” at 1” even though that hands’ next attack will be forte. This is extremely inefficient because each hand is disconnected from its next movement/sound.

As an experiment, play just the right hand part of a double stroke roll and notice the rhythmic ratio is 1 to 3 units of time. Therefore, to best utilize momentum, the 3 unit portion should utilize a longer motion than the 1 unit portion; a movement ratio that mirrors the rhythmic ratio. Another factor is the length of time between each hands successive attacks. At most tempi, if the number of attacks between each hand is greater than four or five, there is good reason to allow the unused hand

to come to rest. However, stopping the unused hand makes little sense while playing doubles or triples.

In an effort to develop your technique to its full potential, you must question every technical variable and be willing to take one step backwards to facilitate taking many steps forward. For example, consider a professional athlete who consults a premiere sports physiologist for guidance. The physiologist might notice that the athlete is breathing through his mouth and that this habit prevents peak oxygen absorption, peak carbon dioxide removal, and ultimately prevents his peak performance due to the lack of gas exchange and an excessive heart rate. A suggested retraining program might include a plan whereby the athlete is taught to breath with a deep nasal/diaphragmatic technique. At first, he may only be able to achieve part of his previous workload, but ultimately, he will surpass previous achievements. The most important determinate in whether or not the athlete improves beyond past achievements is his patience and persistence in allowing the new technique time to reprogram his mind/body and to develop into a superior technique. At first, the retraining may only permit a workload of perhaps only 50% capacity, but in time, it will permit greater achievement with less physical stress and injury.

In the spirit of such inquiry, I would suggest that each percussionist fully explore the concepts of bounce and momentum as they relate to sound physiological principles. In so doing, we should allow a certain level of inconsistency in our attacks, especially in the early developmental stages, because the superior principles we are learning will ultimately provide greater achievement.

To this end, I would suggest the following three phase pedagogical method:

Phase 1. Begin with the multiple-bounce (buzz) roll and then proceeding to triple bounce and double bounce rolls. Initially, play these at relatively soft dynamics to harness maximum bounce. Understand that at soft dynamics, even dynamic and rhythmic execution is relatively easy. Focus on developing flexibility of tempi at these dynamics. It is crucial that you allow the sticks to achieve maximum bounce via arm motion; use minimal wrist and finger manipulation.

Phase 2. Gradually increase dynamics on the above rolls. Understand that the fingers and wrists will gradually assume a greater role at higher dynamics. Do not lose the arm momentum established in the previous phase, rather merely incorporate wrist and finger assistance.

Phase 3. Revisit your previous repertoire and re-program yourself to perform with this more fluid broader-musculoskeletal technique. Understand, that this will be the most difficult phase and will take persistent, long-term attention to avoid reverting to old habits.

Below are several exercises that will help you develop greater awareness of the relationship between bounce and stroke.

1. One tempo & various dynamics

Begin with double bounces (minimal wrist or finger movement) at a piano dynamic, then very gradually increase dynamic levels. As the dynamic increases, so too will the amount of wrist and finger manipulation necessary to maintain consistency. Your goal should be to use as much of the bounce momentum as possible and the least possible amount of wrist/finger manipulation at each dynamic level. Be cautious, as it is very common to over-stroke as the volume increases. It is also very common for players to use wrists only at the softest volumes; which necessitates an unnecessary transition from wrist only at softer volumes to wrist and arm movement at louder dynamics. Although the ratio of arm, wrist, and finger might change at various tempi and dynamics, I suggest that all three be utilized throughout all dynamics. This is especially true at faster tempi, to avoid excessive tension.

2. One dynamic & various tempi

Most percussionists are most familiar with this scenario through performing rudiments in the traditional slow-fast-slow manner. As the tempo increases, the stroke velocity and height must decrease or the overall volume level will increase.

Additional ideas:

Practice in other odd number double groupings, such as 5, 7, 9 (below is three groupings) as these help eliminate the 2 and 4 duple bias in many players' hands.

Also apply this practice concept to triple and quadruple bounce stickings.

