Stroke Technique

an analysis of movement, momentum, inertia, and sticking patterns

by

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Premise - if rhythm is defined as the flow of movements through time, comfortable flowing strokes are achieved via movements that efficiently utilize momentum and inertia.

This theory contrasts with the widespread contemporary drum corps approach in which a particular dynamic level is the result of a predetermined stroke-height; i.e. dynamic/stroke-height ratios. Unfortunately, this later approach relegates movement (the kinesthetic sense) to a secondary status. While dynamics may necessitate certain general or "practical" stroke-heights, especially in fast passages, interpreting dynamics as the primary determinate of stroke-height, or vice versa, may, at worst, cause dysfunctional movements, or at best less than optimal efficiency and flow; most notably when the upper portion of the stroke is stopped or "checked" at a predetermined height (such as 9" for forte strokes, 6 inches for mezzo-forte, etc.) or the sticks are checked near the drumhead after a loud stroke and yet before an adjacent loud stroke. All other factors being equal (mass, hardness of implement, playing area), the velocity of the stick upon impact is clearly the primary determinate of volume, regardless of the distance traveled before impact.

Understanding any rhythm pattern (sticking sequence) as a combination of separate right and left side movements (kinesthetic sense) and single-hand rhythm/sound patterns (aural sense) rather than merely as notations (visual sense) is an important distinction. In this approach, motion and sound are primary and the musical notation and sticking patterns are secondary. While this distinction may initially seem somewhat arbitrary, especially at slower tempi, the development of speed, power, and endurance are largely the product of intelligent and efficient limb movements and sophisticated aural perception

In the examples below, the number listed below each stick denotes the number of real time units or microbeats in each hand's motion sequence or rhythm pattern. For example: continuous double strokes produce an equidistant composite rhythm pattern (1,1,1,1 aural sequence) , yet the individual hand motions that most comfortably produce that sound are an asymmetric, 1 to 3 unit motion sequence. From this timing, movement, and aural perspective it logically follows that the second stroke should be a longer motion than the first stroke and that such an approach provides optimal use of momentum and inertia.

To summarize, I propose a conceptual/technical paradigm shift in which the stroke height (distance traveled) for each note is understood as primarily a factor of the

amount of time available between each hand's strokes and the comfort level necessary to produce such rhythm patterns, rather than primarily a factor of the desired dynamic level. In the approach I advocate, dynamics are a largely a product of stick velocity and a players individual touch, particularly their speed and power (ability to move an object x distance in y time) , rather than a result of each equal-volume notes emanating from exactly the same beginning and ending stroke-height.

single strokes	R	L						
	2	2						
double strokes	R	R	L	L				
	1	3	1	3				
triple strokes	R	R	R	L	L	L		
	1	1	4	1	1	4		
four strokes	R	R	R	R	L	L	L	L
	1	1	1	5	1	1	1	5
single/double comb	R	L	L					
	3	1	2					
single paradiddle	R	L	R	R	L	R	L	L
	2	3	1	2	2	3	1	2
egg beater	R	R	R	L	L			
	1	1	3	1	4			