

Dynamic Forces Momentum - Part 1

By Richard Fiore

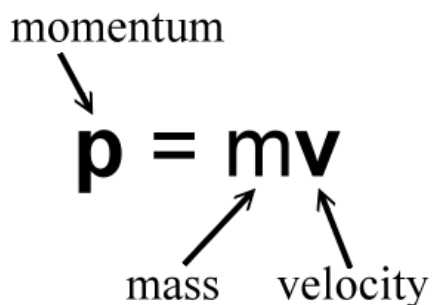
(Licentiate, (LAB, LAR, T) Imperial Society of Teachers of Dancing)



One of the most challenging aspects of ballroom dancing is maintaining perfect balance with a partner while in motion. This entails traveling together as one, to the rhythm of the music. Dancers constantly experience various kinetic forces while in motion on the dance floor. Individuals that mainly dance non-partner styles are quick to experience profound differences as they engage in partner dancing. Maintaining balance with a partner while in motion requires a special skill set. This aspect of partner dancing is often taken lightly or not considered at all.

A professional dance syllabus gives details over each step such as feet positions, room alignments, amounts of turn, dance position, footwork, sway, contra body movement and others. While all of this provides a good technical breakdown of each dance figure, it remains a two-dimensional model. The fine technical details of the figures that make up a dance routine may be entirely understood intellectually; however, the same routine can feel awkward when danced. This may especially be the case if the natural forces of motion are not properly factored in throughout the dance. The ability to sense and manage these forces is an acquired skill that is developed over time through persistent practice. It involves learning at the physical level, which is also referred to as kinesthetic learning. Bodies move and shape in very complex ways on the dance floor. As a result, dancers experience various kinetic forces that constantly change in magnitude and direction. This element alone makes ballroom dancing especially challenging. Managing these forces will greatly influence the overall quality of the dance. One of the most dominant of these forces is momentum.

The momentum generated from traveling in a straight line is known as linear momentum. This is based on the physical principle that a moving object always produces momentum. More specifically, momentum is the product of mass times speed (mv) in the direction of travel. Assuming that partners are in a well-connected closed dance hold, the total mass is taken as the combined mass of both partners. Therefore, momentum will always be greater for partners paired together as compared to that of one partner. Momentum is present simply because bodies are in motion. The degree of momentum has to be constantly managed, especially by the leader as it will directly influence the moving flow and precision of each step throughout the dance. Experienced ballroom



dancers allow for steps to naturally flow from one to another. They can use momentum advantageously to enable continuous smooth travel through a series of steps. In foxtrot and waltz, for example, momentum can be skillfully managed to carry partners elegantly through a series of figures traveling in the same direction. This is known as body flight. A body that is in motion tends to stay in motion due to its inertia. In this scenario, the built up momentum is more than that needed to arrive at the next step in a stationary balanced position. In contrast, tango steps are more staccato and arrive at a point of stationary balance. Therefore, body flight is not a property of tango.

When partners move with too much momentum for a given situation, they can easily lose control, especially in instances where abrupt slowdowns or changes in direction are necessary. This results in making the intended action inaccurate and sloppy. When this action occurs, dancers always know by body sensation as it simply feels awkward. The effect of momentum is important to grasp in an applied manner since it greatly influences the precision and flow of each step throughout the dance. This involves skillful awareness of the magnitude and direction of the built up momentum as well as the ability to respond to its effects. Since momentum cannot be dissolved instantaneously, it is important for the leader to plan his travel path and speed well in advance so that he can manage the momentum properly through each figure.

The dynamic forces of motion are an essential aspect of ballroom dancing that always needs to be taken into account. All moving bodies generate a variety of dynamic forces. This article has focused on linear momentum for movements along a straight-line path. There are other forces that are present during curved and rotational movements such as turns and spins. The next issue will address rotational forces and their effects.

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Dates: February 3, 10, 17 and 24, March 3, 10, 24 and 31 (no class on 3/17) and April 7, 14 & 21

Time: 7pm - 8:30pm

Candidate Dances: Foxtrot, Rumba, Waltz, Cha Cha, Swing, Salsa/Mambo, Bachata, Tango & Meringue

Instructor: Richard Fiore – Dual Licentiate, Imperial Society of Teachers of Dancing

Location: Adelphi University, One South Ave., Garden City, NY 11530 - Woodruff Hall Dance Studio

To Register: \$125/person for general admission. **Registration with a partner is recommended.** Call Noreen DeNicola at (516) 877-4260 or email ndenicola@adelphi.edu

For more info visit: www.adelphi.edu/ce-course/series/ballroom-dancing