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Three-dimensional Symmetries in Dance and Other Movement Arts.

Choreographers characteristically use both symmetry and asymmetry as part of the palette with which they compose movement sequences, and dance floor patterns and formations often display a variety of planar symmetries. Three-dimensional symmetries also appear, especially in acrobatic compositions, but also in movement arts that overlap with athletic events, such as formation skydiving. We will examine some of these three-dimensional symmetries and the ways that transitions are designed to move from one such symmetric formation to another. These explorations can provide an engaging introduction to a variety of mathematical concepts. (Received September 25, 2018)