A still relevant question in biology is how form arises in development and is inherited throughout generations. It is the conventional wisdom that the consecutive superposition of tissues, together with inductions, establishes the body plan. However, it was recently shown that cellular organoids form spontaneously in tissue culture, suggesting an intrinsic order and a capacity for self-organisation of cells. Earlier we proposed that the C. elegans embryo creates intrinsic cellular order by specifying cell addresses, which are translated in guided migrations—a process we call cell focussing. I will discuss how the migrations are based on constant, independent and short-term random movements—the dance of cells—resembling Brownian motion. We observe this dance of cells also in diverse animals within the Protostomia and Deuterostomia and propose that the dance is a new biological phenomenon widespread throughout bilateral animals. I will describe several potential players impacting this dance that we have identified over the last few years. Specifically, SAX-3/ROBO was identified as a cell focussing receptor potentially regulating lateral movements.