Editorial

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PII: S0925-4773(17)30757-8
DOI: doi:10.1016/j.mod.2017.07.002
Reference: MOD 3476

To appear in:

Please cite this article as: Artinger, Kristin Bruk, Editorial, (2017), doi:10.1016/j.mod.2017.07.002

During development, morphogenesis is driven by a complex series of cellular movements of individual or groups of cells. The choreographed migration of cells in a cohesive group is called a **collective cell migration,** defined as the process by which a group of cells migrate together and remain attached through cell-cell adhesion in sheets, clusters or chains. While embryonic cell movements during epiboly and gastrulation captivated early embryologists, it was not until the 1980 studies of Dr. J.P. Trinkaus in *Blennius pholis* that “directional movement of cell clusters” in pigmented cells was observed in a live embryo (Current Biology Vol8 no 7). As Trinkaus noted, this cohesive group of cells navigates the migratory route as a group, thereby providing our first example of collective cell migration *in vivo*. We now know that this process occurs due to the ability of the cluster to respond collectively to signals in the environment and from neighboring cells, in addition to both dynamic and regulated differential adhesion within the collective. In this definition, the minimum number of cells that is required for collective cell migration is greater than one.

There are a broad number of model systems and tissues in which cells utilize a similar migration strategy to get to their final destination. While the specific genetic mechanisms may vary by organism, the overall end goal is the same: for a group of cells to efficiently move from one place to another. This includes gastrulating cells in the sea urchin and Xenopus gastrula, *Drosophila* border and ovarian follicle cells, the *C. elegans* distal tip cell, the migration of the zebrafish lateral line and Xenopus neural crest as well as the movement of cells in disease states such as cancer cell metastasis (Saxena) and wound healing. This special issue of *Mechanisms of Development* offers