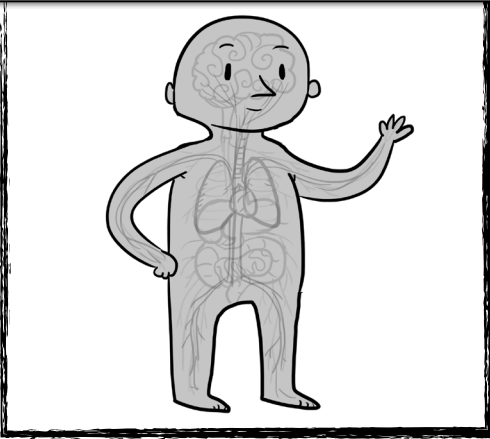


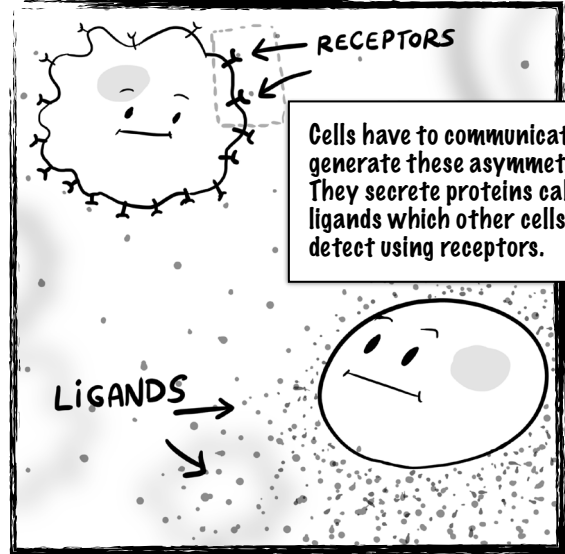
Of Patterns and Cancer in Mice and Flies

The human body has many areas of asymmetry: our spines are different than our stomachs, our feet are opposite our heads, even our thumbs demonstrate asymmetry!

1



2



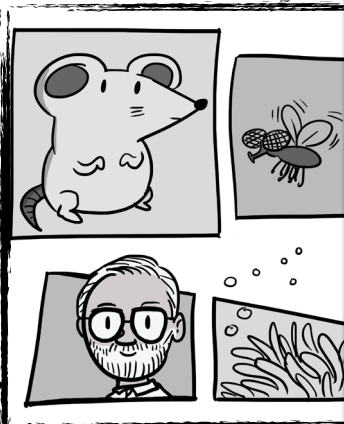
Cells have to communicate to generate these asymmetries. They secrete proteins called ligands which other cells detect using receptors.

3



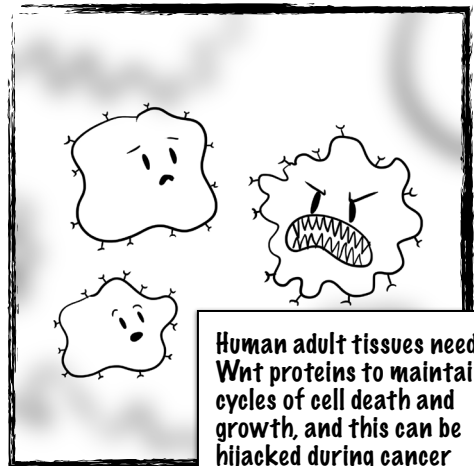
When specific cells send out these ligands, they create a gradient, or differing amounts of ligands in different points. These gradients begin to generate asymmetries throughout development.

4



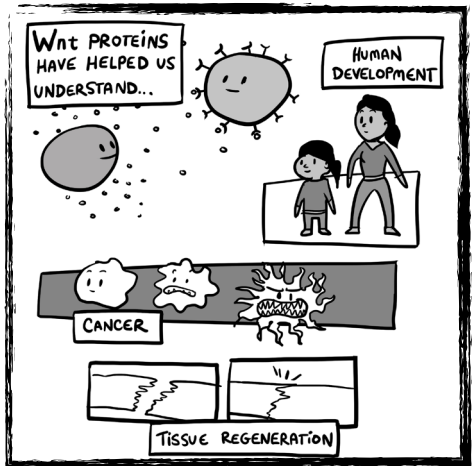
Wnt proteins are one group of ligands important for this process. Dr. Nusse first identified these in mice as contributing to cancer development. They also exist in fruit flies, where they are required for normal wing development, and as early in evolution as sea anemones!

5



Human adult tissues need Wnt proteins to maintain cycles of cell death and growth, and this can be hijacked during cancer development.

6



The discovery of Wnt proteins has helped scientists understand human development, cancer, and may even give us some clues about tissue regeneration!