

# Review of: "Is gastrulation the most important time in your life?"

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Potential competing interests: No potential competing interests to declare.

In textbook, and the general literature, gastrulation is described as a defining event that sets up the germ-layers, establishes constraints on cell-fates, and sets up the body axis. Through many examples, the author challenges each of these strong claims, and allows a more nuanced view to emerge. I especially appreciate the brevity and clarity of the piece, which makes the topic so approachable for non-specialists.

I think the article additionally connects well with more general research on the plasticity of development, which demonstrates how differentiation routes to cell-types are not fixed within an organism [1], or over evolutionary timescales [2]. It would be illuminating to broaden the conversation here by adding a comment about developmental plasticity without diluting the main focus on gastrulation, neuromesodermal progenitors and setting of the body-axis.

1. Theise, N. D., & Wilmut, I. (2003). Cell plasticity: flexible arrangement. *Nature*, 425(6953), 21-21.
2. Arendt, D. (2008). The evolution of cell types in animals: emerging principles from molecular studies. *Nature Reviews Genetics*, 9(11), 868-882.

## Minor Comments:

1. page2, line3: invagination of blastula's inner layer
2. page3, line1: space missing in 'the *adult*'
3. page4, line3: change to 'tissue invagination being one of several mechanisms....'
4. last reference: 'axial stem m cell zones...' → 'axial stem cell zones...'