

→ Morphallaxis: where you reprogram the same tissue

→ Epimorphosis: where the tissue grows and then reprograms

→ proliferation of undifferentiated cells that then differentiate to replace lost tissue.

→ Metazoan Regeneration
(3 germ layers)

→ Planaria (flatworm) → every piece (of at least a minimum size) capable of generating a new organism.
(tested by T.H. Morgan)

→ Hydra have morpholactic reprogramming
→ localised wnt signalling defines the hydra head

→ How do you know?

By ectopic activation of wnt on hydra. → get multiple heads

Morphallaxis: the majority of the regeneration comes from reorganization or re-patterning of remaining tissue.

→ why is there a minimum size?
→ neoblasts are stem cells

of planaria
→ as long as the size has a ~~few~~ neoblasts, then it can regenerate.

Formation of regeneration blastema in planaria: proliferation of somatic stem cells called 'neoblasts'.

→ are they totipotent? pluripotent | totipotent

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