

## How would shape homeostasis work?

(In very general terms.)

1) **You need some forces** (probably at least two) *that are strong enough to change the geometrical shapes* of worms, hydras, sponges, bones, arteries, legs, embryos etc.

2) These forces **need to pull or push against each other**.

3) When/If the **forces are equal** and opposite, then the **shapes don't change**, or finish changing.

4) When the organism, bone etc. **doesn't change shape** that is **not** because **no forces** are acting, nor because some shape-controlling mechanism detects that the current shape is correct.

**Remember the example of bone**, constantly being dissolved and re-deposited. Bones keep the same shapes because the amounts and location of dissolving by osteoclasts are exactly balanced by deposition of fresh new bone.

Although it isn't impossible that some examples of shape-creating forces happen to reach a value of zero when stably balanced, we should resist temptations to expect zero forces.

**Self-sharpening knives and self-repairing quartz-halogen light bulbs** are examples from human technology where optimal geometric shaped are achieved by constant renewal.

It is human nature to expect which of **the following list** below?  
WHICH I TRY TO IMAGINE **ARE NOT TRUE**.

- a) Only one force will participate in re-building a wound.
- b) Repair forces will reset to zero when they finish rebuilding normal healthy anatomical shapes.
- c) Continual destruction and renewal are odd special cases.

- d) There are no reasons to look for other examples of turnover. (Analogous to bone.).
- e) Only one force participates in imposing each embryonic shape.
- f) The forces that repair damaged tissues are not the same as the embryonic forces that originally build those tissues.

*Please invent more misguided natural assumptions.*