

in which an organism becomes changed, and quickly, too, in a way which cannot but be called reasonable. It starts modifications, be they outgrowths, alterations in shape or colour, or the making good of injuries received, which by 'short-cuts' produce the only advantageous result that can reasonably satisfy the new requirement or altered circumstances.

Trees growing in precarious positions, after part of the supporting rock has slipped away, throw out new roots, and rearrange some of the old ones in the only way which could save the tree. In animals which have lost part of a limb the wound closes up, and what is left is turned into a serviceable stump—for example, in water-tortoises (creatures in which reproduction of lost limbs does not happen). In frogs and newts the lost part is reproduced, not correctly, but in a good semblance. Tortoises which have had their shell smashed can throw off an astonishingly large portion and renew the bone as well as the over-