Growth and remodeling seemed to me a topic on which it would be advisable to spend some time. My first research was concerned with bulk growth.

The visible effect of growth is the increment of mass of a body. Accordingly, one may think that in order to describe the accretion velocity of a body it is sufficient to use a scalar field. This is not the case, indeed.

In fact, it turns out that the effect of addition of mass to a body should be rather described by a tensorial quantity, the growth rate.

Free energy

$$\psi(\mathbf{F}, \mathbf{G}) = (\det \mathbf{G})\varphi(\mathbf{F}\mathbf{G}^{-1}). \tag{1}$$

Surface growth, i.e. the accretion of a solid onto a surface, occurs in several contexts of physical, technological, and biological interest. One of the most common examples of surface growth is the solidification of water at the icewater interface near the freezing temperature; other examples include technological processes such as chemical vapor deposition or, in biology, the growth of hard tissues like bones and teeth.

actin

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