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Démonstration de $\dfrac{dR}{de} = 0$ quand $\sigma = \dfrac{d\sigma}{d\varepsilon}$

$$\frac{dR}{de} = \frac{d\left(\frac{\sigma}{1+e}\right)}{de} = \frac{d\sigma}{de}\,\frac{1}{1+e} - \frac{1}{(1+e)^2}\,\sigma$$

$$de = \frac{dL}{L_0} = \frac{L}{L_0}\,\frac{dL}{L} = \frac{L}{L_0}\,d\varepsilon$$

$$\frac{d\sigma}{de} = \frac{L_0}{L}\,\frac{d\sigma}{d\varepsilon}$$

$$\frac{1}{1+e} = \frac{L_0}{L} \quad \left(= \frac{1}{1 + \frac{L - L_0}{L_0}} \right)$$

donc

$$\frac{dR}{de} = \frac{d\sigma}{d\varepsilon}\,\frac{L_0}{L}\,\frac{L_0}{L} - \left(\frac{L_0}{L}\right)^2 \sigma$$

$$= 0 \quad \text{si} \quad d\sigma/d\varepsilon = \sigma$$