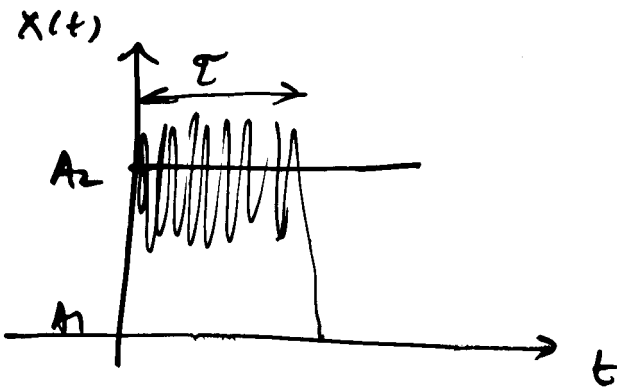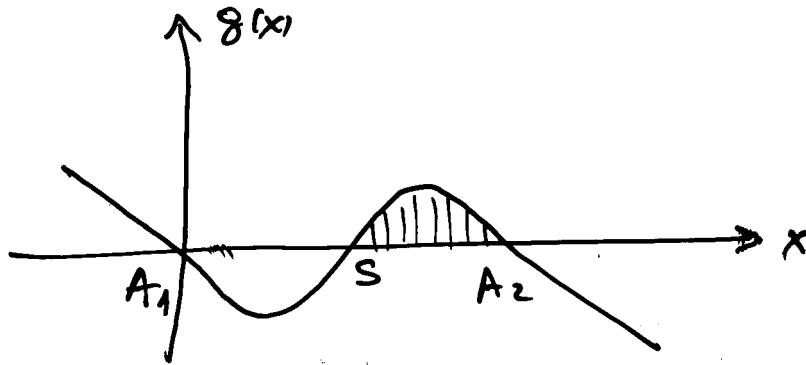# GRANDES DEVIATIONS, ECHELLES DE TEMPS TRES LONGUES

$$dx = g(x)\, dt + \frac{\sigma(x)}{\sqrt{V}}\, d\beta_t$$

$$\mathbb{E}[\tau] \sim \exp\left[V \int_S^{A_2} \frac{g(x)}{\sigma^2(x)}\, dx\right]$$

E. coli + λ phage

$$\nu X \rightleftharpoons X_\nu$$

$$D + X_\nu \rightleftharpoons D_1$$

$$D_1 + X_\nu \rightleftharpoons D_2$$

$$D_1 + P \rightarrow D_1 + P + nX$$

$$X \rightarrow \phi$$

$$\nu_1 R_1 \rightleftharpoons R_1^{\nu_1}$$

$$\nu_2 R_2 \rightleftharpoons R_2^{\nu_2}$$

$$R_1^{\nu_1} + P_1 \rightleftharpoons P_1^b$$

$$R_2^{\nu_2} + P_2 \rightleftharpoons P_2^l$$

$$P + P_2 \rightarrow P + P_2 + m_4$$

$$P + P_1 \rightarrow P + P_1 + m_\nu$$

$$R_1 \rightarrow \phi$$

$$R_2 \rightarrow \phi$$