

Fig. 7.1. a: Model of a simple open system, showing maintenance of constant concentrations in the steady state, equifinality, adaptation and stimulus-response, etc. The model can be interpreted as a simplified schema for protein synthesis (*A*: amino acids, *B*: protein, *C*: deamination products; k_1 : polymerization of amino acids into protein, k_2 : depolymerization, k_3 : deamination; $k_2 \ll k_1$, energy supply for protein synthesis not indicated). In somewhat modified form, the model is Sprinson & Rittenberg's (1949) for calculation of protein turnover from isotope experiments. (After von Bertalanffy, 1953a).
b: The open system of reaction cycles of photosynthesis in algae. (After Bradley & Calvin, 1957)

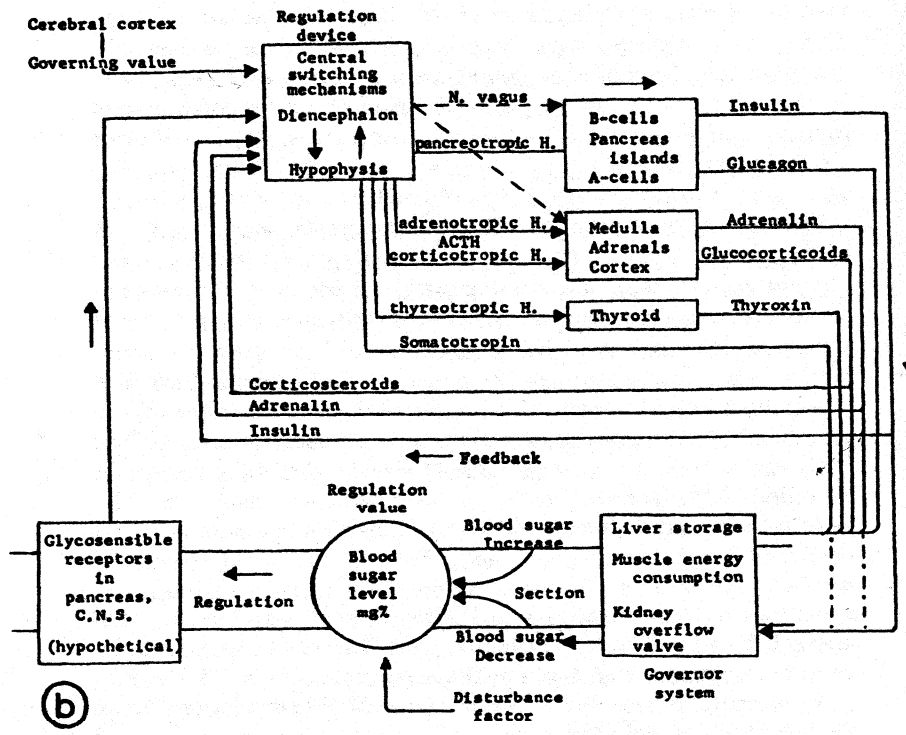
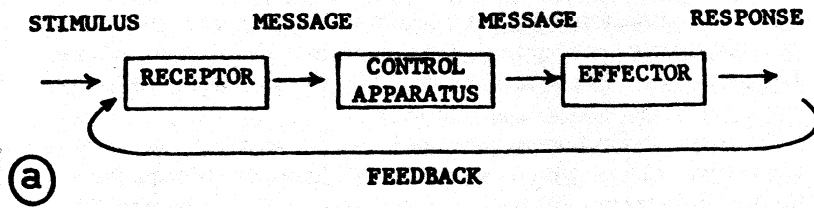


Fig. 7.2. a: Simple feedback scheme. b: Homeostatic regulation of the blood sugar level. (After Mittelstaedt, 1954.)