- PROZESUEN ADIERAZPENA : OINARRIZKO EKUAZIOAREN DIFERENTZIALAREN BIDEZ

$$U = U(S, V, N_1, \ldots N_n)$$

$$dU = \left(\frac{\partial U}{\partial S}\right)_{V, N_1, \ldots, N_n} dS + \left(\frac{\partial U}{\partial V}\right)_{S, N_1, \ldots, N_n} dV + \left(\frac{\partial U}{\partial N_1}\right)_{S, V, \ldots N_n} dN_1 + \ldots + \left(\frac{\partial U}{\partial N_n}\right)_{S, V, N_1 \ldots} dN_n$$

PARAMETRO INTENTSIBOAK / EGOERA-EKUAZIOAK

$$T \equiv \left(\frac{\partial U}{\partial S}\right)_{V, N_1, \ldots} = T(S, V, N_1, \ldots)$$

$$P \equiv -\left(\frac{\partial U}{\partial V}\right)_{S, N_1, \ldots} = P(S, V, N_1, \ldots)$$

$$\mu_K \equiv \left(\frac{\partial U}{\partial N_K}\right)_{S, V, \ldots} = \mu_K(S, V, N_1, \ldots)$$

$$Y_j \equiv \left(\frac{\partial U}{\partial X_j}\right)_{S, \ldots}$$

$$dU = T dS - P dV + \sum_{K=1}^{N} \mu_K dN_K$$

ZERO ORDENAKO FUNTZIO HOMOGENEOAK : PROPIETATEA

$$Y(\lambda S, \lambda V, \lambda N_1, \ldots, \lambda N_n) = Y(S, V, N_1, \ldots, N_n)$$

"AURREKO FORMALISMOA"AREKIKO ALDERAKETA : LEHENENGO PRINTZIPIOA

$$dU = T dS + \sum_{j=1}^{N} P_j dX_j$$

BARNE-ENERGIA ⟶ LANA ("TERMIKOA", EDOZEIN MOTATAKOA)