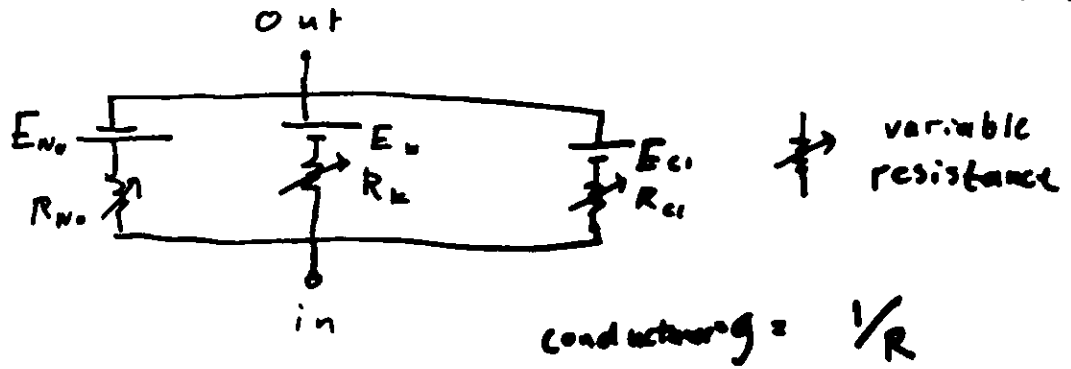


steady state + constant field assumption

$$E = - \frac{RT}{F} \ln \frac{P_K \cdot C_{K^+}^i + P_{Na^+} \cdot C_{Na^+}^i + P_{Cl^-} \cdot C_{Cl^-}^o}{P_K \cdot C_{K^+}^o + P_{Na^+} \cdot C_{Na^+}^o + P_{Cl^-} \cdot C_{Cl^-}^i}$$

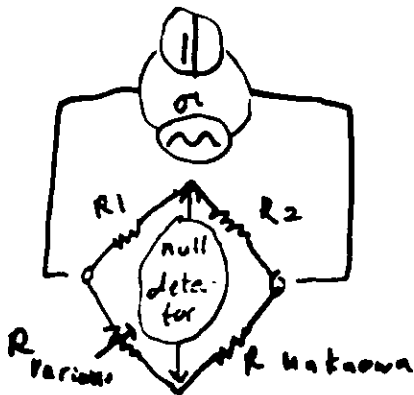
Goldman

P - permeability  
C - concentration



Typical concentrations

	out = M	in = M
$Na^+$	150	15
$Cl^-$	125	10
$K^+$	5	150



Wheatstone bridge

$$R_u = R_v \times \frac{R_2}{R_1}$$

Null  
Detector  
Reading

