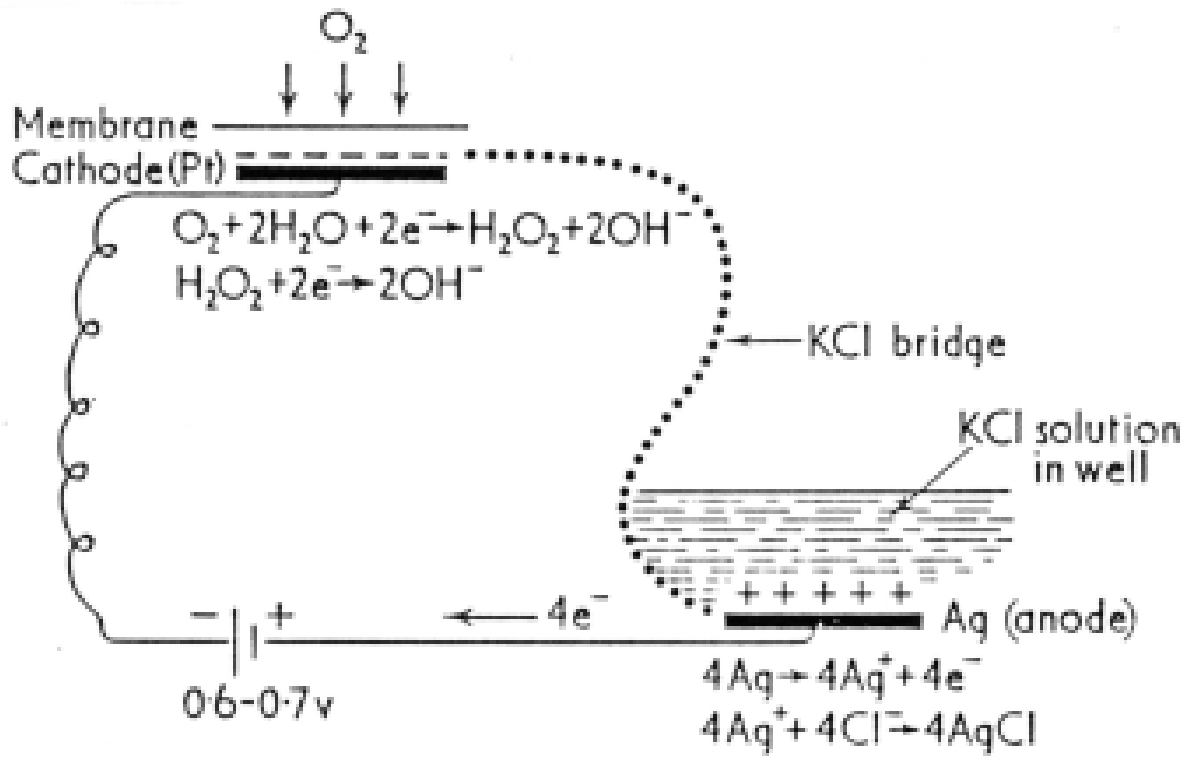
REDOX REACTIONS:
THE OXYGEN ELECTRODE (CLARK-TYPE) AS A CASE STUDY



Cathode Reaction (platinum): $4e^- + O_2 + 2H_2O \longleftrightarrow 4OH^-$

Anode Reaction (with KCl): $4Ag + 4Cl^- \longleftrightarrow 4AgCl + 4e^-$

The net result*:

$$4e^- + O_2 + 2H_2O + 4Ag + 4Cl^- \longleftrightarrow 4OH^- + 4AgCl + 4e^-$$

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*Remember, it's <u>not</u> equilibrium, but 'pumped' to go to products by the applied voltage (600–800 mV); the e^- consumption at the Pt electrode and production at the Ag electrode results in a current flow between the two half-cells, which is what you measure.