Migration of ions.

Electricity is carried out through the solution of an electrolyte by **migration of ions**. Therefore,
(1) Ions move toward oppositely charged electrodes at different speeds.

(2) During electrolysis, ions are discharged or liberated in equivalent amounts at the two electrodes, no matter what their relative speed is.

(3) Concentration of the electrolyte changes around the electrode due to difference in the speed of the ions.

(4) Loss of concentration around any electrode is proportional to the speed of the ion that moves away from the electrode, so

$$\frac{\text{Loss around anode}}{\text{Loss around cathode}} = \frac{\text{Speed of cation}}{\text{Speed of anion}}$$

The relation is valid only when the discharged ions do not react with atoms of the electrodes. But when the ions combine with the material of the electrode, the concentration around the electrode shows an increase. For example, during electrolysis of $AgNO_3$ solution using Ag electrodes, the concentration of $AgNO_3$ around the anode increases, because every nitrate ion that reaches at the anode dissolve from it one Ag^+ ion to form $AgNO_3$.