Equilibrium in Industry

Chemistry

Why industrial conditions never match the theoretical optimum.

The Haber process as the worked example.

Factor	Theory says	Industry uses
Temperature	Low — exothermic forward	450°C — for rate
Pressure	High — fewer moles right	200 atm — cost limits it
Catalyst	No effect on yield	Iron — for rate
Recycling	—	Unreacted gases returned

Ammonia is removed by liquefaction as it forms, which continuously shifts the equilibrium forward without changing conditions.