Condensed Matter Physics

\[ N \simeq 10^{23} \]

\[ F = E - TS \]

"More is Different"

P. W. Anderson
Science, 177, 393 (1972)

"New Phases of Matter"

"Quantum Condensates"

\[ \lambda = \frac{\hbar}{p} = \frac{\hbar}{\sqrt{2mk_B T}} \]

"Topological Order" → Even a bit "Less is Different"

Quantum Hall Effect

\[ \sigma_{xy} = N \left( \frac{e^2}{\hbar} \right) \]

- Quantized Edge States
- Topological Protection
- Non-Abelian Statistics