Dirac’s Quantization Postulate:

\[
\{ \ldots, \ldots \} \rightarrow \frac{\text{i}}{\hbar} [\ldots, \ldots]
\]

\[\uparrow\]

Poisson Bracket (Classical Mechanics)

\[\{A, B\} = \frac{\partial A}{\partial x} \frac{\partial B}{\partial p} - \frac{\partial A}{\partial p} \frac{\partial B}{\partial x}\]

\[(AB) = AB - BA\]

Classical ↔ Quantum

\[\frac{\partial H}{\partial q} = \{q, H\} \Rightarrow \hat{q} = \frac{1}{\text{i}\hbar} [\hat{q}, H]\]

Heisenberg’s Eq.
The Schrödinger Picture +
The Heisenberg Picture

More generally: If $\hat{A}$ is some observable, then

$$\frac{d\hat{A}}{dt} = -\frac{i}{\hbar} [\hat{A}, \hat{H}]$$

This is the most general form of the Heisenberg Eq.

The Heisenberg Eq. is completely equivalent to the time-dep.
Schrödinger Eq.

But there is an important diff.: in Schrödinger: $|\psi(t)\rangle$.
in Heisenberg: $A(x)$. $\psi$ is indep. of $\hat{A}$.

Most classical picture possible: property is time dep.