1 Principle:

If system initial at t_1, it end in t_2. Then we called the system to be T-symmetry if we start from t_2, reverse the time direction, it have to go back to t_1

2 T-Symmetry Breaking:

Considering a charged particle in magnetic field, we have the Lorentz force act on it:

$$\vec{F} = q\vec{v} \times \vec{B} \tag{1}$$

The breaking symmetry is coming from:

$$t \to -t \Rightarrow \vec{v} = \frac{\mathrm{d}\vec{r}}{\mathrm{d}t} \to -\vec{v} \tag{2}$$

But since:

$$\vec{B} = \nabla \times A = \vec{B} \to \vec{B} \tag{3}$$

If the particle is in the position t_2, we swap them with $-\vec{v}$ and redo the clock from t_1, it will not arrive at the initial position when the clock go to t_2, therefore breaking the T-symmetry.