Recap

- *(i)* Any first order ODE can be solved by

$$\frac{dx}{dt} = F(x), \quad \implies \quad \frac{dx}{F(x)} = dt, \quad \implies \quad t = \int_{x_0}^{x(t)} \frac{dx'}{F(x')} \,. \tag{1.2.17}$$

- *(ii)* Transcritical and pitchfork bifurcations are captured by the ODEs

$$\dot{y} = \epsilon y - y^p \,, \tag{1.2.18}$$

with $p = 2$ and $p = 3$ respectively; the latter corresponding to *symmetry breaking.*