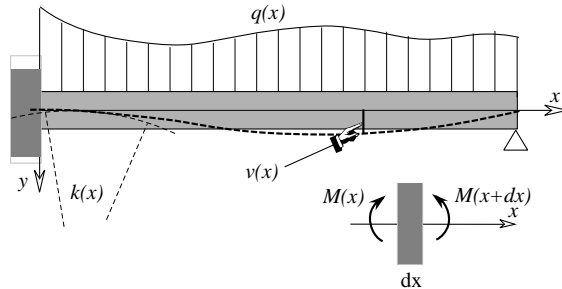
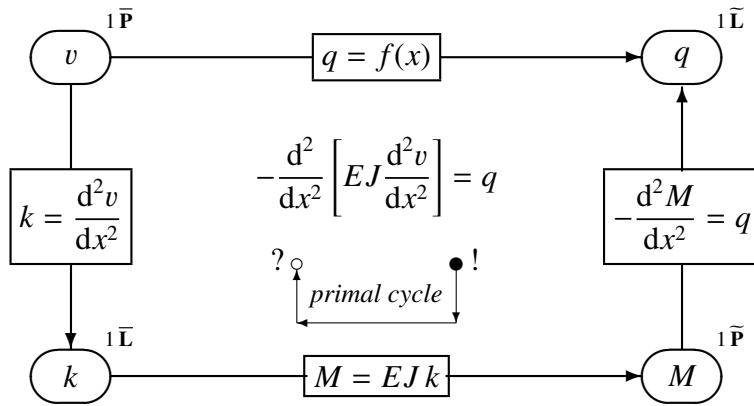


## Cantilever beam: Bernoulli-Euler *small displacements*

*configuration variables  
inner space orientation  
primal complex*

*source variables  
outer space orientation  
dual complex*



$v$  transversal elongation       $q$  transversal load for unit length  
 $k$  curvature                       $M$  bending moment

$E$  elastic modulus  
 $J$  second order moment

