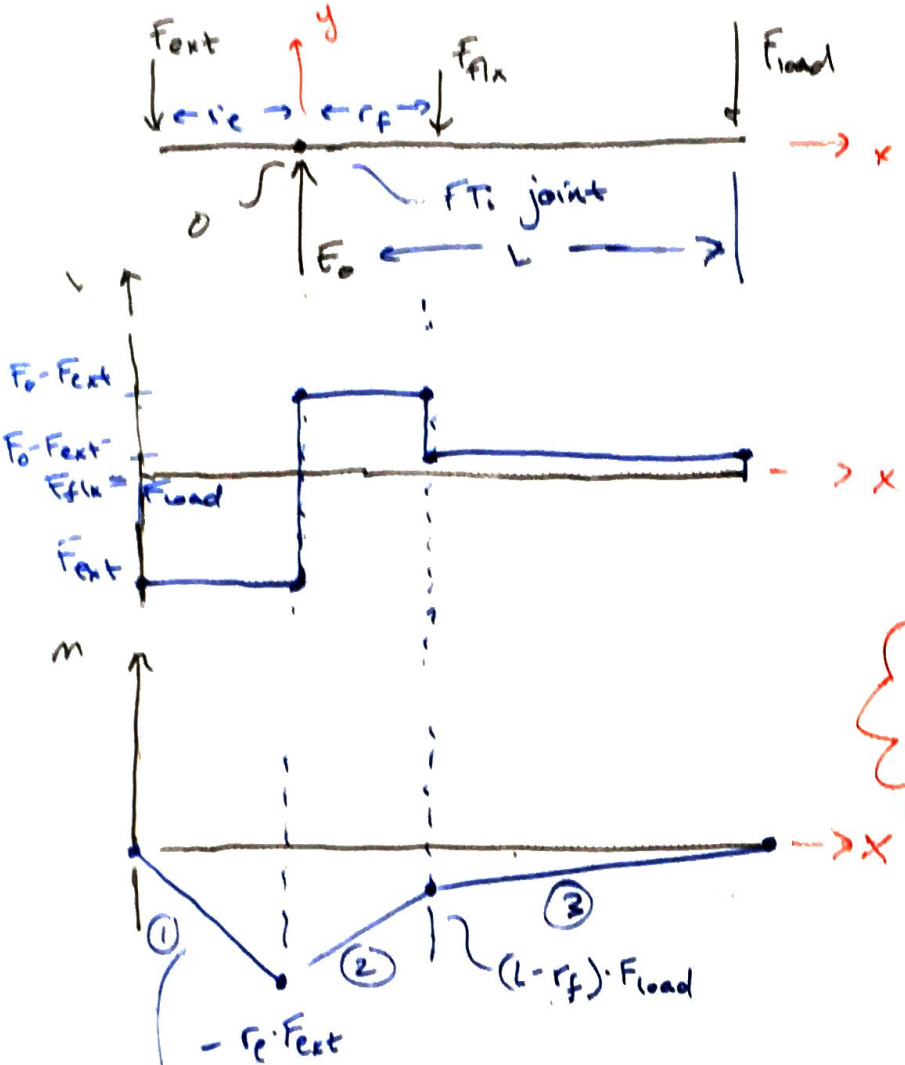

keep in mind that $F_{ext} >> F_{load}$,

$$\Sigma F_y = 0 = F_o - F_{flx} - F_{ext} - F_{load}$$
$$\Sigma m_o = 0 = r_e \cdot F_{ext} - r_f \cdot F_{flx} - L \cdot F_{load}$$

if co contracting by degree "c", $F_{flx} = c \cdot F_{ext}$.

see effectOfCocontraction.m for solution of these equations.

① $m = -r_e \cdot F_{ext} - x \cdot F_{ext} = (-r_e - x) \cdot F_{ext}$ (i.e. when $x = -r_e$, $m = 0$). if $x < 0$

③ $m = (L - x) \cdot F_{load}$ (i.e. when $x = L$, $m = 0$) if $x > r_f$

② $m = -r_e \cdot F_{ext} + \frac{x}{r_f} \cdot \left((L - r_f) \cdot F_{load} - (-r_e \cdot F_{ext}) \right)$

$$= \frac{x}{r_f} \cdot (L - r_f) \cdot F_{load} - r_e \cdot F_{ext} + \frac{x}{r_f} \cdot r_e \cdot F_{ext}$$

$$= \frac{x}{r_f} \cdot (L - r_f) \cdot F_{load} - \left(1 - \frac{x}{r_f}\right) \cdot r_e \cdot F_{ext}$$ if $x \geq 0$ AND $x \leq r_f$

BECAUSE F_{ext} DEPENDS ON BOTH F_{load} AND F_{flx}, CS DISCHARGE WILL REFLECT BOTH THE EXTERNAL LOAD AND COCONTRACTION.