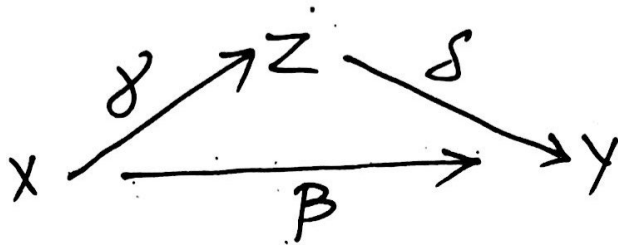# Path Analysis:

x can affect Y

- directly (Direct Effect)
- indirectly through another intermediary variable `Z` (Indirect effect)

Define:

Total effect of X on Y = θ : $\boxed{y = \theta x + \varepsilon}$

But Total effect = Direct + Indirect Effect — ①

∴ now,
$$y = \delta z + \beta x + e \quad - ②$$

Use ① and ② for writing the Solutions