$$\mathbb{F}_p \sqsubset \mathbb{F}_{p^n} = \frac{z}{z^{p^n} = z}$$

$$m \prec n \Longrightarrow \mathbb{F}_{p^m} = \frac{z}{z^{p^m} = z} \sqsubset \mathbb{F}_{p^n} = \frac{z}{z^{p^n} = z}$$

$$z^{p^m} = z \Longrightarrow z^{p^{md}} = z$$

$$z^{p^{m(d+1)}} = z^{p^{md+m}} = z^{p^{md}p^m} = \left(z^{p^{md}}\right)^{p^m} \underset{\mathrm{Ind}}{=} z^{p^m} \underset{\mathrm{Vor}}{=} z$$

$$\mathsf{C}_{\mathbb{F}_p} | \mathbb{F}_{p^m} = \frac{z \mapsto z^{p^r}}{r \in \cancel{m}} = ()^{p^{\cancel{m}}}$$

$$n = mq + r: \quad r \in \cancel{m}$$

$$z^{p^m} = z \Longrightarrow z^{p^n} = z^{p^{mq+r}} = z^{p^{mq}p^r} = \left(z^{p^{mq}}\right)^{p^r} = z^{p^r}$$

$$\mathsf{C}_{\mathbb{F}_p} | \mathbb{F}_{p^\infty} = \lim_{m} ()^{p^{\cancel{m}}}$$