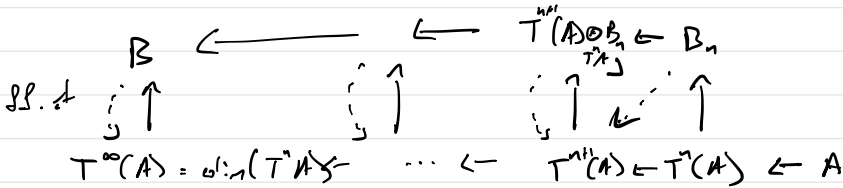
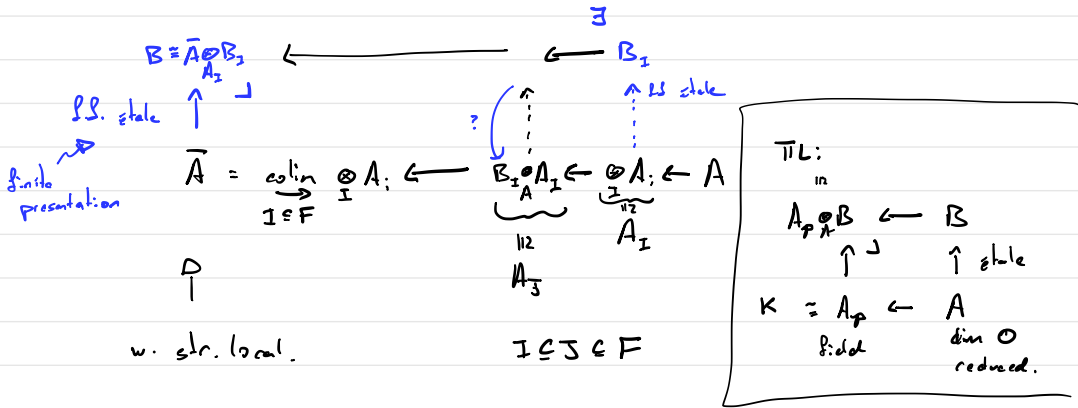
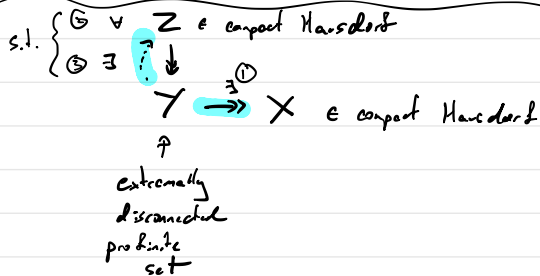
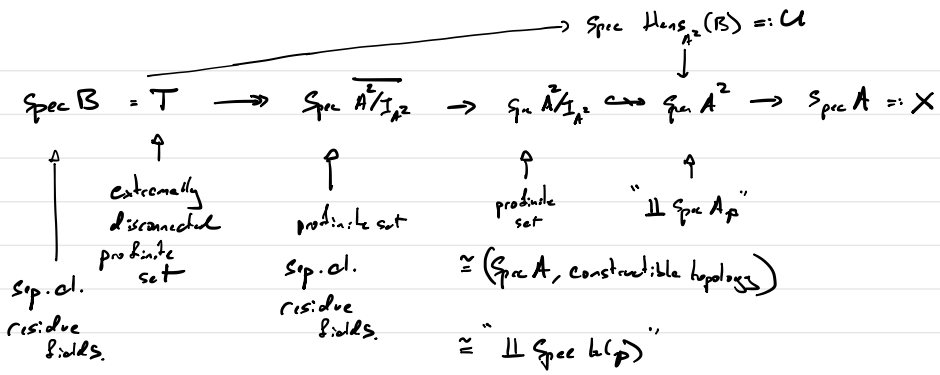


$A = \text{reduced}, \dim = 0 \Rightarrow \bar{A} \text{ also red. dim} = 0 (\Rightarrow \text{w.local})$

$F = \text{set of iso. classes of p.s. étale } A\text{-alg.}$





Special cases:

- ① Zariski;
- ② profinite case
- ③ field case

$$1) \mathbb{Z} \rightarrow \text{colim}_{\text{primes } p} \mathbb{Z}_{(p)} = \mathbb{Z}_{(2)} \times \mathbb{Z}_{(3)} \times \dots \times \mathbb{Z}_{(p)} \times \mathbb{Z}\left[\frac{1}{2}, \frac{1}{3}, \dots, \frac{1}{p}\right] = \mathbb{Z}^2$$

$$2) k = k^2 = k^2/\mathbb{I}_{k^2} \rightarrow k^{\text{sep}} = \overline{A^2/\mathbb{I}_{A^2}} = \mathbb{B}$$

$$\mathbb{Z}^2/\mathbb{I}_{\mathbb{Z}^2} = \text{colim}_{\text{primes}} \mathbb{F}_2 \times \mathbb{F}_3 \times \mathbb{F}_5 \times \dots \times ?$$