We start by taking as a definition of affine schools the opposite of the opposite of the opposite of the

Sch := ((Alg) op we will drop k from the notation, but we fixed on bak tield.

As we all already discussed, for each 420 one has functions:

(A)g(Vect 20,50) ~ (A)g we let

[M]!

In Schaff ~ Schaff denote the corresponding known

Tin: Schaff ~ Schaff the composite.

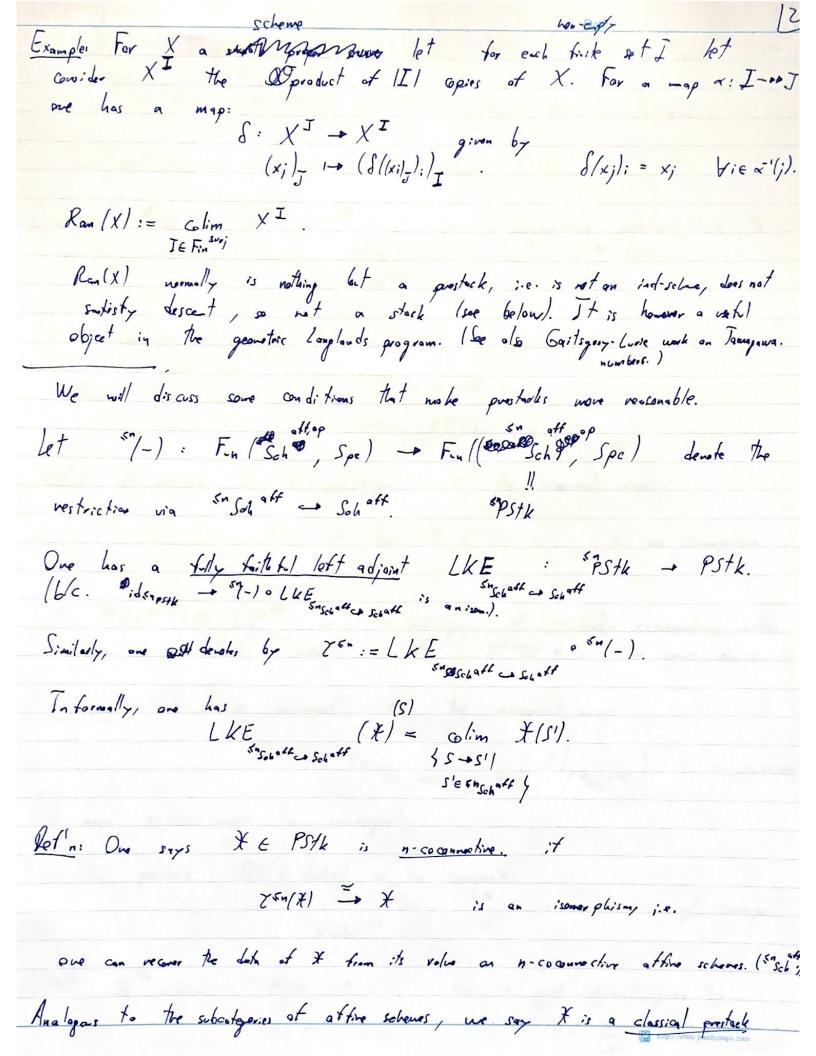
In particular, co Schaff = 50 Schaff from the fact that de dissuete.

Commitative algebras were equivalent to ordinary commutative algebras.

Det'n: A prostock It is a functor from the listagery opposite et the cartegory of aftire schemes to spaces, i.e. I: Sch p - spc.

Let PStk:= Fin (Sch ppc) denote the no-category at such.

RK: The above definition is so general that exit is essentially impossible to say something about an arbitrary prestack. It is useful though in the sense that one should sometimes strive to make some et contain constructions in this generality so that they apply instructions to dire objects that one might be controted with.



Finiteness conditions. We start by discussing these conditions for algebras. Det'n: Giran SE Schaff where S = Spec (A) A = CAlg, we say (ii) It'(A) = 0 for ic=0. let \$ <005ch aff co Sch off co Sch off dorote the Corresponding sub outropory. - Sis sold almost at finite type it till Hold is of finite type /k;

(ii) Hi(A) is a fig. Hold-mod.

Vie Z. Equinletly, DOO Vn 20, @ Ens is of Kinike type Examples: (i) k[E] w/ |E|=-1 is of kinik type.

(ii) k[y] w/ |y|=-2 is almost of finite type.

Prop: (Woeth: approx.) For any SE En Sch aff one has S= lim So , 1.e. aff
These conditions immediately generalize to prestants.

Soe Enseight = Enseight

Examples: (i) k[E] w/ |E|=-1 is of kinik type. Ret'n: - For y & in pstk for some n >0, y is said to be locally of tiaik type. if the commical maps LKE (Y | Enschaff) - by is an isomorphism.

- For X & PStk, X is said to be locally almost of finite type. if (ii) \$ is convergent

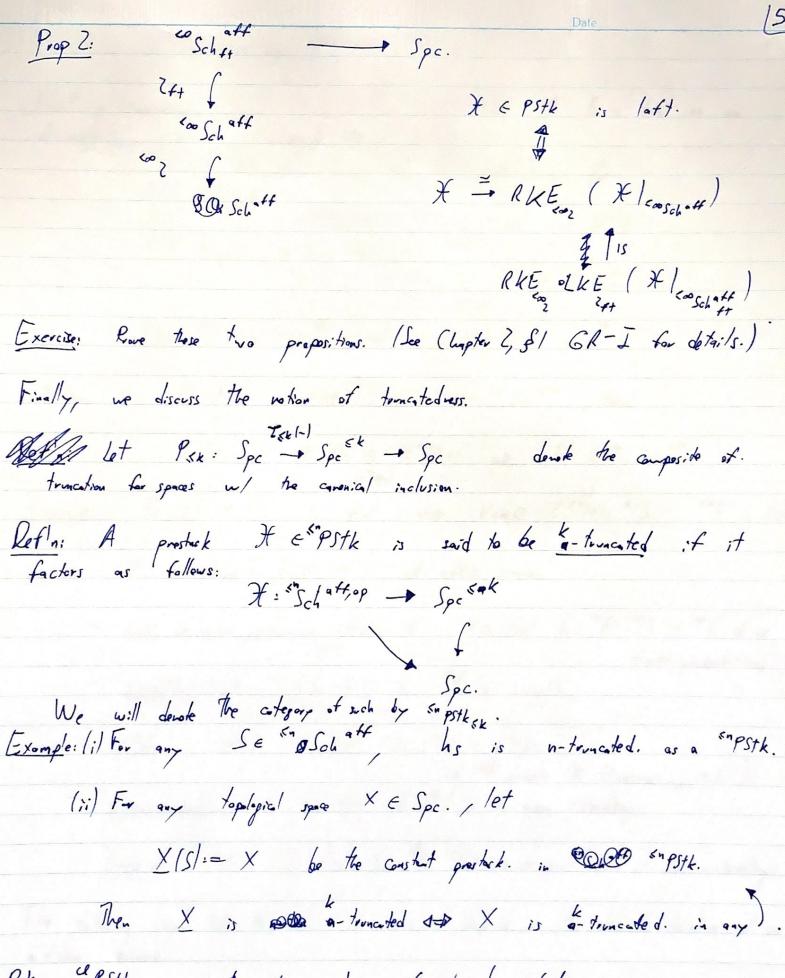
(ii) \$\forall n \to 0, \quad n \to \in \text{PStkff}, i.e. \quad n \to \left| \text{pe.}

Savity checks:

Prop: (i) 4: (susch att) of - Spc is locally at think type iff y takes (a) filtered limits to alimits. (i) Se Englatt is of first type ift hs: (snglatt) of -1 Spc. is locally

The Ham (7,5) of first type

The Ham (7,5) (1:1) Schaff = Schaff A PSTKINGT.



RK: apstker is the ordinary category of classical prestacks.

apstker is the ordinary category of presteries. of sets. on ord. after schools.