To define of we book at

 $\mathcal{D}$ 

- A that ITA, MARTING TX LTA, MARTING (TA, MA) - (A, X) MA is a coeq diagram We saw flat it's V-split. Hence

The (Honadicity Theorem) CZD is mouadic (=) U creates coeq. of U-split pairs Shetchotpt."=)" T=UF: NTO WI creates com uits lu of U-spl. pairs C Ellequivalence =1 Uncreates weg. of U-Spl. pairs The hant a guasi-inverse L.C.D. of k. Since KF=FT, then F=LKF=LFT We construct (s.t. F=LFT: Then L(TA, MA)=FA and for TE: (TA, MAL ~ (TB, MBL, LTE=FE:FA-FB For a general (A,K) we bok (1) at  $(T^2A, M_T) \xrightarrow{T_X} (TA, M_A) \xrightarrow{X} (A, K)$  $M_A$ 

by the previous proof it's a coeq.



with

A-I how of come singl mbod ~ Abod ~ M~ MOAB "faithfully flat descent" It A a R is faithfully flat, then Fis compactic.