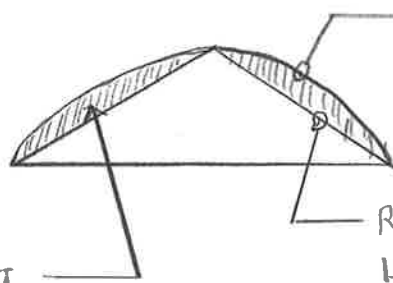


GENERAL ANALYSIS

ADAM'S THEORY OF COMPOSITE ACTION



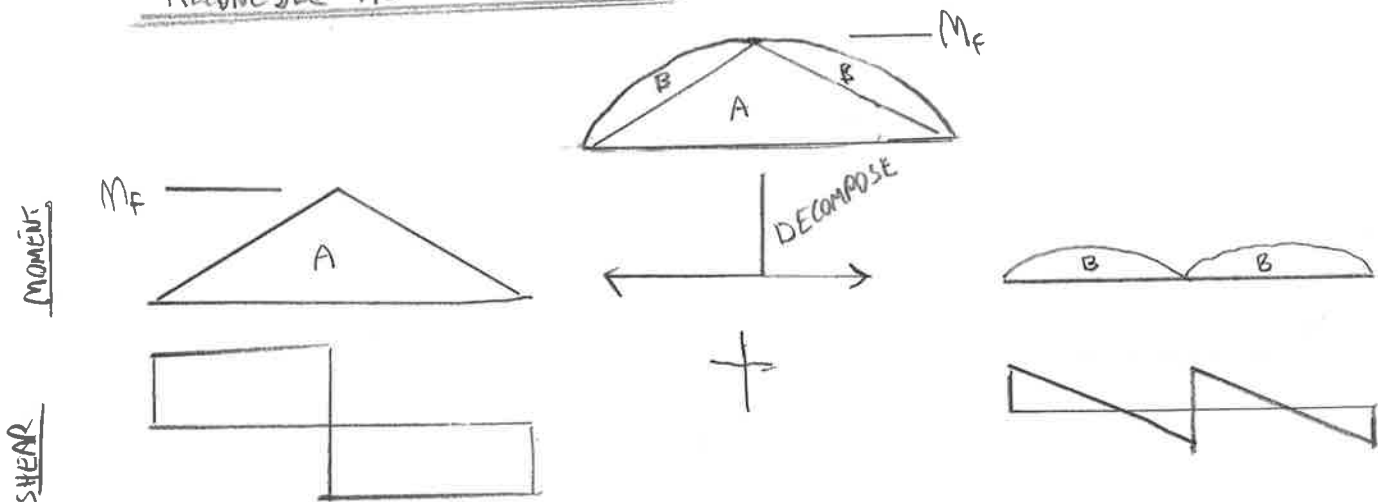
RESIDUAL MOMENT CAPACITY MUST BE PROVIDED BY STEEL BEAM ACTING ON ITS OWN, ACTING NON-COMPOSITELY.
CONSEQUENCES:

- 1) PLANE SECTIONS DO NOT REMAIN PLANE. THIS IS DUE, NOT JUST TO THE REALITY OF IMPERFECT SHEAR TRANSFER BUT TO EQUILIBRIUM.
- 2) THE PORTION OF LOAD RESISTED NON-COMPOSITELY INCREASES DEFLECTION RELATIVE TO A FULLY COMPOSITE CASE.

COMPOSITE MOMENT DIAGRAM BASED ON EQUILIBRIUM, IMMUTABLE!

RESISTING MOMENT DIAGRAM, IF HORIZONTAL SHEAR @ INTERFACE IS LINEAR, THEN "CHORD" FORCE & MOMENT RESISTANCE DUE TO COMPOSITE BEHAVIOR MUST ALSO INCREASE LINEARLY. PROBLEM: YOU CAN'T FIGHT A PARABOLIC APPLIED MOMENT DIAGRAM WITH A LINEAR MOMENT DIAGRAM,

RECONCILE HORIZONTAL SHEAR



* HORIZONTAL SHEAR MATCHES VERTICAL FOR PORTION OF LOAD RESISTED COMPOSITELY

* HORIZONTAL LOAD IS SELF-EQUILIBRATING FOR PORTION OF LOAD RESISTED NON-COMPOSITELY.