

## ARCH 631. Topic 17 Reading Notes

- Basic strategies for joining linear members include lapping, deforming and interlocking or butting (touching) (as well as monolithic joints); most use a third element (*I call it a mechanical connector*):
  - point connectors: bolts, nails (pinned types)
  - line connectors: welds, glue (rigid types)
  - surface connectors: glue (rigid types)
- Connectors must transmit forces and possibly moments;  $M = Td = Cd$  means that the force across the line or point can be determined from T or C; rigid joints common in steel and concrete
- Bolts must resist shear; the connected plates must resist bearing and tension or compression; eccentrically loaded bolted connections have to be designed for torque
- Welds act by fusing the metals; strength of fillet weld is by shear through the weld throat along the length; depending upon location of welds, like in a splice, the distribution of load to each weld may not be equal