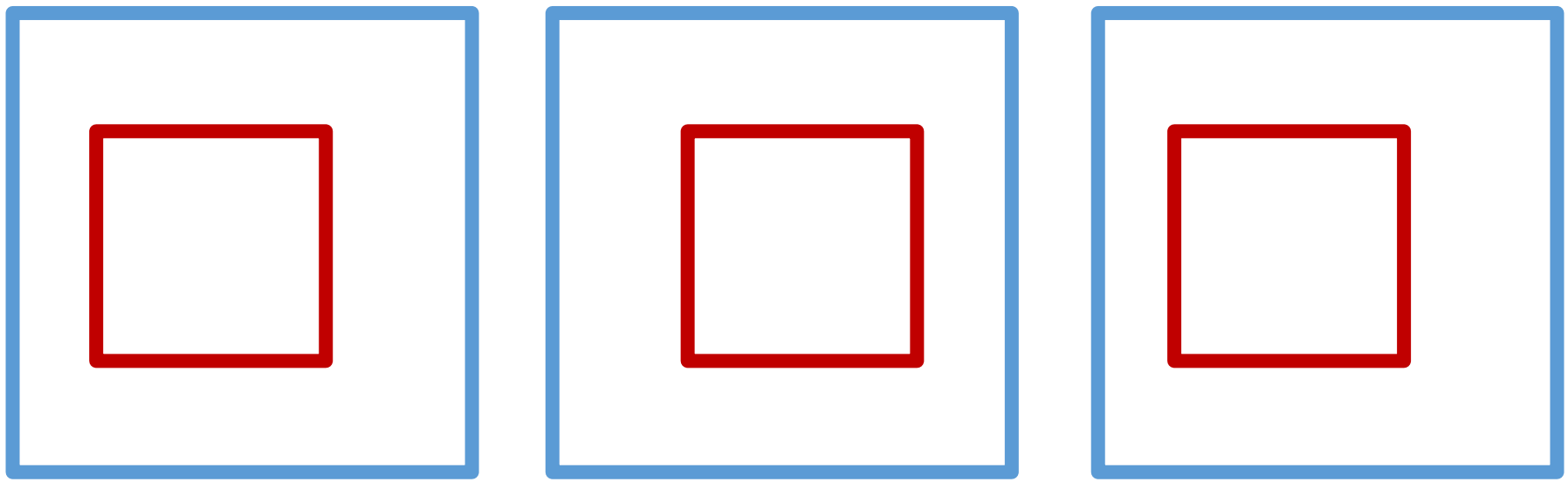
Stereo

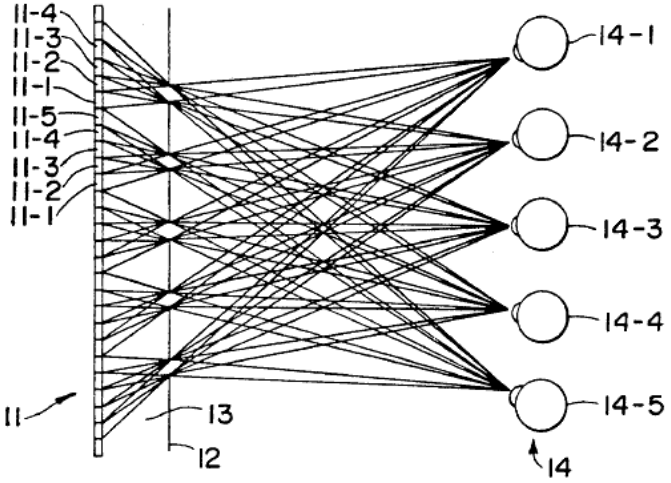
CS418 Computer Graphics

John C. Hart

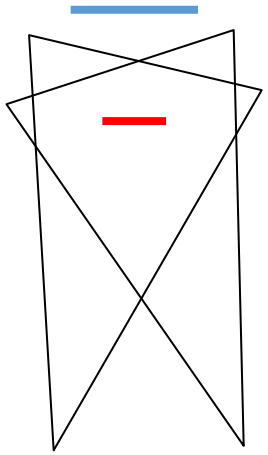


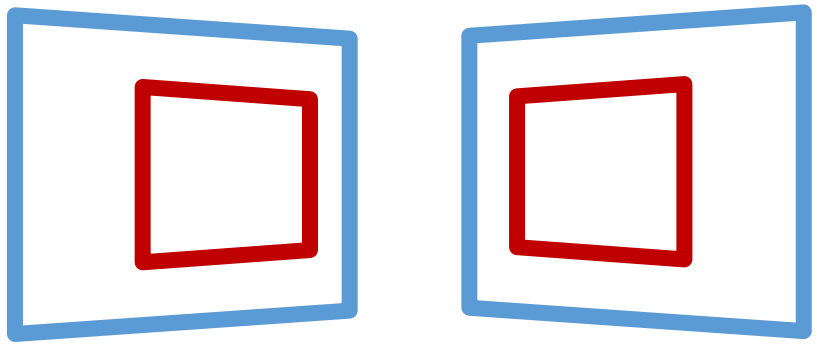
Stereo

- Disparity – differences (in image distance) between similar features images (varies with depth)
- Stereo methods
  - Cross eye & wall eye
  - Anaglyph (colored glasses)
  - Polarized glasses
  - Field sequential using alternately blinking lcd's in the glasses
  - Autostereograms (barrier strip or lenticular)

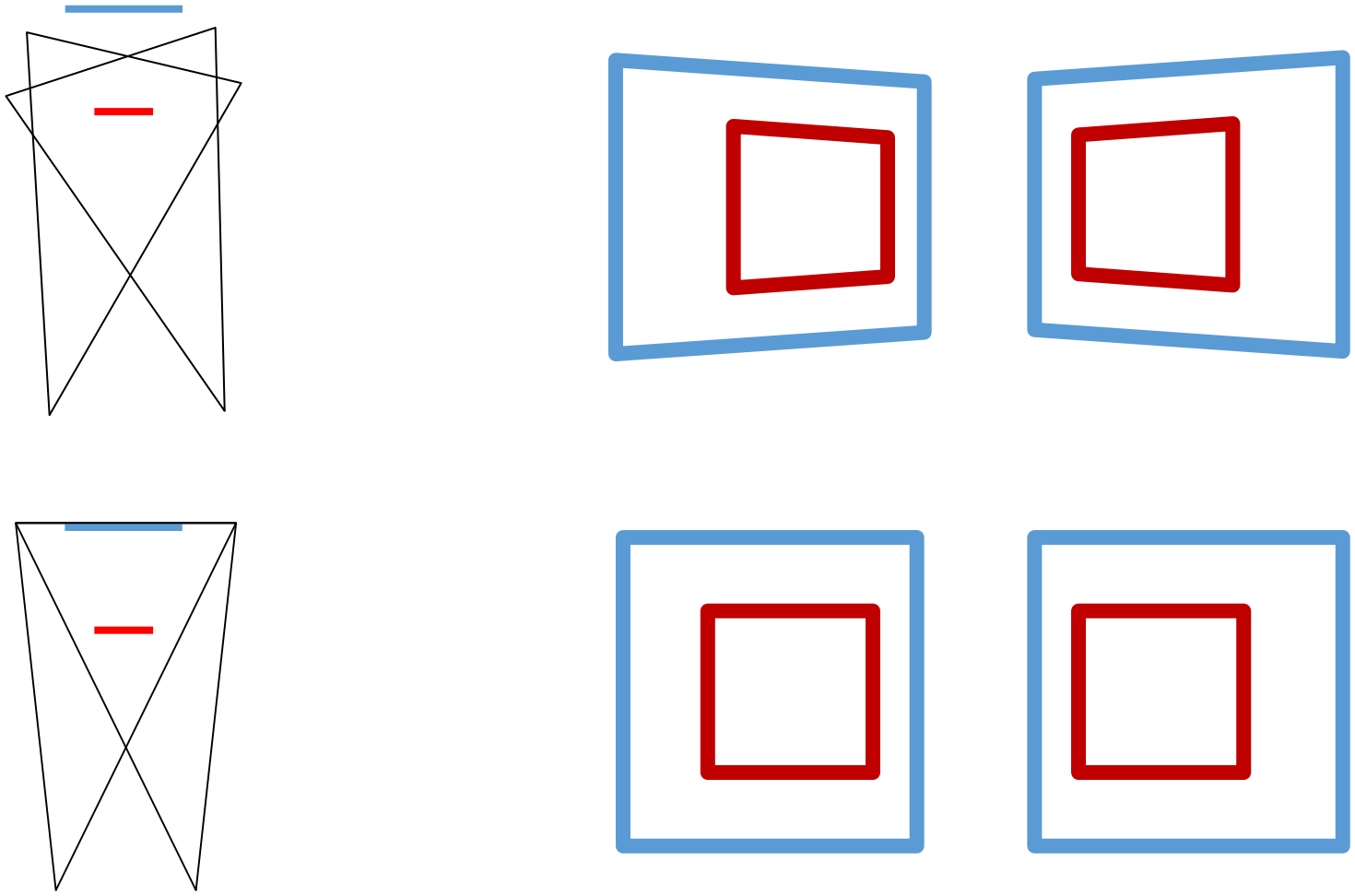


Rotation v. Shear





Rotation v. Shear



Sheared Perspective

- Shear first, then perspective
- Shear should preserve plane distance *f* from eyepoint
- Shear should move eyepoint *d* units perp to view direction
- Translate +*f* in *z* direction (remember view in -*z* dir)
- Shear the point (0,0,*f*) to the point (-*d*,0,*f*) *(opposite shear)*
- Translate back, by (0,0,-*f*)
- Apply perspective