

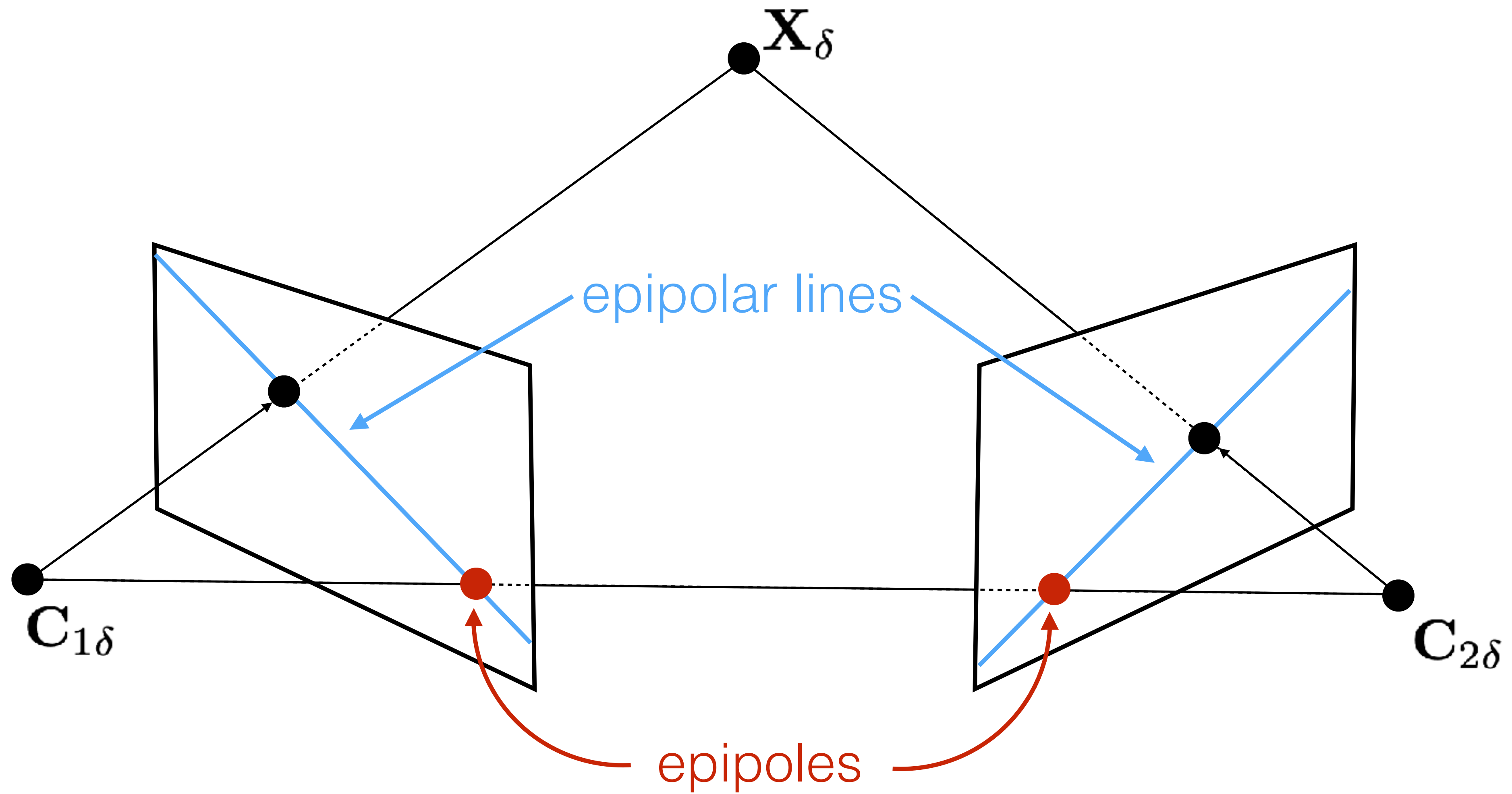
Elements of Geometry for Computer Vision and Computer Graphics



Translation of Euclid's Elements by Adelardus Bathensis (1080–1152)

Lecture 10: Epipolar Geometry

Epipolar Geometry



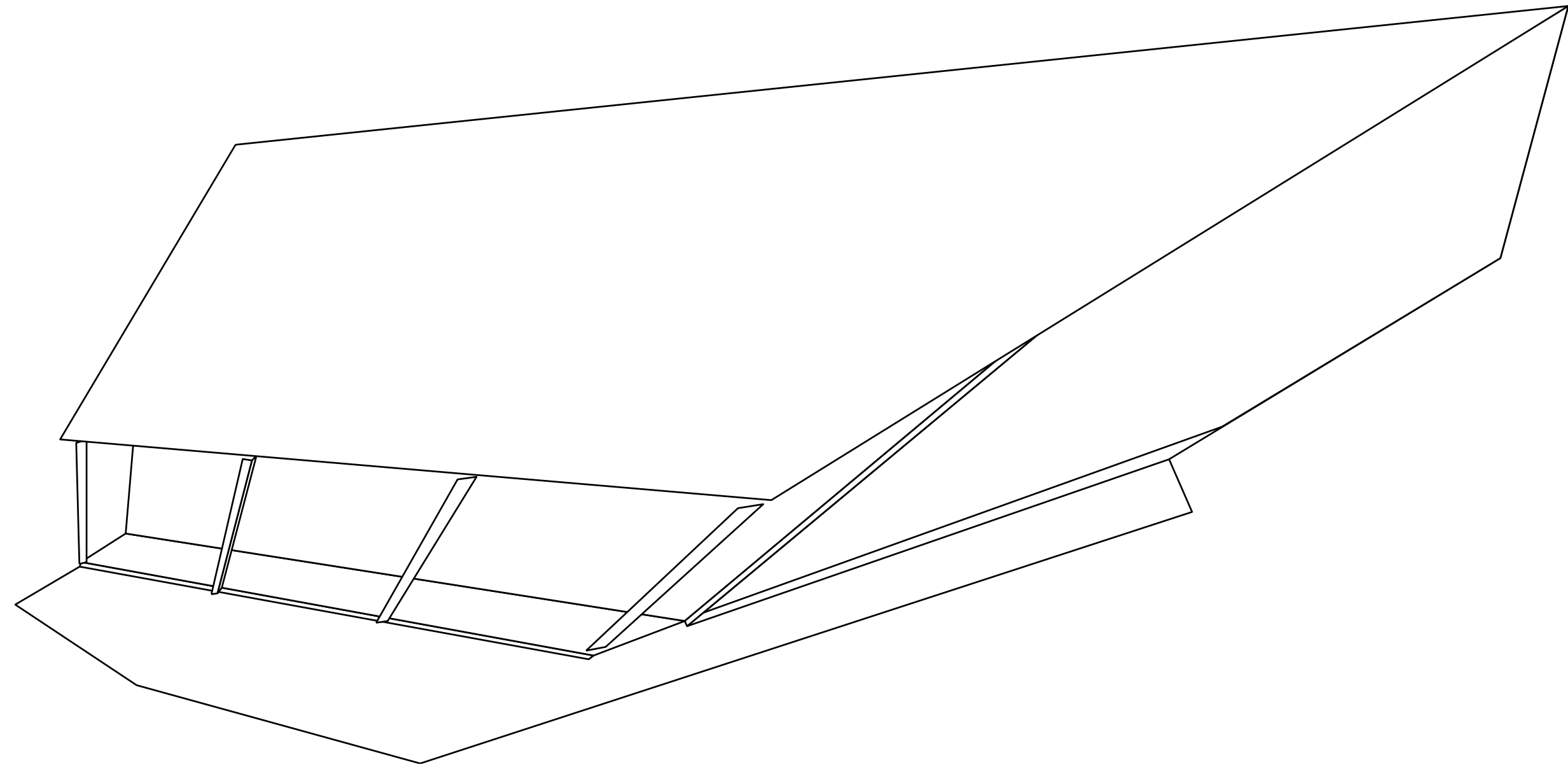
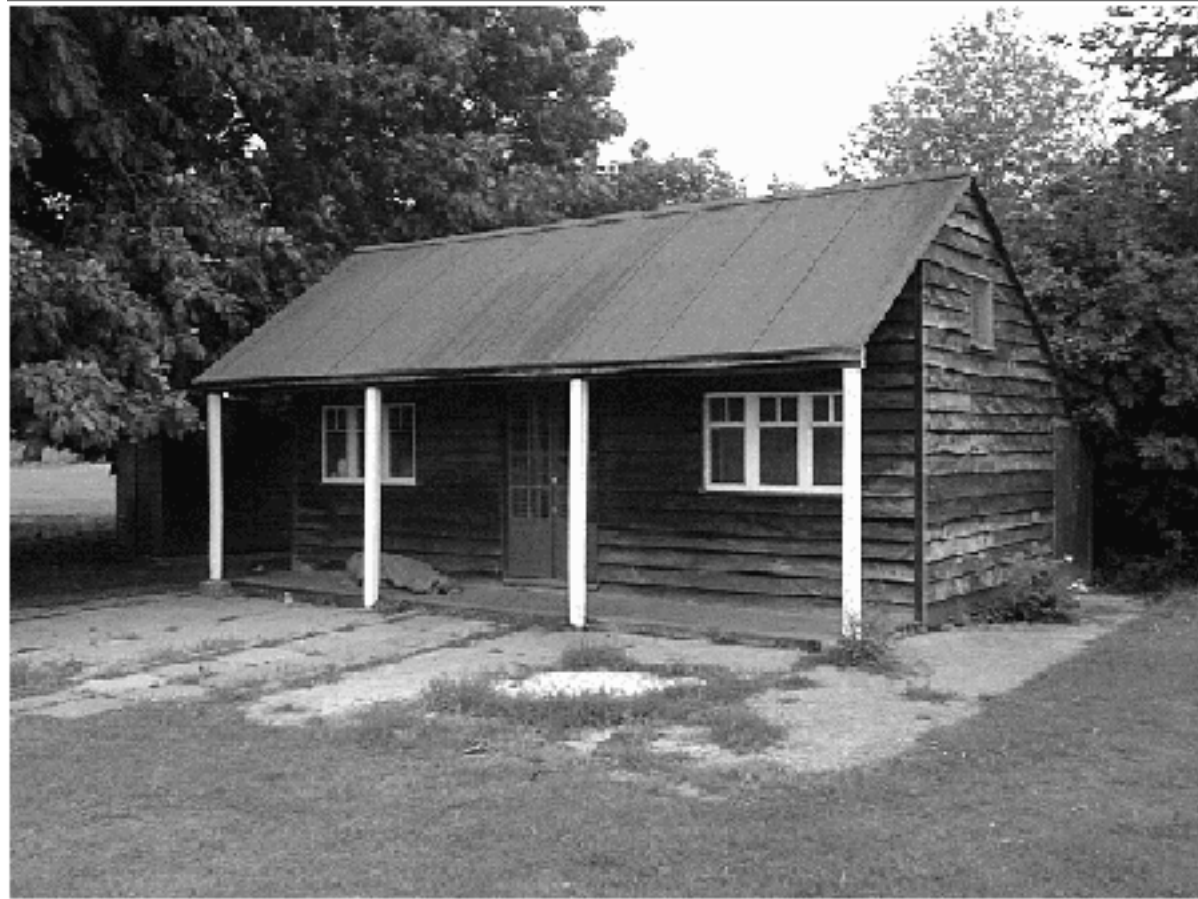
Quiz

cw.fel.cvut.cz/b212/courses/gvg/start → BRUTE → GVG Geometry of Computer Vision and Graphics

Q: The fundamental matrix F maps...

1. 2D points to 2D points.
2. 2D points to 2D lines. ✓
3. 2D points to 3D points.

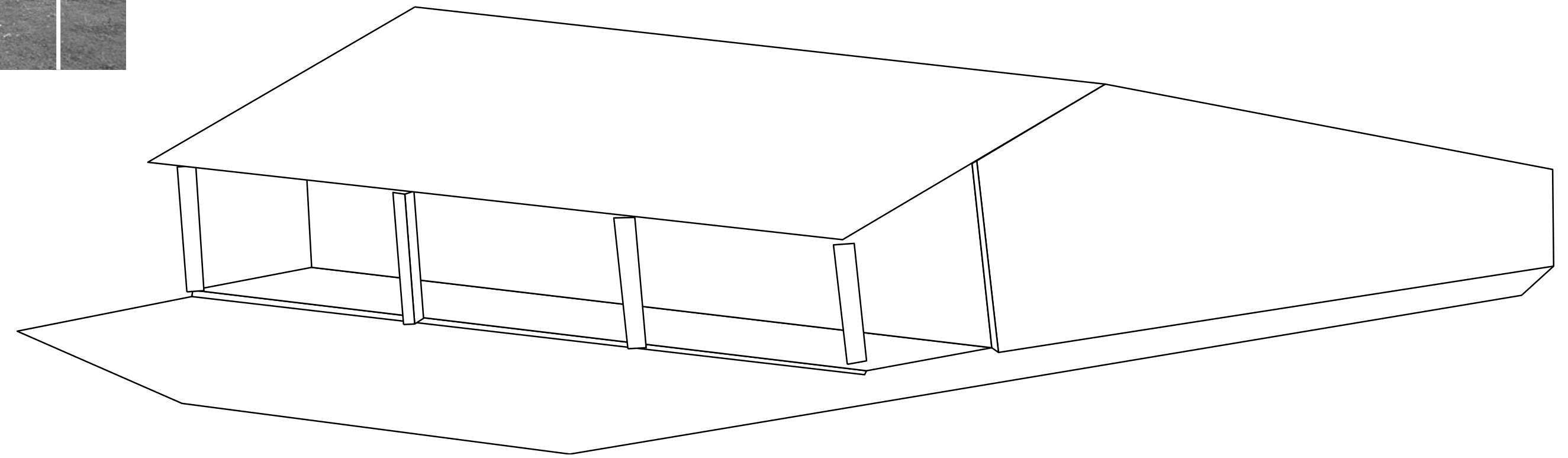
Ambiguities in Two-View Reconstructions



projective reconstruction

example from: Hartley & Zisserman, Multiple View Geometry in Computer Vision, 2nd edition, 2004 (Chapter 10)

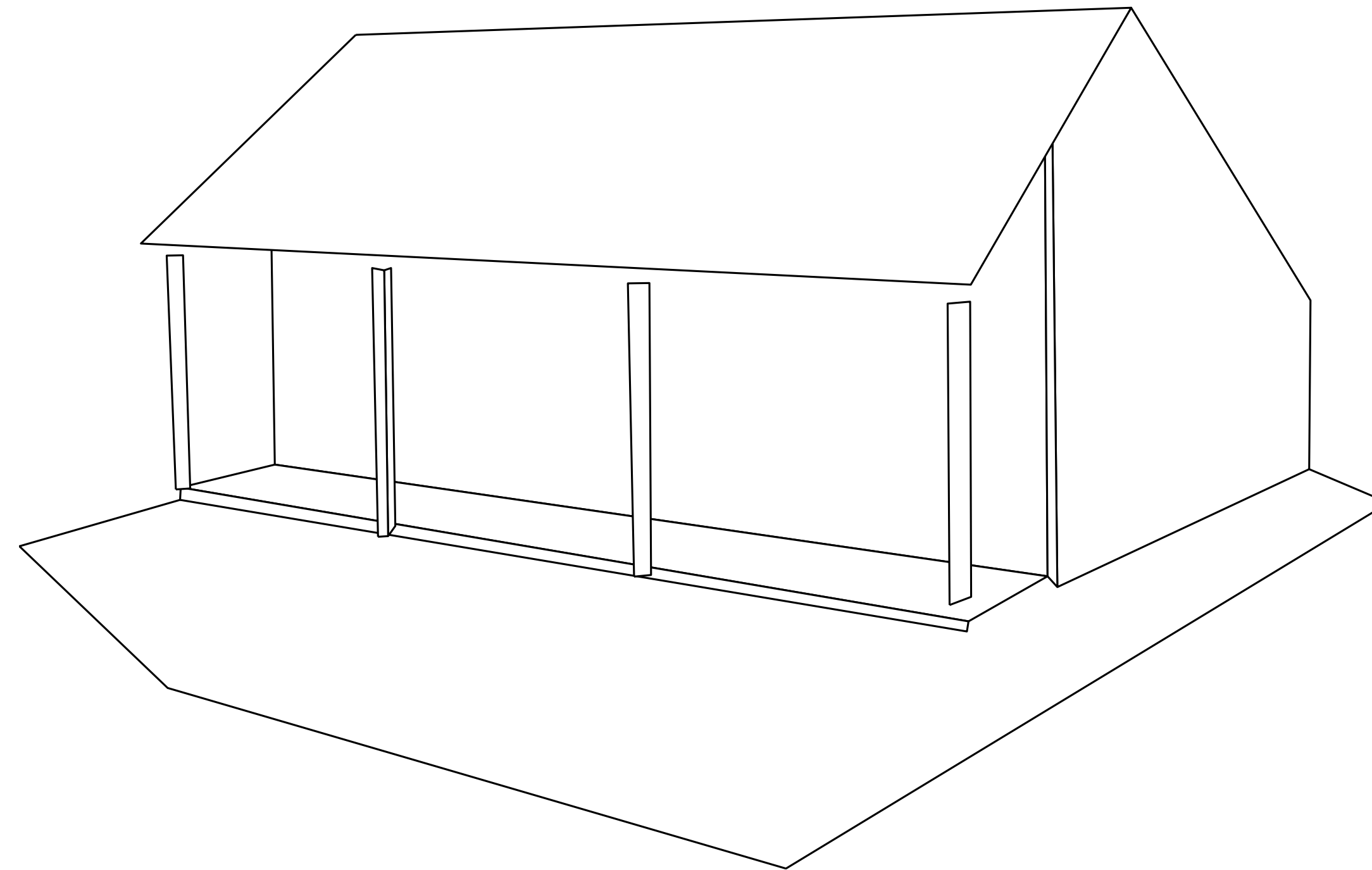
Ambiguities in Two-View Reconstructions



affine reconstruction

example from: Hartley & Zisserman, Multiple View Geometry in Computer Vision, 2nd edition, 2004 (Chapter 10)

Ambiguities in Two-View Reconstructions



metric reconstruction

example from: Hartley & Zisserman, Multiple View Geometry in Computer Vision, 2nd edition, 2004 (Chapter 10)

Quiz

cw.fel.cvut.cz/b212/courses/gvg/start → BRUTE → GVG Geometry of Computer Vision and Graphics

Q: The fundamental matrix can be computed from ...

1. 6 points.

2. 7 points. ✓

3. 8 points. ✓

4. more than 8 points. ✓