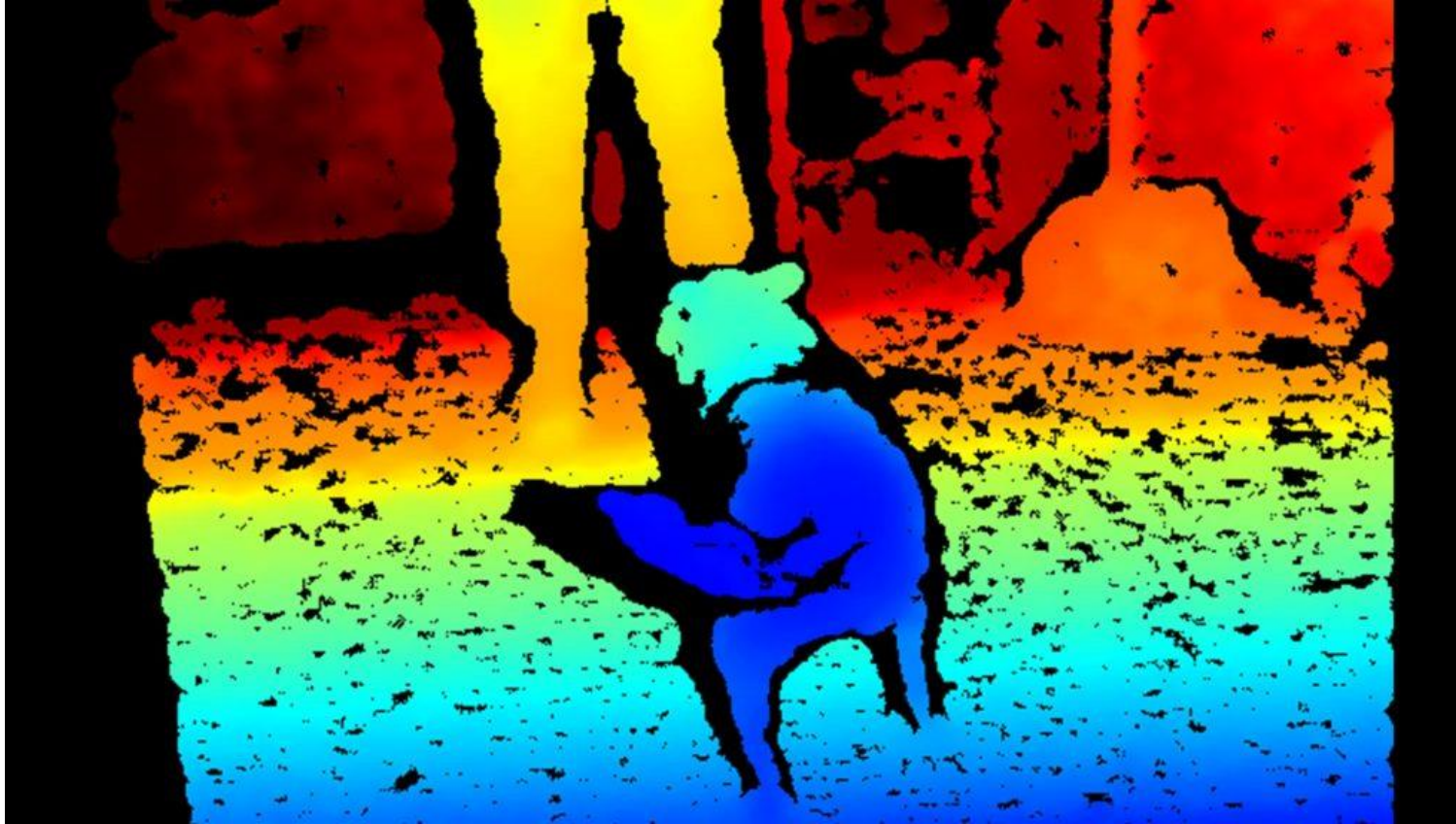


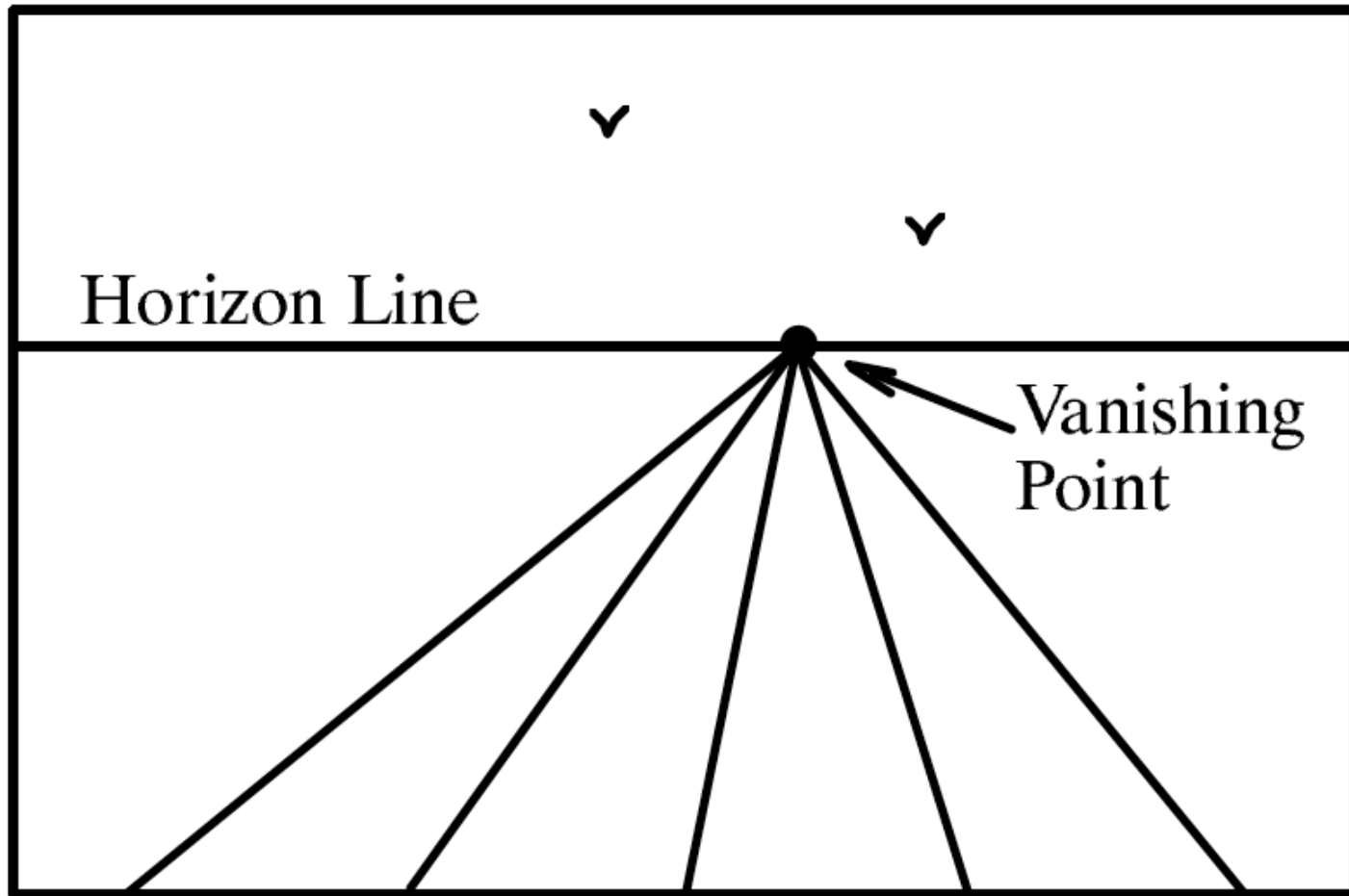
Stereo



References

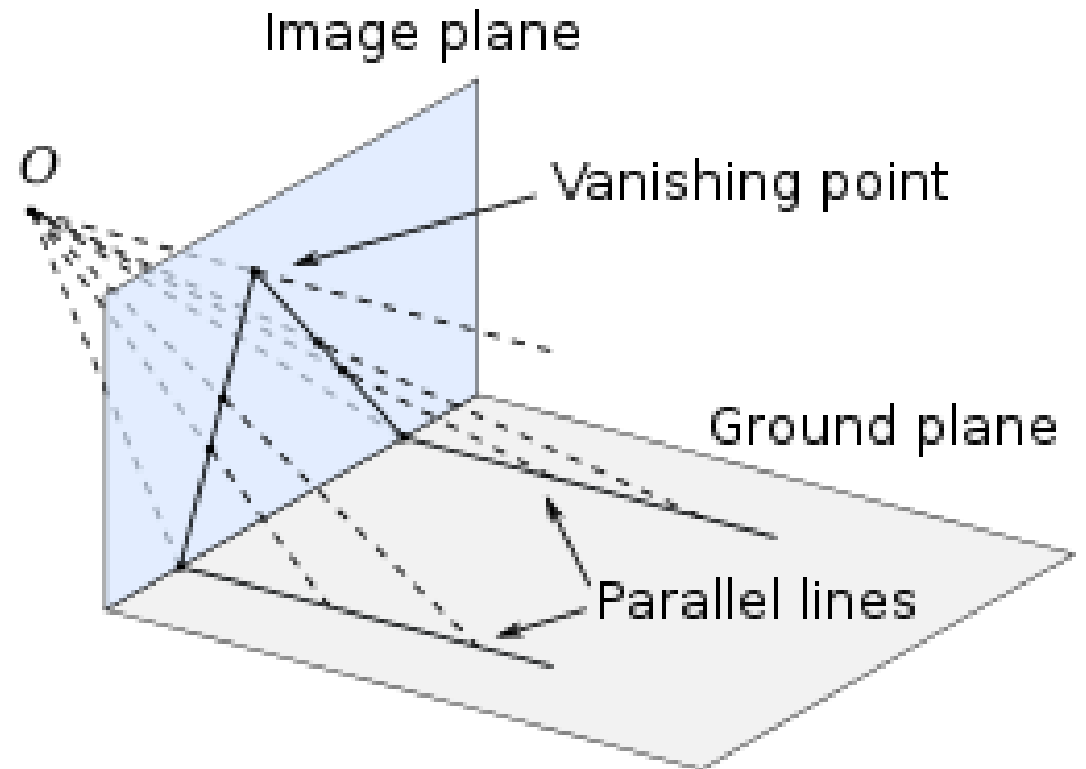
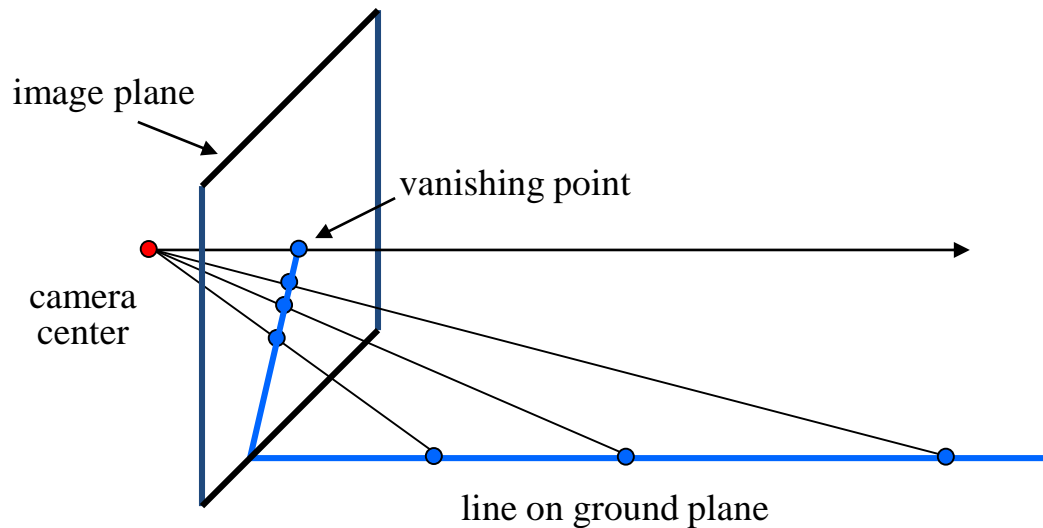
- <http://szeliski.org/Book/>
- <http://www.cs.cornell.edu/courses/cs5670/2019sp/lectures/lectures.html>
- <http://www.cs.cmu.edu/~16385/>

Vanishing points



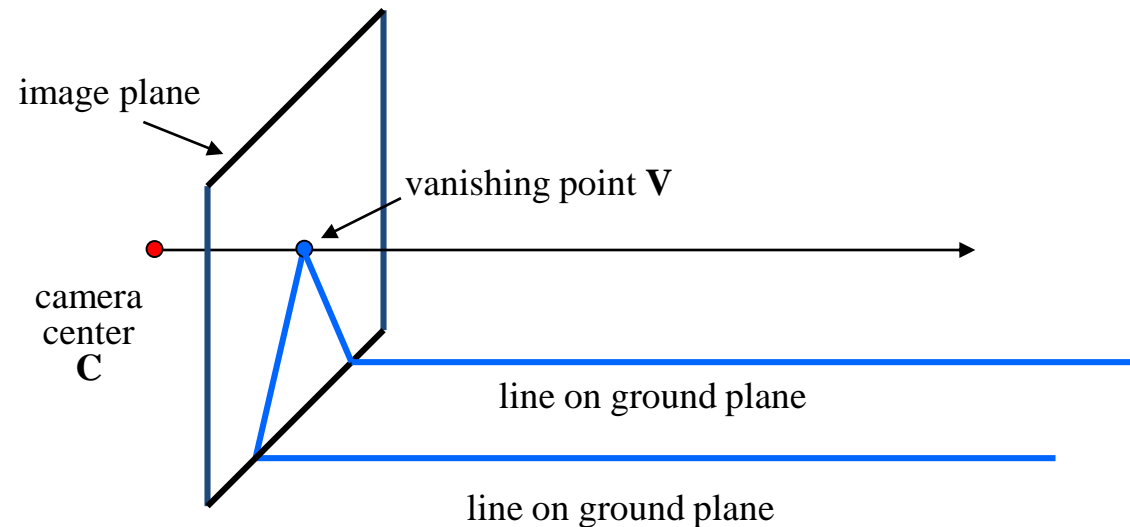
Vanishing points

- A **vanishing point** is a point on the image plane of a perspective drawing where the two-dimensional perspective projections (or drawings) of mutually parallel lines in three-dimensional space appear to converge. [Wikipedia]



Vanishing points

- Properties
 - Any two parallel lines (in 3D) have the same vanishing point \mathbf{v} .
 - The ray from \mathbf{C} through \mathbf{v} is parallel to the lines.
 - An image may have more than one vanishing point.
 - Sometimes vanishing points can be out of FOV of the image.

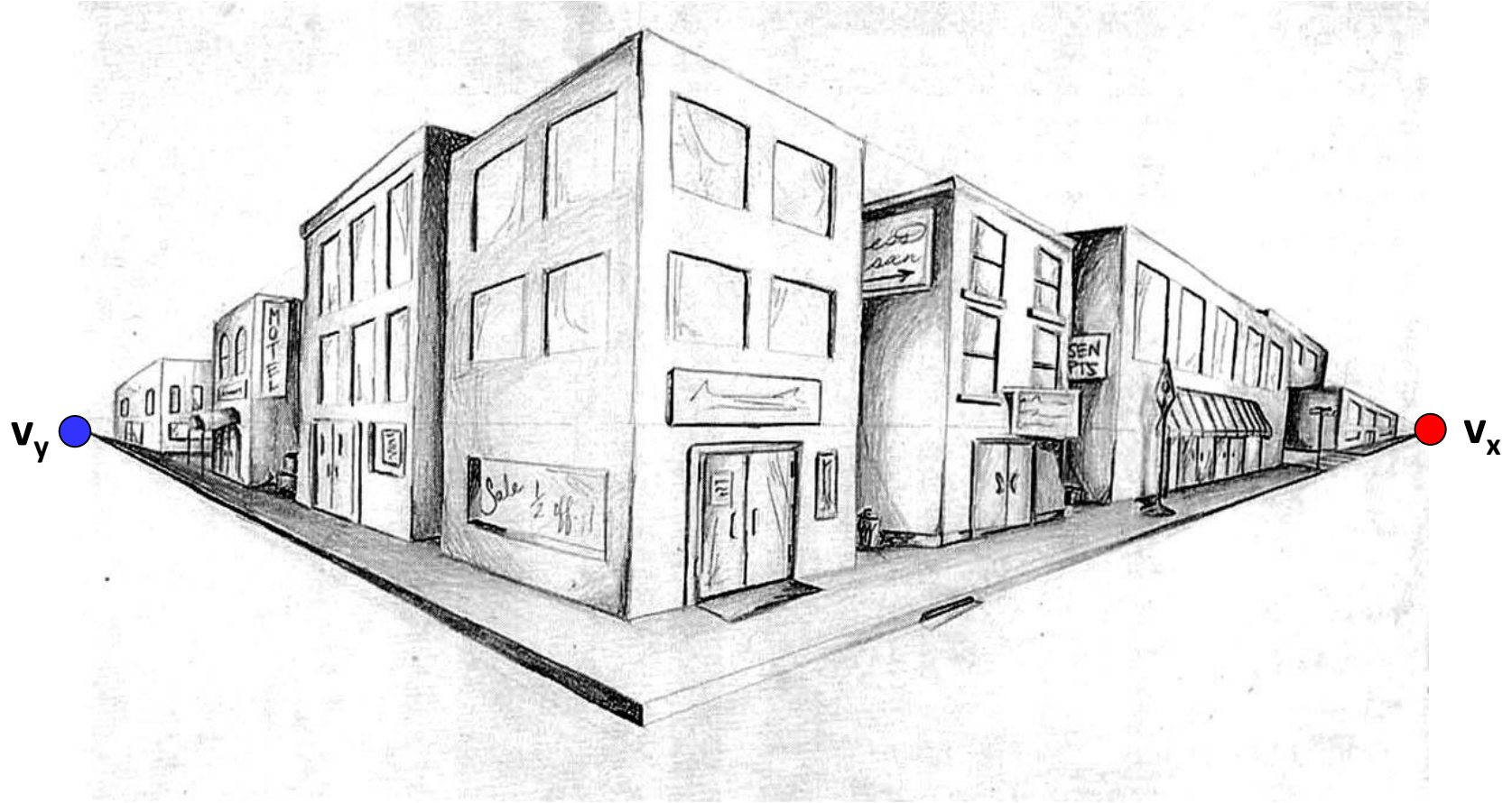


One-point perspective

- A drawing/ image has one-point perspective when it contains only one vanishing point.



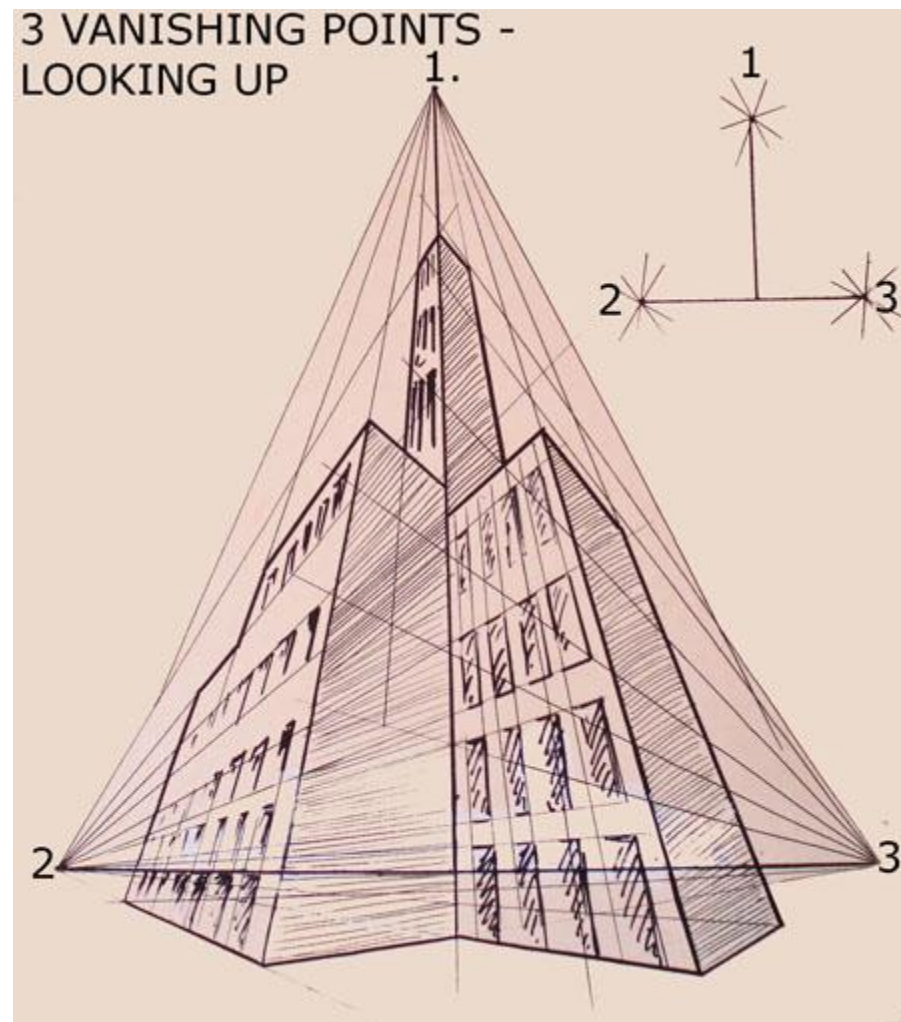
Two-point perspective



Two-point perspective

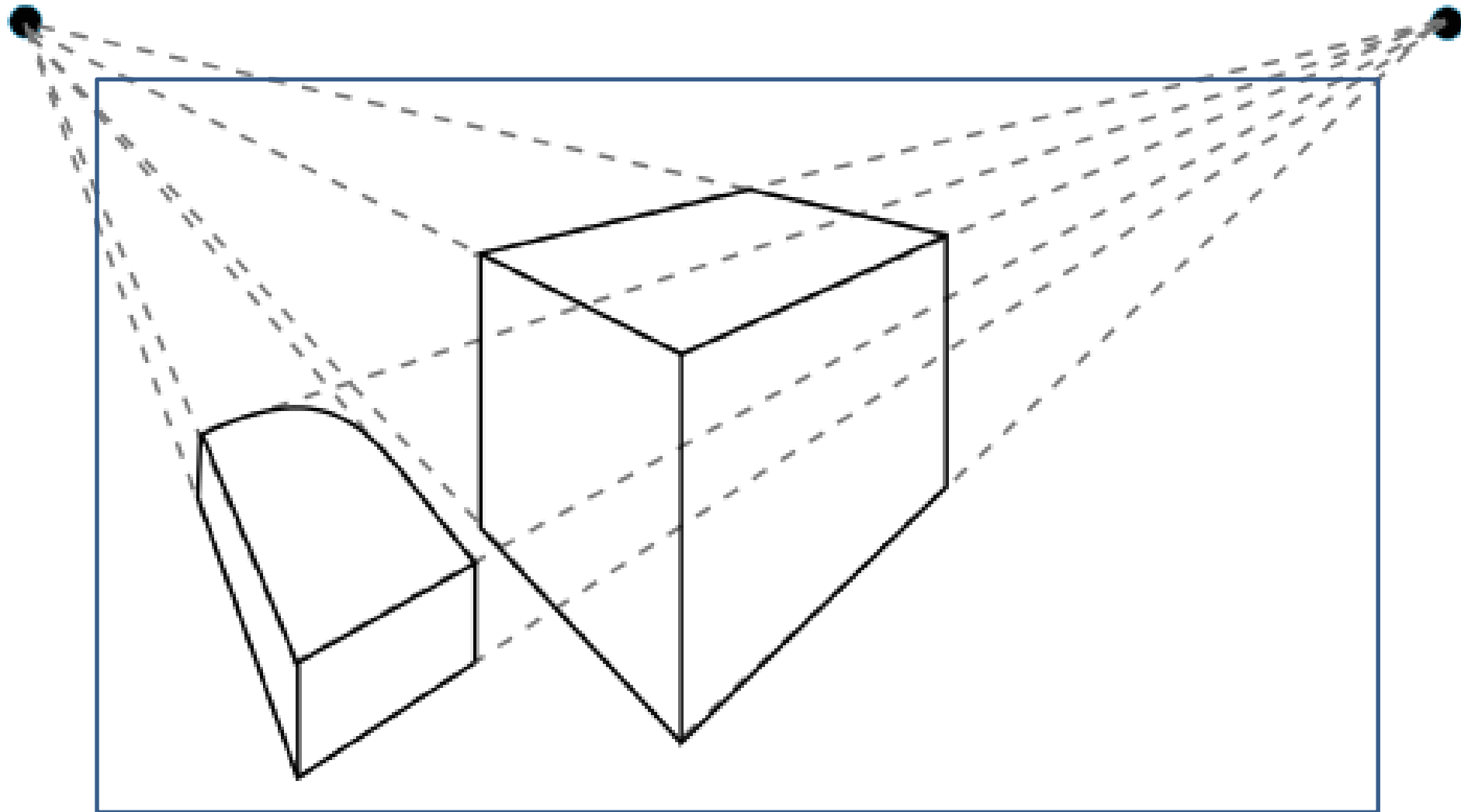


Three-point perspective

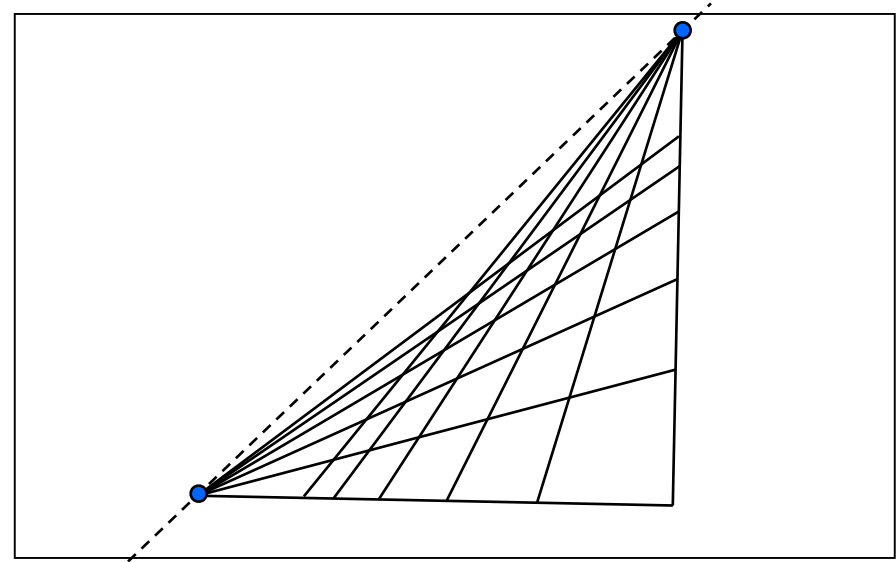
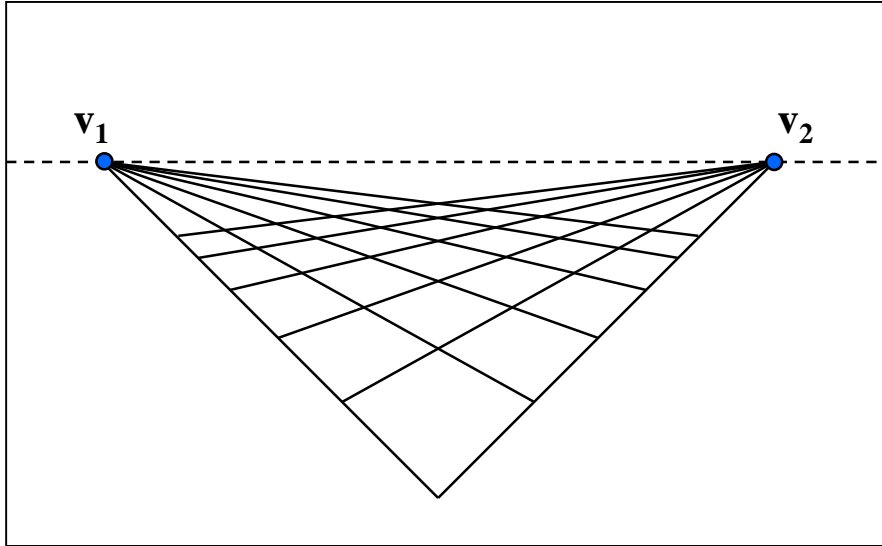


Vanishing points

- Sometimes vanishing points can be out of FOV of the image.



Vanishing lines



- Any set of parallel lines on the plane define a vanishing point.
- The union of all these vanishing points is the *horizon line*
 - also called *vanishing line*
- Note that different planes (can) define different vanishing lines

Vanishing lines

- Three different vanishing lines (and points...).

