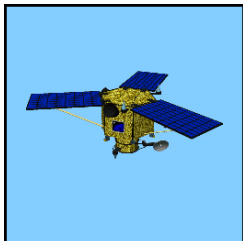


Perspective Geometry

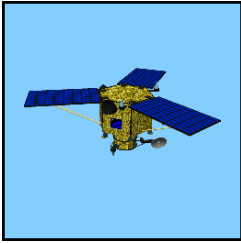


- Parallel lines (in object space) converge to a *vanishing point* in the perspective image
- The vanishing points for all horizontal lines are on the horizon
- There is a common vanishing point for all vertical lines
- If the image plane is parallel to any set of parallel lines, then they will appear parallel in the perspective image (i.e. the vanishing point is at infinity)

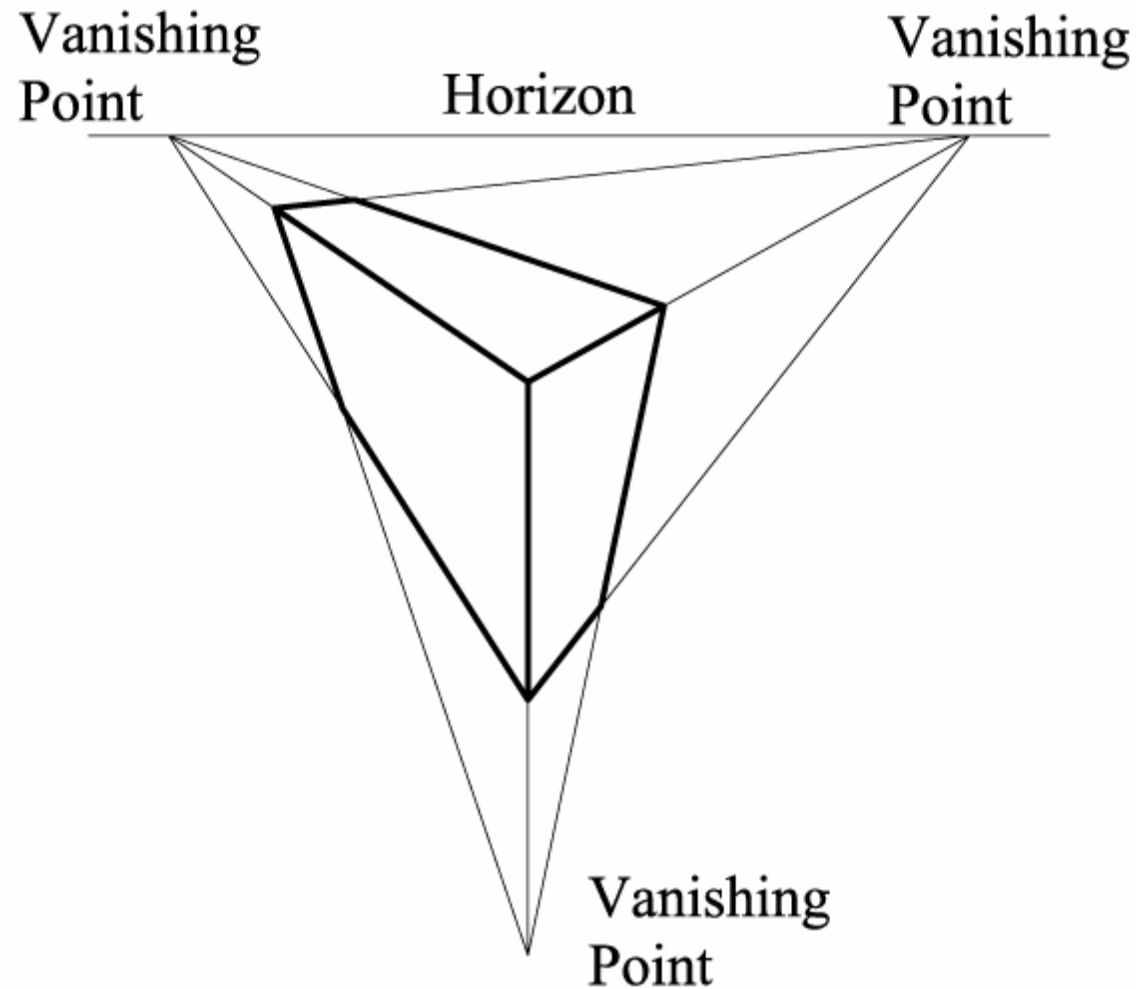


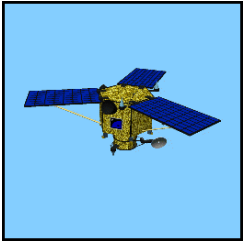
Parallel Object Lines Converge to *Vanishing Point* in the image



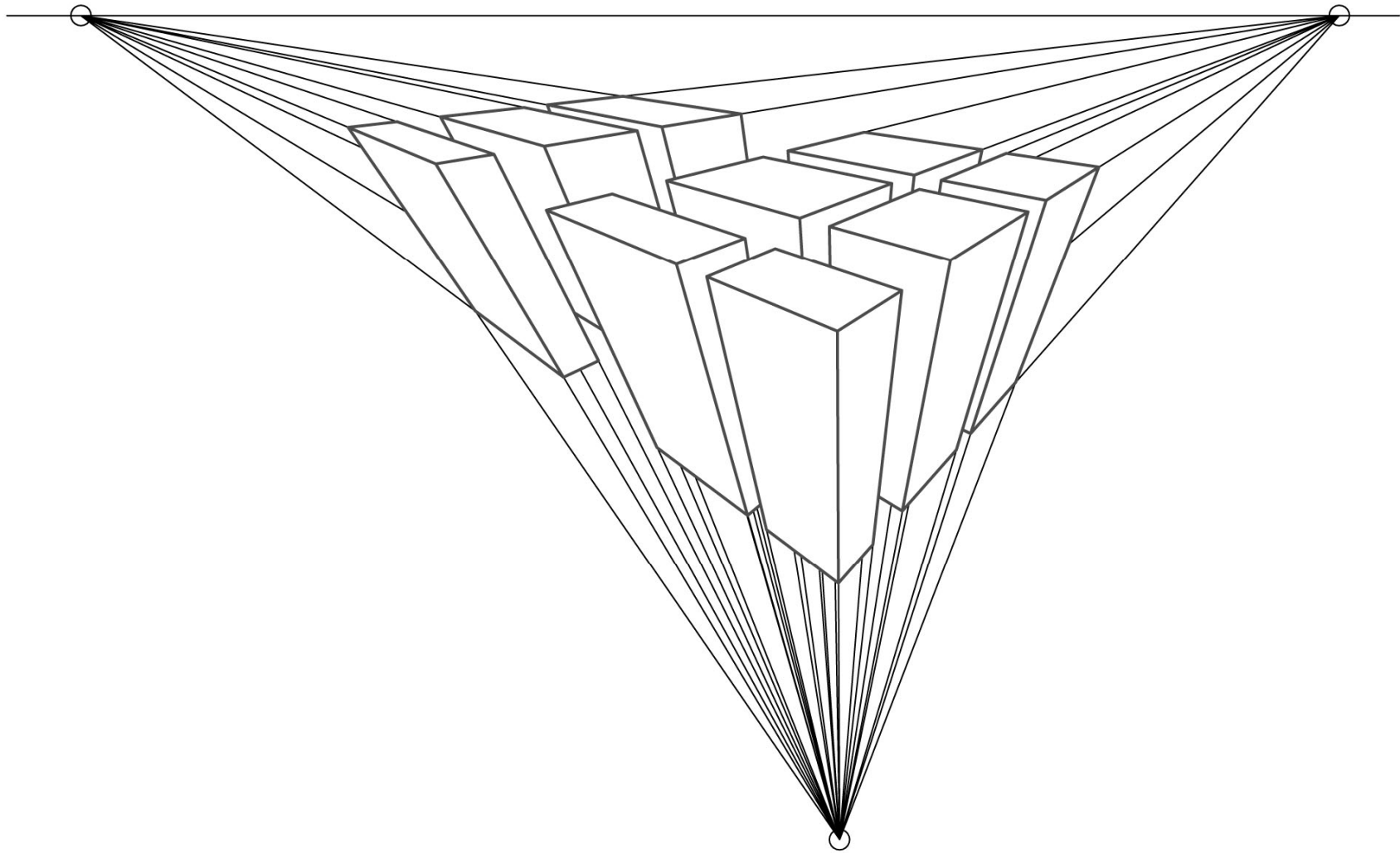


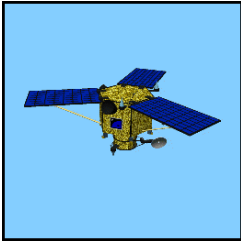
3 Sets of Parallel Lines

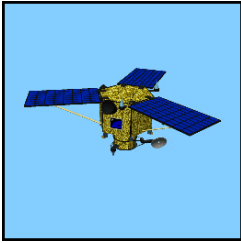


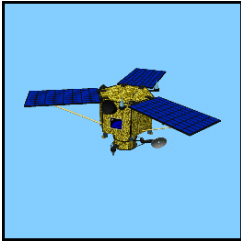


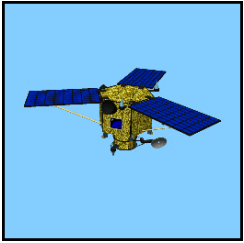
Parallel in object space means
converge to VP in perspective image

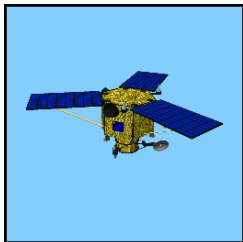






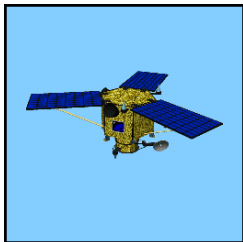




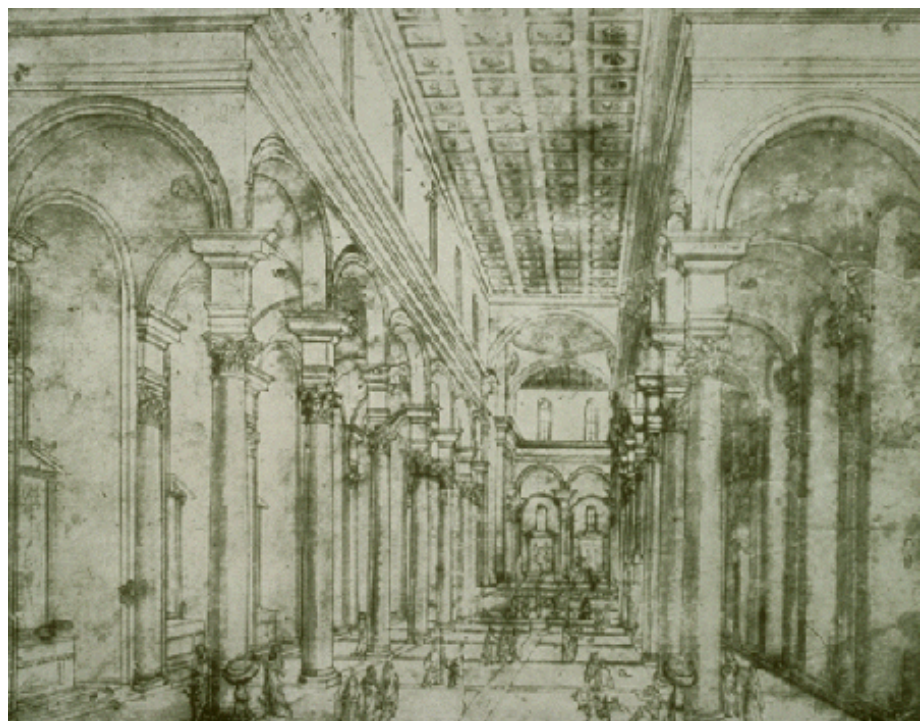


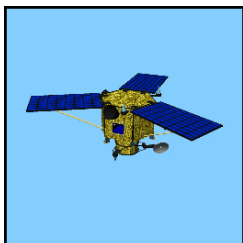
Medieval Artists Had Poor Understanding of Perspective Geometry



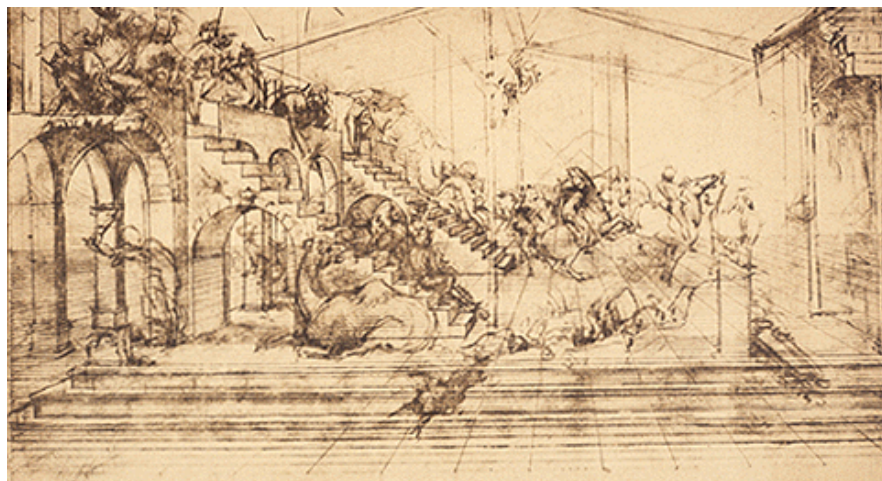


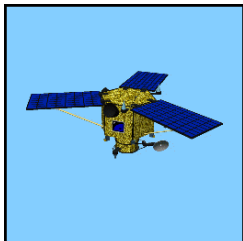
Brunelleschi (1415) engineer and architect made sketch at left, compare with photograph of today





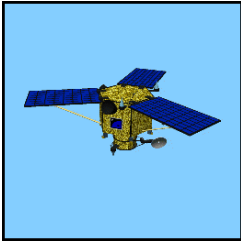
Leonardo da Vinci, Adoration of the Magi, 1481, and the Last Supper, 1498





Albrecht Durer, St. Jerome, 1514





Vermeer, The Music Lesson, 1662, Perspective is so accurate, some believe he used *camera obscura*

