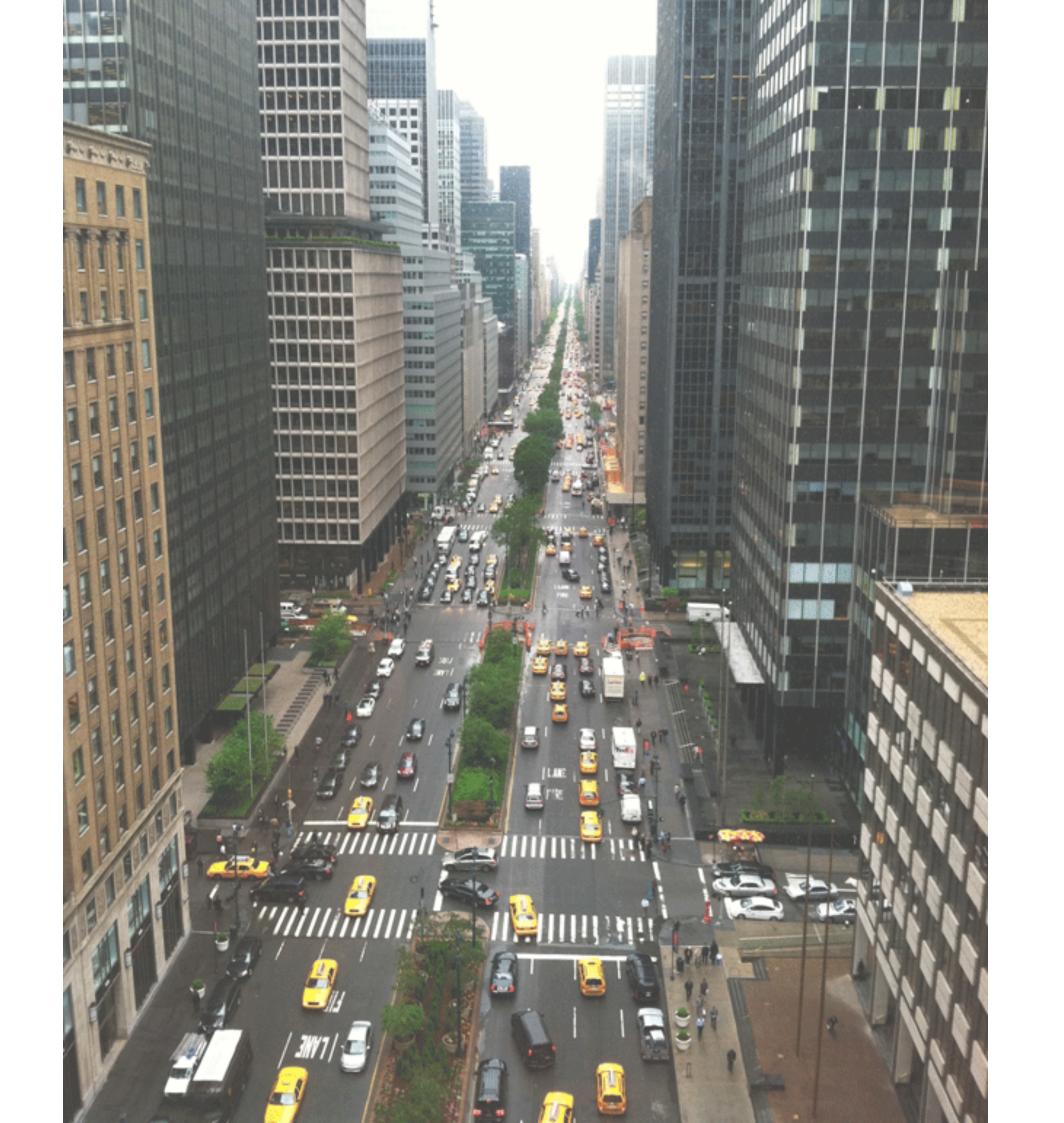# Perspective Drawing

Sara Khasib

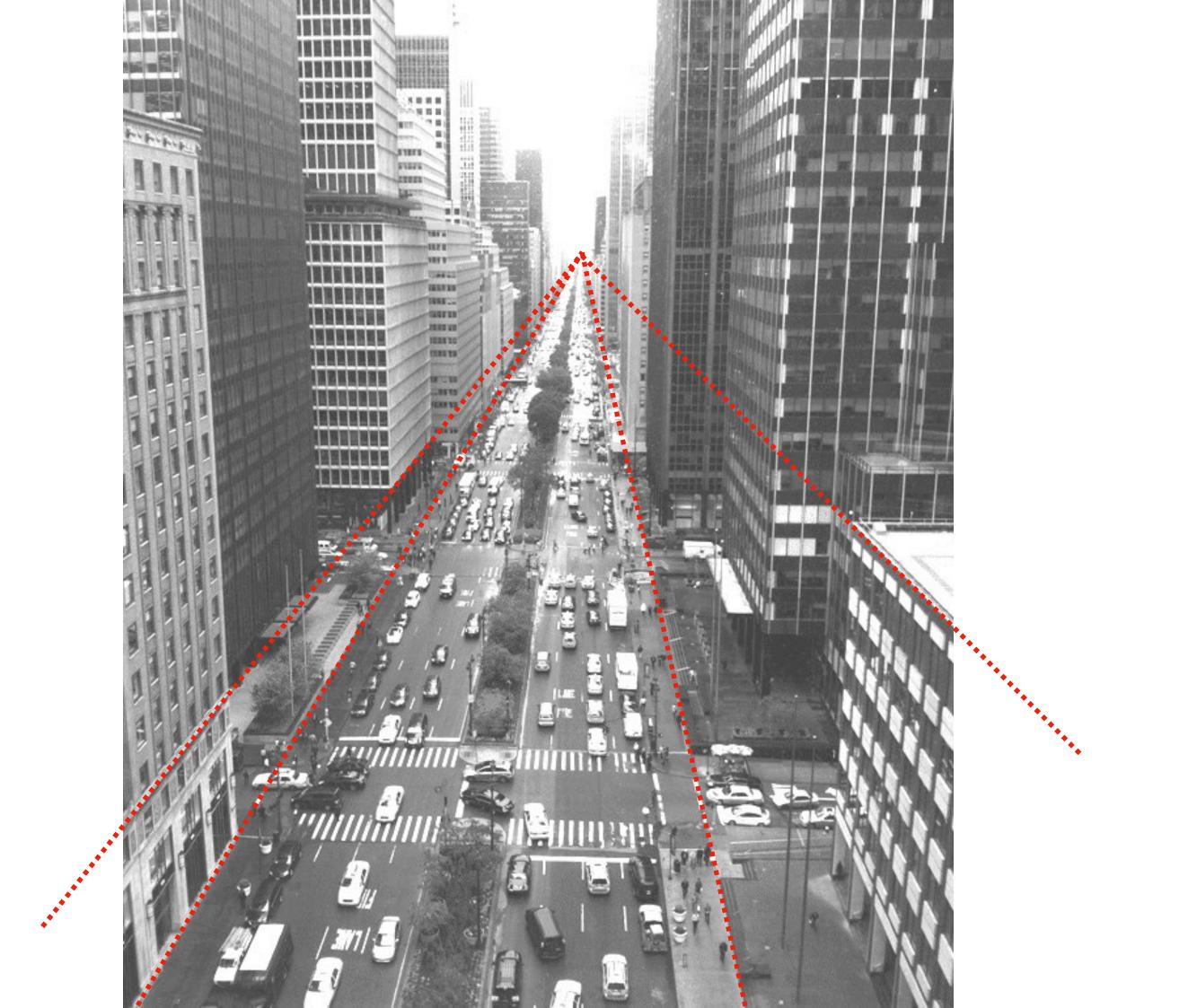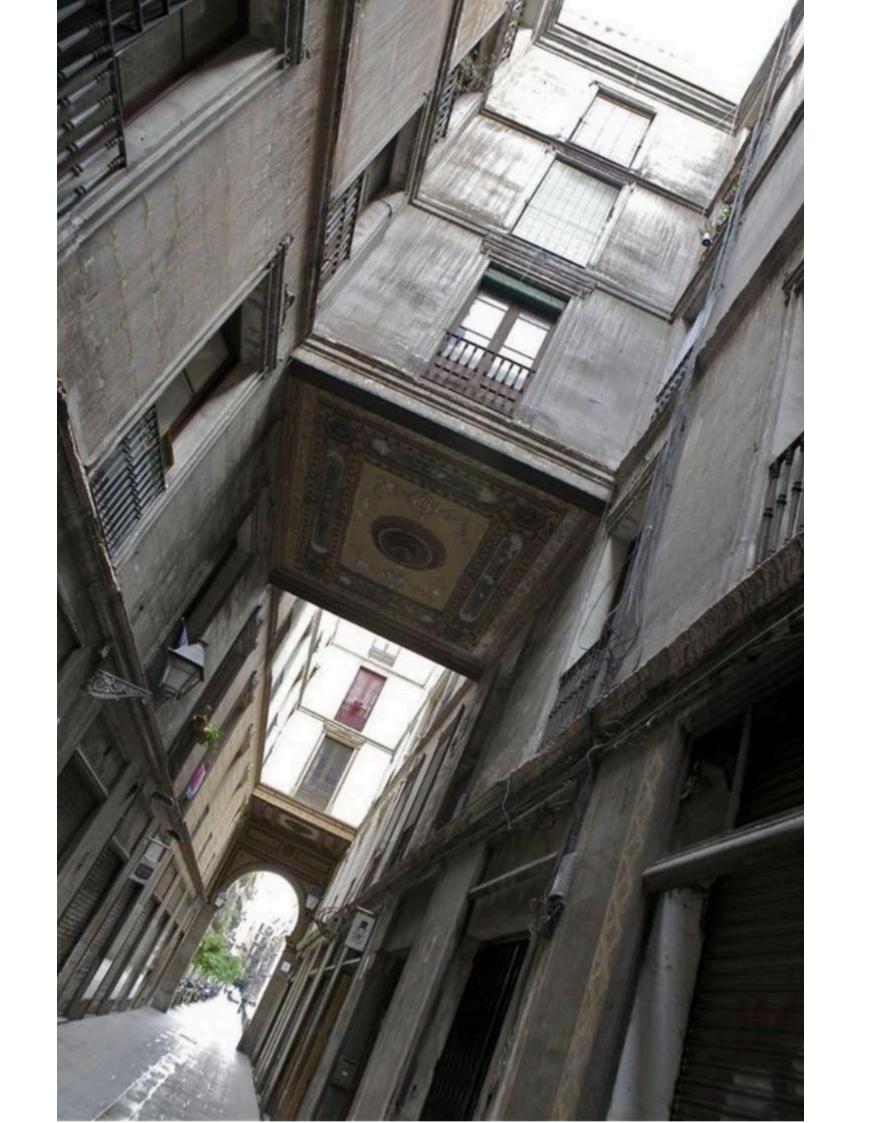**Perspecta**: 'to look through'

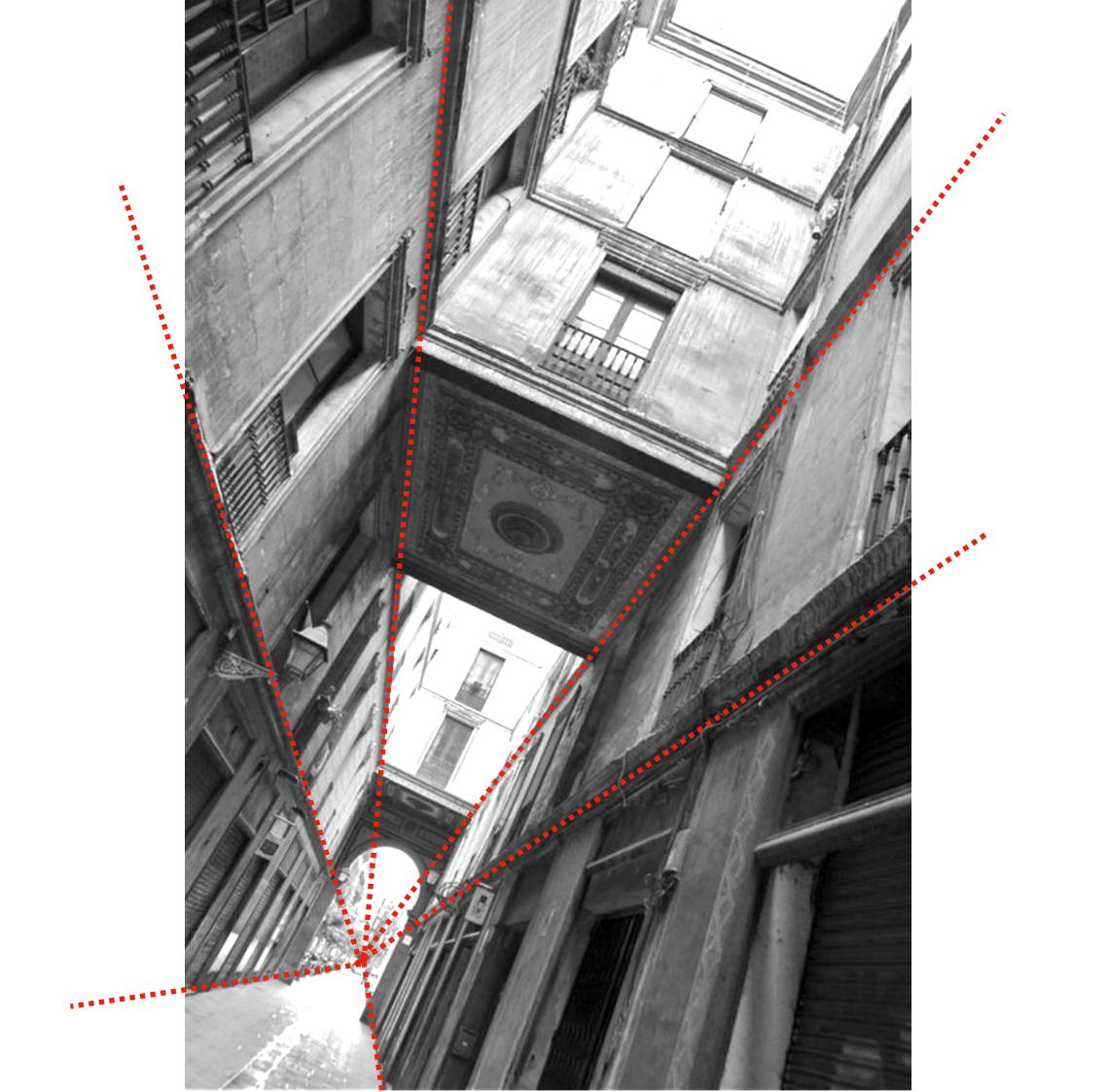A flat surface gives the illusion of a deep world

Types of projection drawings
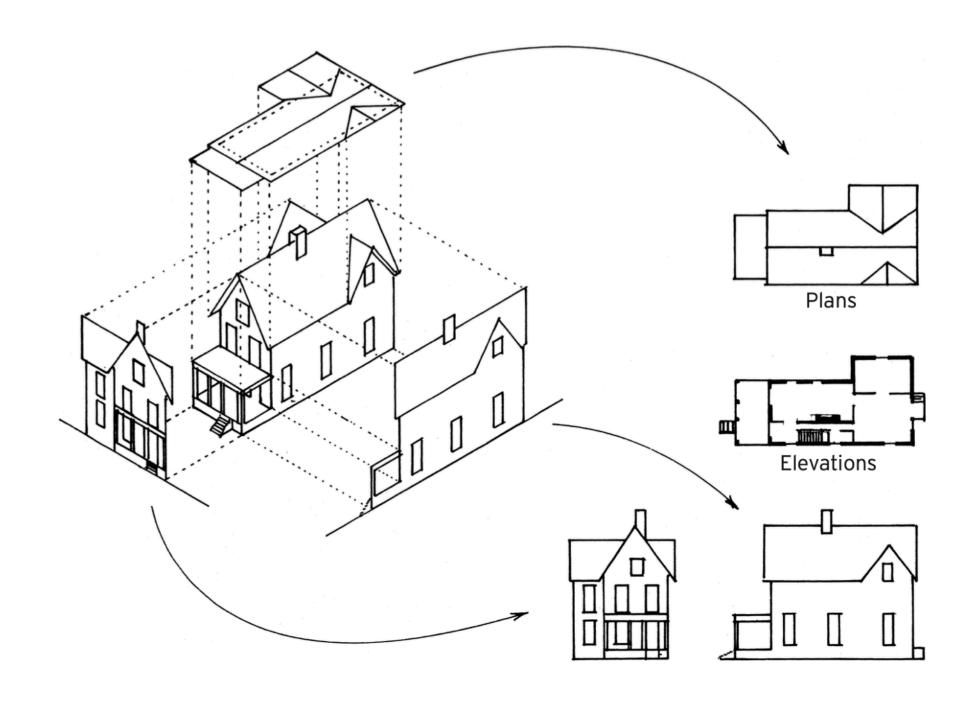
Multi-view
drawings
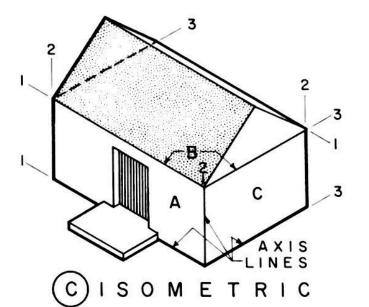
Paraline
drawings

Perspective
drawings

Types of projection drawings

Multi-view drawings

Plans

Elevations

Types of projection drawings

Paraline drawings

Isometric

Dimetric

Oblique

Types of projection drawings
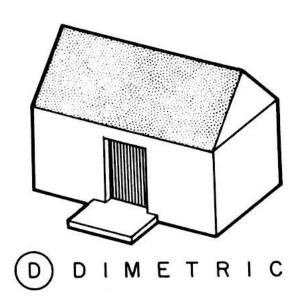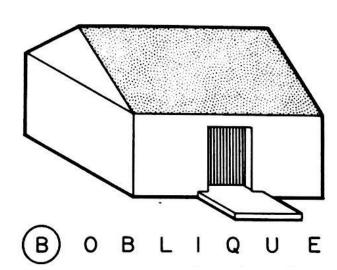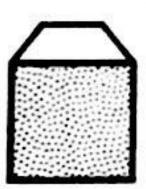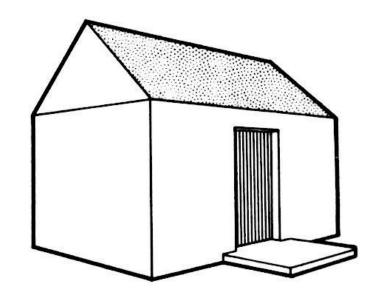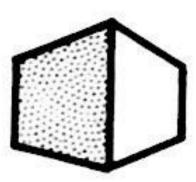
One point
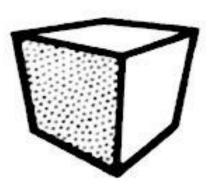
Perspective drawings
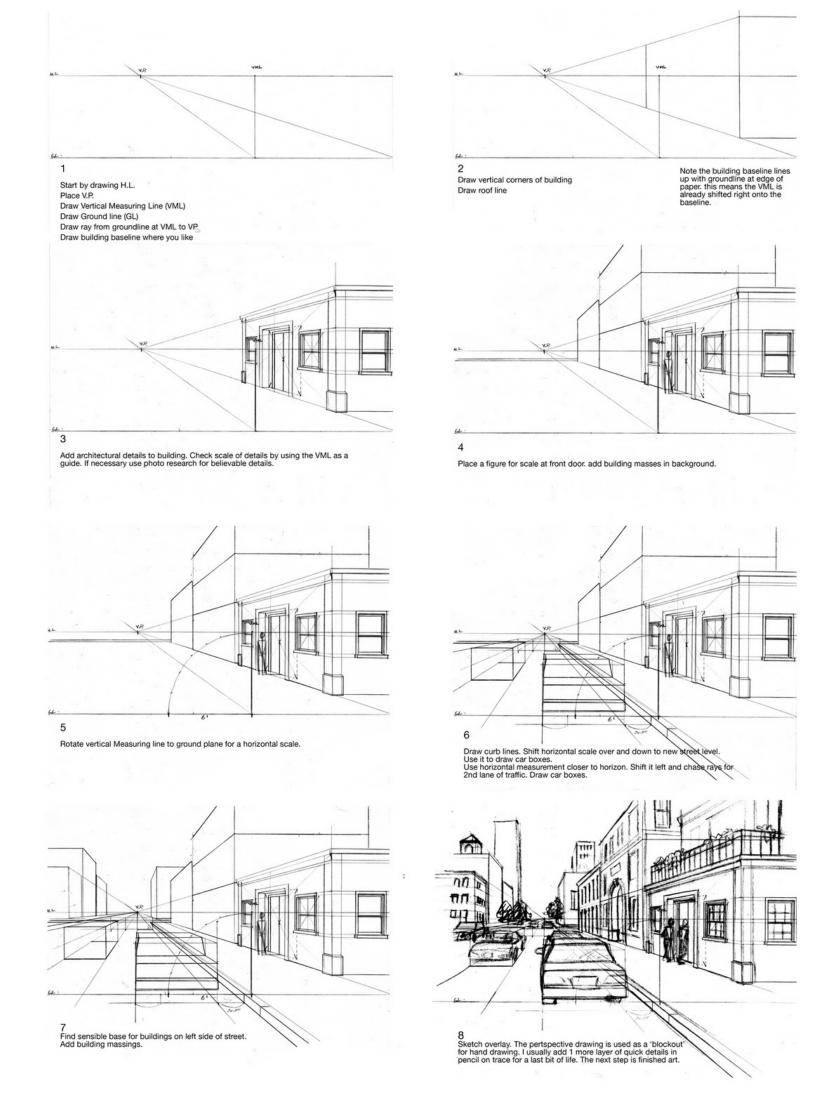
Two points
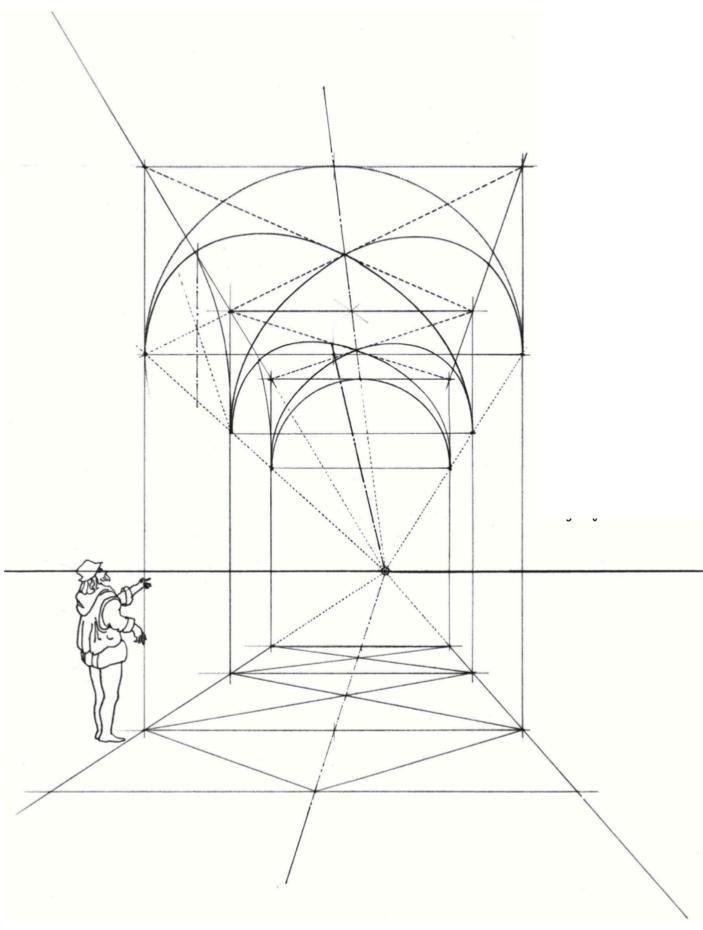
Three points

Perspective
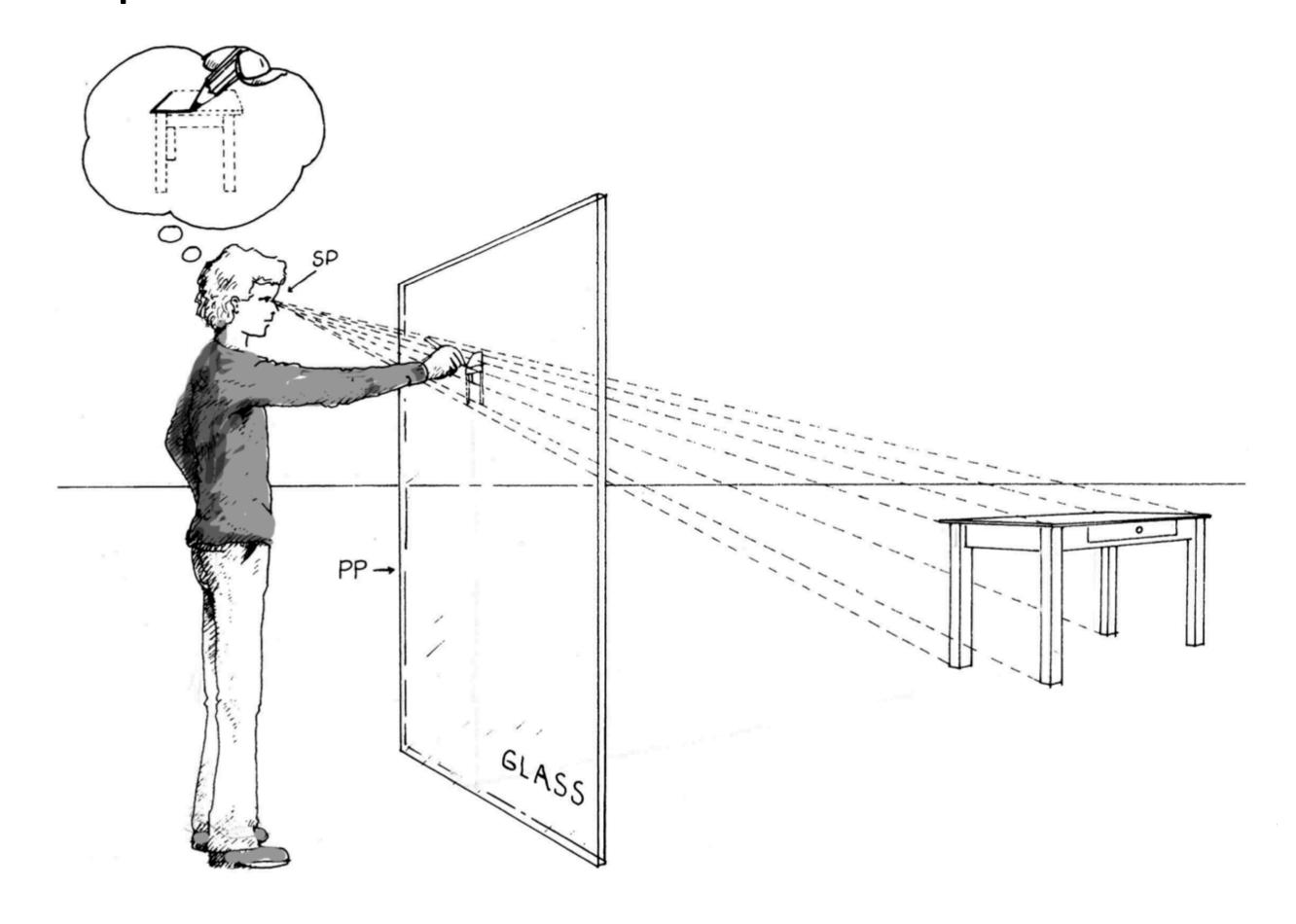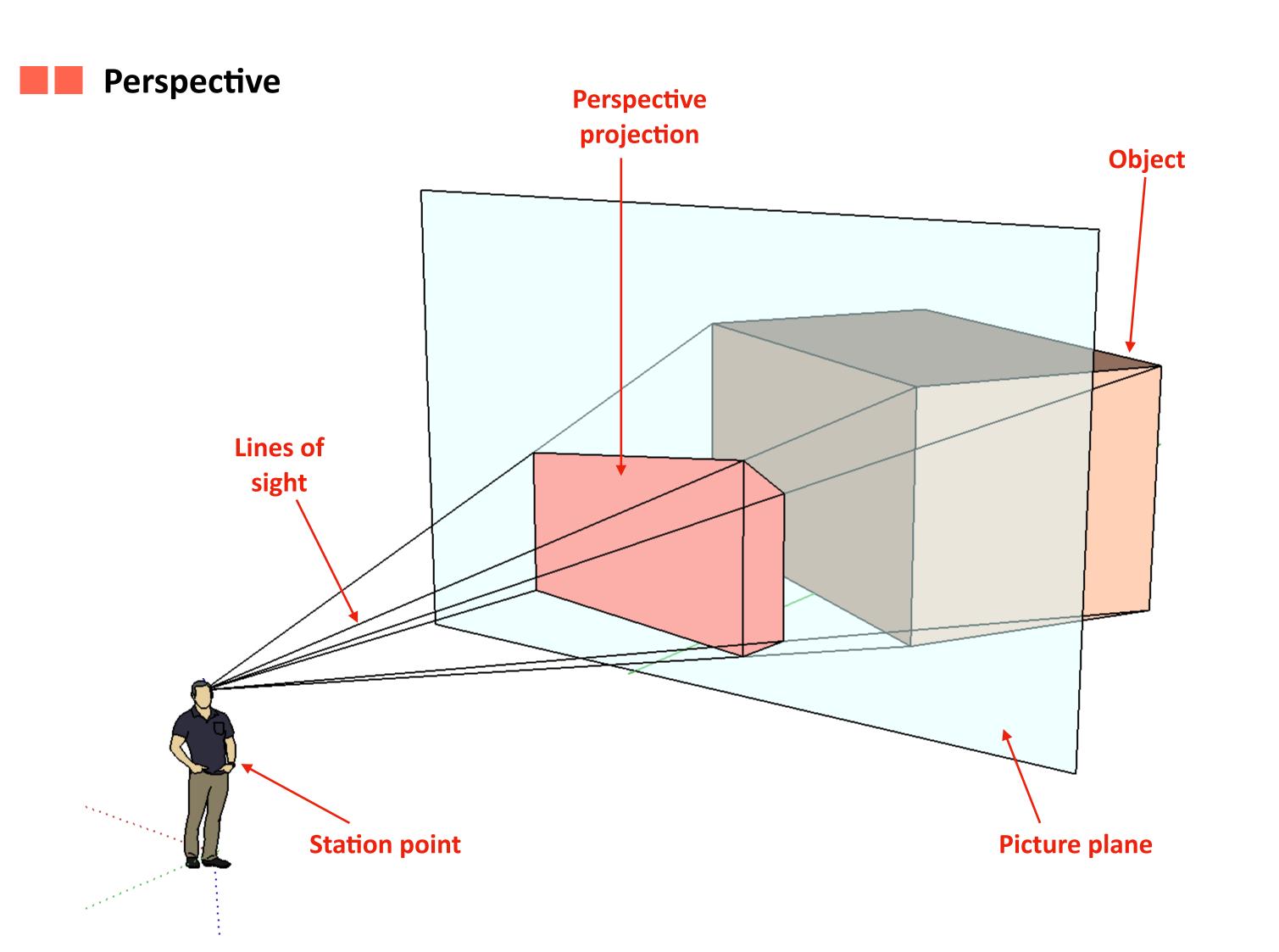
Perspectives are the only way of drawing which represents an object in the **natural** and pleasing way that it would actually **appear to the eye from a certain position,** in which often lines and areas of the object **do not appear in their true shapes, sizes, or directions**

VPL

SP

PP →

GLASS

Perspective

Perspective projection

Object

Lines of sight

Station point

Picture plane

Perspective

The picture plane (PP) is an imaginary transparent plane on which the image of a three-dimensional object is projected. The picture plane is always perpendicular to the central axis of vision (CAV).

Sight lines are any of the projectors extending from the station point (SP) to various points on what is viewed.

The perspective projection of any point on an object is where the sight line to that point intersects the picture plane.

The central axis of vision (CAV) is the sight line determining the direction in which the observer is assumed to be looking.

The station point (SP) is a fixed point in space representing a single eye of the observer.

Perspective

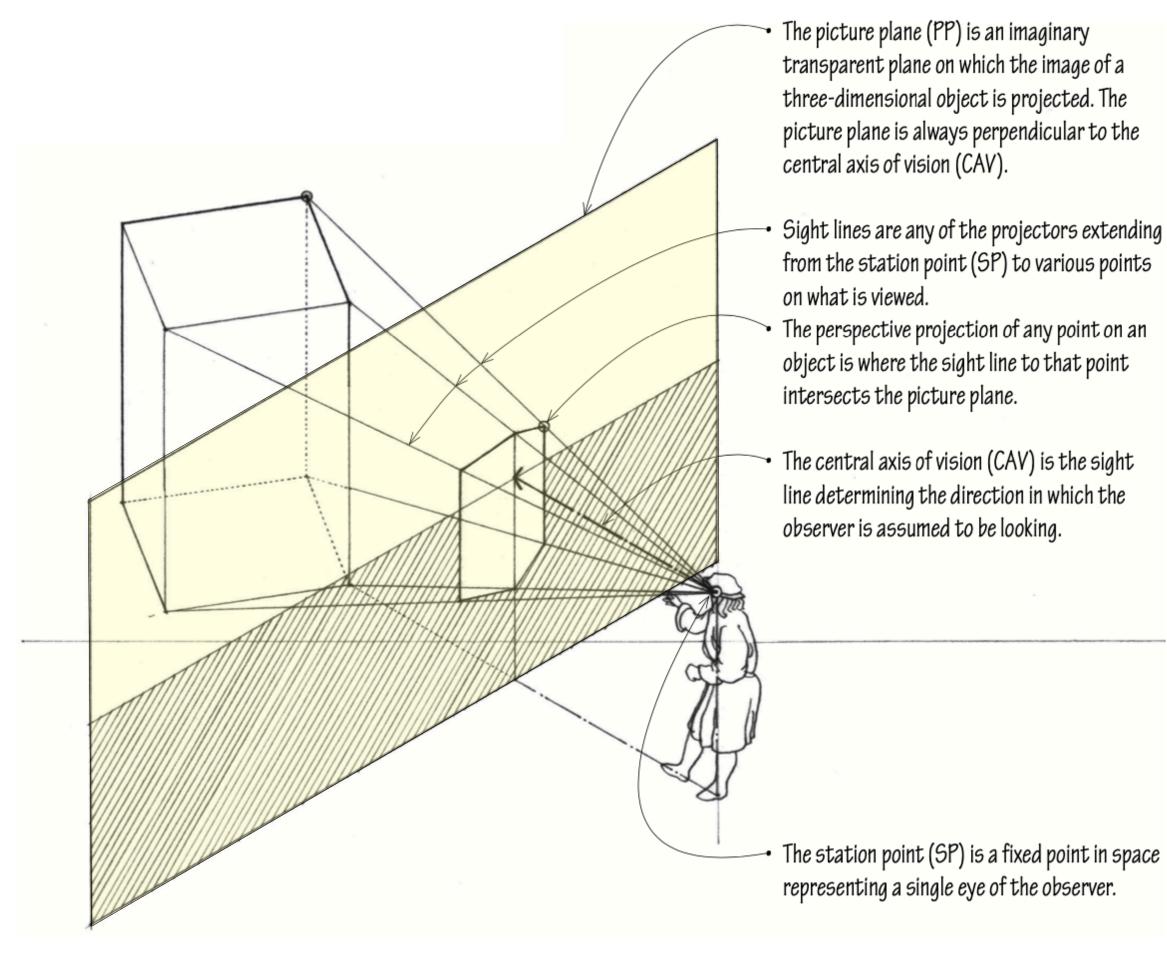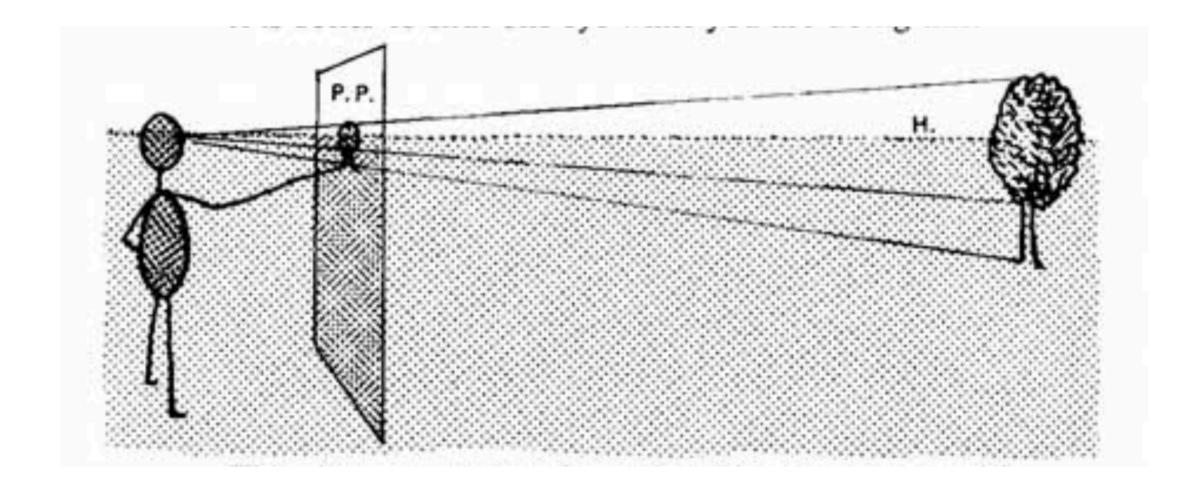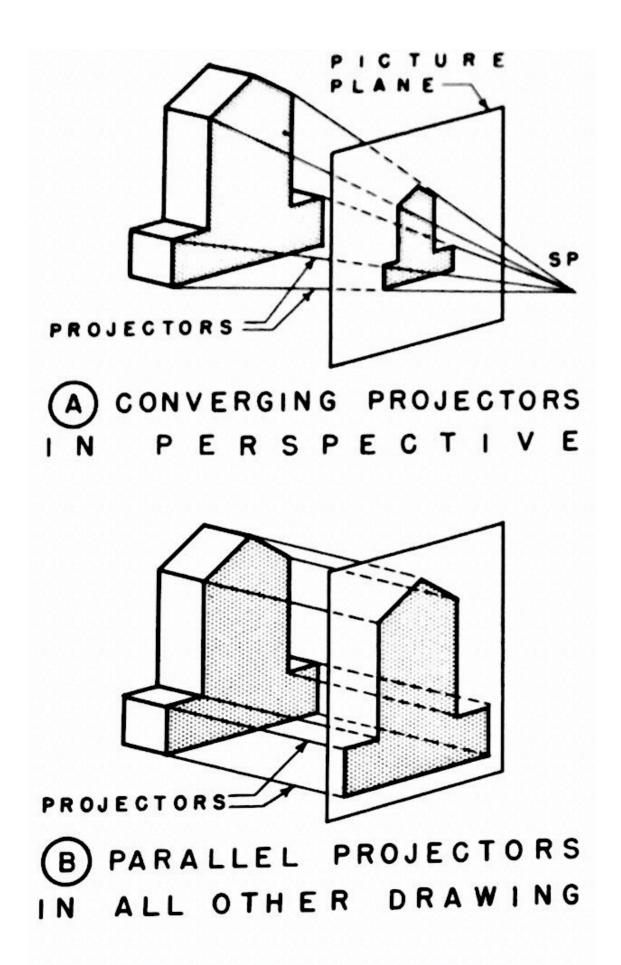| Station point | Horizon Line | Picture Plane | Object |

Perspective

The station point:

It is assumed to be the position of the eye of the observer and consequently the position from which the object would be seen

Projectors (lines of sight):

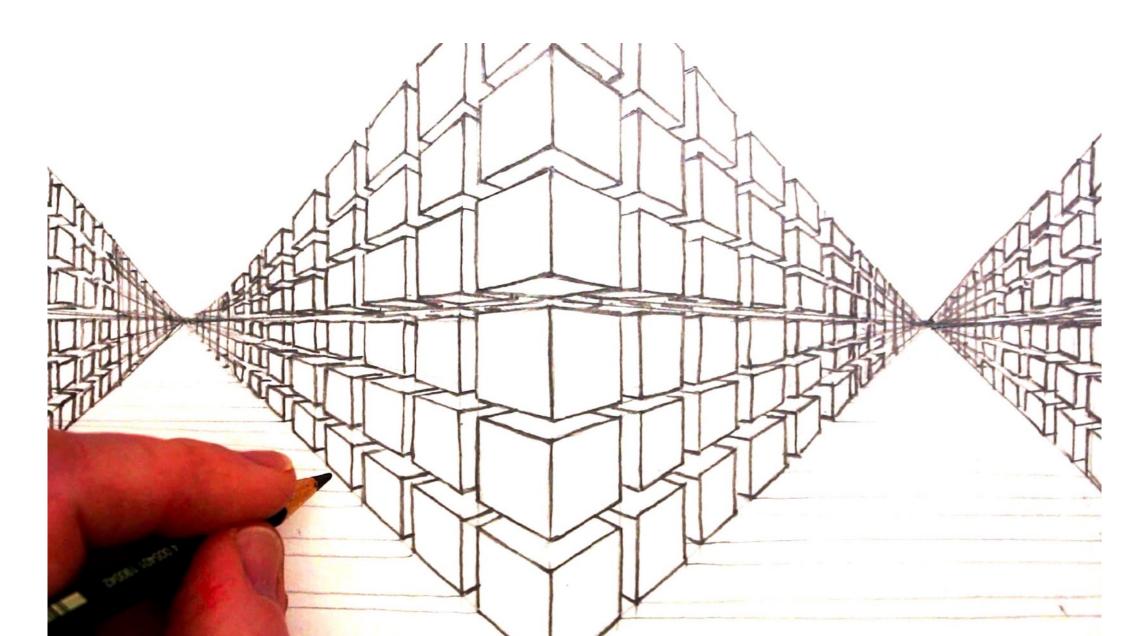The imaginary lines of sight from the eye of the observer to points on the object
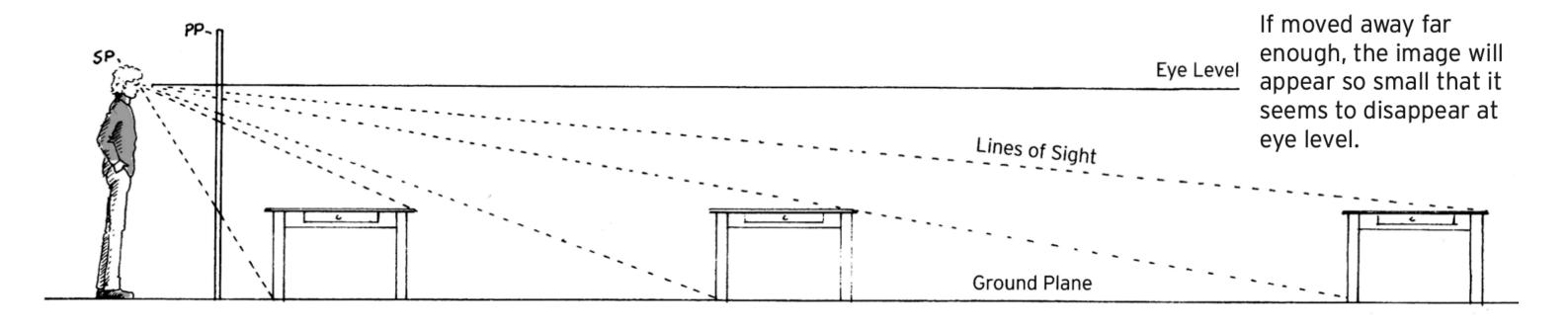
The picture plane:

The imaginary plane where the intersections of the projectors with it give points through which lines are drawn to make perspective drawing

PICTURE PLANE

SP

PROJECTORS

(A) CONVERGING PROJECTORS IN PERSPECTIVE

PROJECTORS

(B) PARALLEL PROJECTORS IN ALL OTHER DRAWING

Perspective
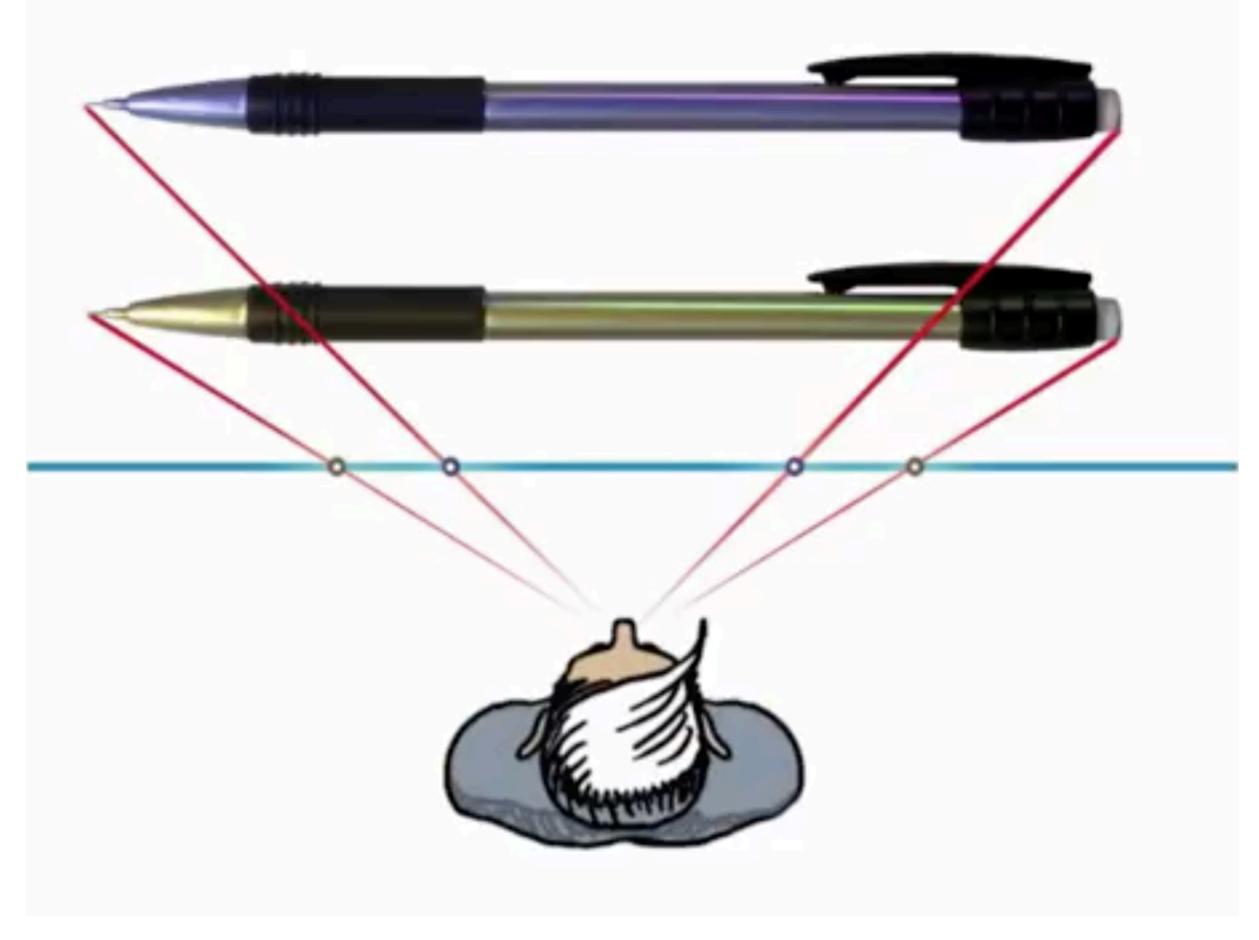
In perspective drawings, **sizes** are shown as they appear to the eye from the position of the station point, not as they actually are
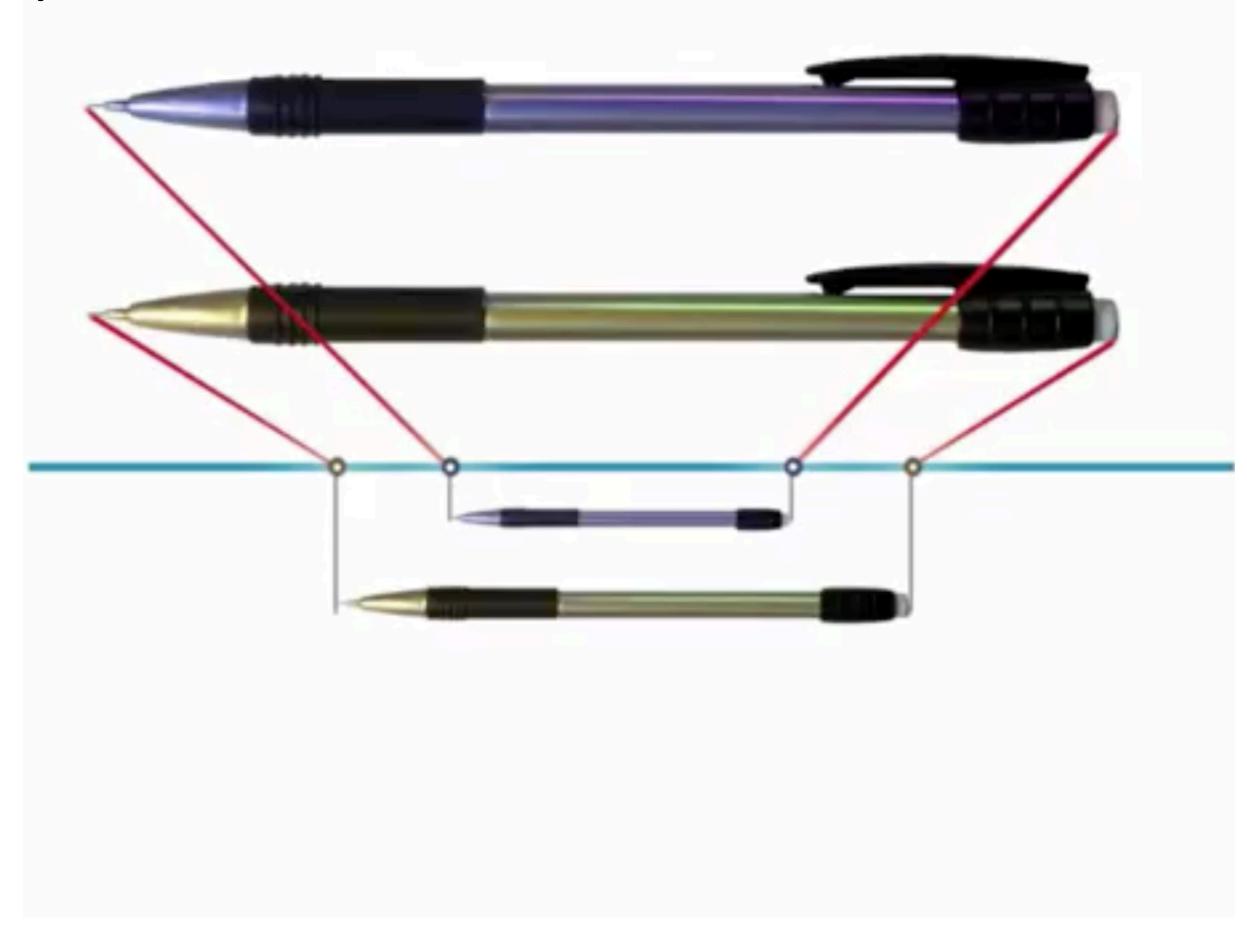
- Any lines of the object which **lie in the picture** plane can be **measured to scale**

- Parts of the object **in front of the picture plane** will be **larger** than scale size

- Parts in **back of the picture plane** will be **smaller** than scale size
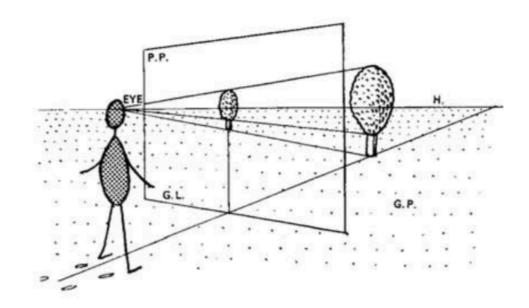
Perspective

SP.

PP.

Eye Level

If moved away far enough, the image will appear so small that it seems to disappear at eye level.

Lines of Sight

Ground Plane

Perspective
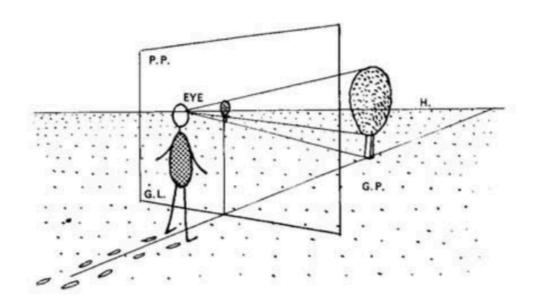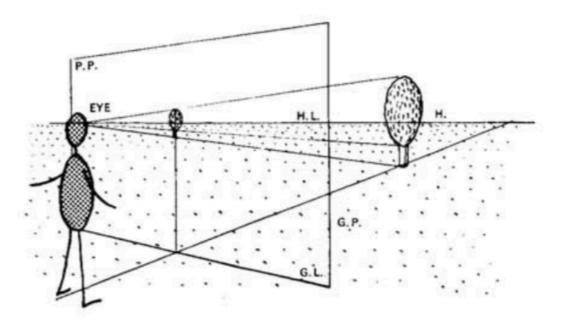
Location of Station point
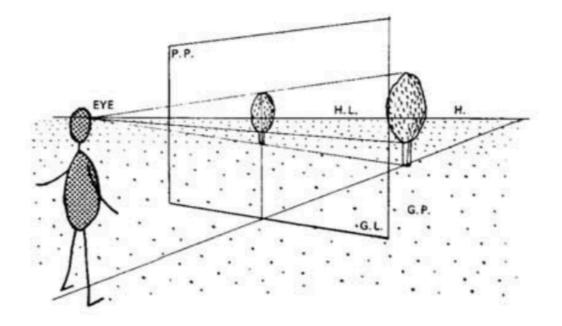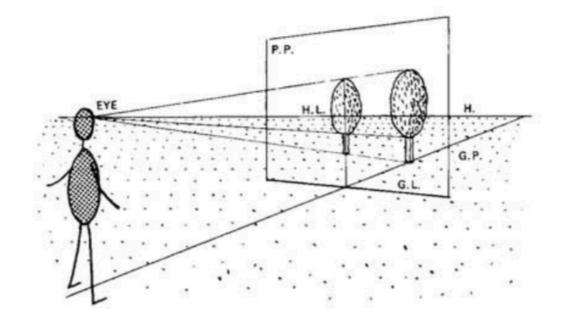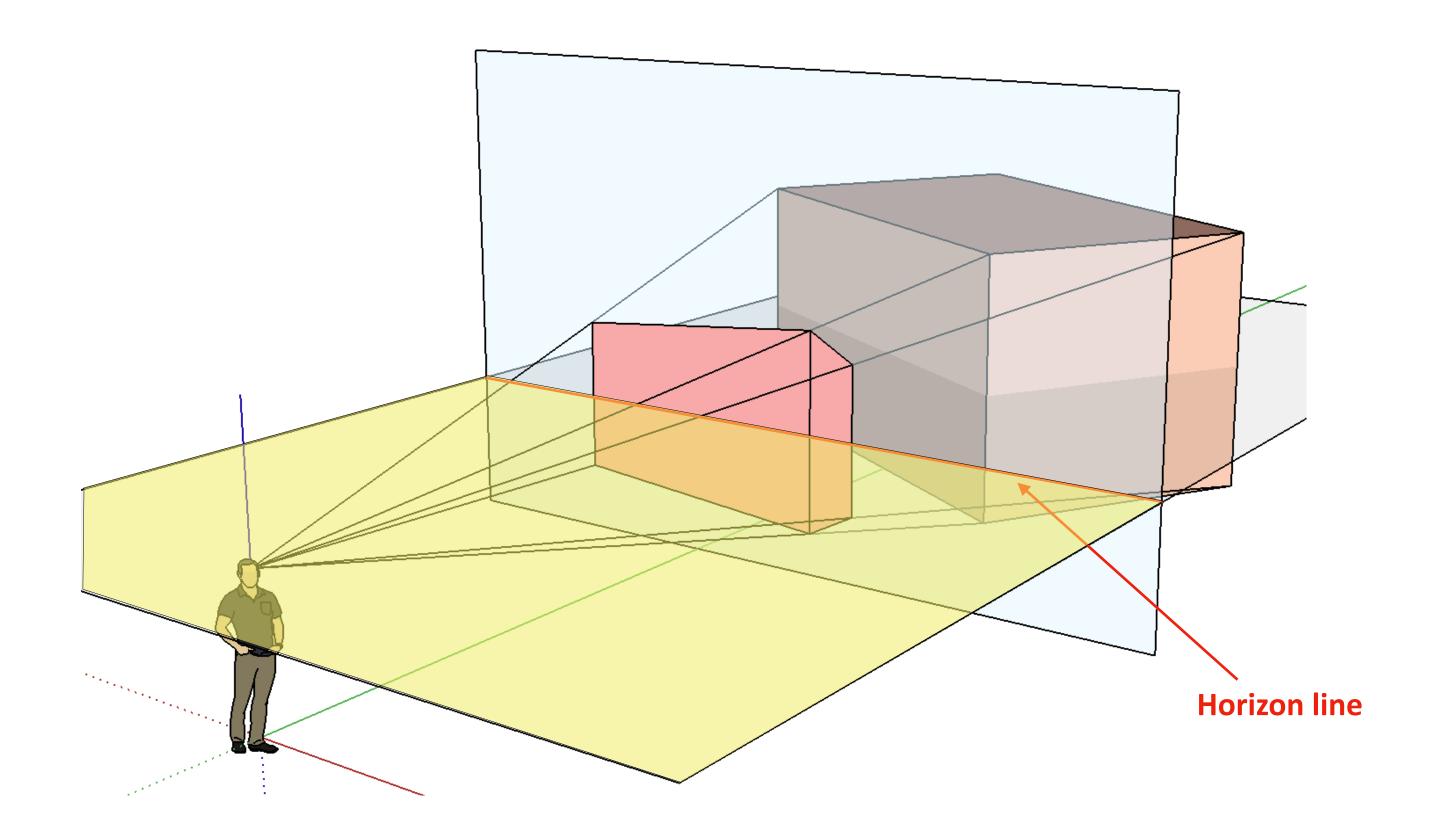
Location of Picture Plane

Horizon line
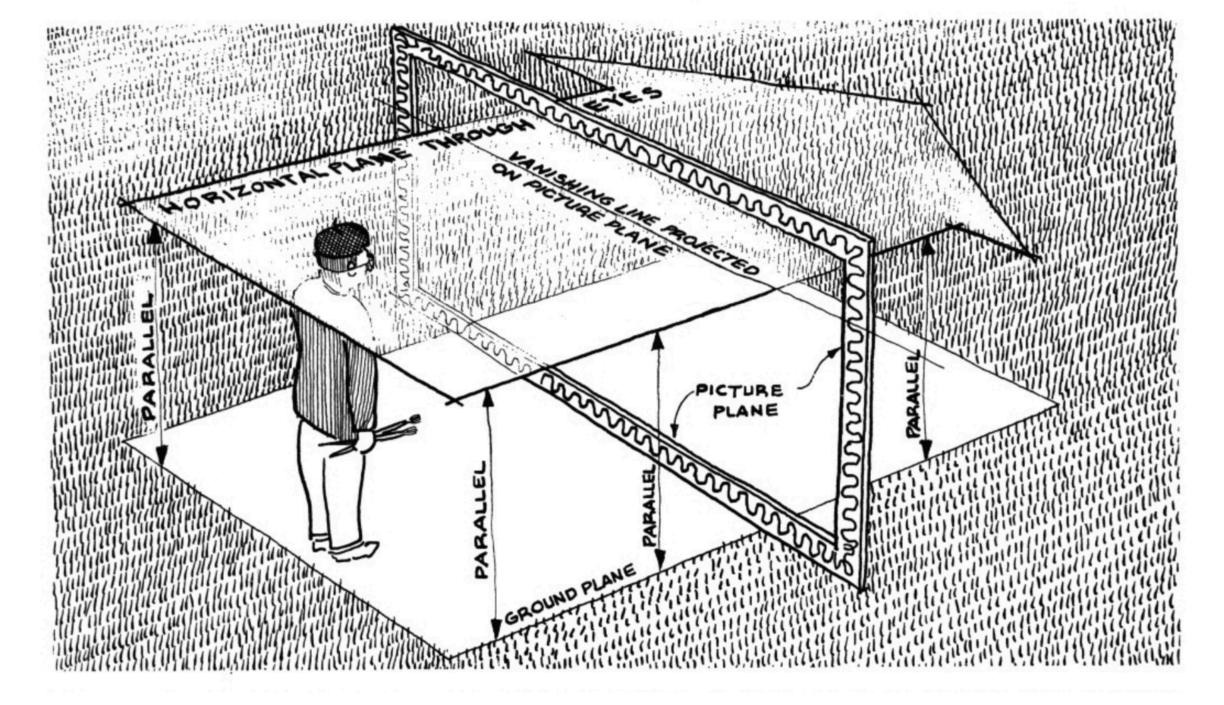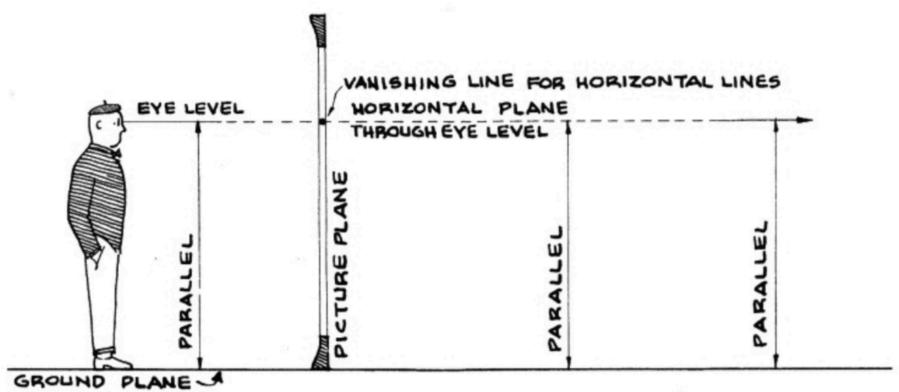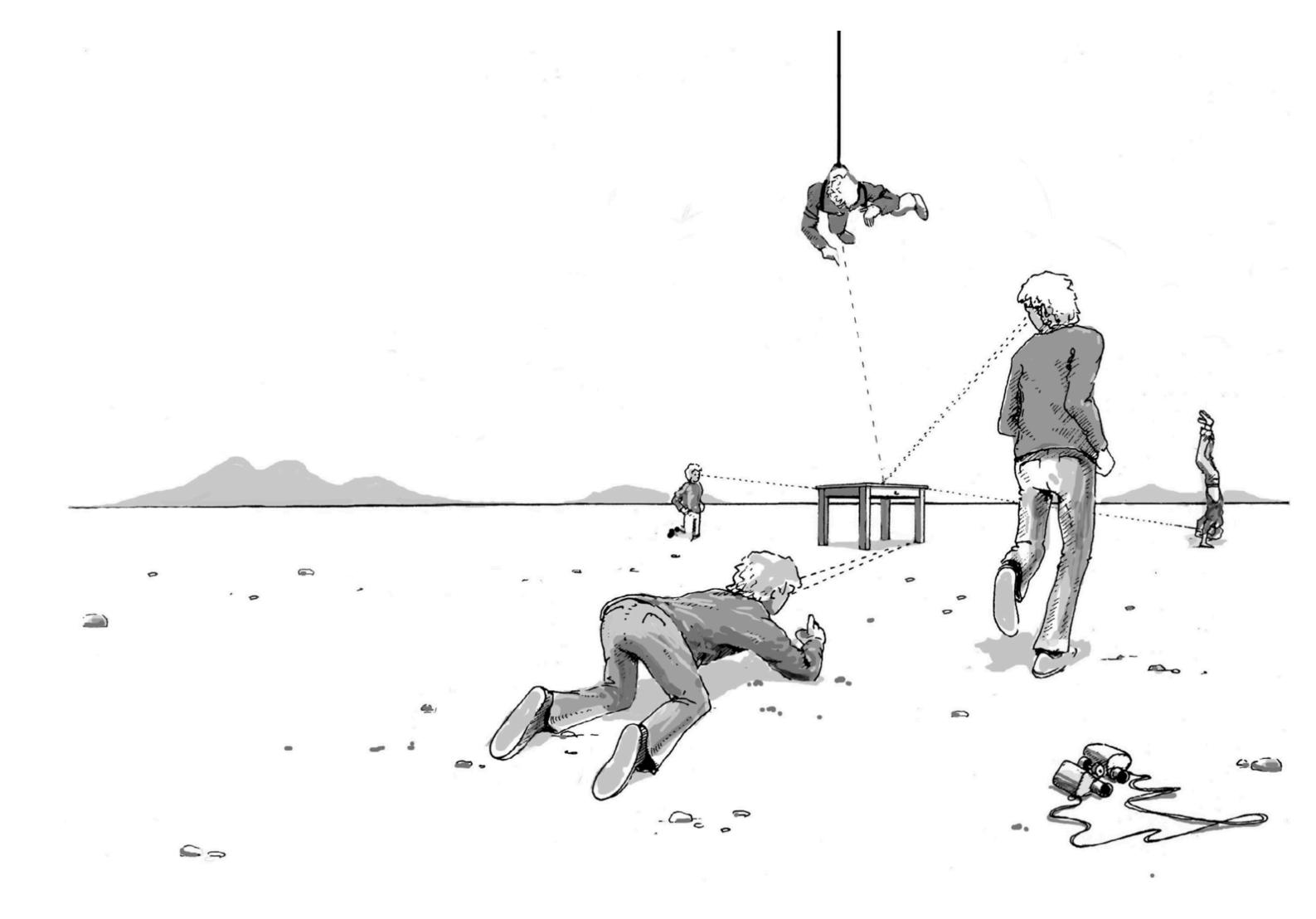
The horizon line:
It is at the level of the station point in a perspective drawing, the eye looks up at things above the horizon and down on things below the horizon
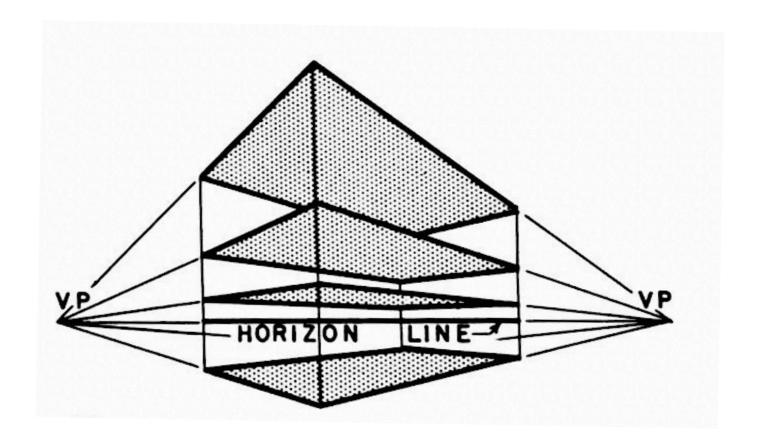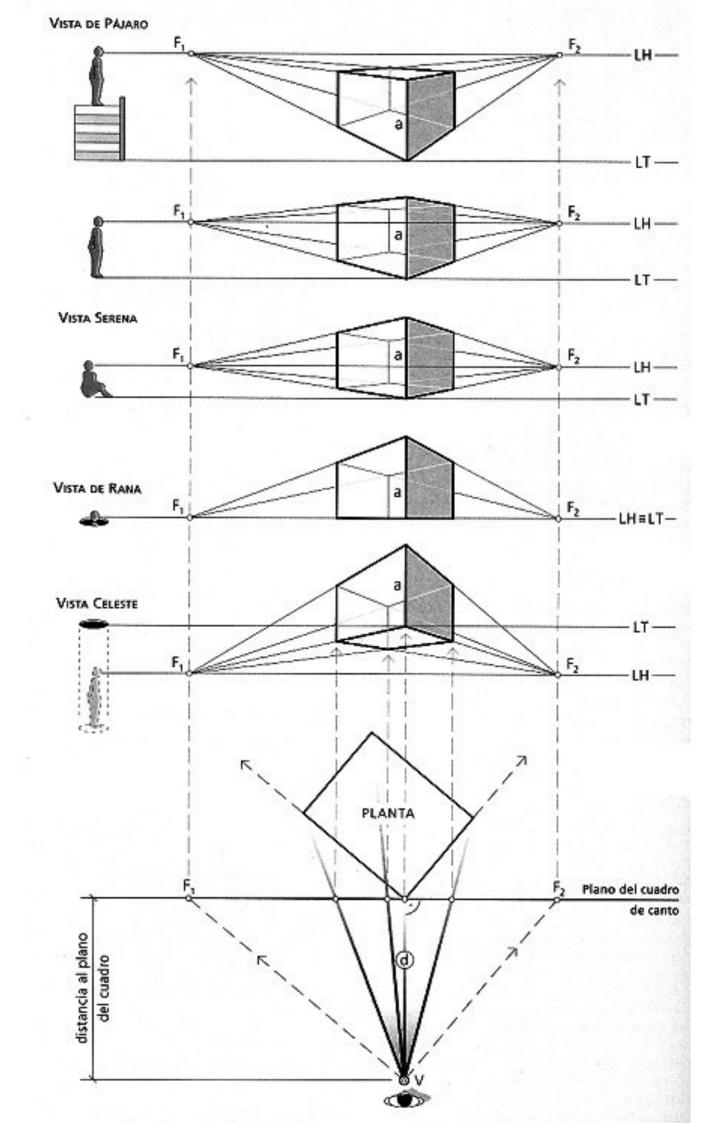
Vanishing points projected at the horizontal line

HORIZONTAL PLANE THROUGH EYES

VANISHING LINE PROJECTED ON PICTURE PLANE

PARALLEL

PARALLEL

PARALLEL

PICTURE PLANE

PARALLEL

PARALLEL

GROUND PLANE

EYE LEVEL

VANISHING LINE FOR HORIZONTAL LINES
HORIZONTAL PLANE
THROUGH EYE LEVEL

PARALLEL

PICTURE PLANE

PARALLEL

PARALLEL

GROUND PLANE

VP   HORIZON   LINE   VP

VISTA DE PÁJARO
F₁   F₂   LH
a
LT

F₁   F₂   LH
a
LT

VISTA SERENA
F₁   a   F₂   LH
LT

VISTA DE RANA
F₁   a   F₂   LH≡LT

VISTA CELESTE
a   LT
F₁   F₂   LH

PLANTA

F₁   F₂   Plano del cuadro
de canto

distancia al plano
del cuadro   d

V

- For a normal eye-level perspective, SP is at the standing height of a person.
- As SP moves up or down, the horizon line (HL) moves up or down with it.

Worm's-eye view

HL

Normal eye-level view

Aerial view

- A horizontal plane at the level of SP appears as a horizontal line.
- We see the tops of horizontal surfaces that are below the level of SP and the undersides of horizontal planes that are above.

- Even if not actually visible in a perspective view, the horizon line should always be drawn lightly across the drawing surface to serve as a level line of reference for the entire composition.
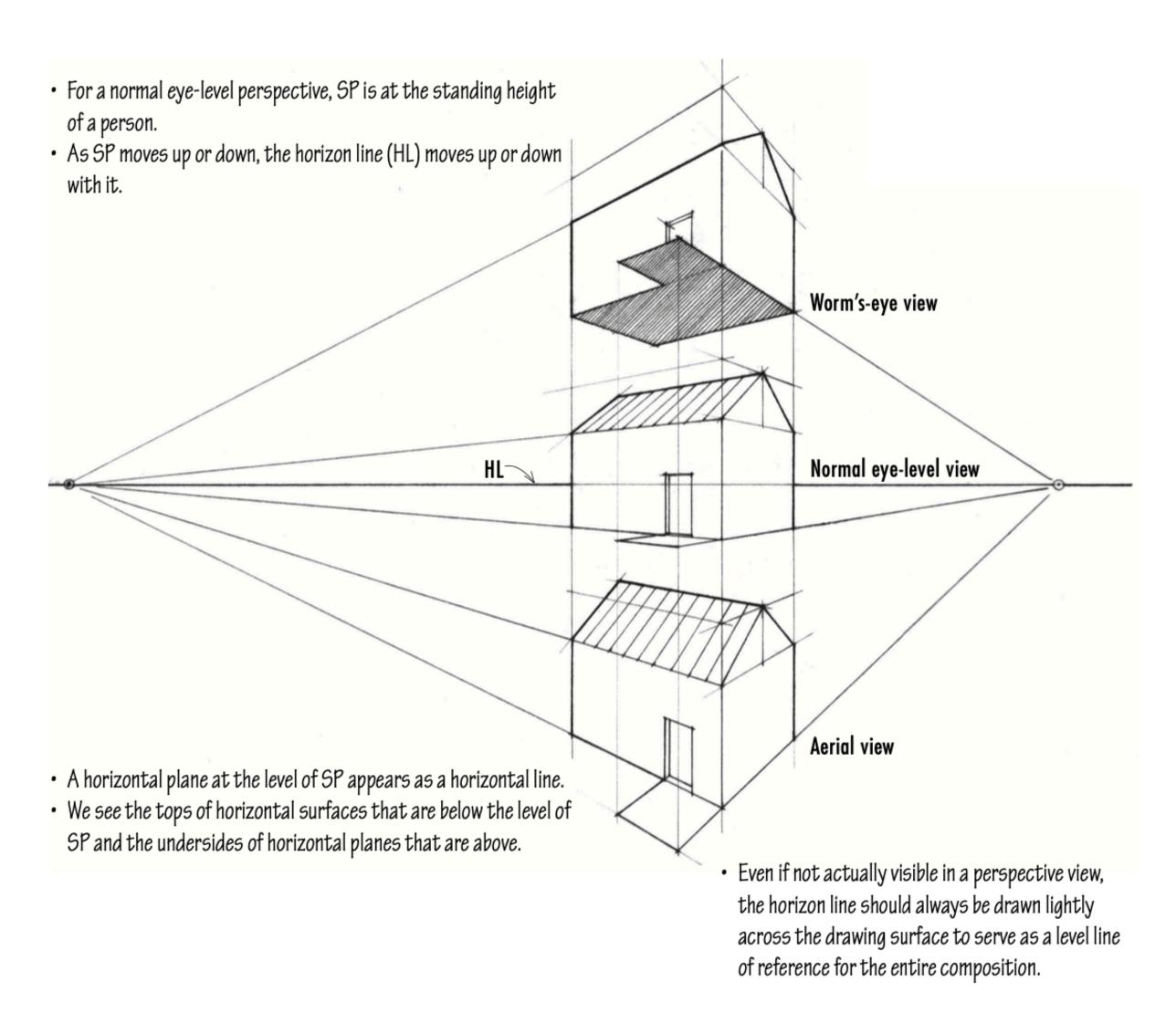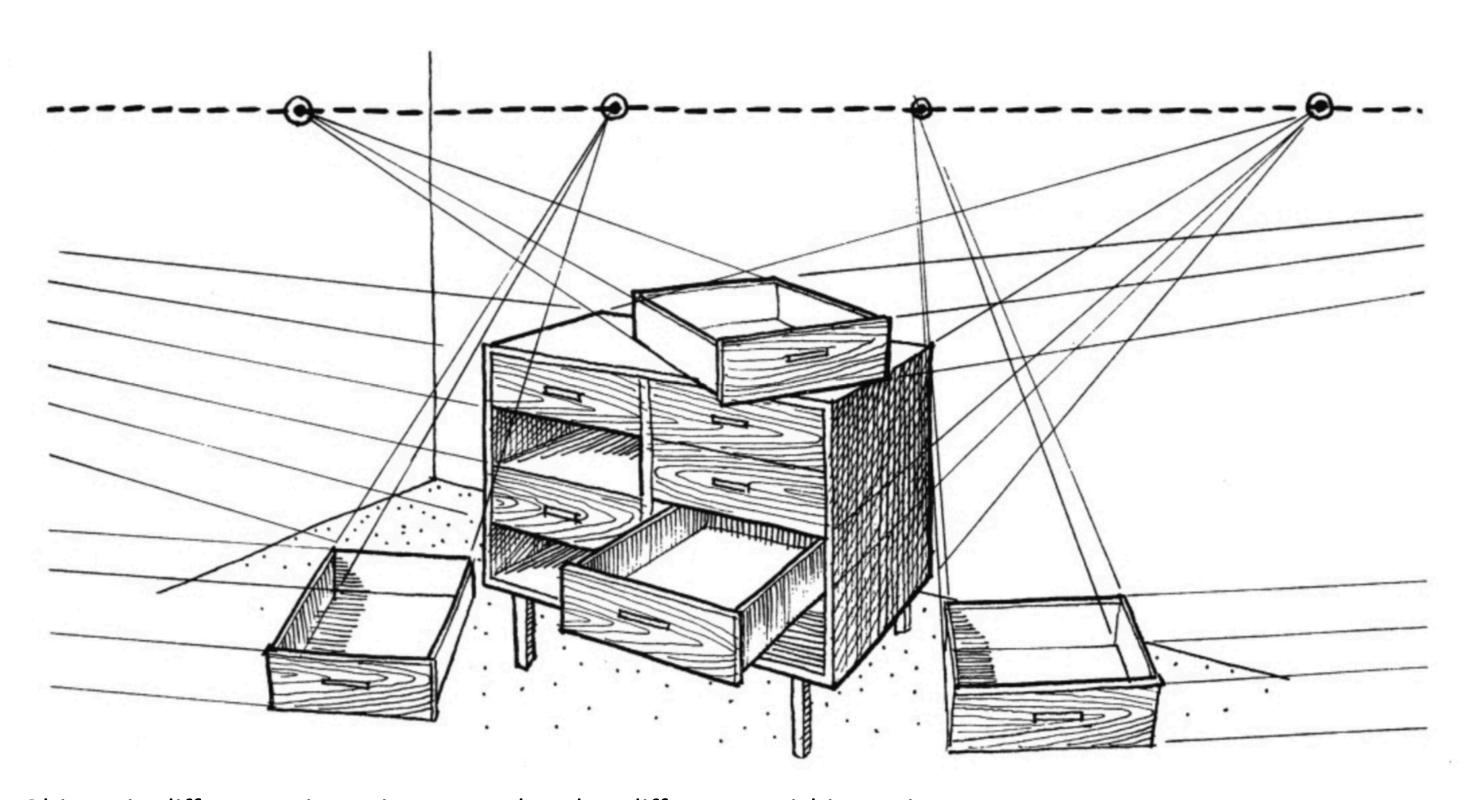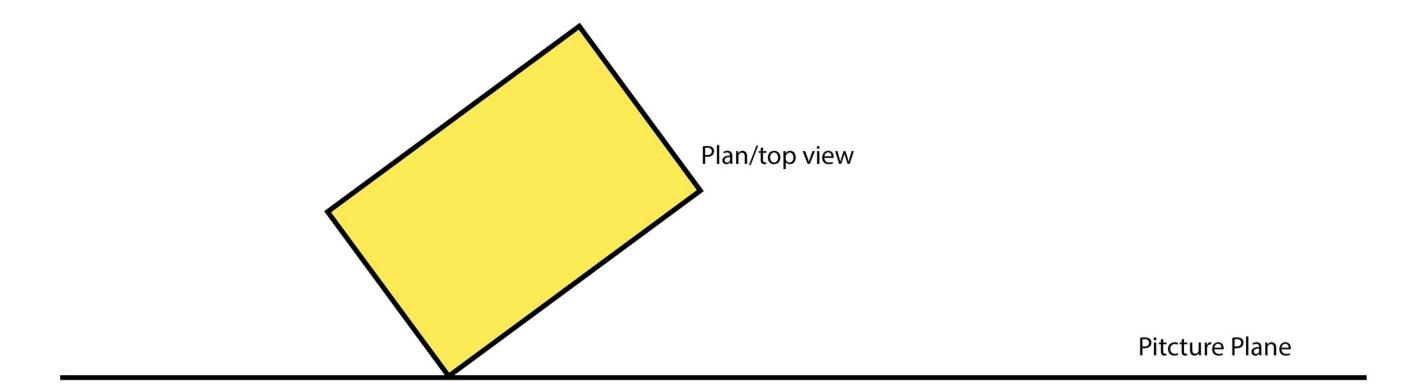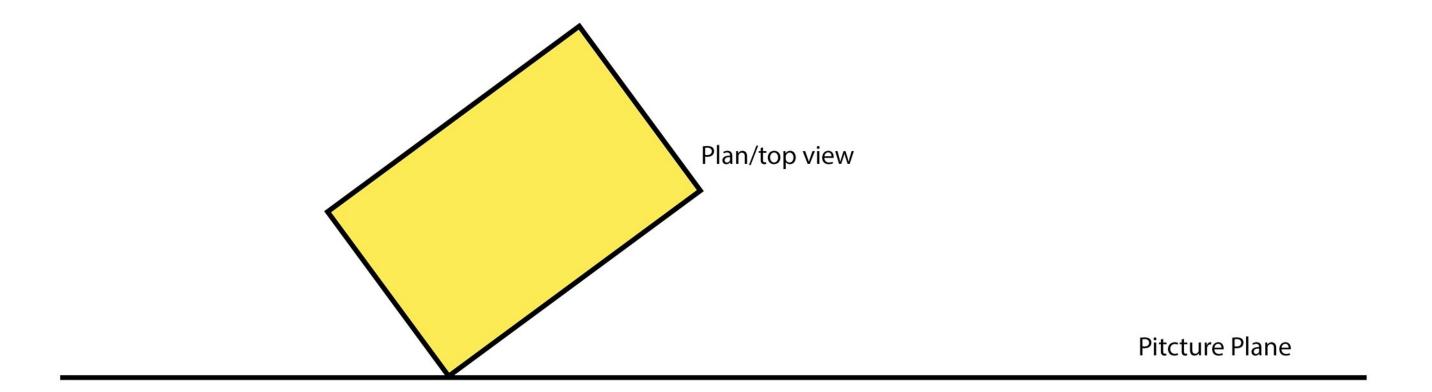
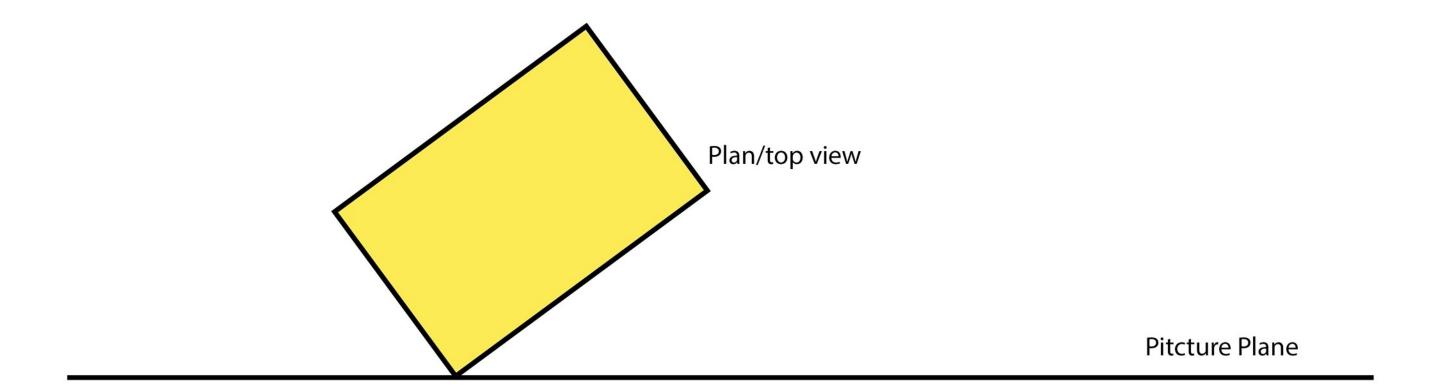Objects in different orientations are related to different vanishing points

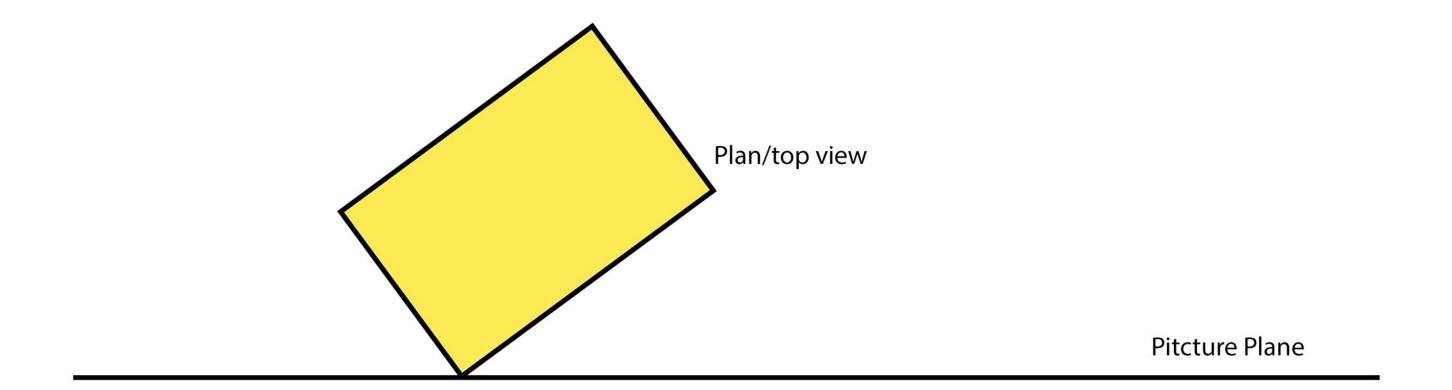**How to draw two points perspective?**
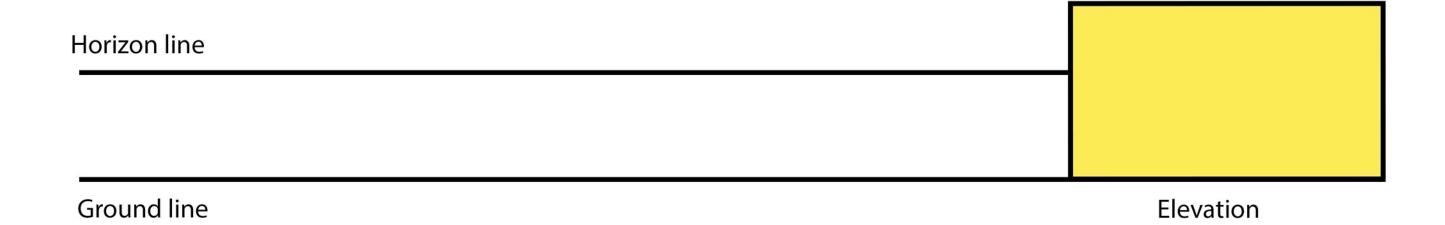
Pitcture Plane

Plan/top view

Pitcture Plane

Plan/top view

Pitcture Plane

Station Point

Plan/top view

Pitcture Plane

+
Station Point

Elevation

Ground line

Plan/top view

Pitcture Plane

+

Station Point

Horizon line

Ground line

Elevation

Plan/top view

1

2

Pitcture Plane

Station Point

Horizon line

Ground line

Elevation

Plan/top view

1   2   Pitcture Plane

Station Point

Horizon line   VP 1   VP 2

Ground line   Elevation

Plan/top view

1

2

Pitcture Plane

Station Point

Horizon line

VP 1

VP 2

Ground line

Elevation

Plan/top view

1　2　Pitcture Plane

Station Point

Horizon line　VP 1　VP 2

Ground line　Elevation

Plan/top view

1   2   Pitcture Plane

Station Point

Horizon line   VP 1   VP 2

Ground line   Elevation

Plan/top view

1　　　　　　　　　　　　　　　　2　　　　Pitcture Plane

Station Point

Horizon line　　VP 1　　　　　　　　　　　　　　VP 2

Ground line　　　　　　　　　　　　　　　　　　Elevation

Plan/top view

1

2

Pitcture Plane

Station Point

Horizon line

VP 1

VP 2

Ground line

Elevation

Plan/top view

1

2

Pitcture Plane

Station Point

Horizon line

VP 1

VP 2

Ground line

Elevation

Plan/top view

1

2

Pitcture Plane

Station Point

Horizon line

VP 1

VP 2

Elevation

Ground line

Plan/top view

1   2   Pitcture Plane

Station Point

Horizon line   VP 1   VP 2

Ground line   Elevation

Plan/top view

1   2   Pitcture Plane

Station Point

Horizon line   VP 1   VP 2

Ground line   Elevation

Plan/top view

1

2

Pitcture Plane

Station Point

Horizon line

VP 1

VP 2

Ground line

Elevation

Example

P.P

× S.P

H.L

G.L

P.P

1

4

2

3

× S.P

VP ×

× VP

H.L

G.L

P.P

1

4

2

3

× S.P

VP ×   × VP   H.L

G.L

P.P

1

4

2

3

S.P

VP

1

VP

H.L

G.L

P.P

1

4

2

3

× S.P

1

2

VP ×   1   2   × VP   H.L

G.L

P.P

1

4

2

3

× S.P

1

2

VP ×

× VP

H.L

G.L

P.P

4

1

2

3

× S.P

VP ×

1   2

× VP

H.L

G.L

P.P

4

1

2

3

S.P

1

2

VP

VP

H.L

G.L

P.P

1

4

2

3

× S.P

VP ×

1

2

× VP

H.L

G.L

3

P.P

1

4

2

3

S.P

1

2

VP

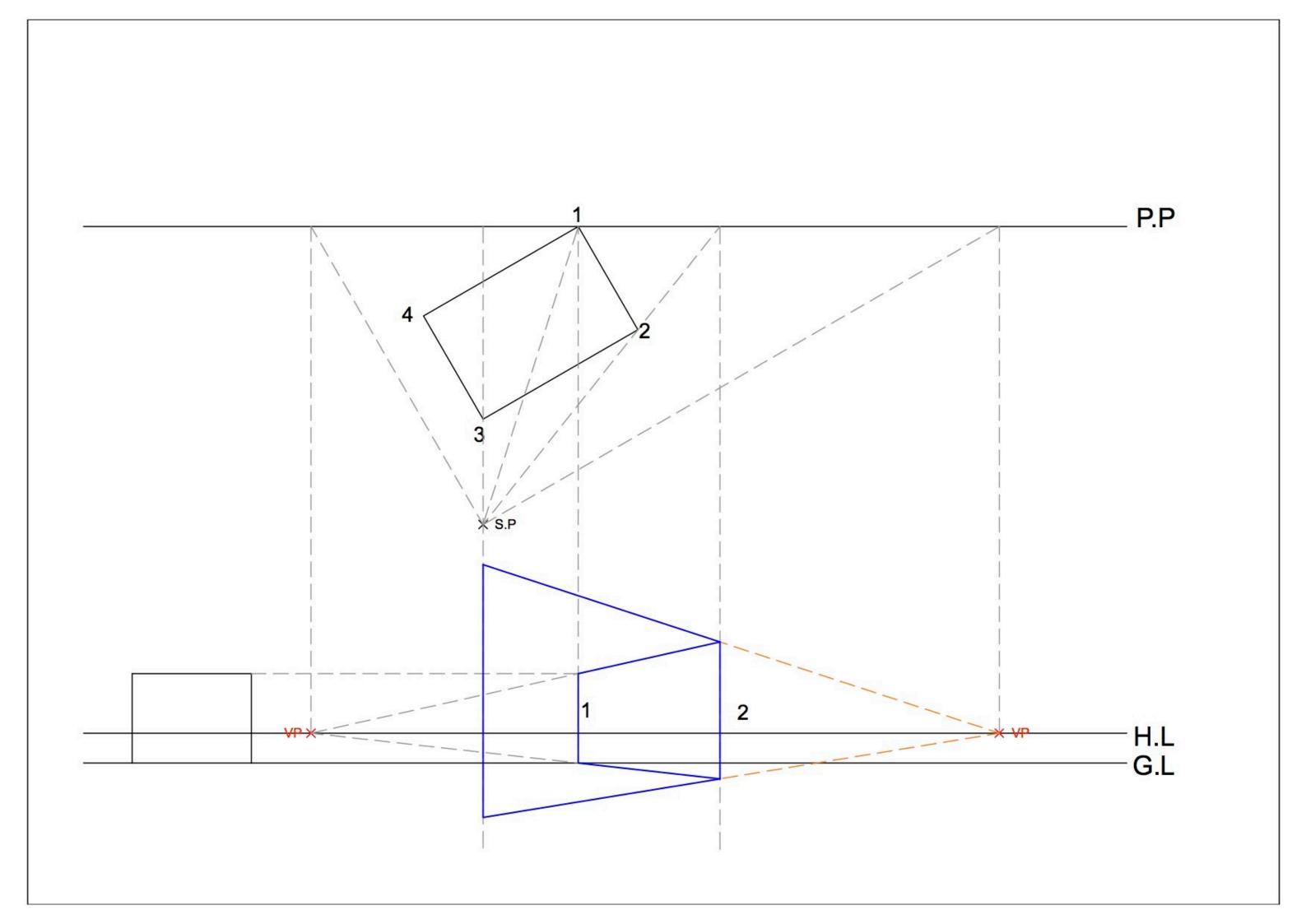3

VP

H.L

G.L
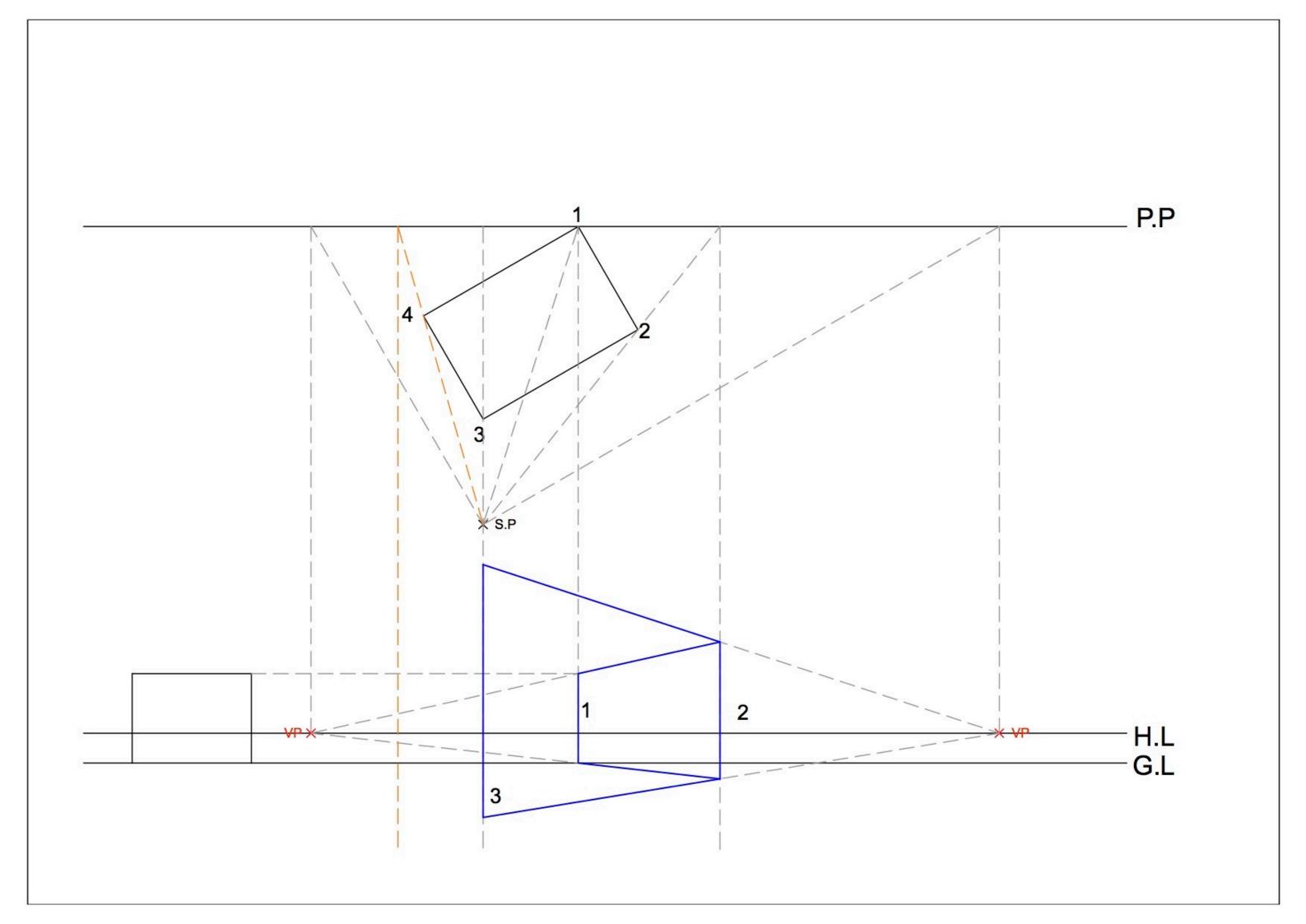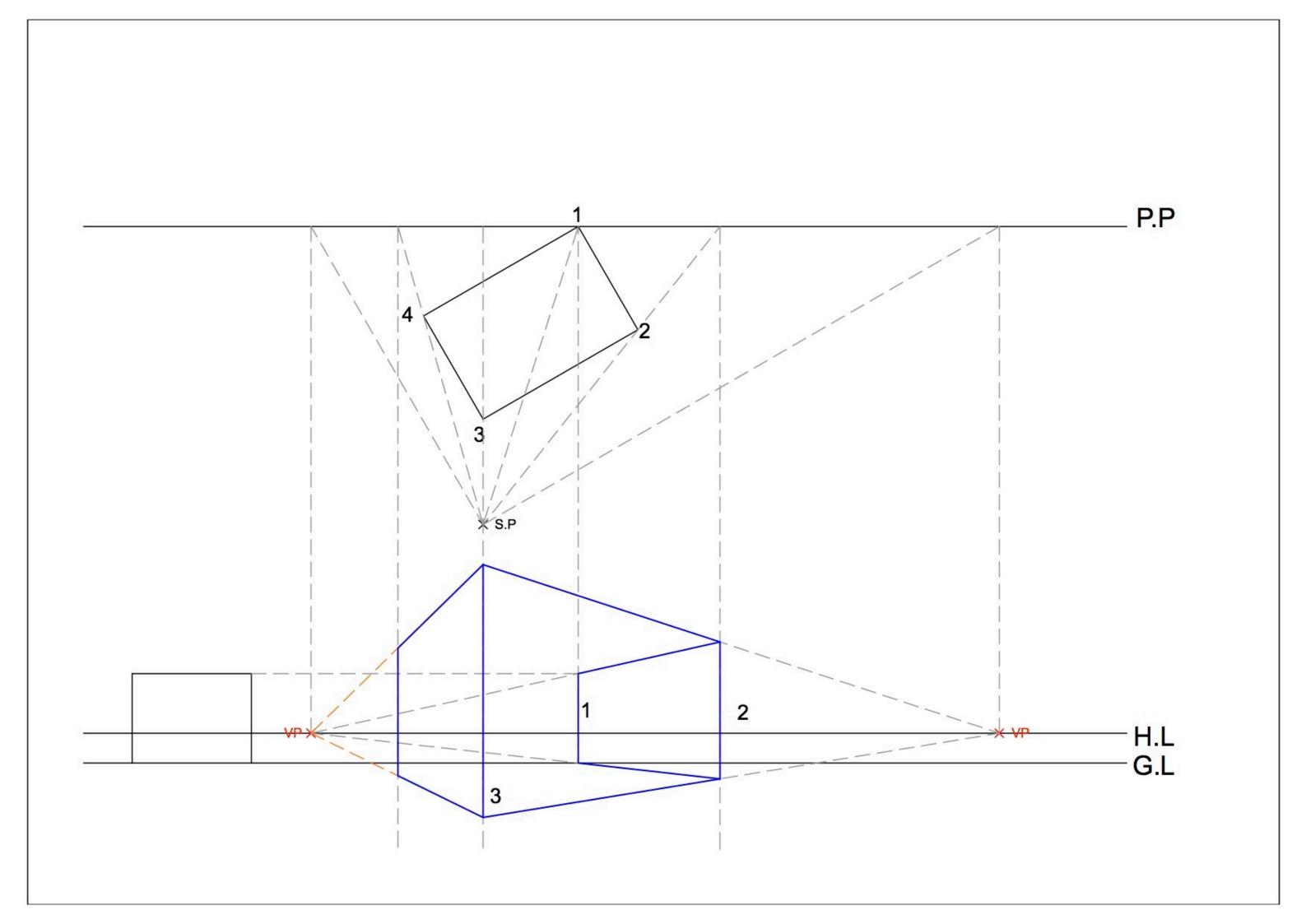
P.P
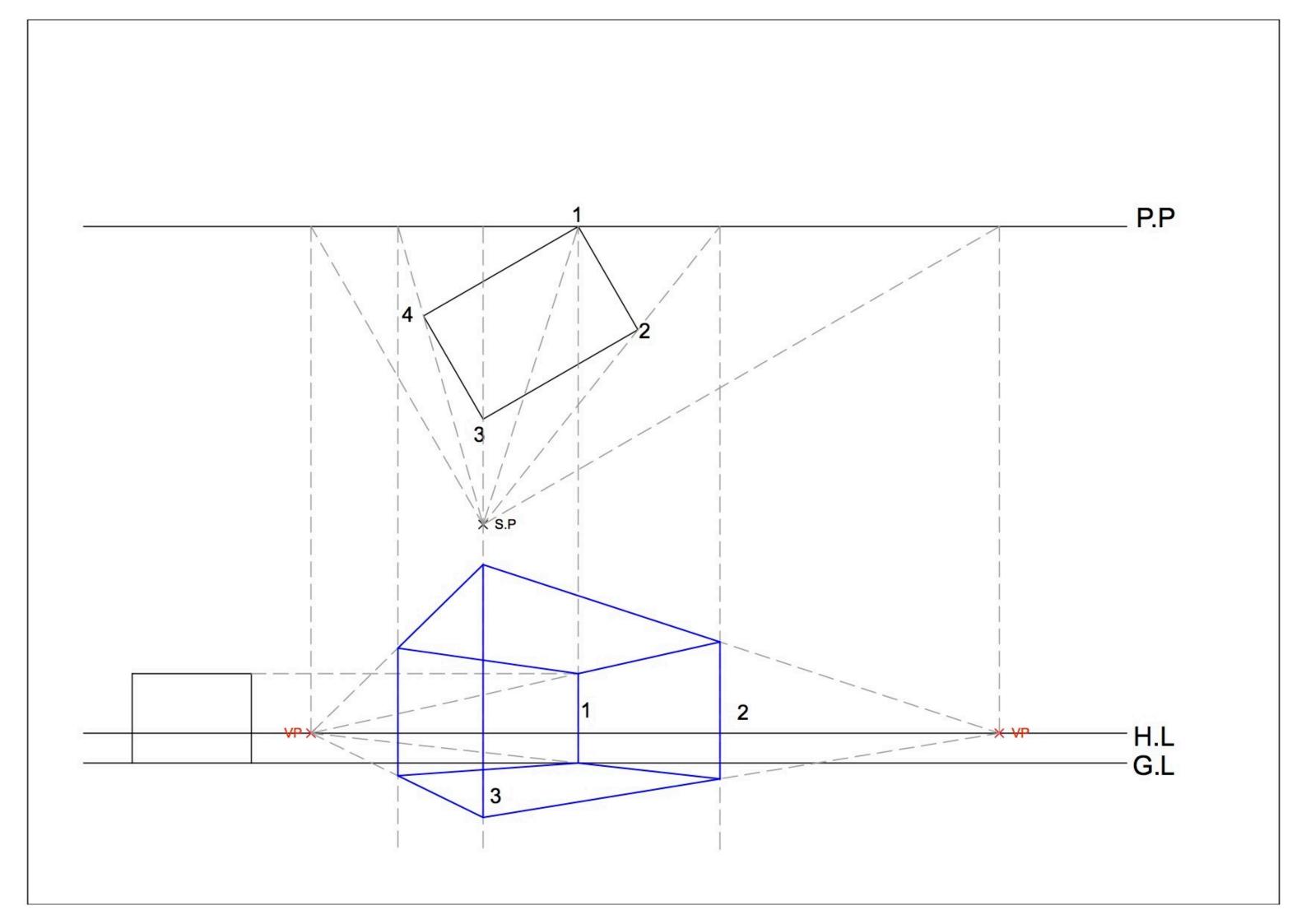
1

4
2

3

S.P

1
2

VP
VP

H.L
G.L

3

Youtube link:

https://www.youtube.com/watch?v=BusXC9w2r0I

Thank you