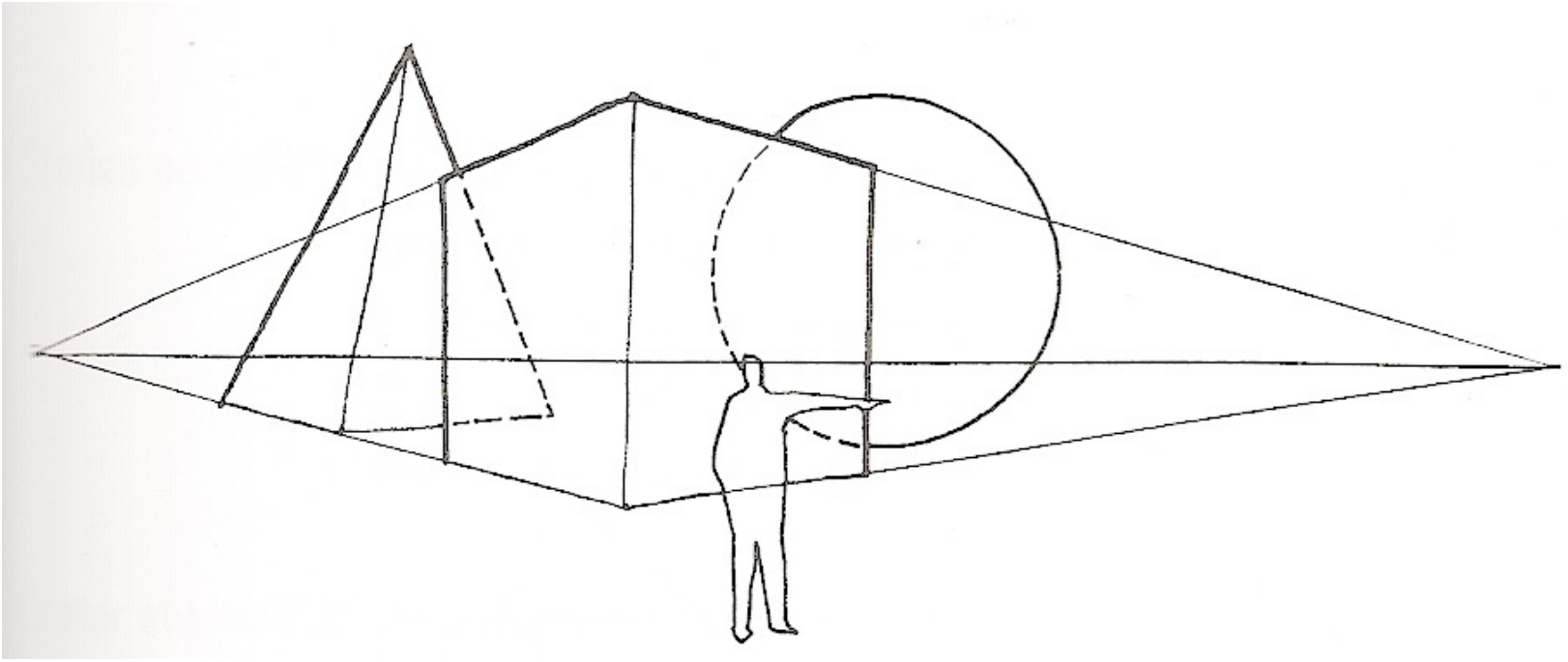
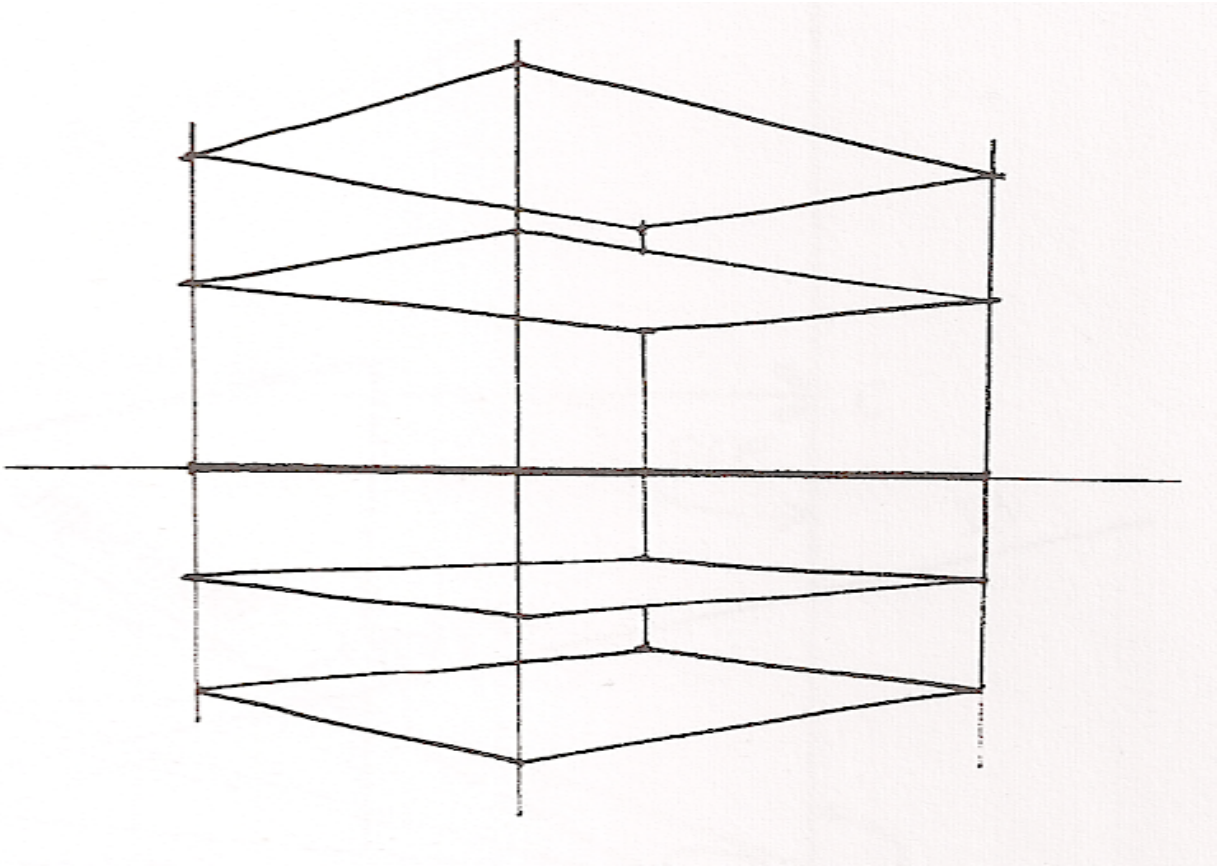
Perspective:

Major characteristics

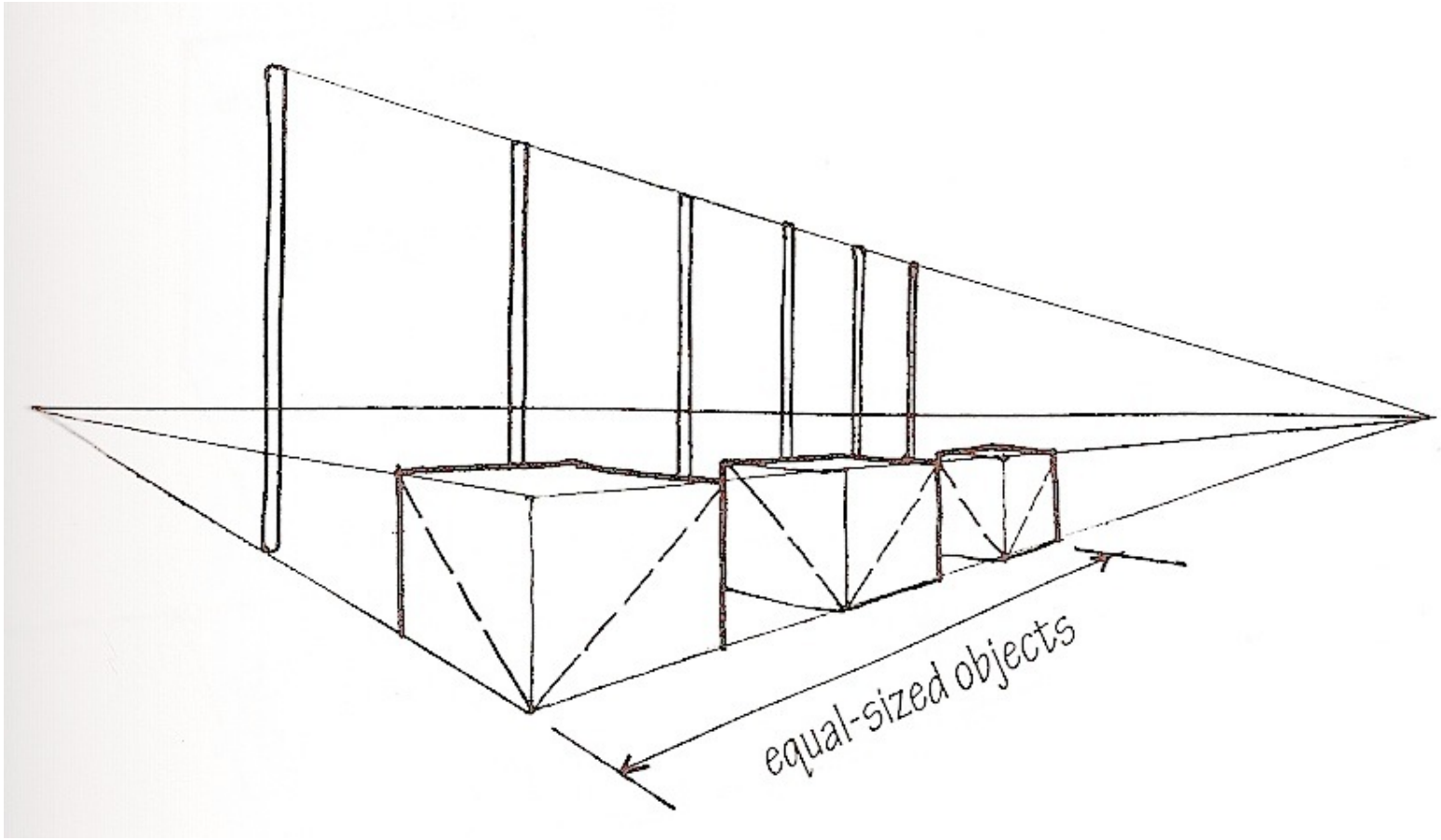
Overlapping of Forms



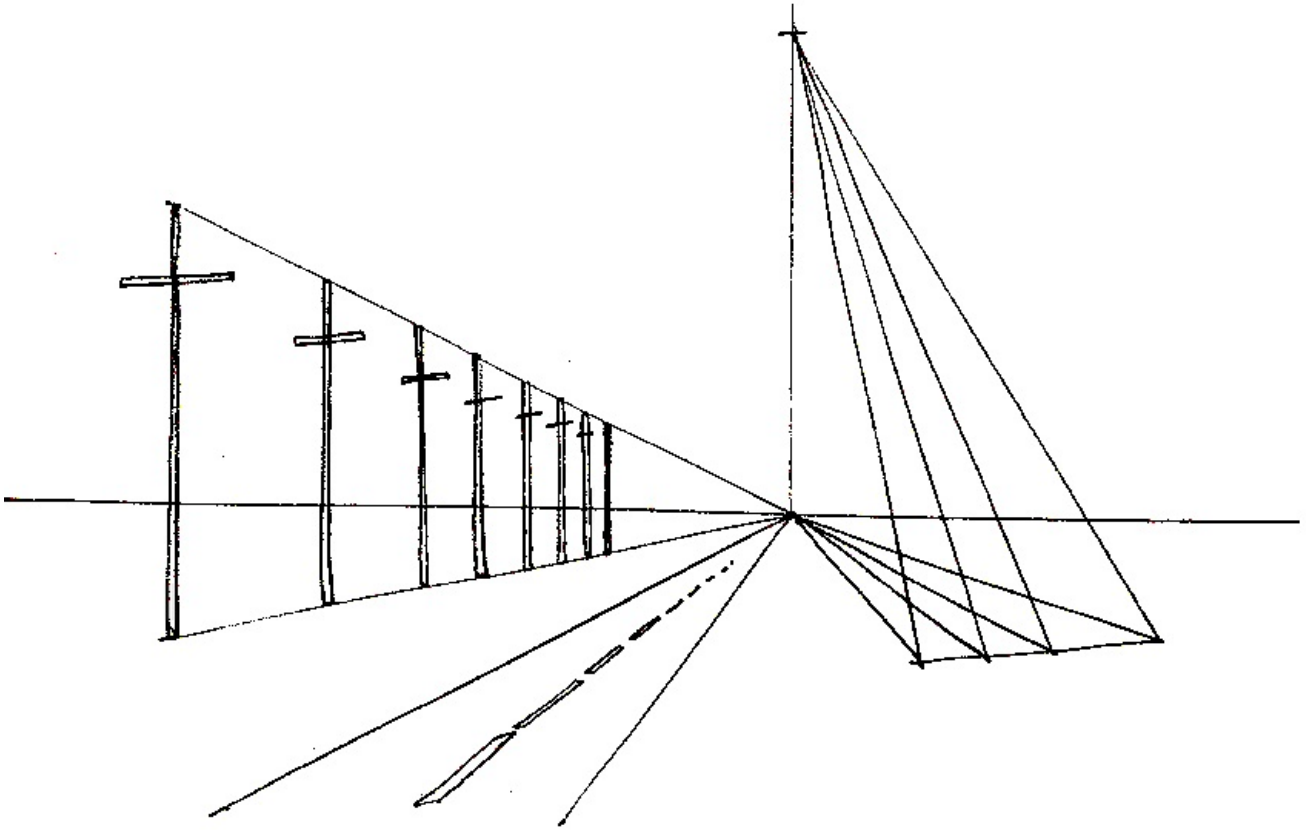
foreshortening



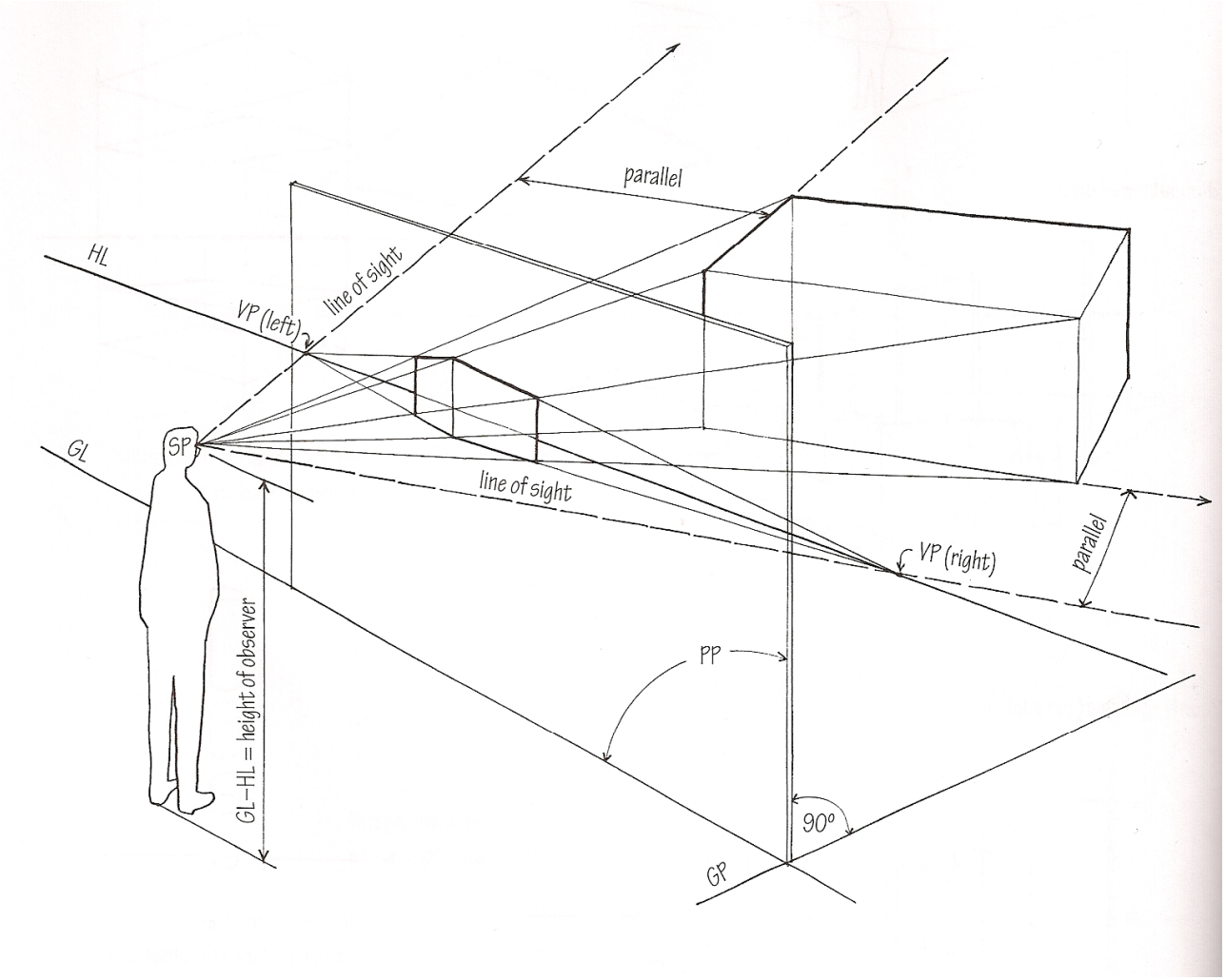
Diminution of Size



Convergence of Parallels

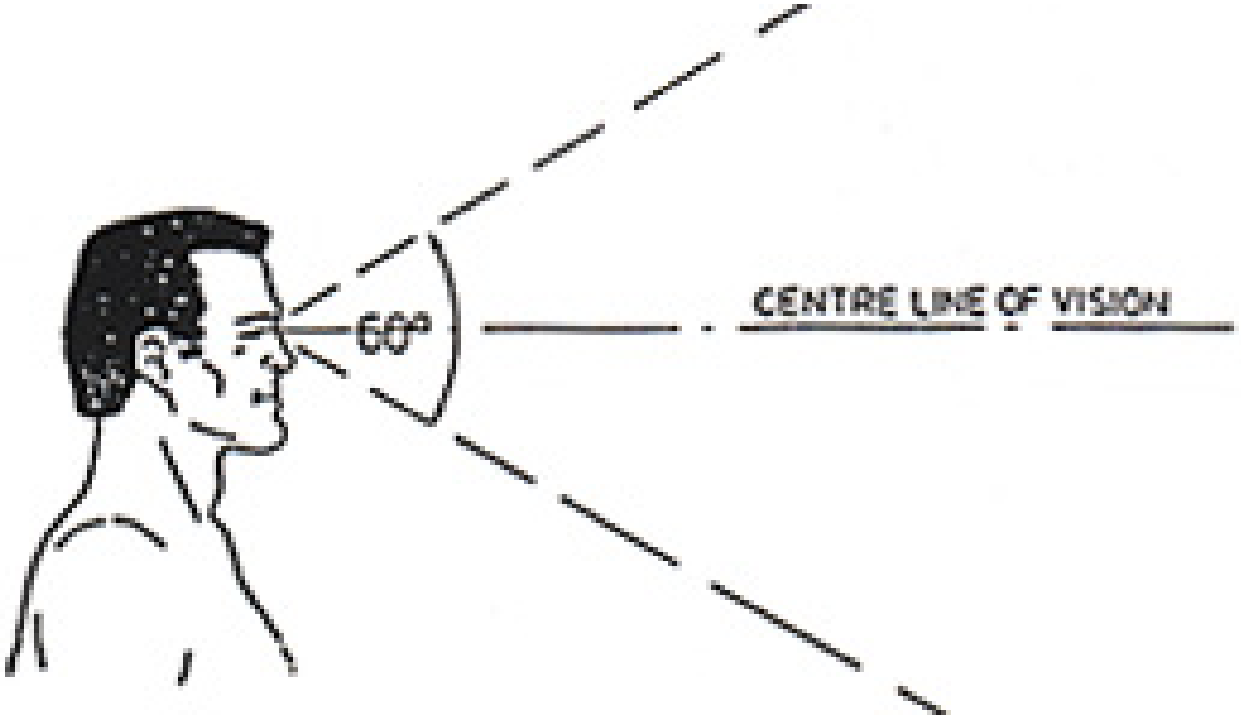


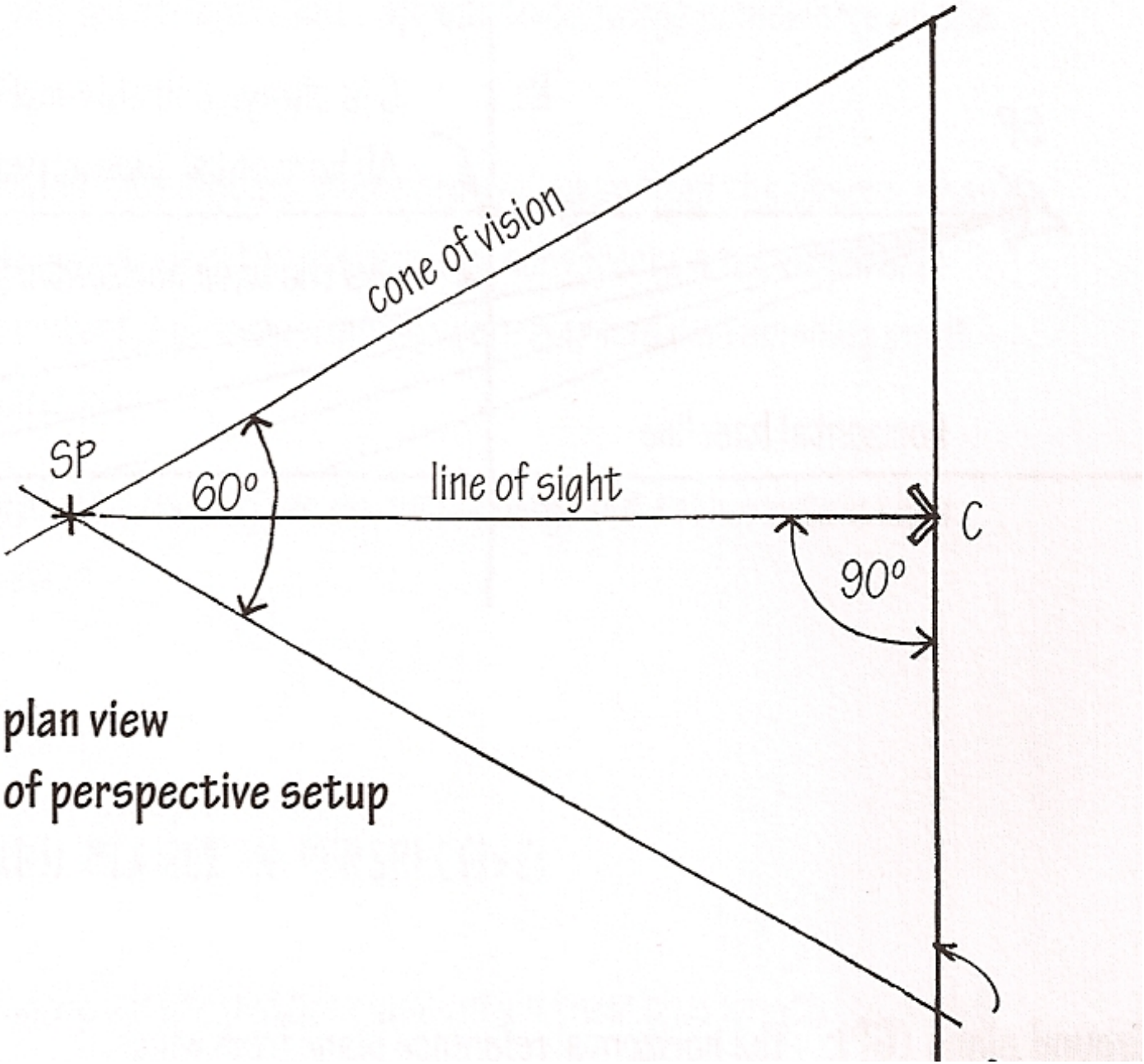
Vanishing Point



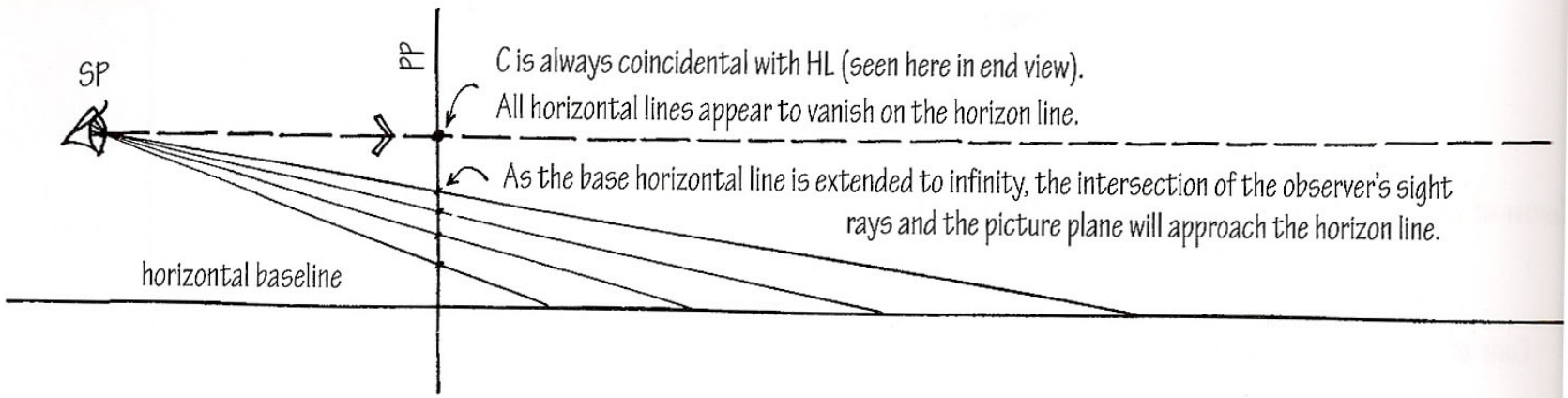
Major Elements:

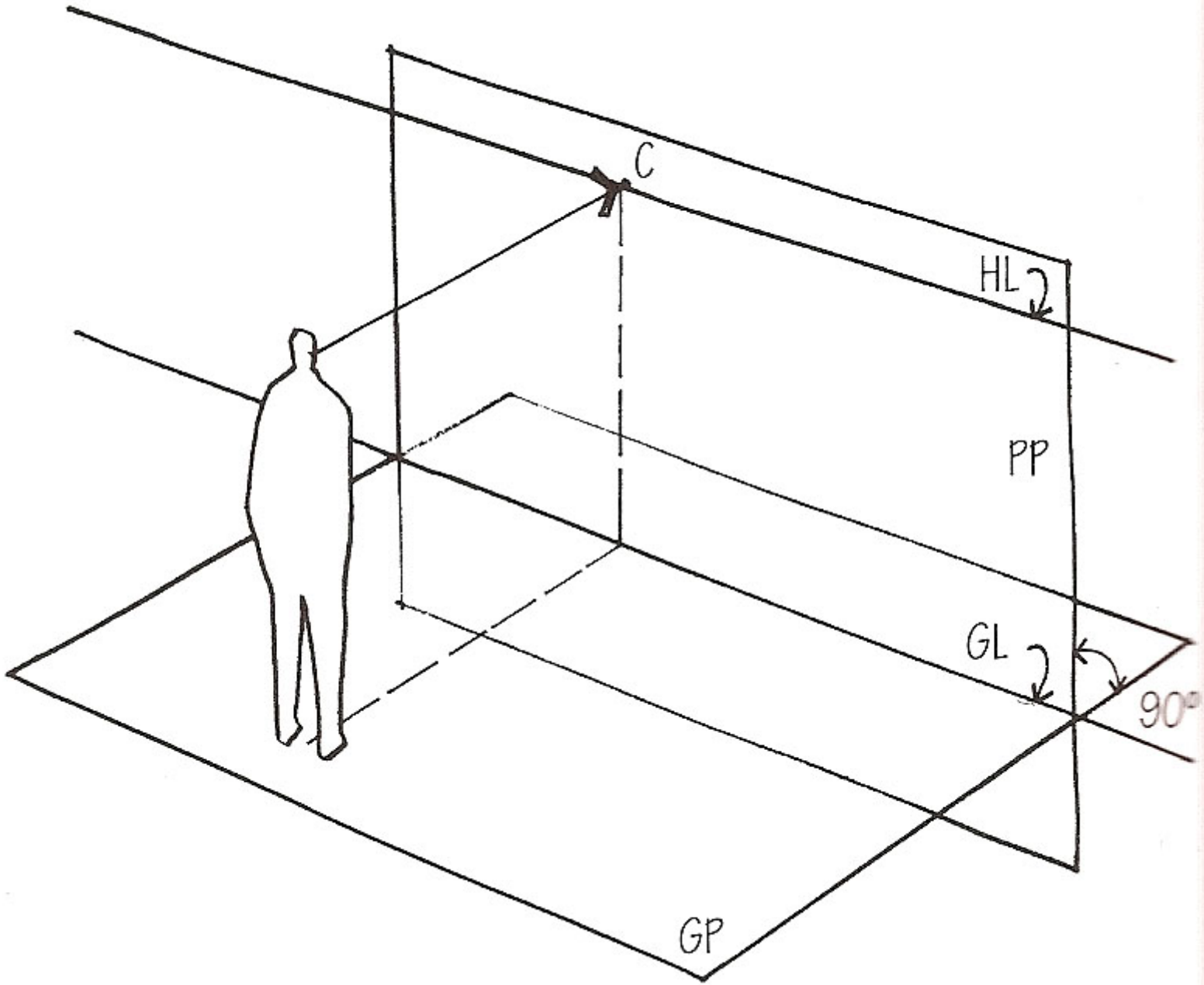
- Station Point: position of observer
- Center of View: projection of SP (eye of observer)
- Cone of Vision: Maximum angle of vision with in which what is viewed as in focus, (approximately 60 degrees)


60°
CENTRE LINE OF VISION

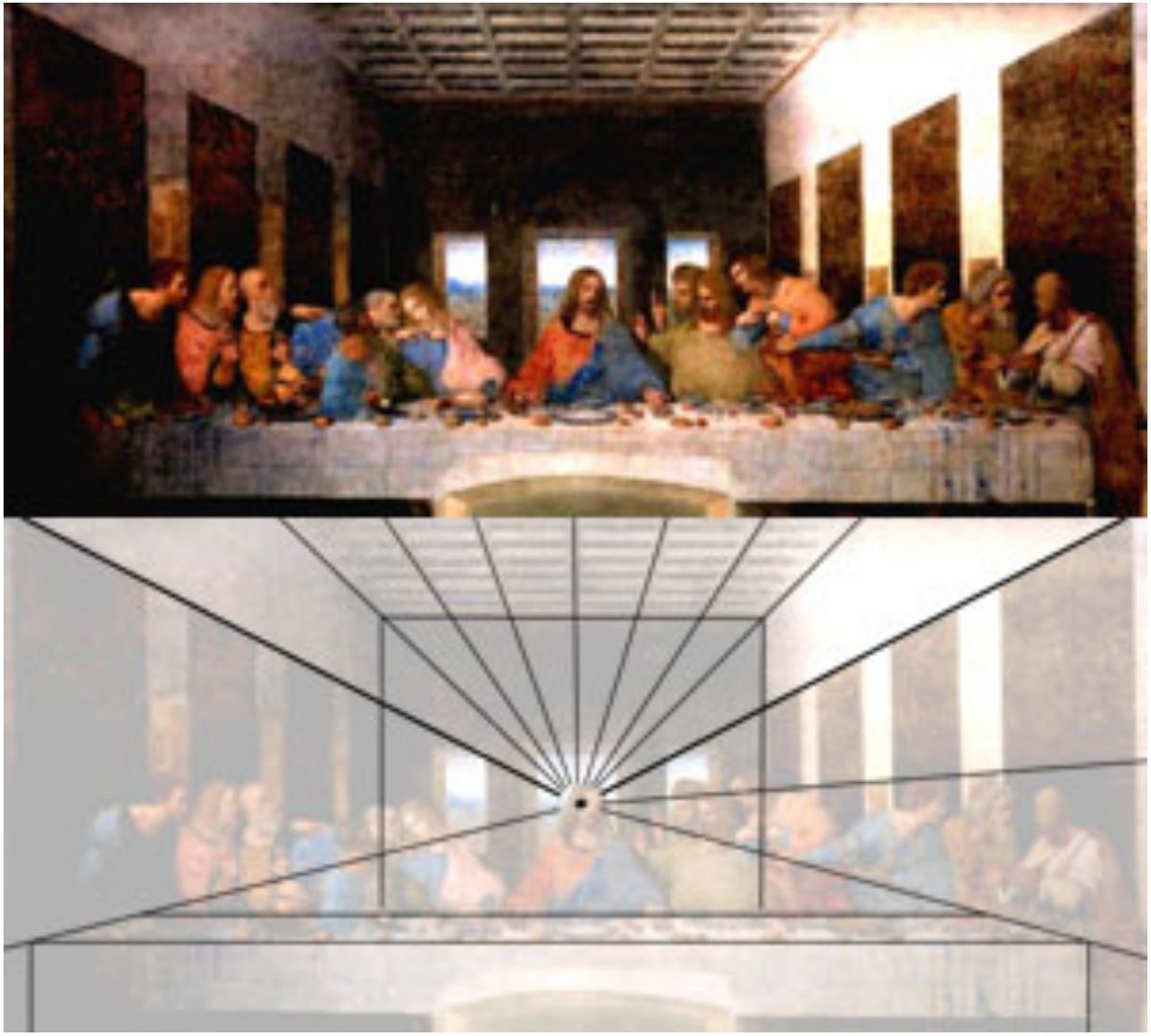


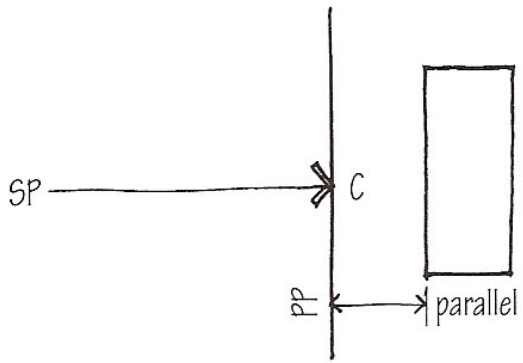
plan view
of perspective setup

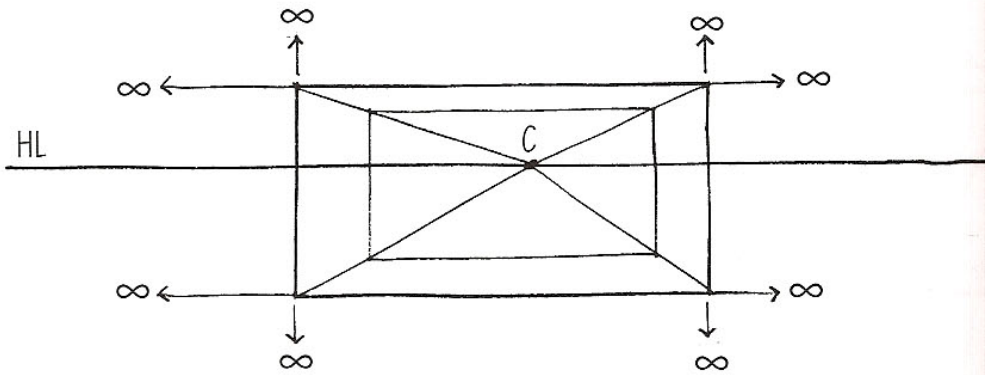

SP
PP
C is always coincidental with HL (seen here in end view).
All horizontal lines appear to vanish on the horizon line.
As the base horizontal line is extended to infinity, the intersection of the observer's sight rays and the picture plane will approach the horizon line.
horizontal baseline

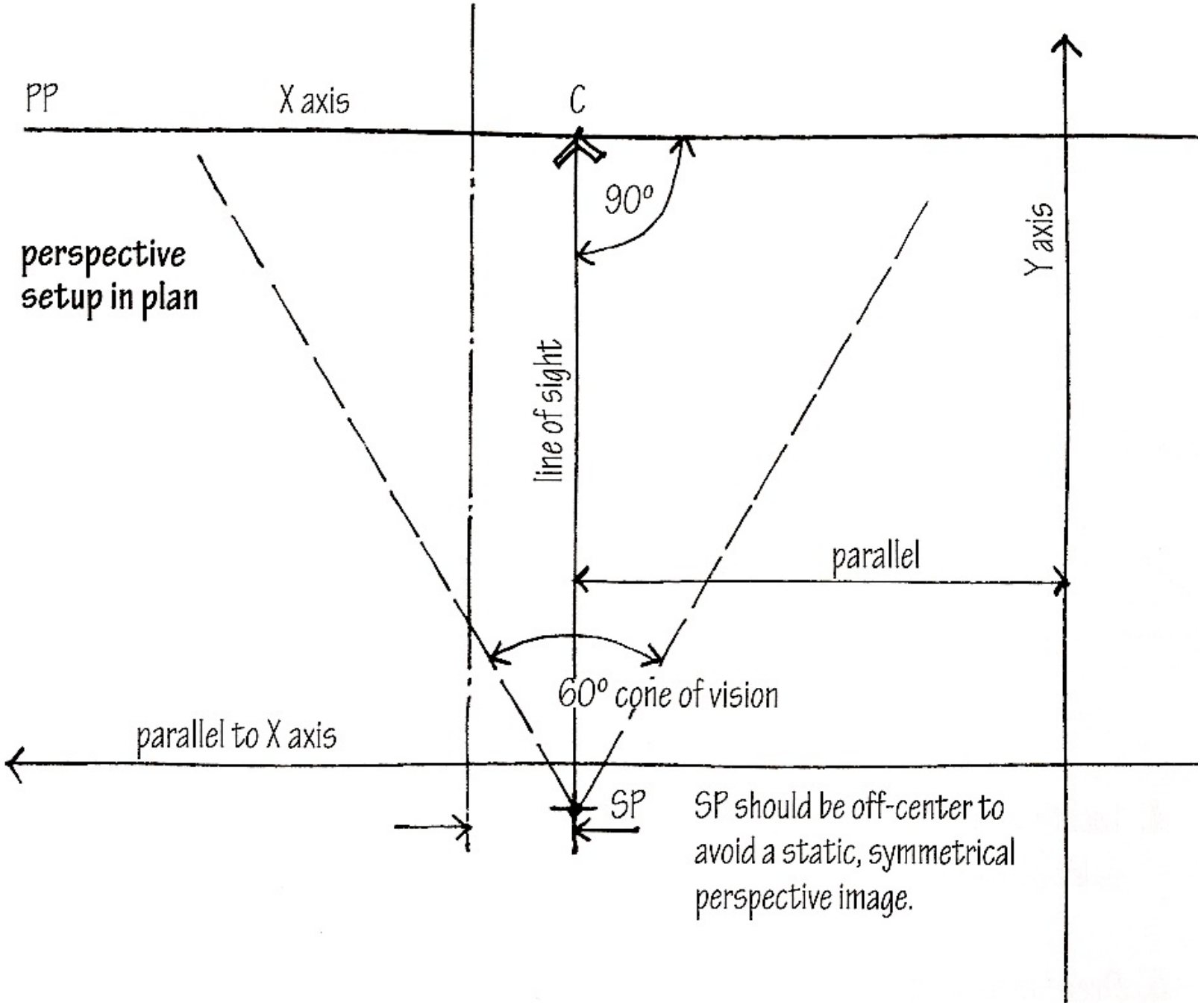

C
HL
PP
GL
90°
GP

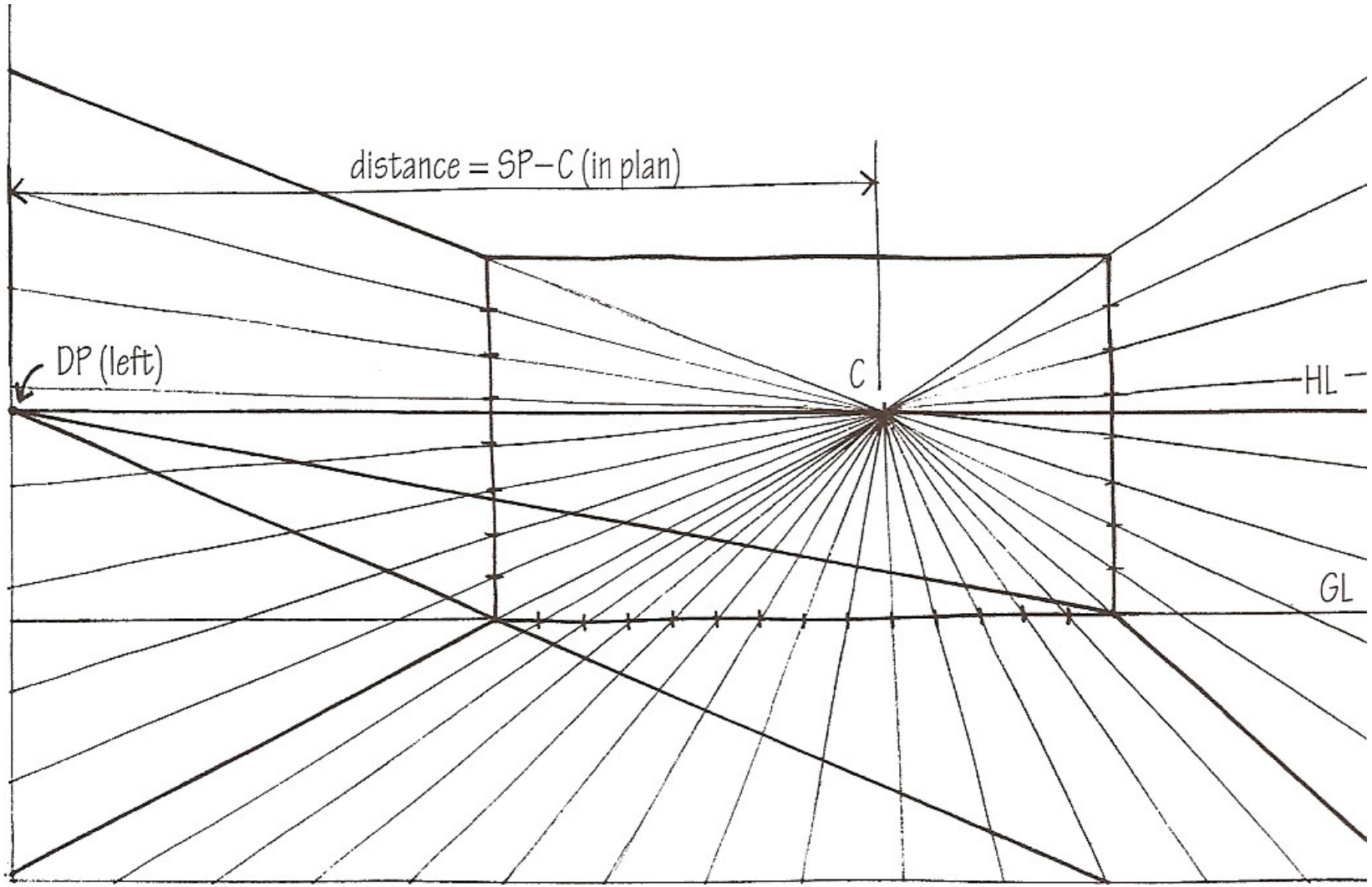
One Point Perspective

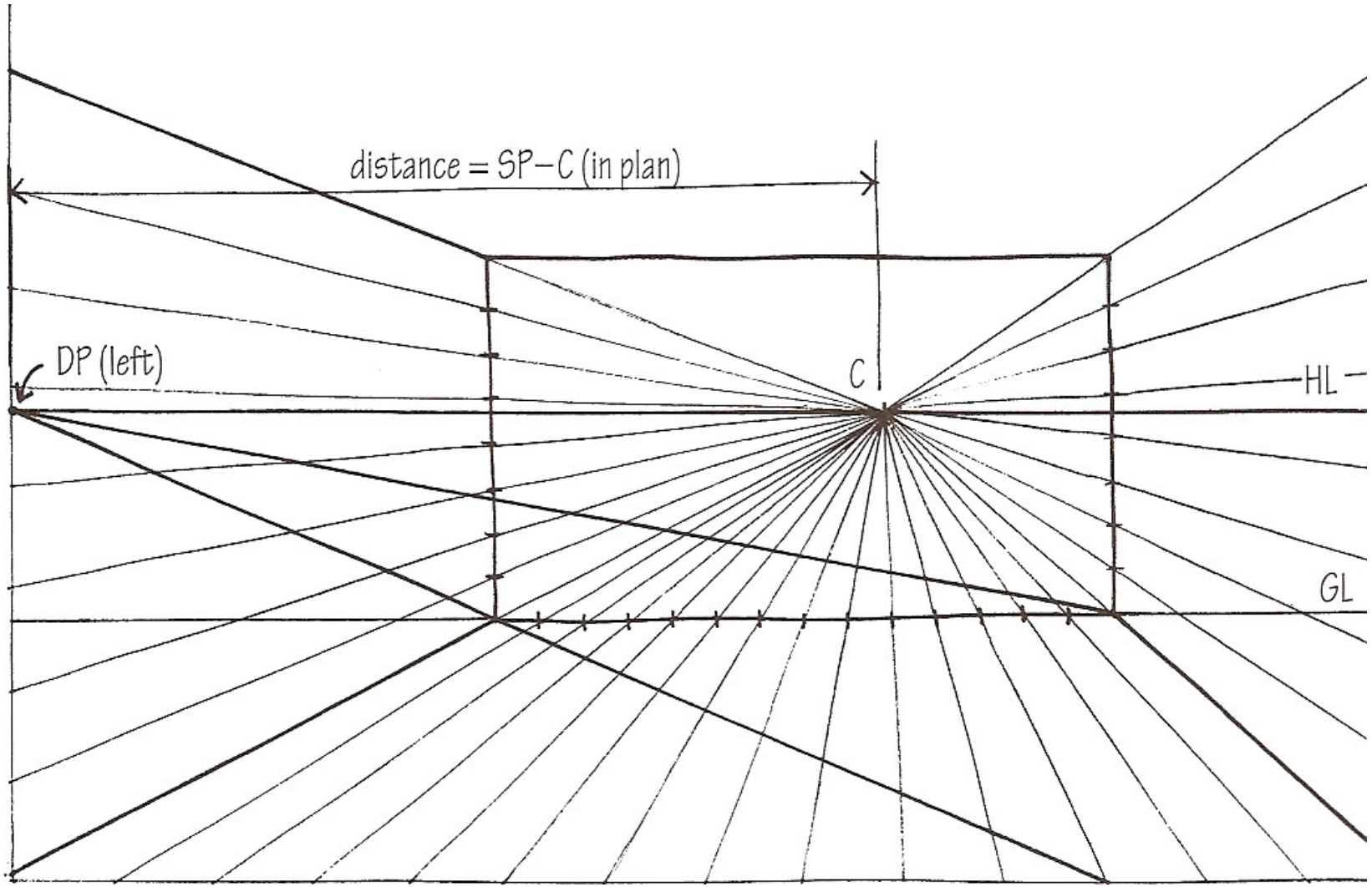


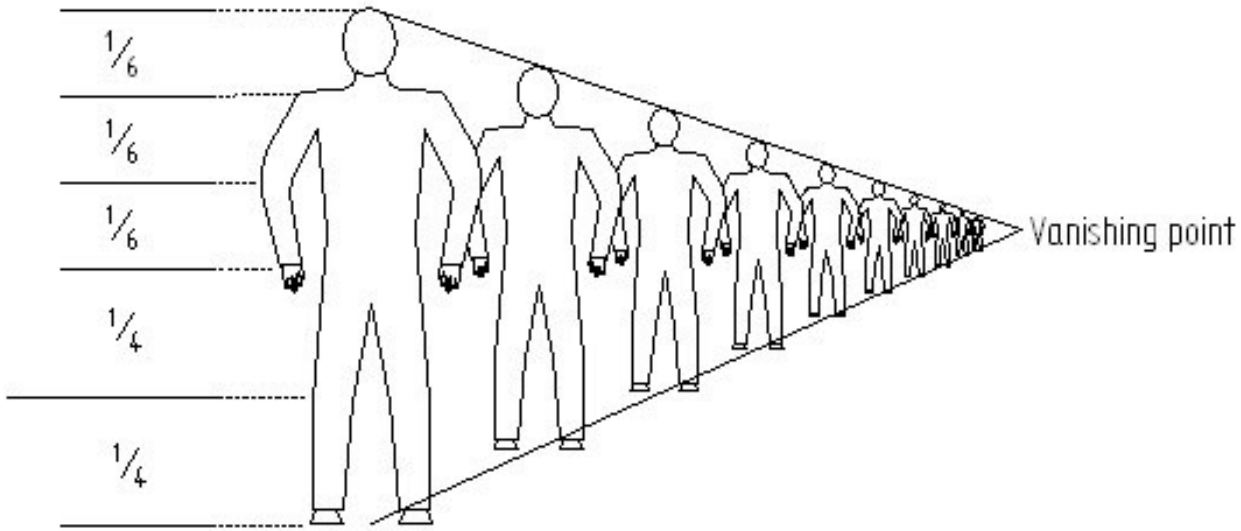

SP
C
PP
parallel


HL
C

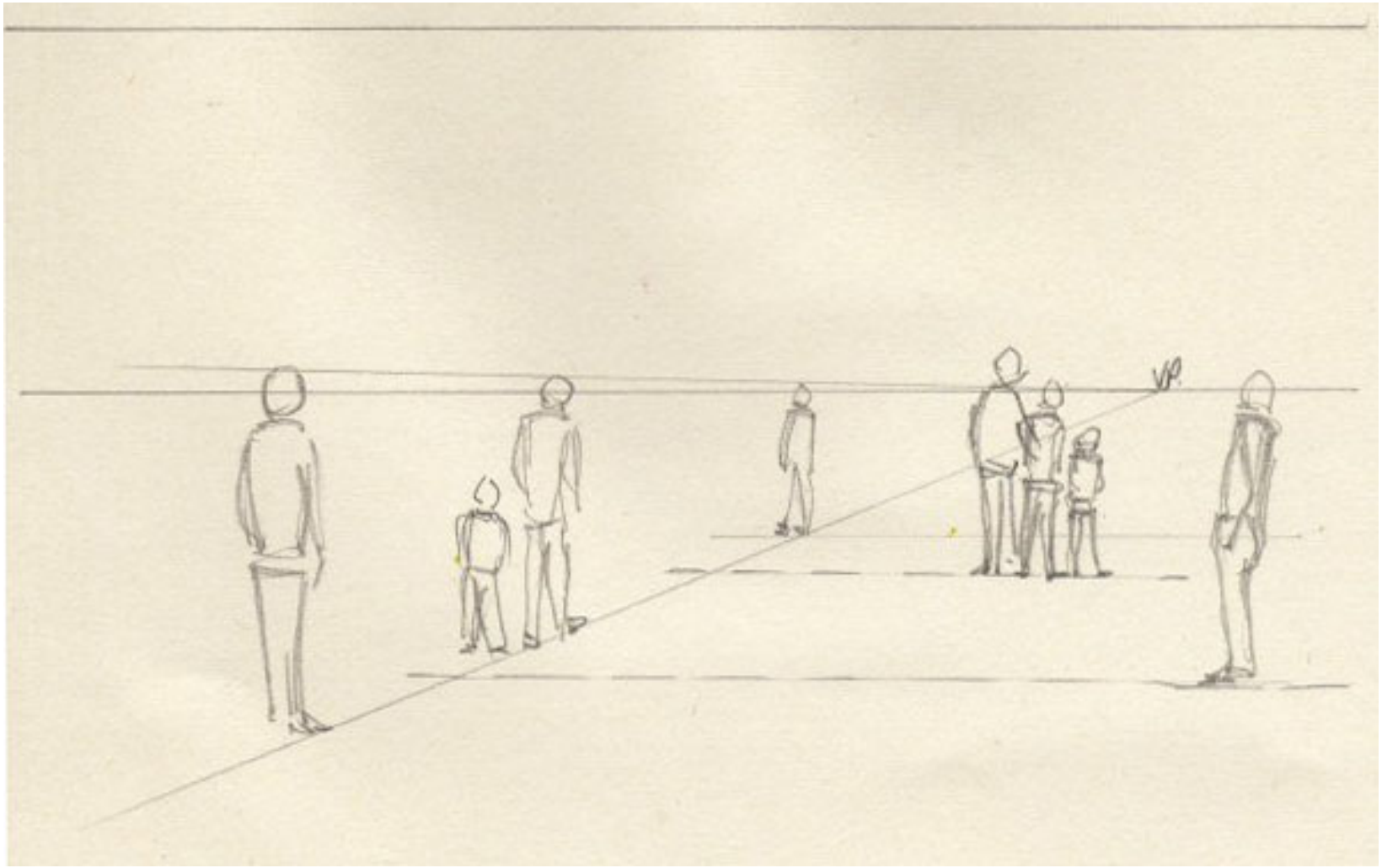

PP
X axis
C
90°
perspective
setup in plan
Y axis
line of sight
parallel
60° cone of vision
parallel to X axis
SP
SP should be off-center to
avoid a static, symmetrical
perspective image.

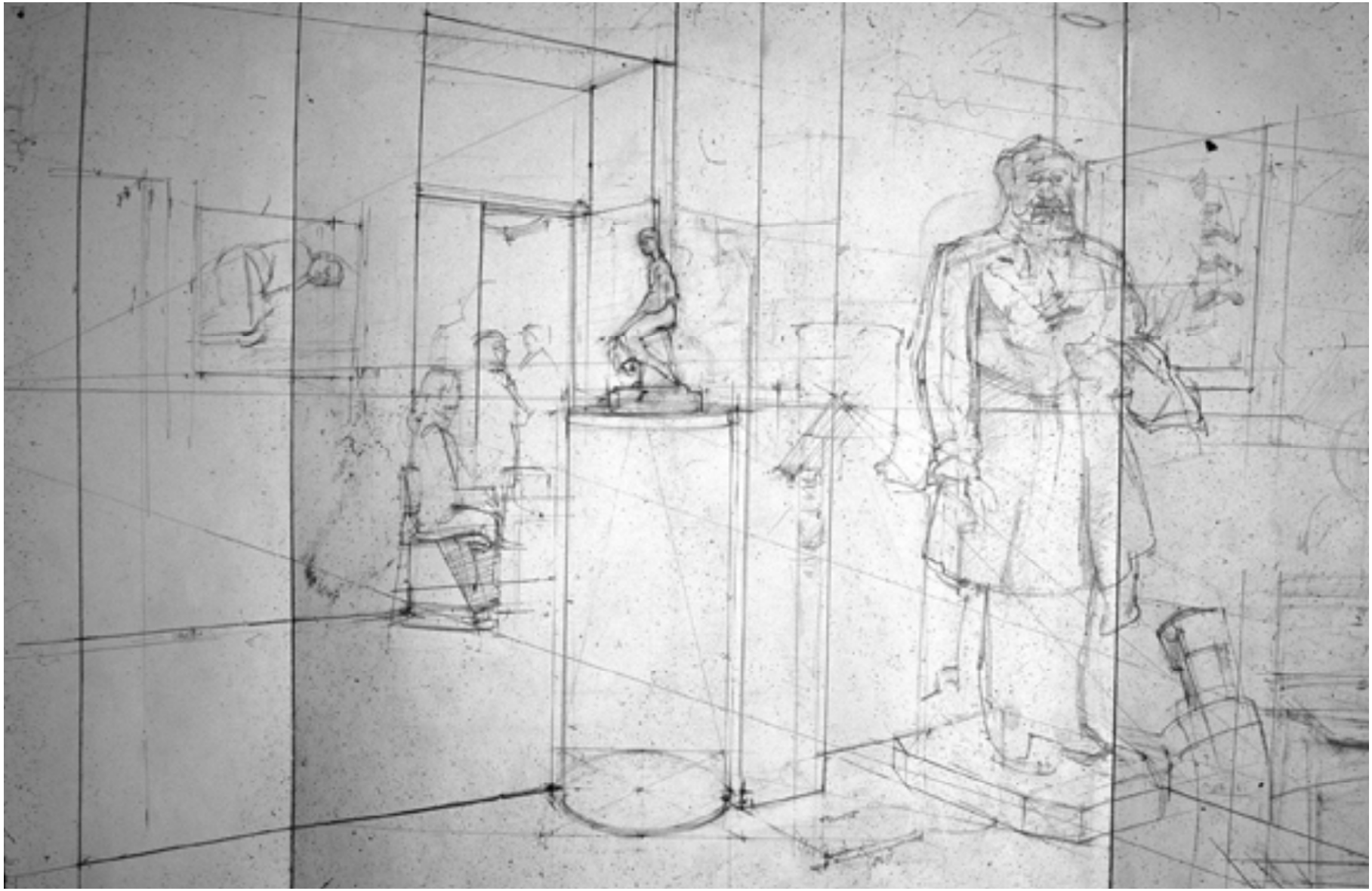

distance = SP–C (in plan)
DP (left)
C
HL
GL

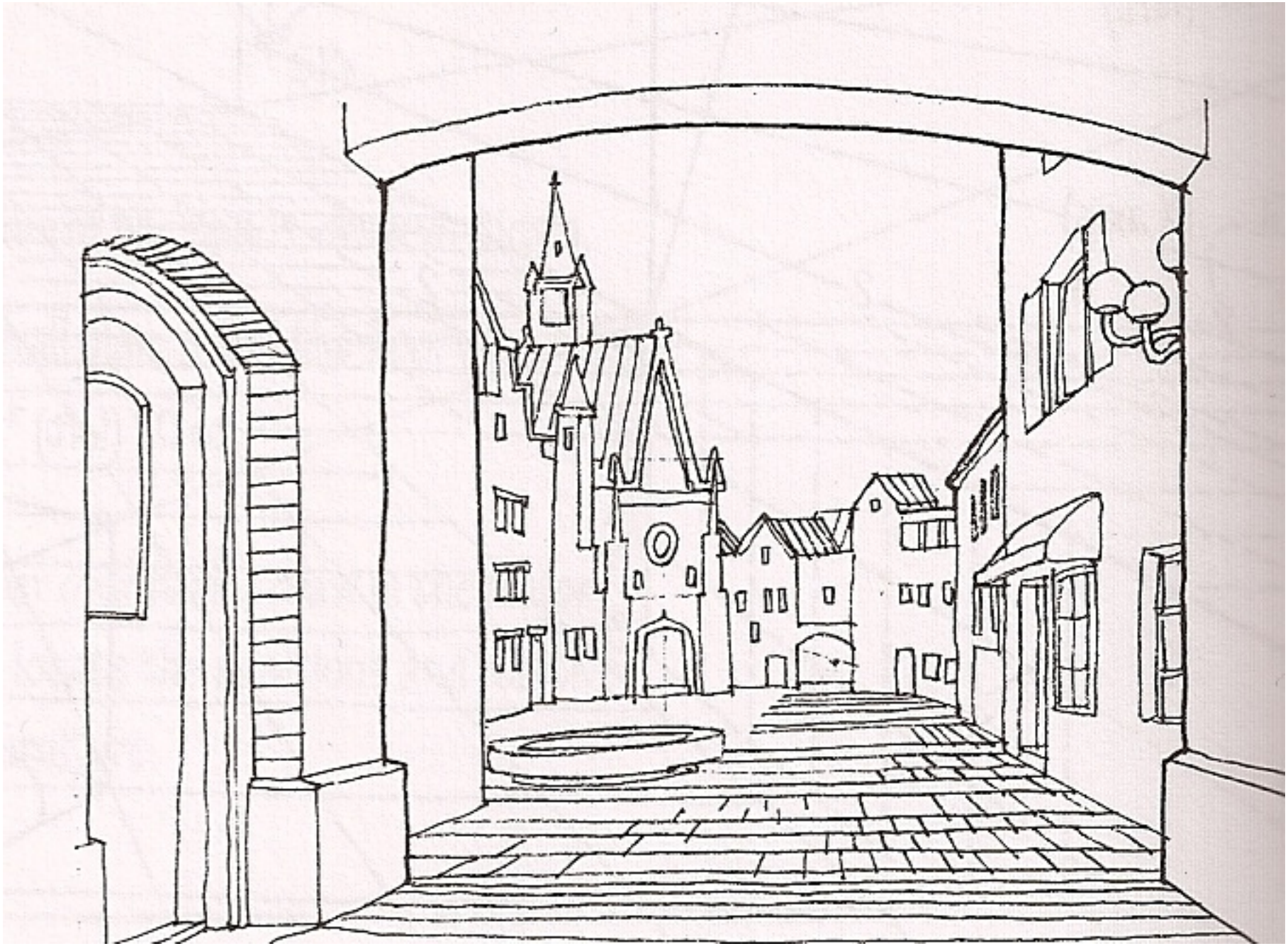

distance = SP–C (in plan)
DP (left)
C
HL
GL

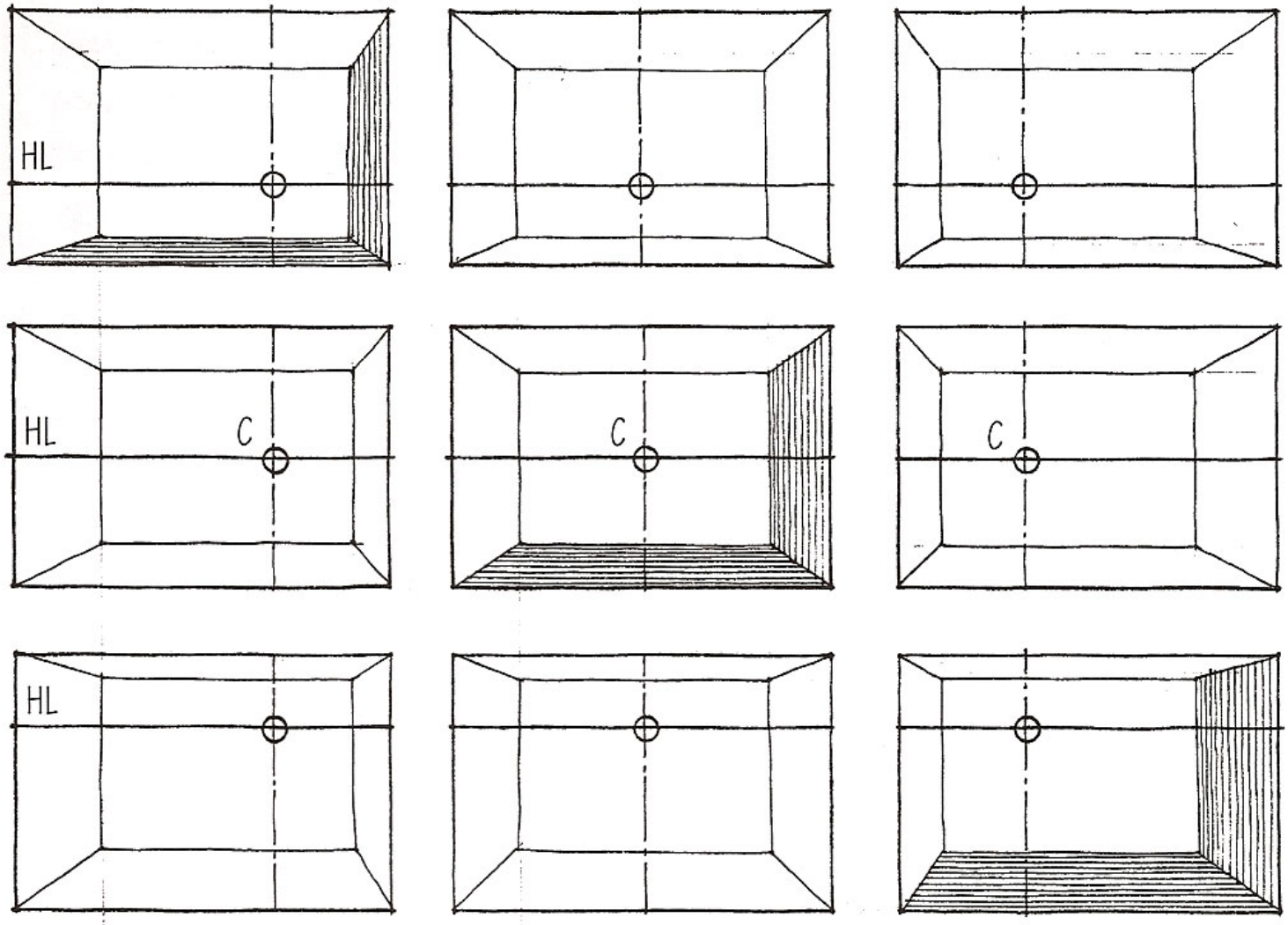


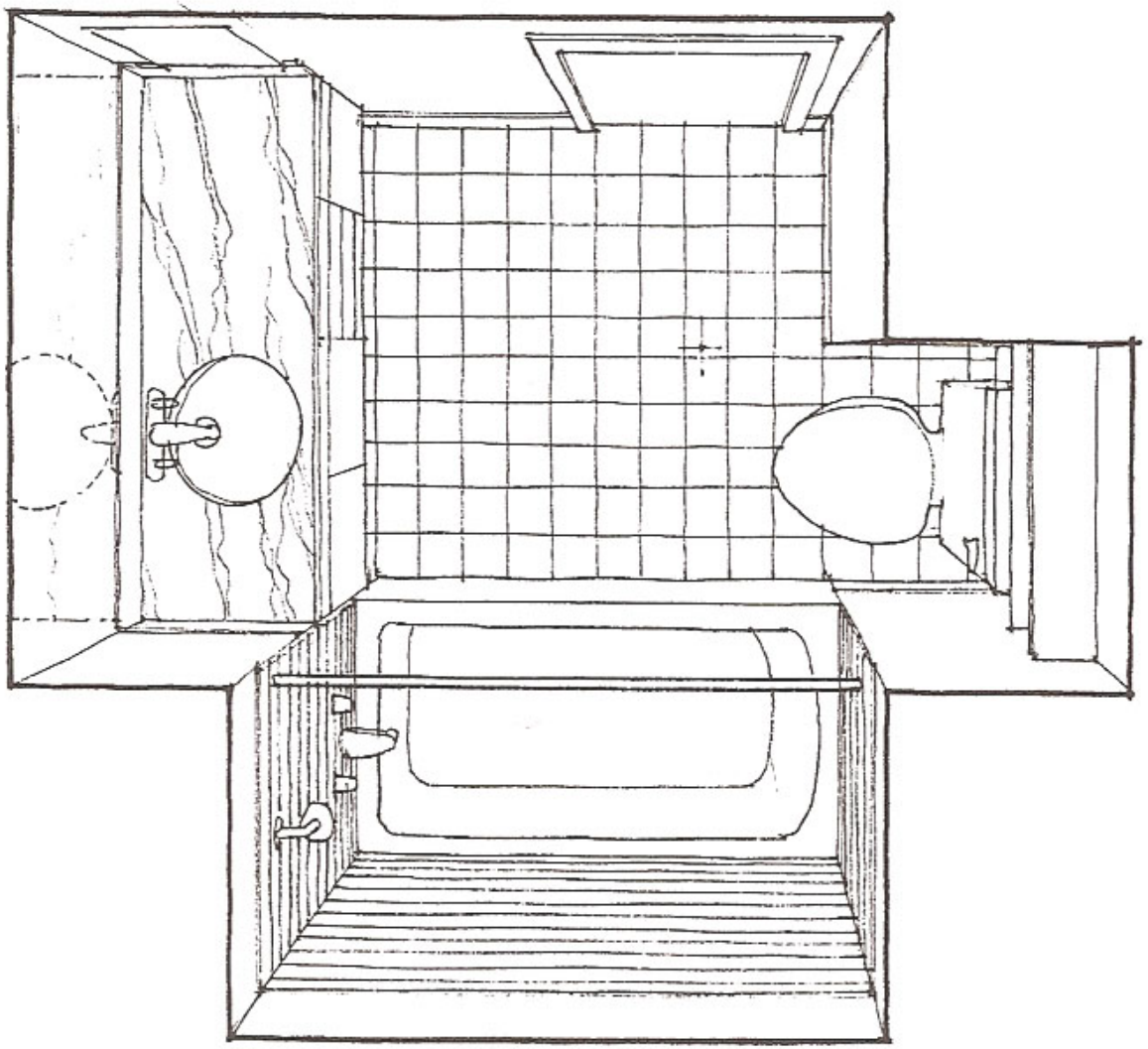
People - ratio of body and perspective		
Copyright HSC Online 2008	Scale: NTS	18/5/2008

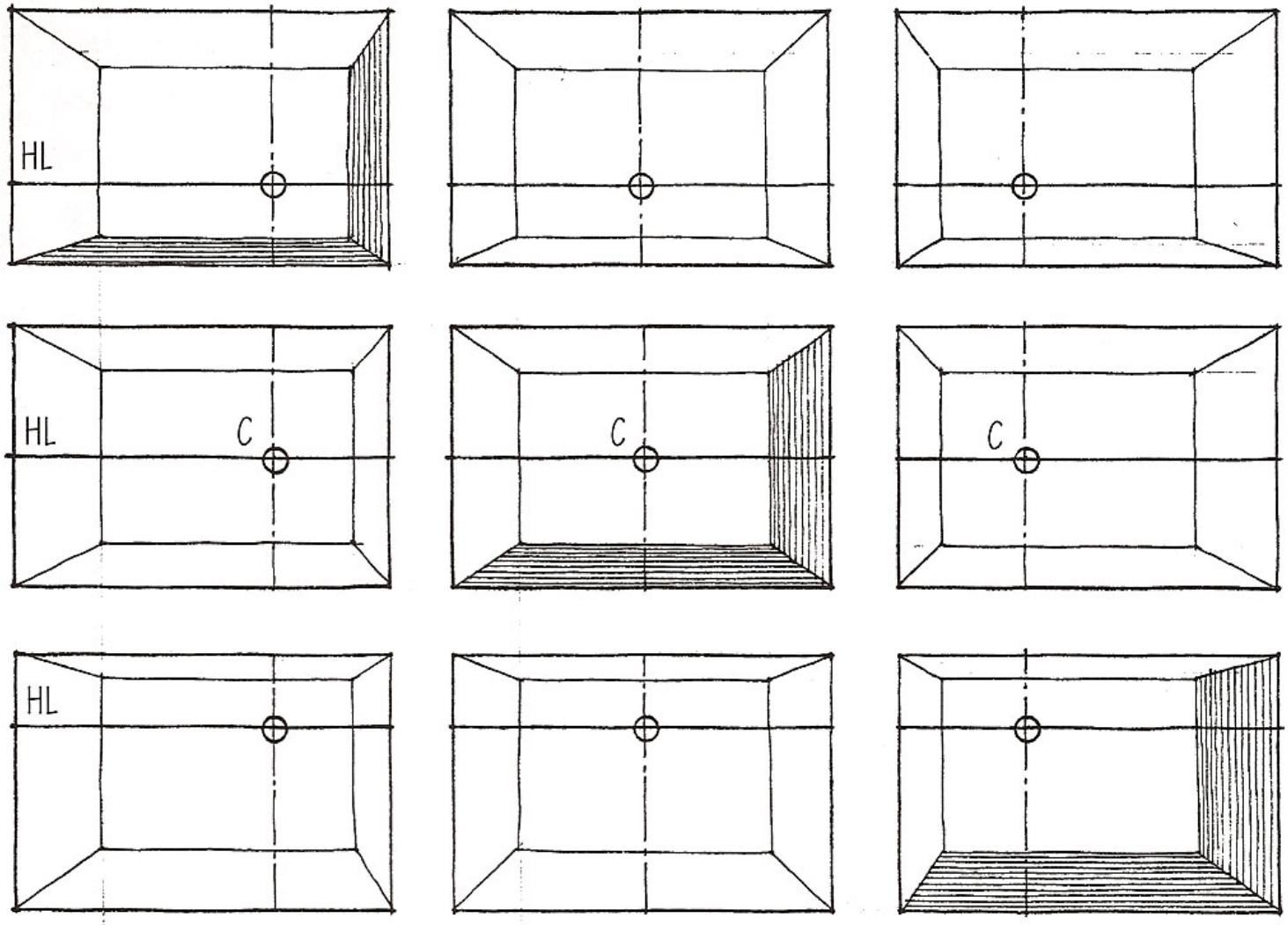

VP



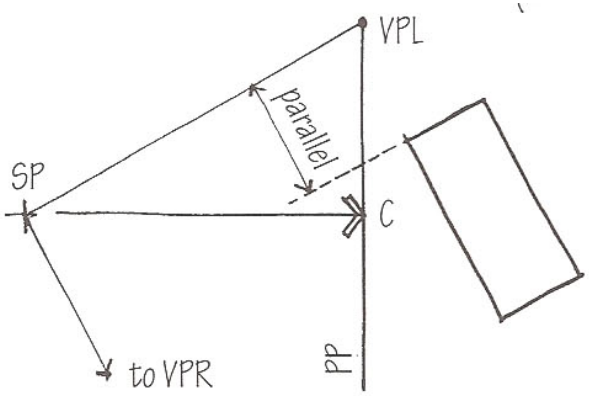


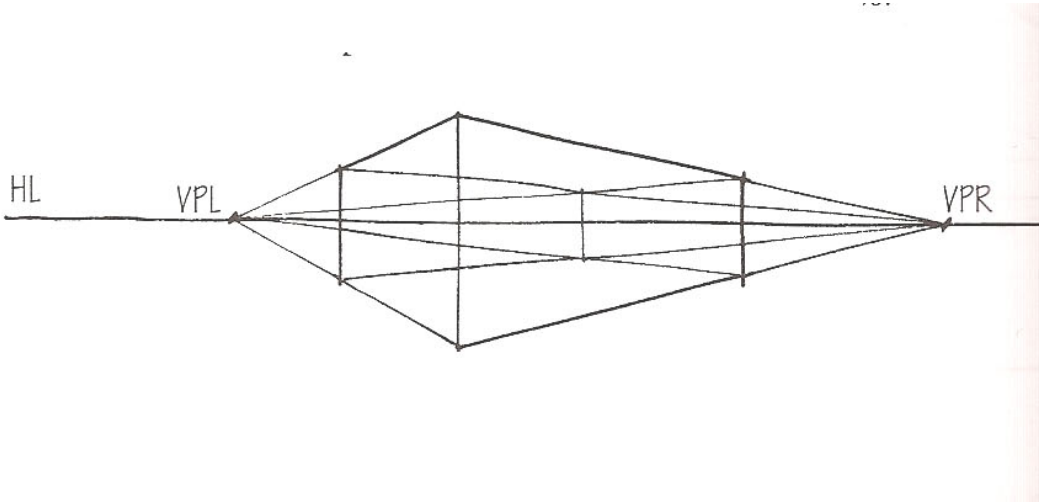

HL
HL
C
C
C
HL

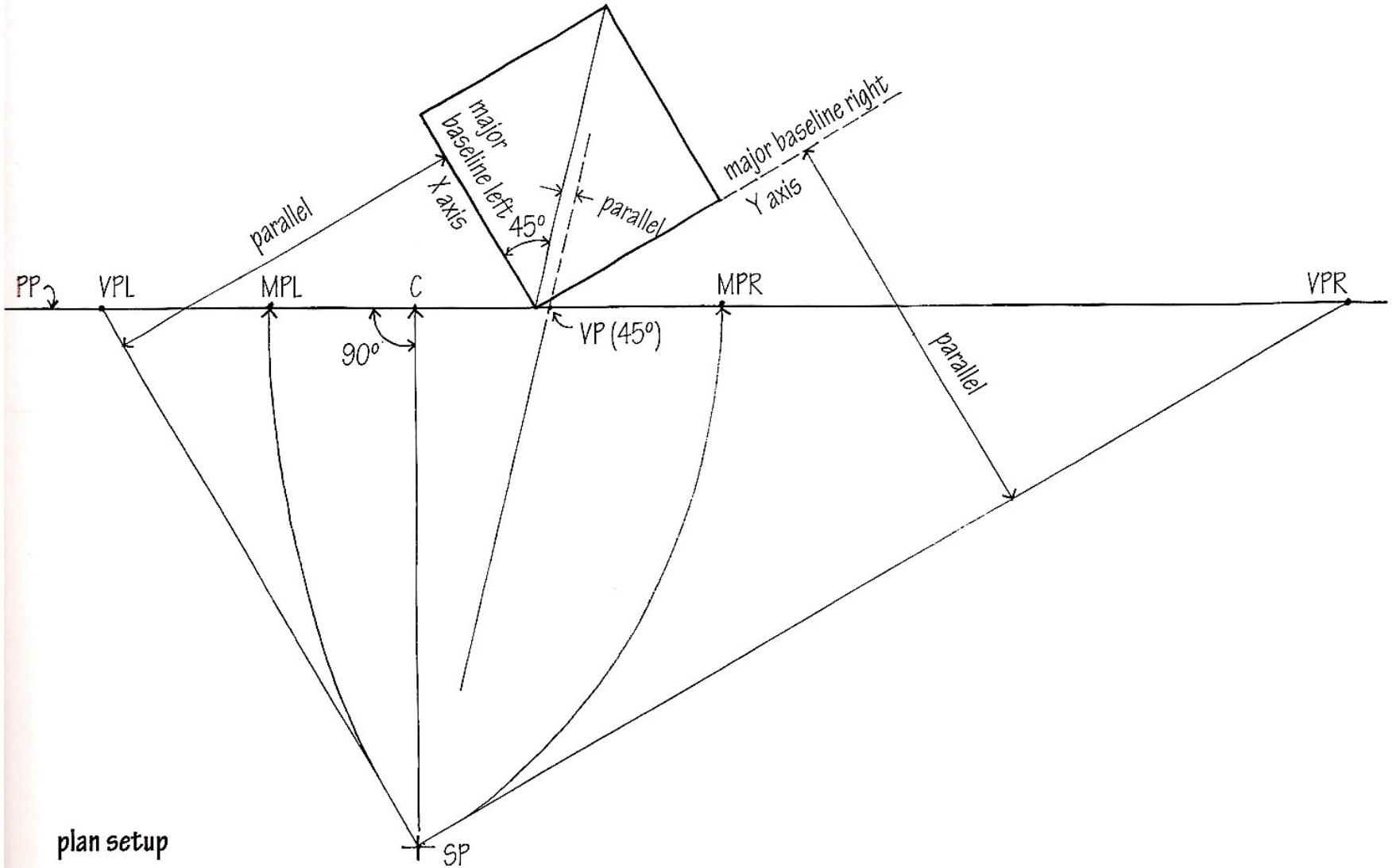



HL
HL
C
C
C
HL

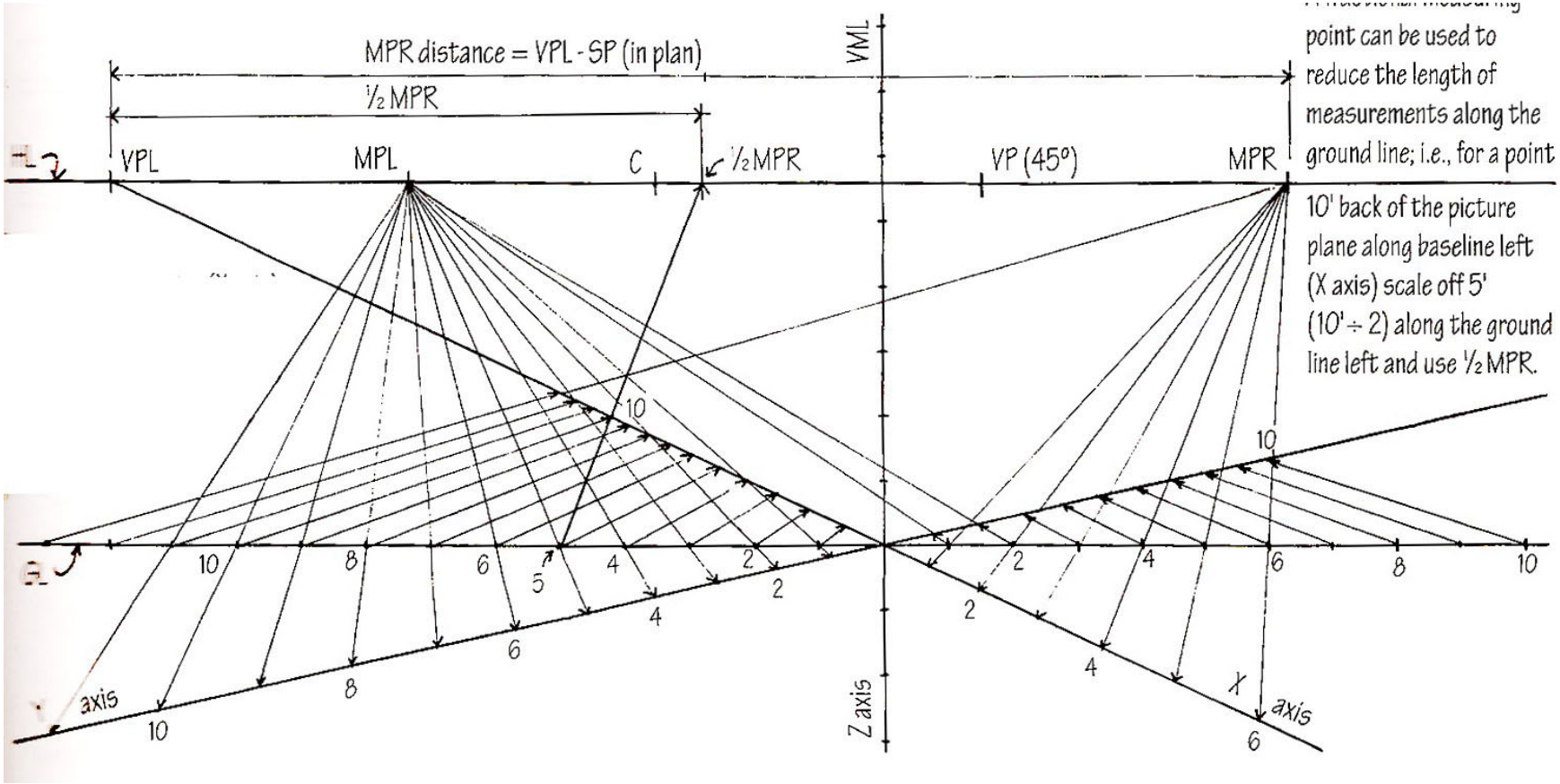
Two Point Perspective

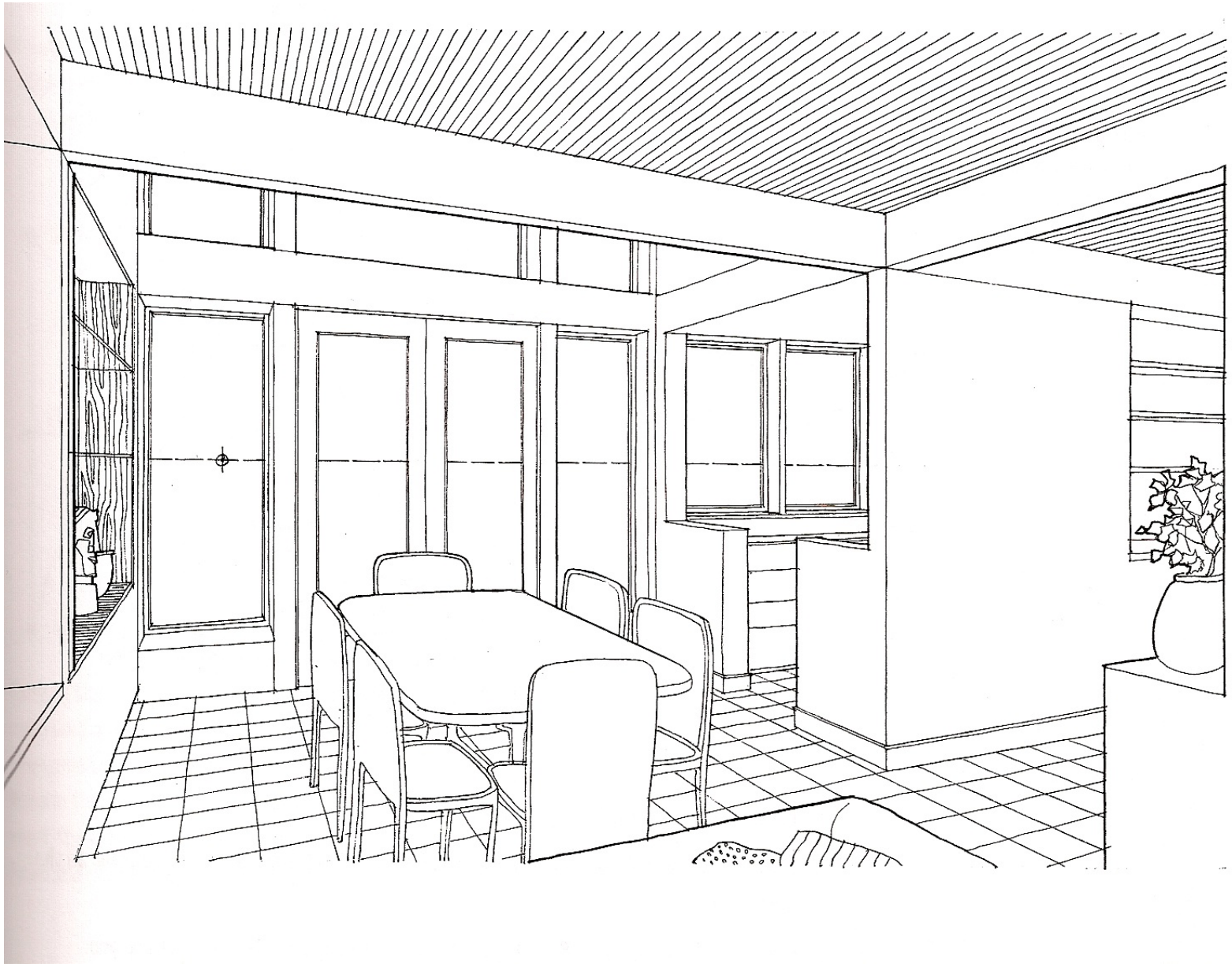

VPL
parallel
SP
C
to VPR
PP

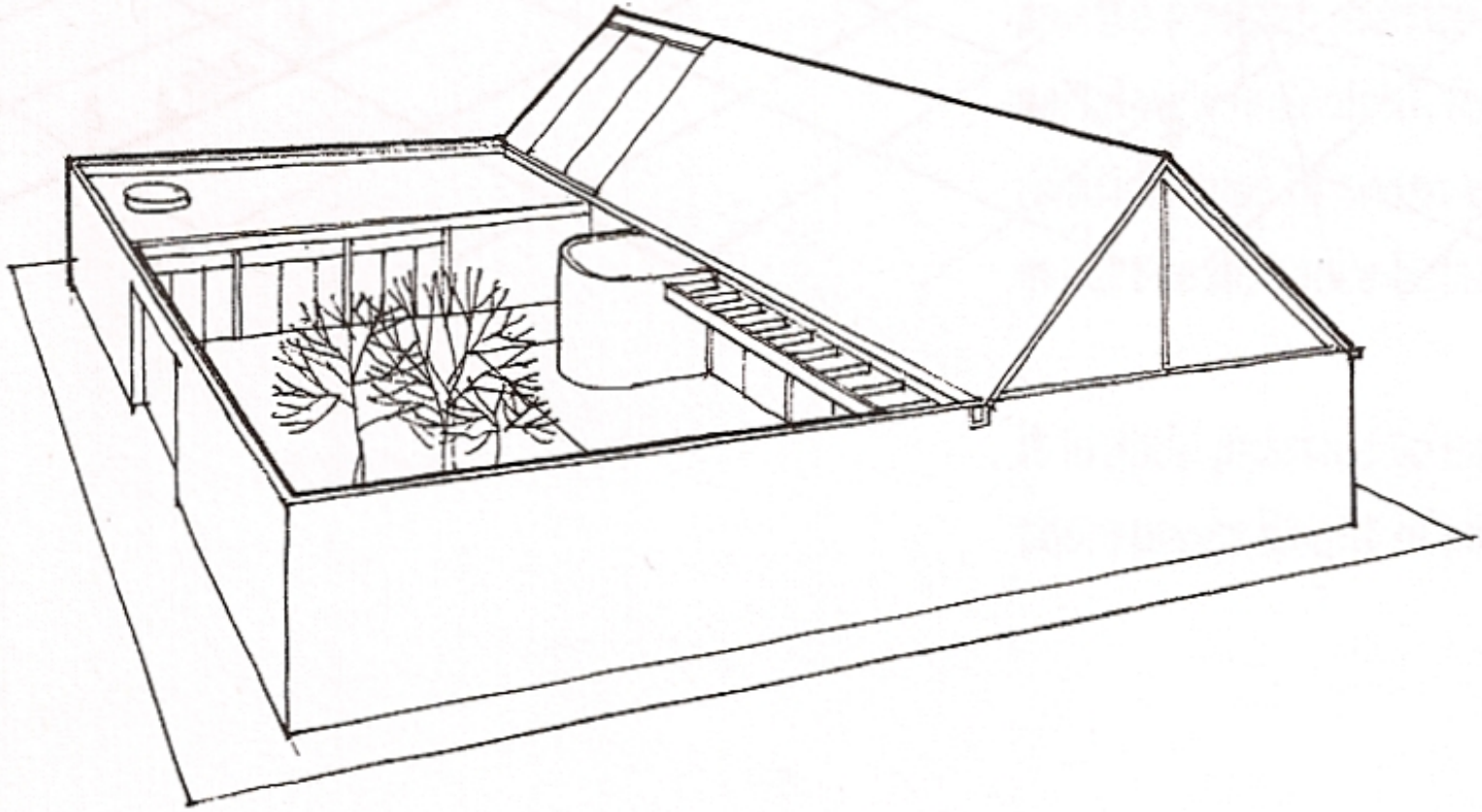

HL
VPL
VPR

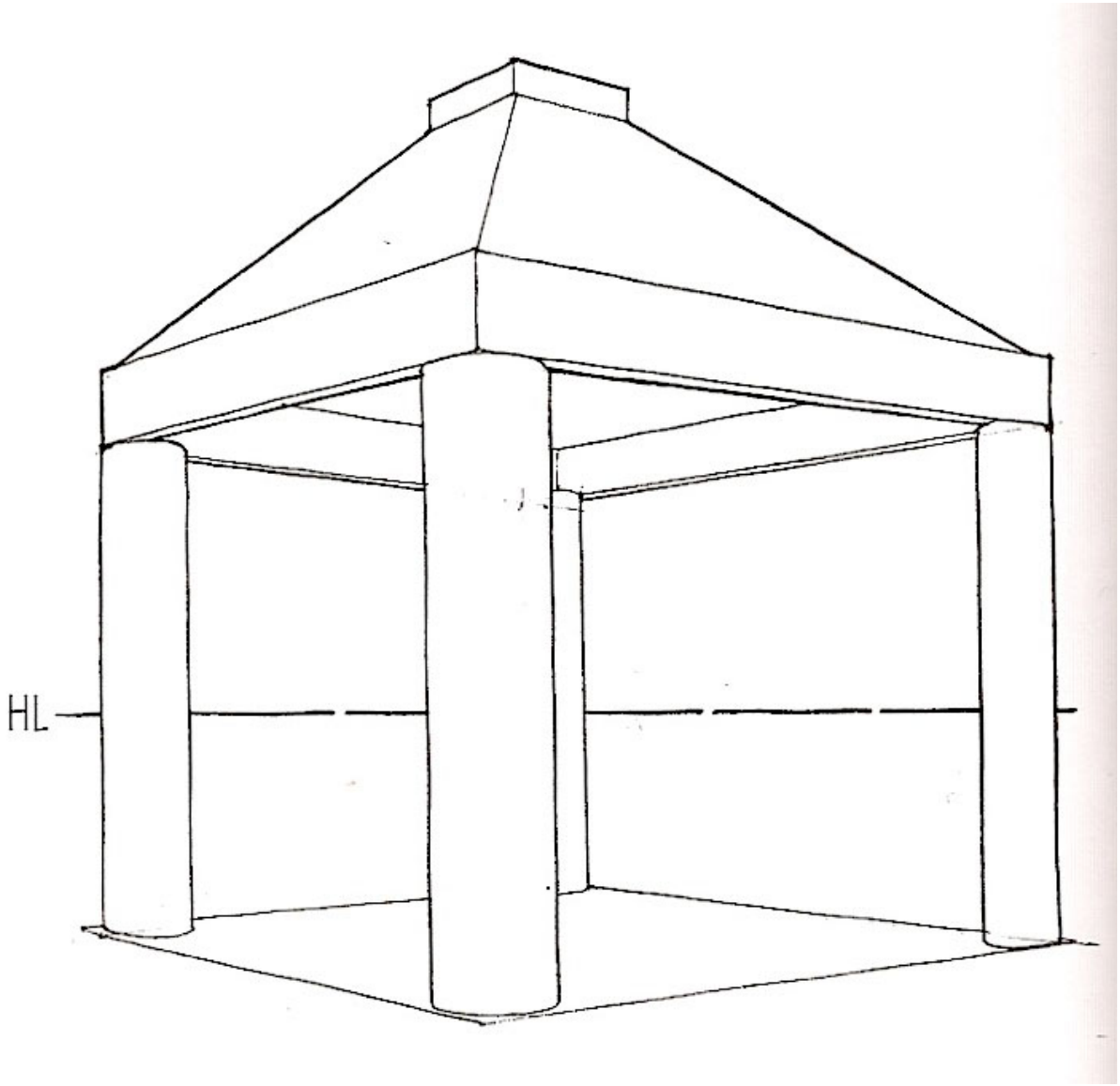

major baseline left
major baseline right
X axis
Y axis
parallel
parallel
parallel
45°
90°
PP
VPL
MPL
C
MPR
VPR
VP (45°)
SP

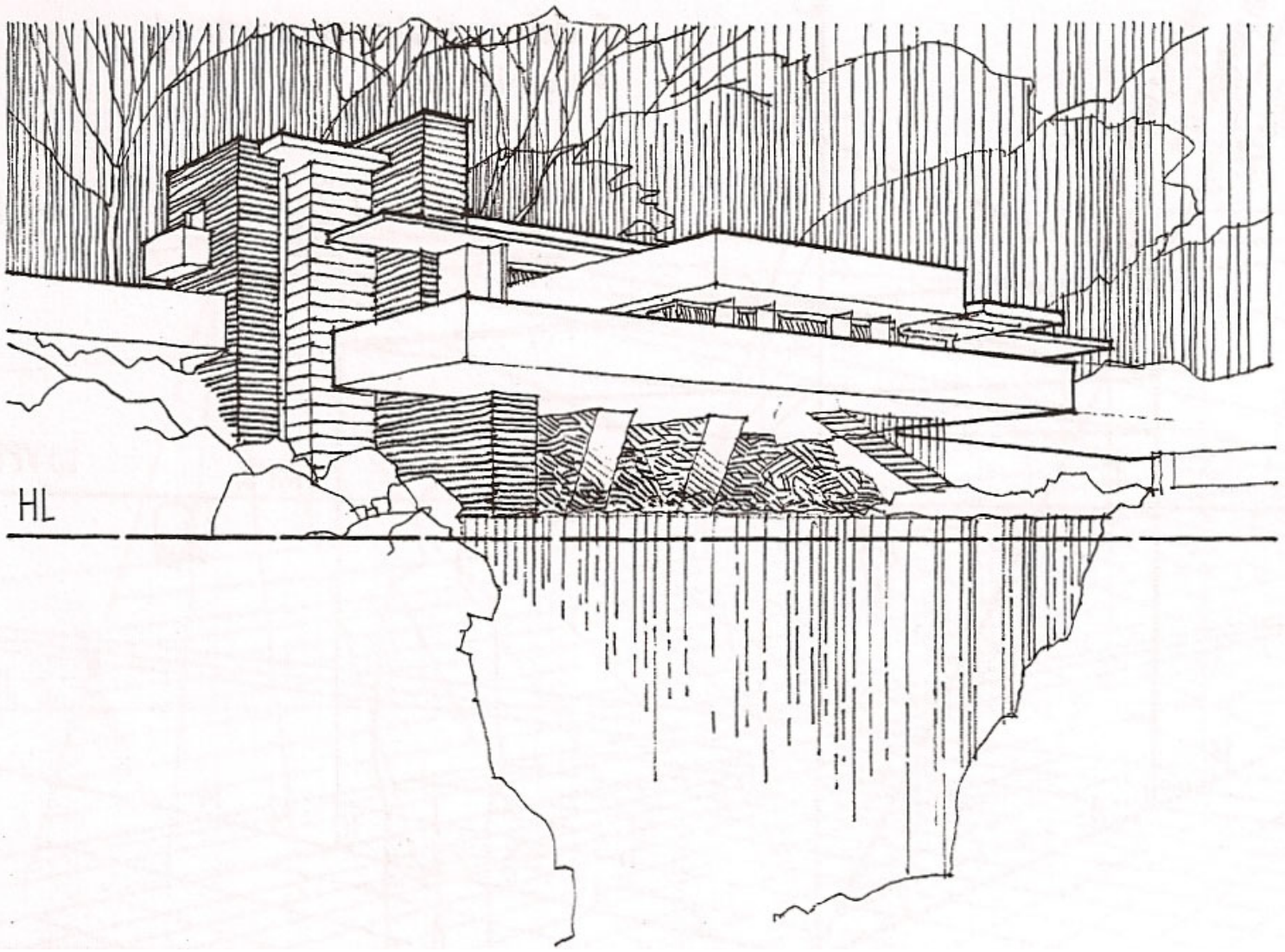
plan setup


MPR distance = VPL - SP (in plan)
½ MPR
VML
VPL
MPL
C
½ MPR
VP (45°)
MPR
point can be used to reduce the length of measurements along the ground line; i.e., for a point
10' back of the picture plane along baseline left (X axis) scale off 5' (10' ÷ 2) along the ground line left and use ½ MPR.
10
10
8
6
5
4
2
2
10
8
6
4
2
2
4
6
8
10
axis
10
8
6
4
2
Z axis
X
axis
6



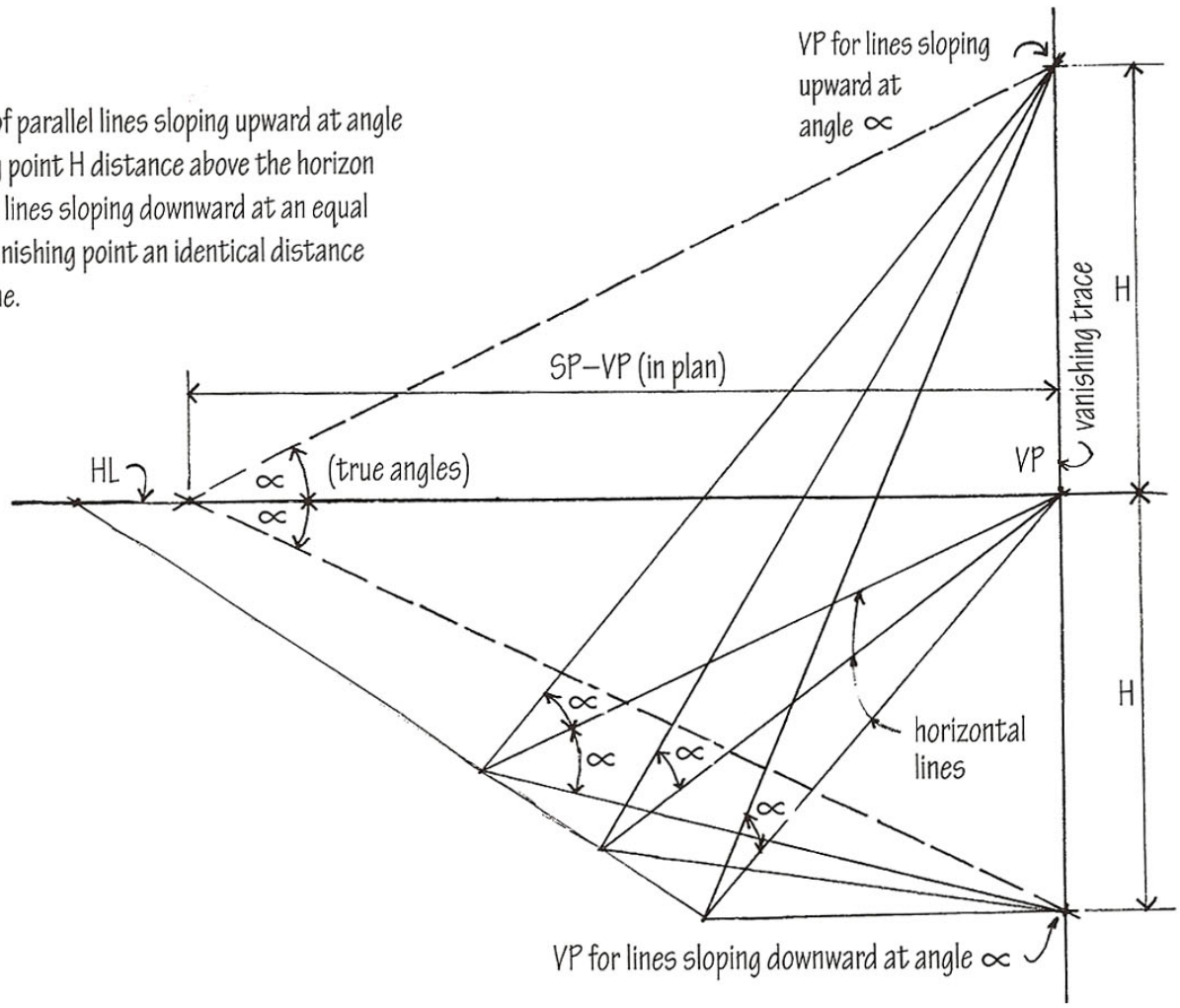


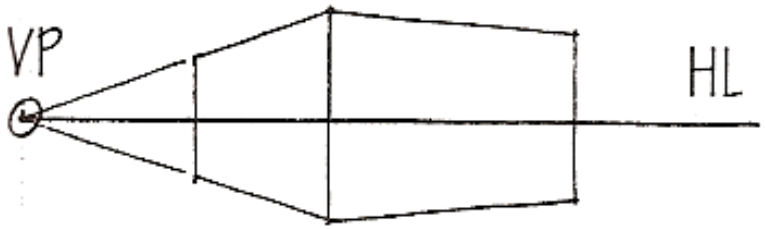

HL

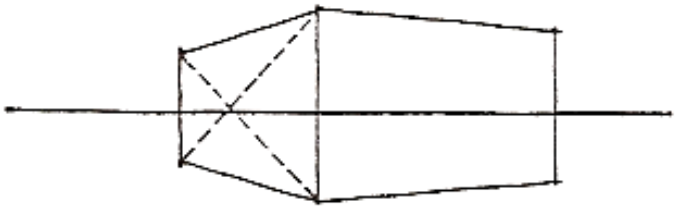

HL

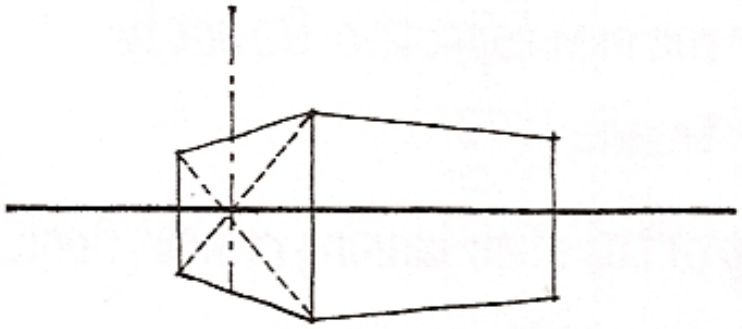
3pt and Sloping in Perspective

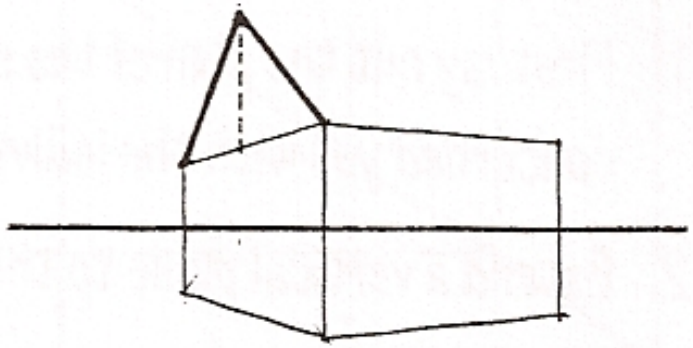
*Note that if a set of parallel lines sloping upward at angle $\propto$ has its vanishing point H distance above the horizon line, a set of parallel lines sloping downward at an equal angle will have its vanishing point an identical distance below the horizon line.

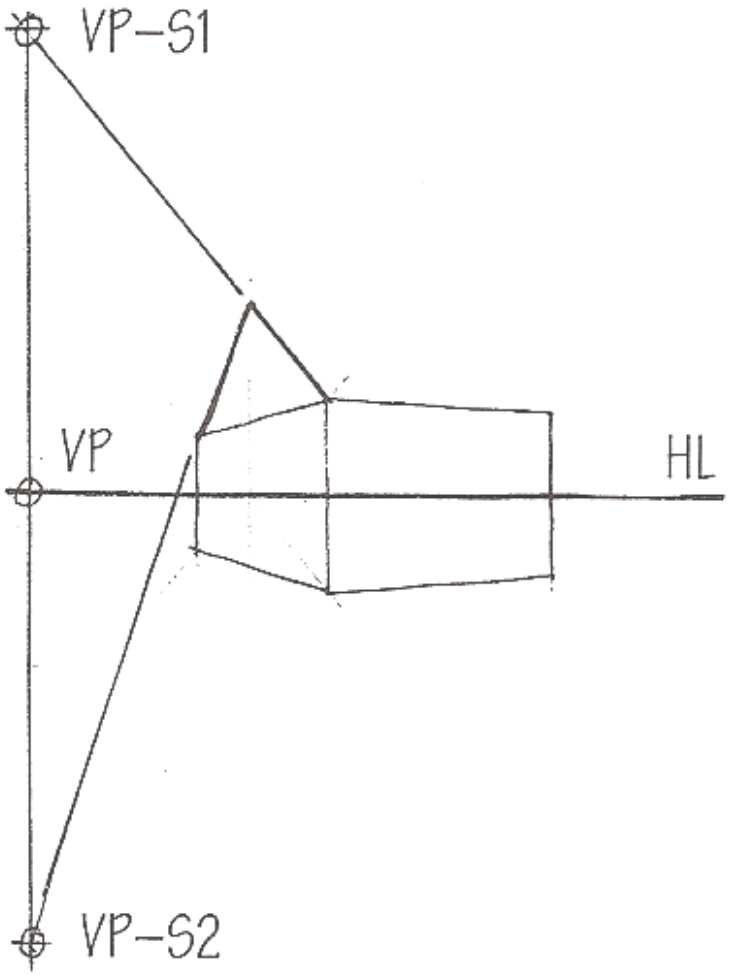


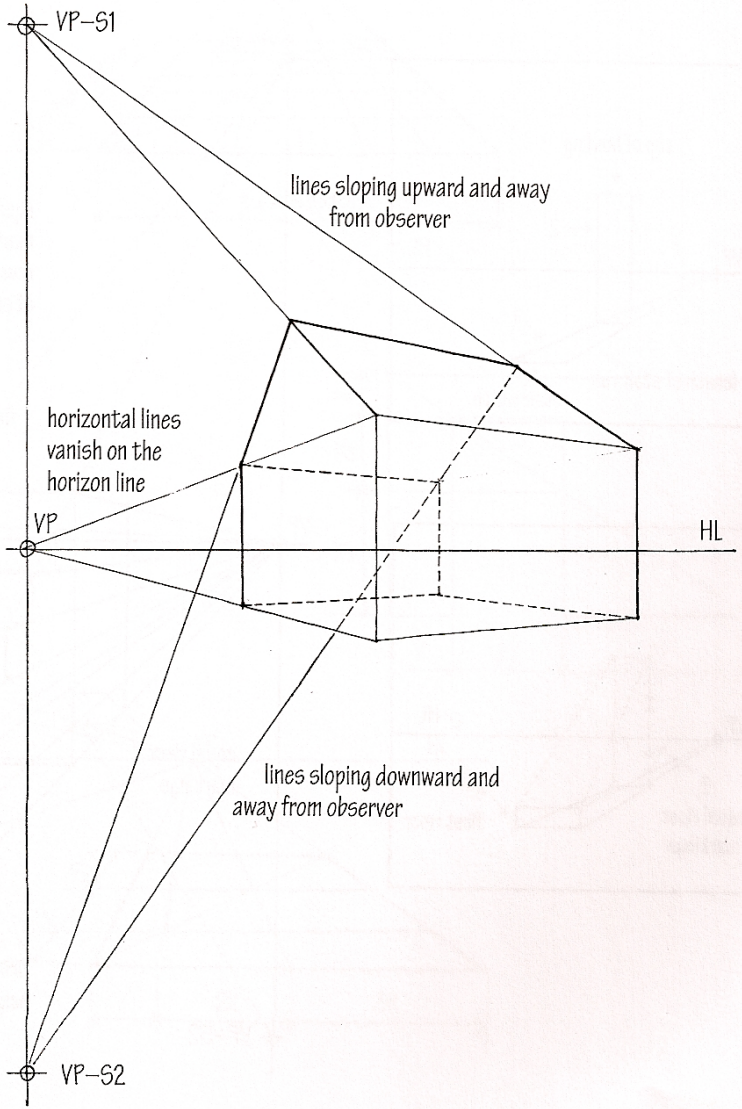

VP
HL

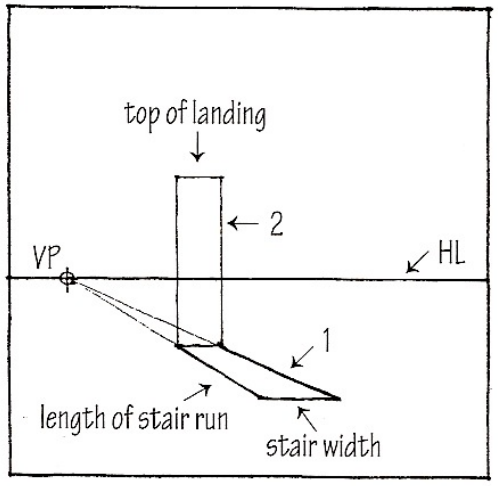


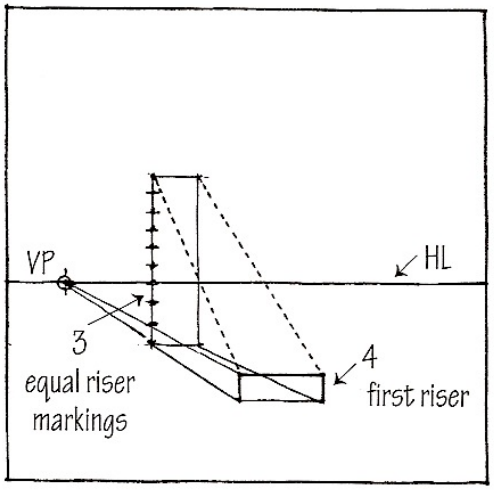


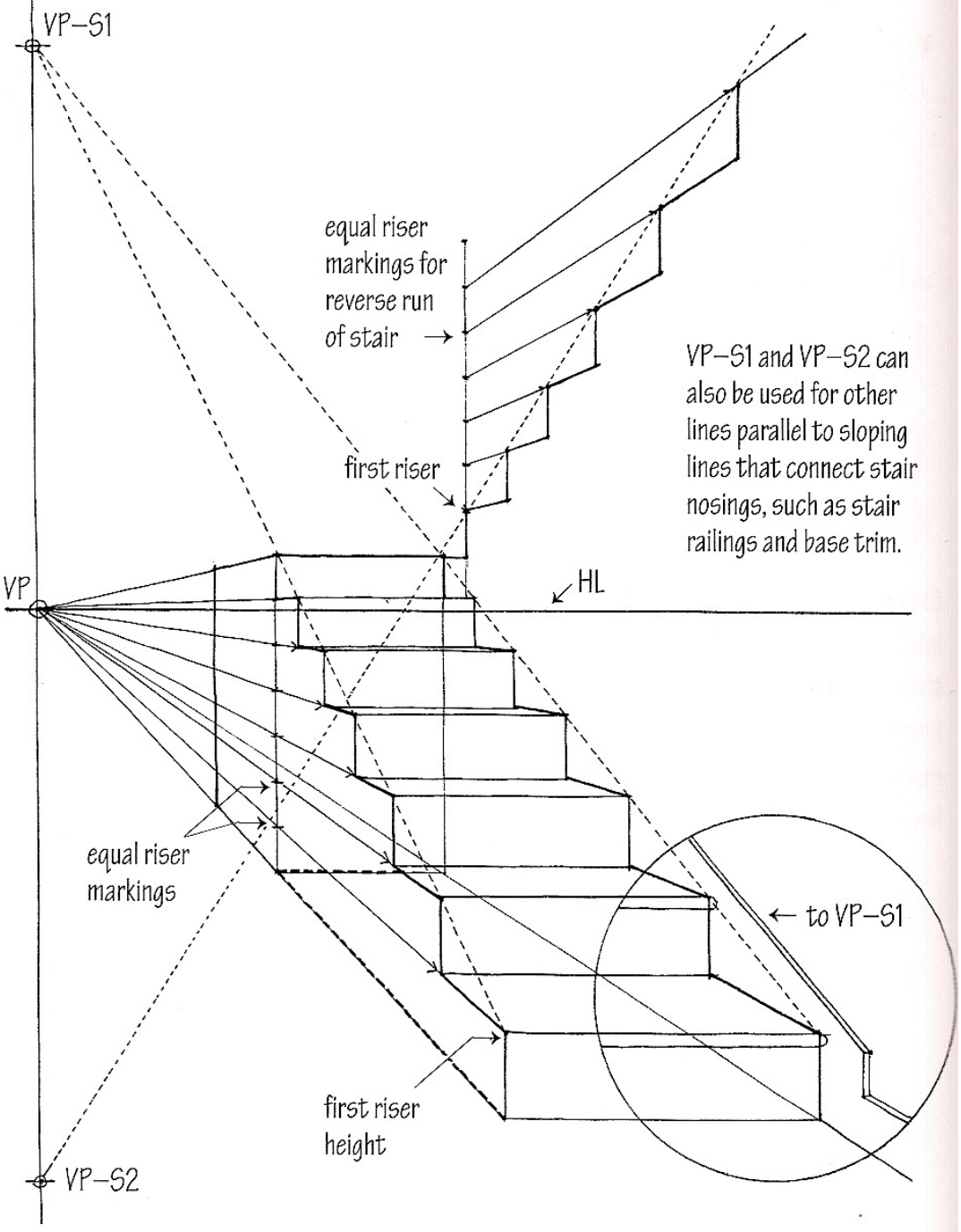


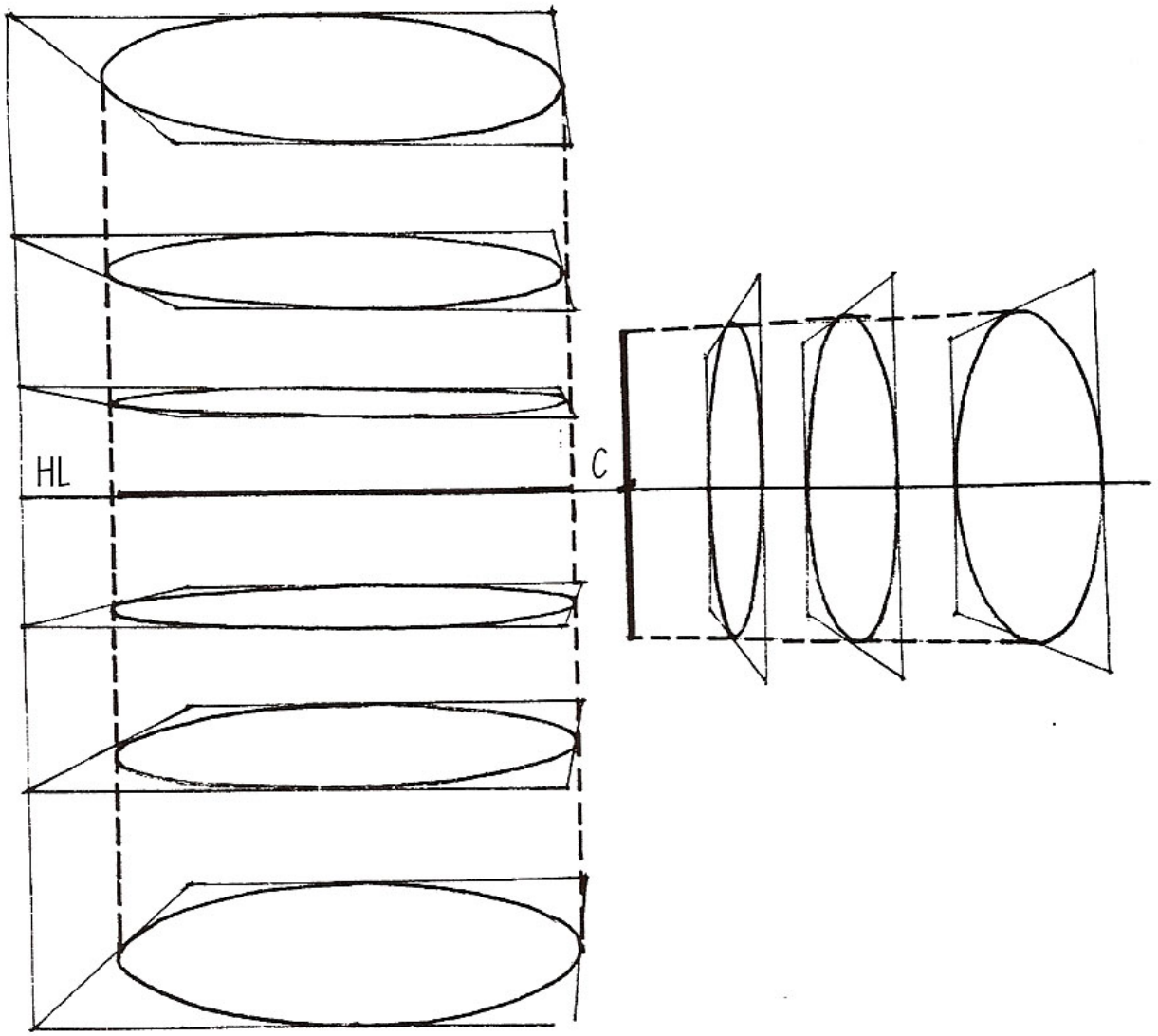

VP-S1
VP
HL
VP-S2


VP–S1
lines sloping upward and away from observer
horizontal lines vanish on the horizon line
VP
HL
lines sloping downward and away from observer
VP–S2

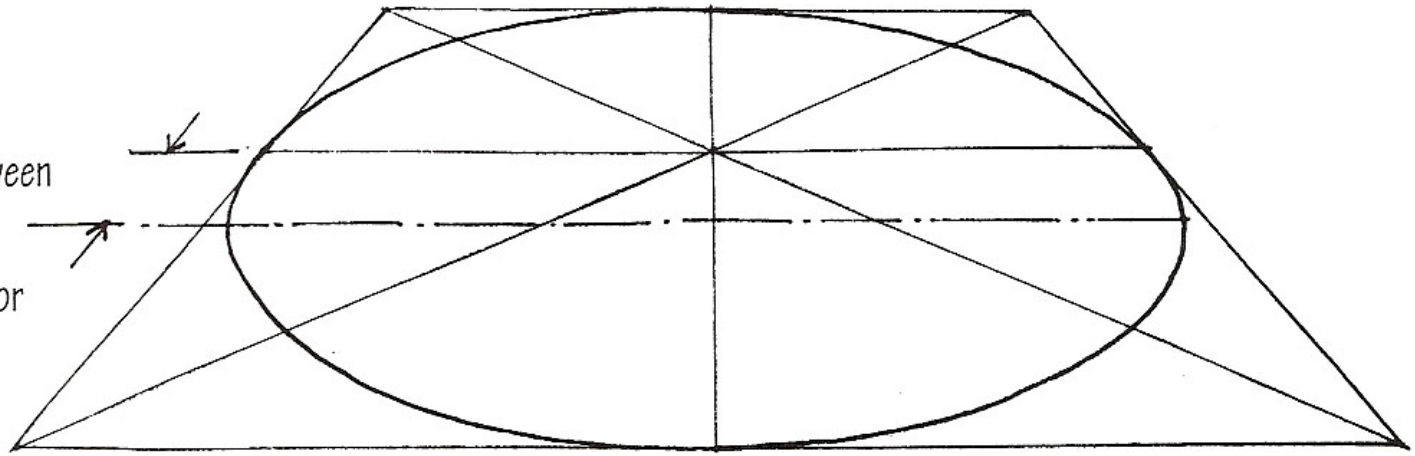

top of landing
2
VP
HL
1
length of stair run
stair width

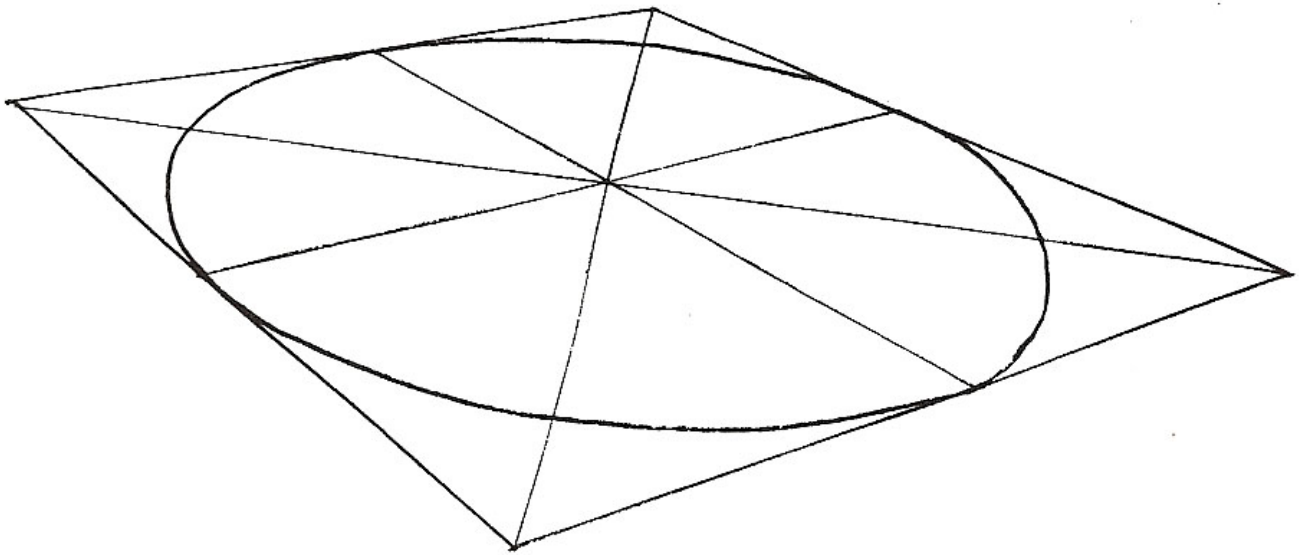

VP
HL
3
equal riser
markings
4
first riser


VP–S1
equal riser
markings for
reverse run
of stair
first riser
VP–S1 and VP–S2 can
also be used for other
lines parallel to sloping
lines that connect stair
nosings, such as stair
railings and base trim.
VP
HL
equal riser
markings
to VP–S1
first riser
height
VP–S2


HL
C

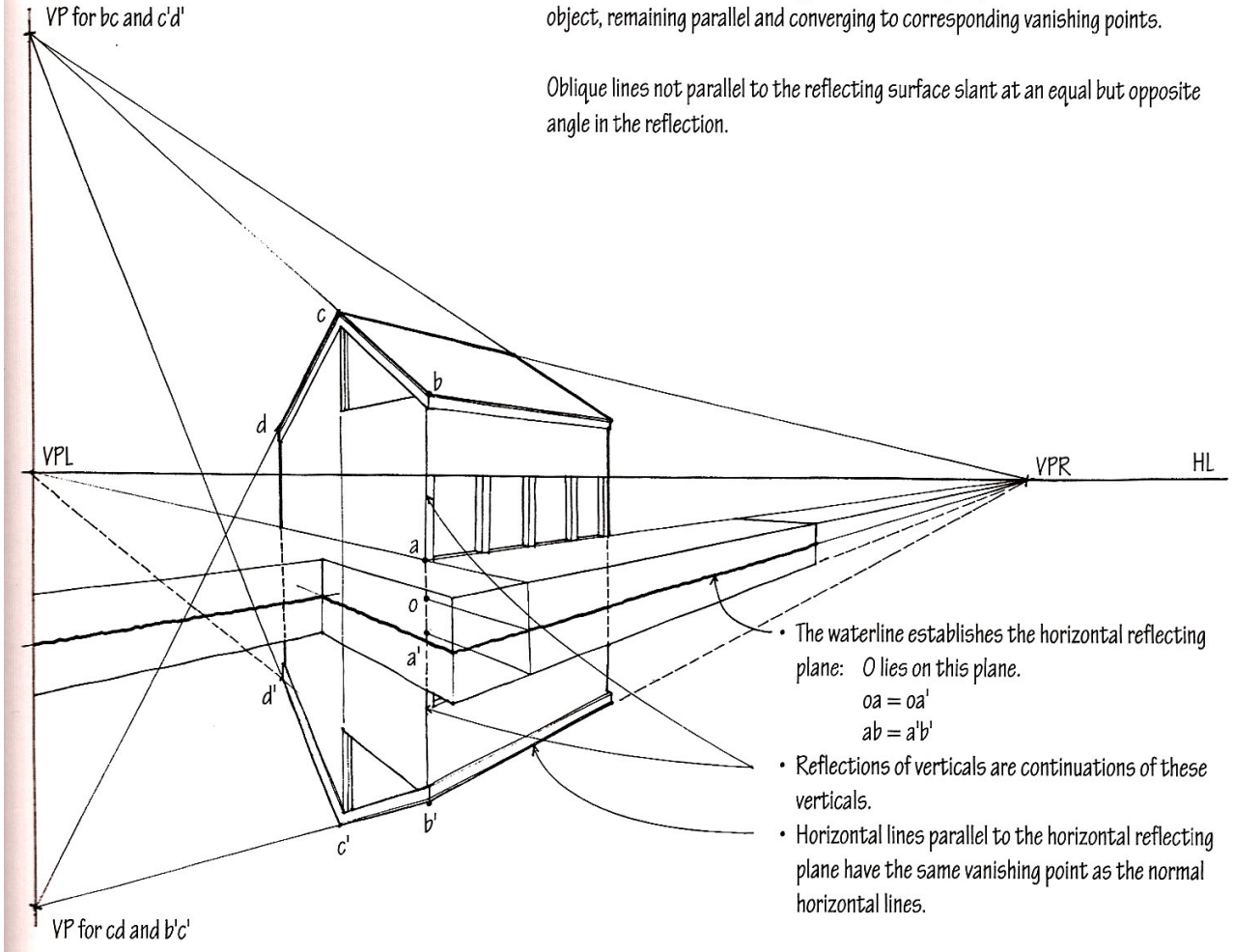
Note difference between diameter of circle in perspective and major axis of ellipse.





Any reflecting plane surface parallel to one of the three major sets of parallel lines (X • Y • Z axes) continues the perspective system of the object, and the three major sets of lines in the reflection appear in the same perspective as the lines in the object, remaining parallel and converging to corresponding vanishing points.

Oblique lines not parallel to the reflecting surface slant at an equal but opposite angle in the reflection.



- The waterline establishes the horizontal reflecting plane: *O* lies on this plane.
  $oa = oa'$
  $ab = a'b'$
- Reflections of verticals are continuations of these verticals.
- Horizontal lines parallel to the horizontal reflecting plane have the same vanishing point as the normal horizontal lines.