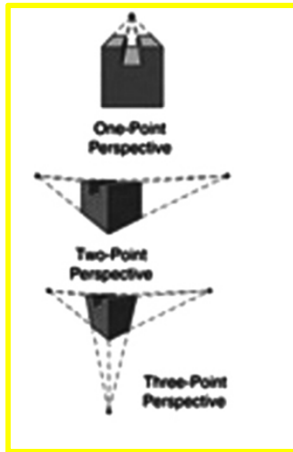


PROJECTION METHODS

Projections

Perspective



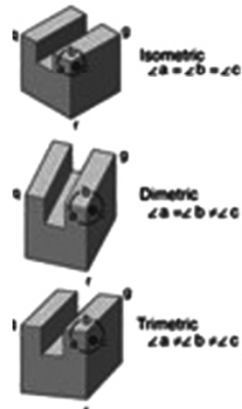
Parallel

Oblique

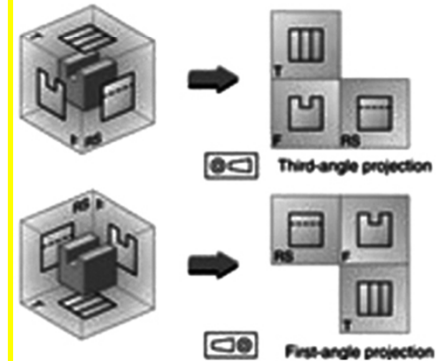


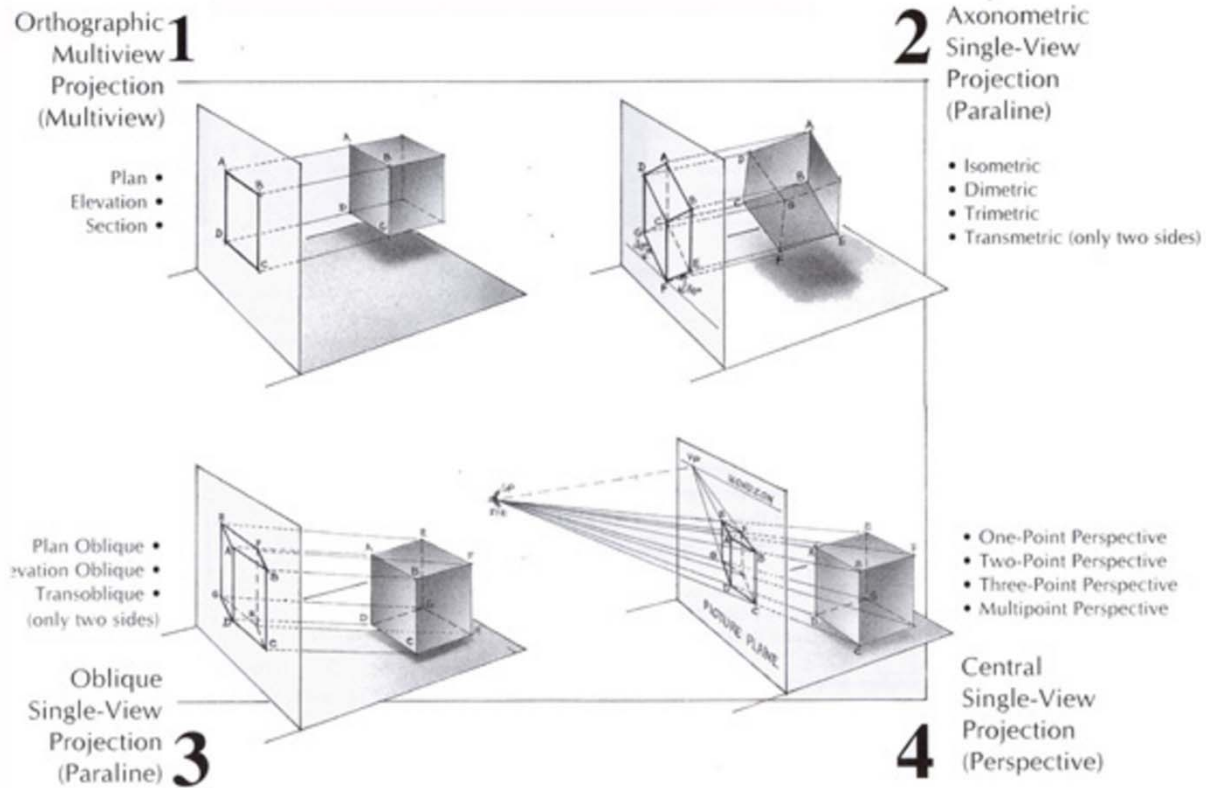
Orthographic

Axonometric



Multiview





Distinctions Among Parallel Projections

Orthographic projections

Projection rays are **parallel** to one another, and **perpendicular** to both the image plane and a dominant plane of the object depicted.

Axonometric projections

Projection rays are **parallel** to one another, and **perpendicular** to the image plane - but in no specific relationship to any dominant plane of the object depicted.

Oblique projections

Projection rays are **parallel** to one another - but **non-parallel** with the image plane and in no specific relationship to any dominant plane of the object depicted.

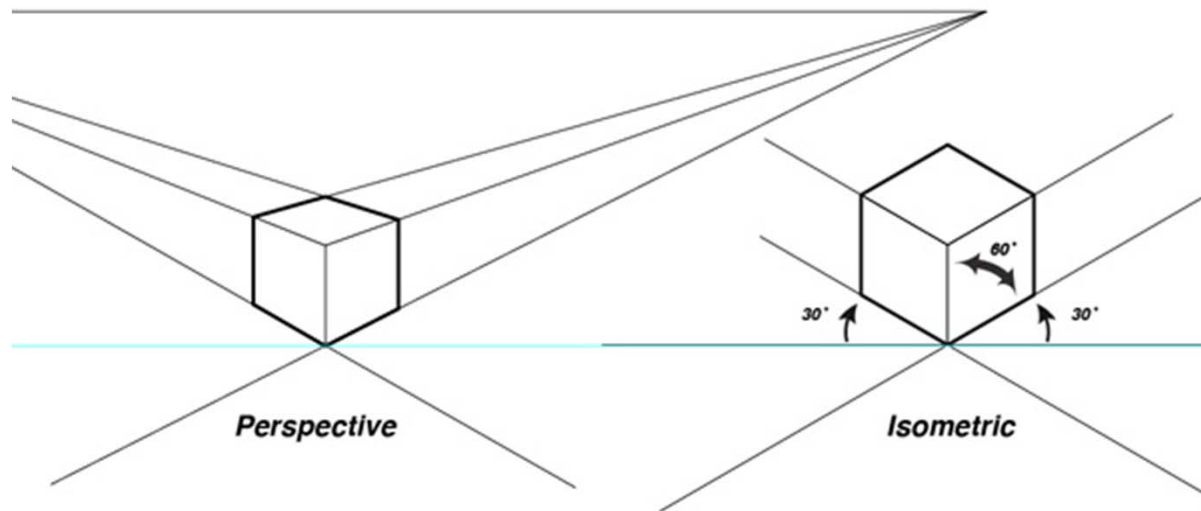
Parallel vs Perspective Projections

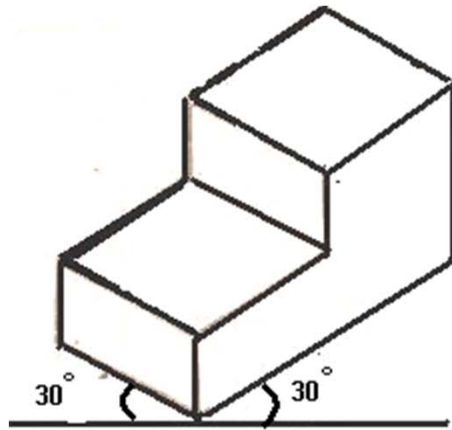
Parallel projections

Projection rays are **parallel** to one another. Includes all drawing types listed above.

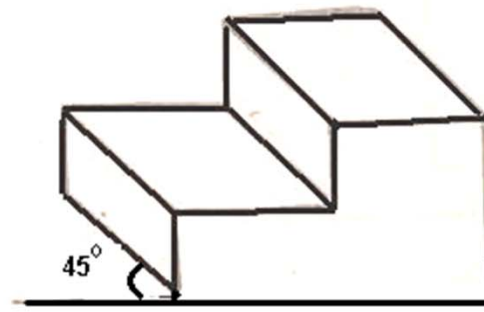
Perspective projections

Projection rays are **converge** at a "station point" representing the disembodied eye of a viewer. Includes 1, 2, 3, and 4 point perspectives.

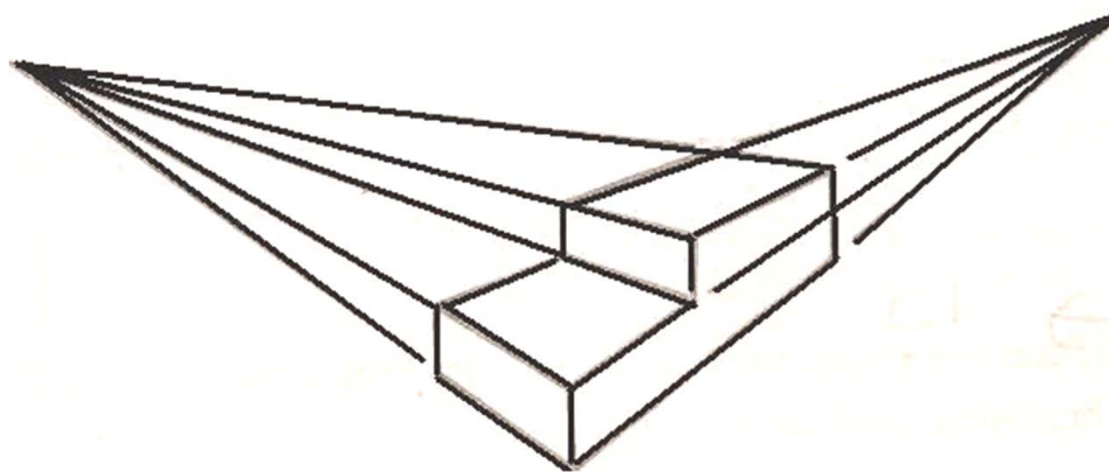




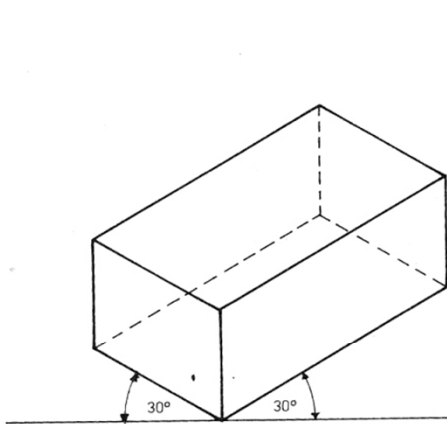
Isometric



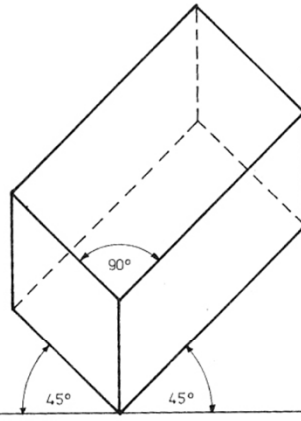
Oblique



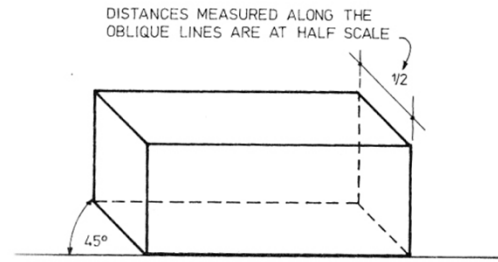
Perspective



ISOMETRIC PROJECTION

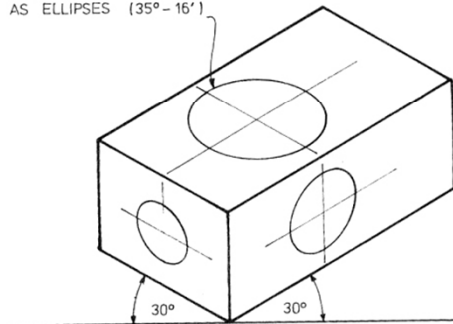


AXONOMETRIC PROJECTION
(USING 45°-45°)

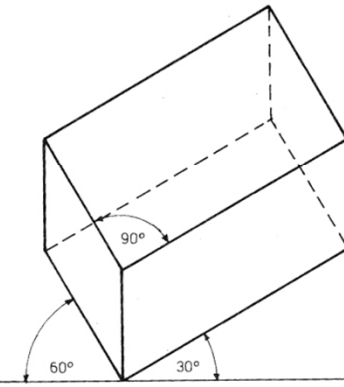


OBLIQUE PROJECTION (45°)

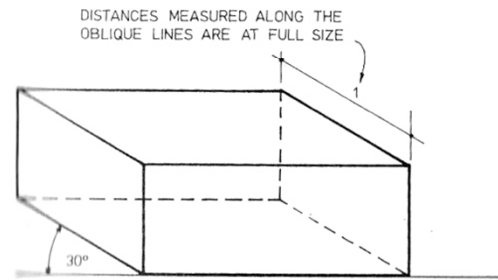
CIRCLES IN ISOMETRIC APPEAR
AS ELLIPSES (35°-16')



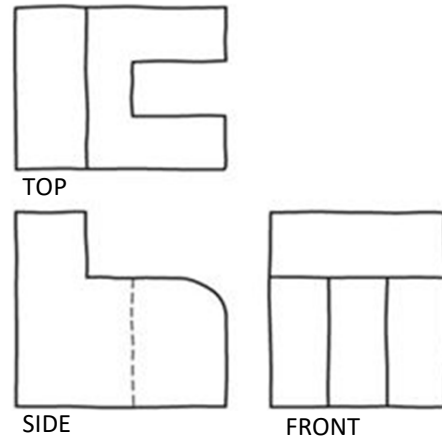
ISOMETRIC PROJECTION



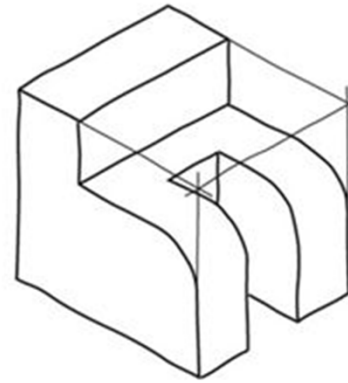
AXONOMETRIC PROJECTION
(USING 60°-30°)



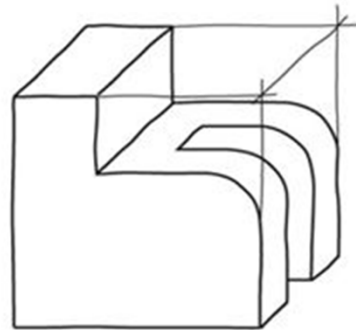
OBLIQUE PROJECTION (30°)



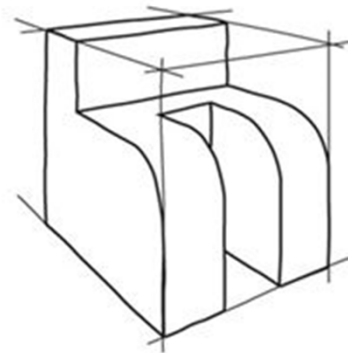
(A) Multiview



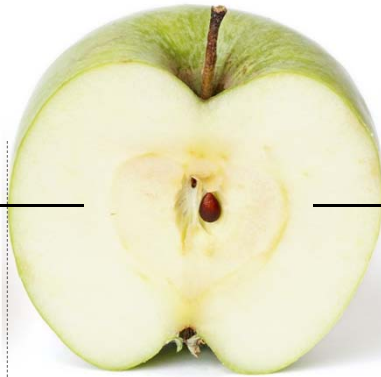
(B) Axonometric



(C) Oblique



(D) Perspective



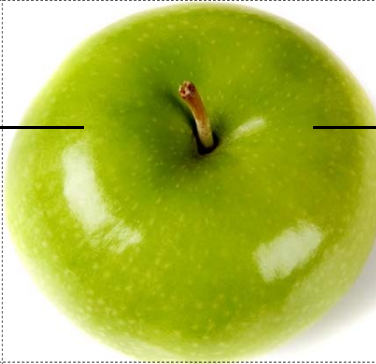
Section A-A

B

B



FRONT



TOP

A

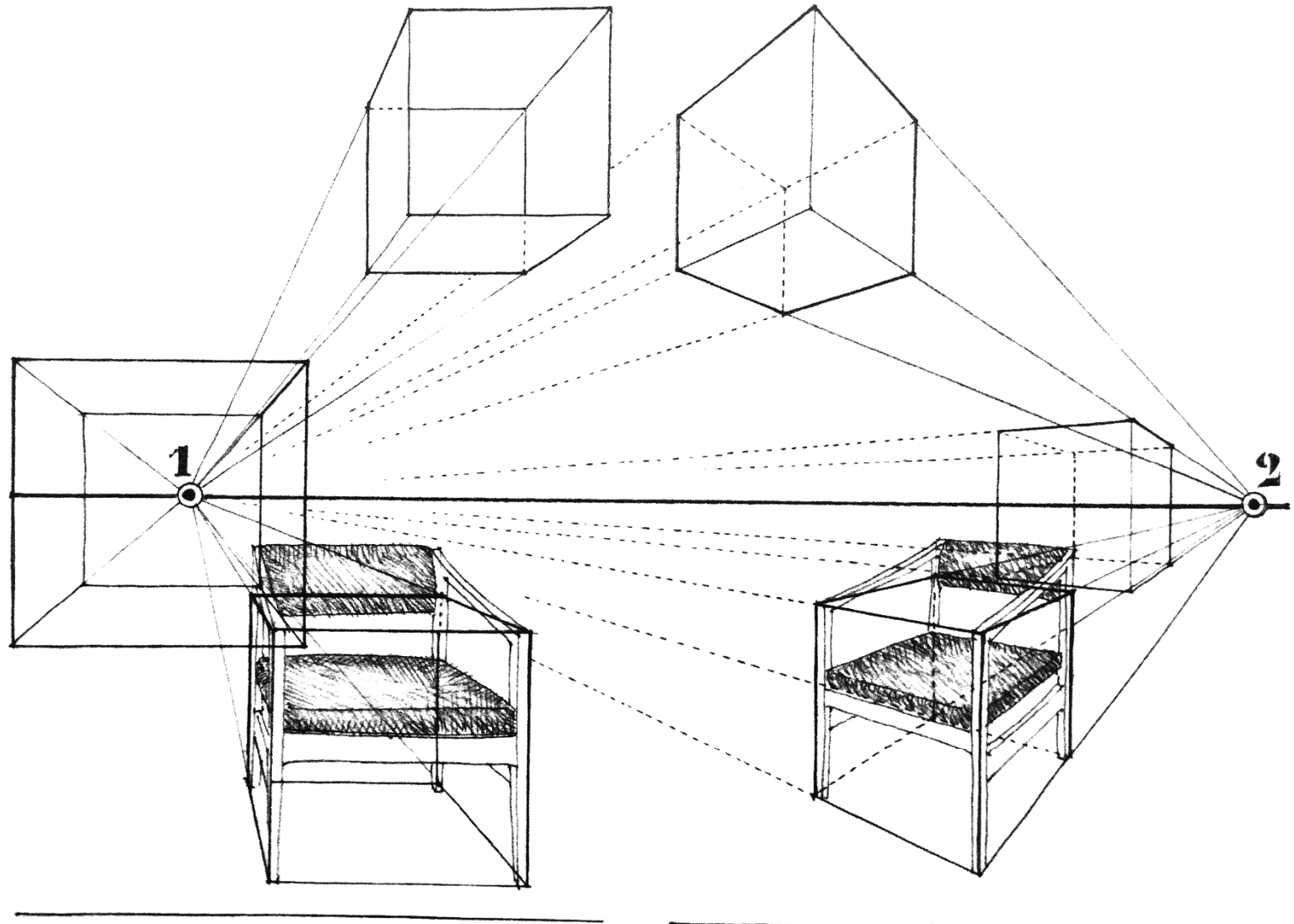
A



Section B-B

colorbox

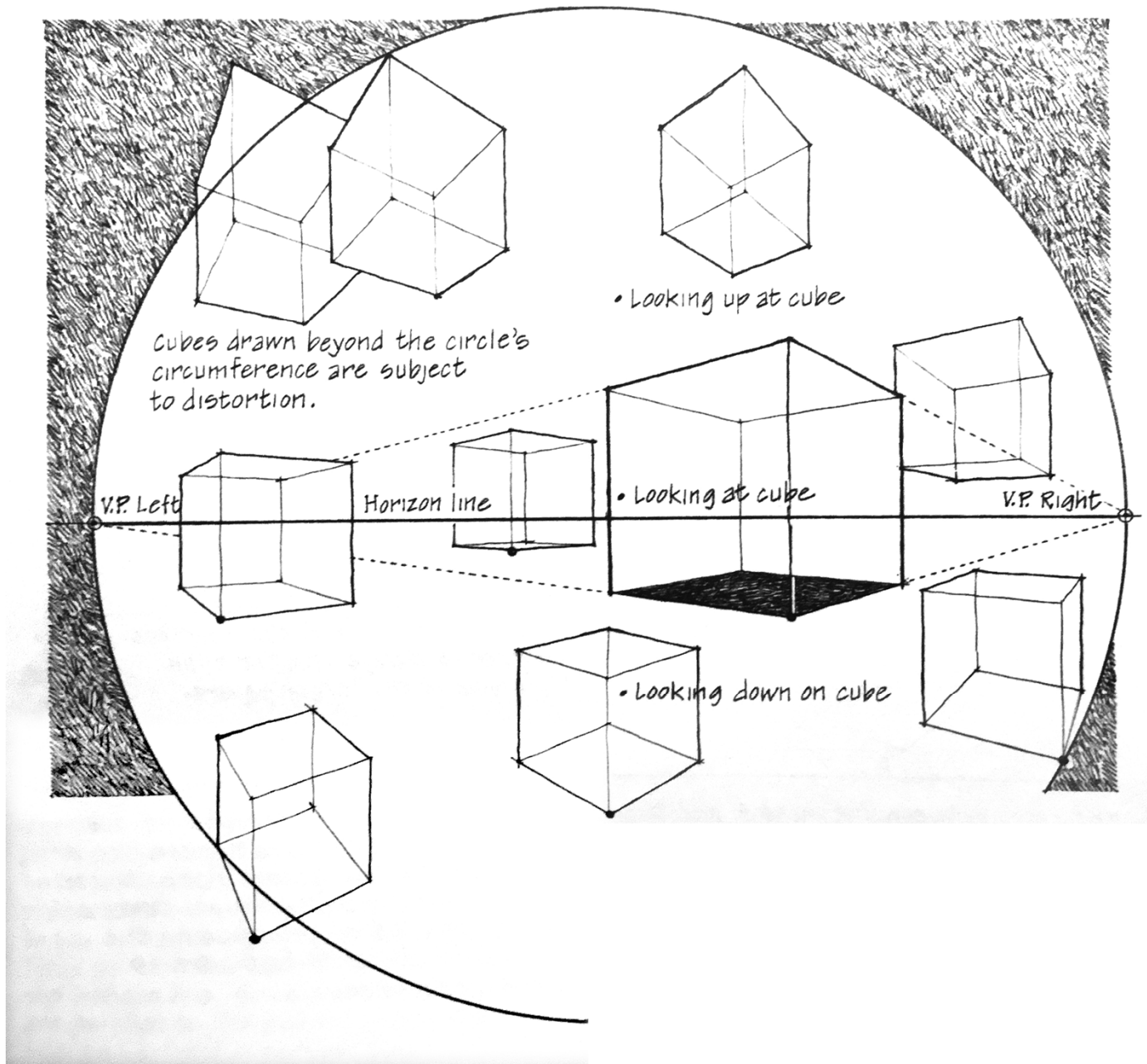
PERSPECTIVE



1 • POINT

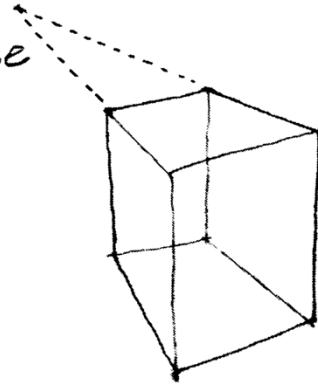
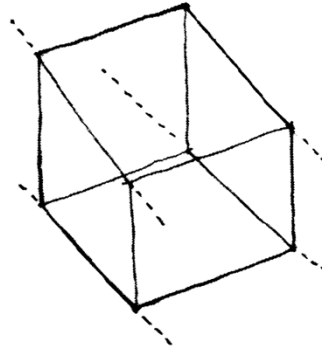
2 • POINT

PERSPECTIVE 2POINT



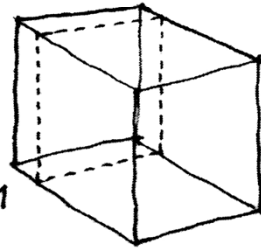
The following are errors to be avoided when drawing a cube in perspective.

- Lack of convergence



- Convergence too acute

- Incorrect proportion



- Tilted horizon line

