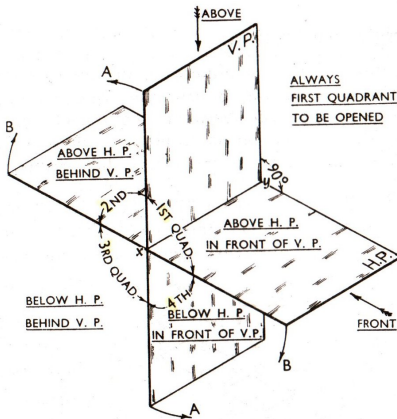
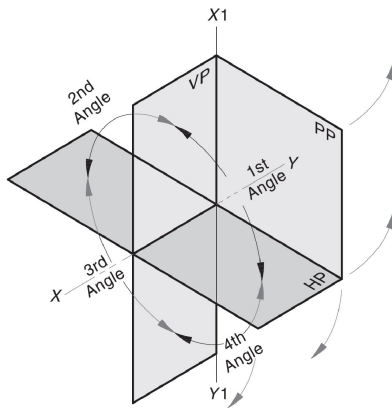


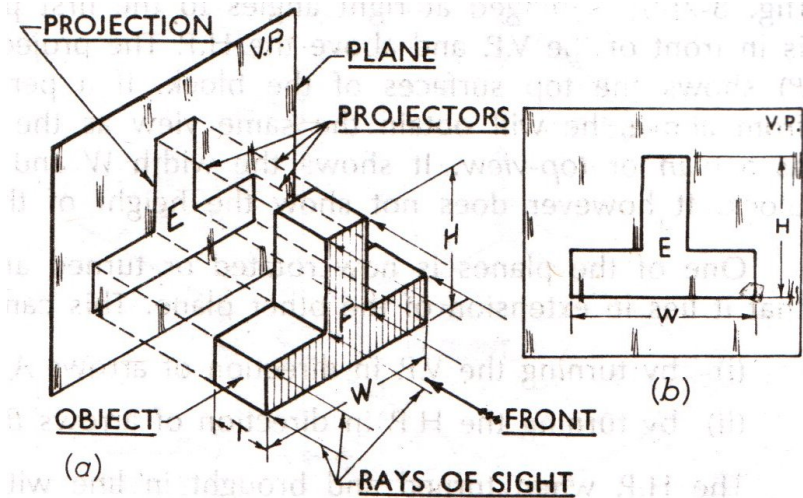
Engineering Drawing

Anup Ghosh

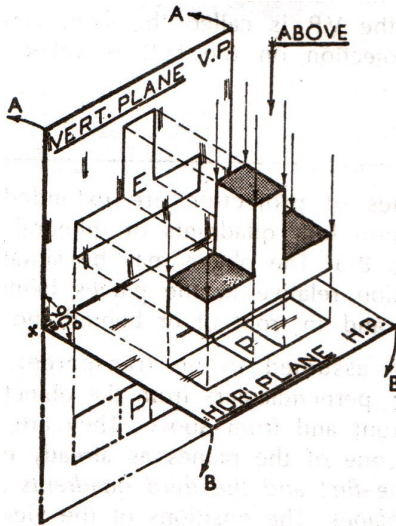
Orthographic Projection



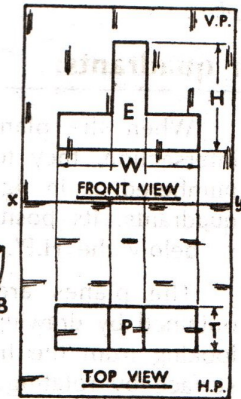
Orthographic Projection



Orthographic Projection



(a)



(b)

Orthographic Projection

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- 4 When the observer looks at the object from above, the view obtained is called *top view* (TV) or *plan*. TV is seen on the HP.

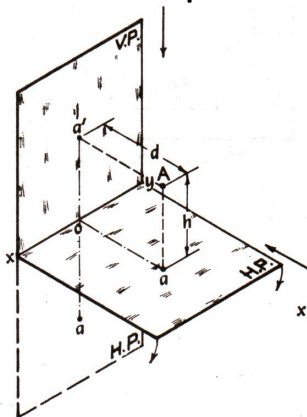
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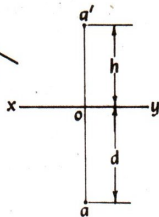
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- 4 When the observer looks at the object from above, the view obtained is called *top view* (TV) or *plan*. TV is seen on the HP.
- 5 Side Views When the observer looks at the object from side, i.e., from his left-hand side or right-hand side, the view obtained is called *side view* (SV). SV is seen on the PP.

Projection of Points

Point in first quadrant

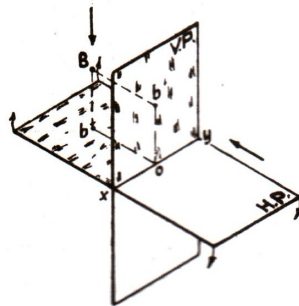


(i)



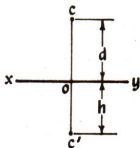
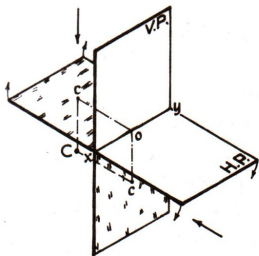
(ii)

Point in second quadrant

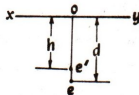
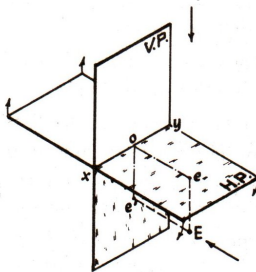


Projection of Points

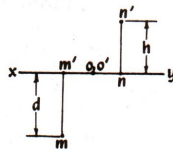
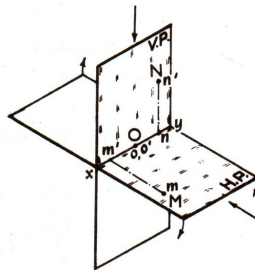
Point in third quadrant



In fourth quadrant

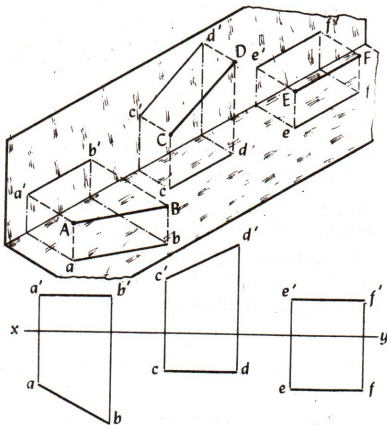


In VP and HP

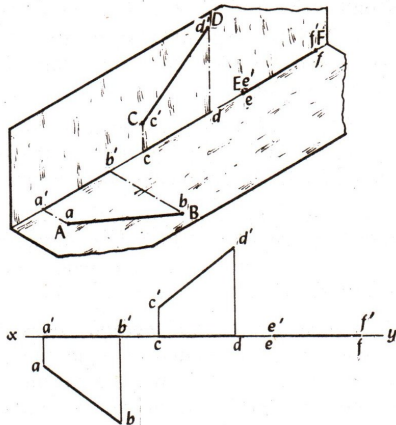


Projection of Lines

Line parallel to one or both planes

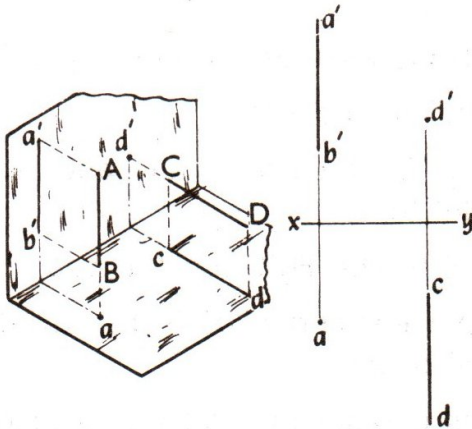


Line on a plane



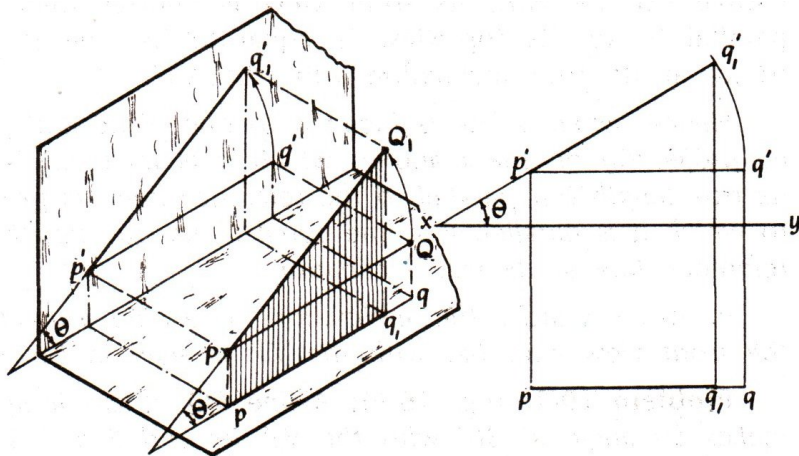
Projection of Lines

Line perpendicular to one of the planes



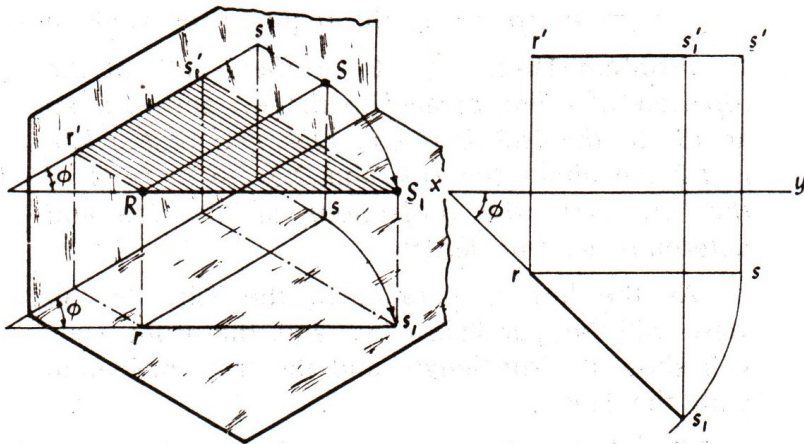
Projection of Lines

Line inclined to HP & parallel to VP



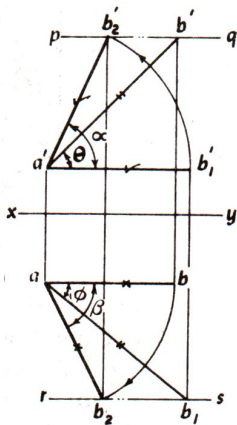
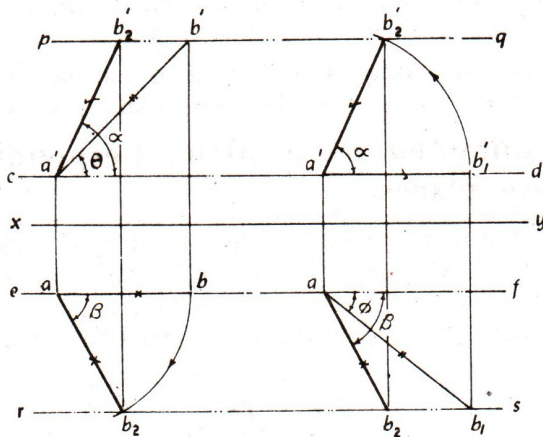
Projection of Lines

Line parallel to HP & inclined to VP



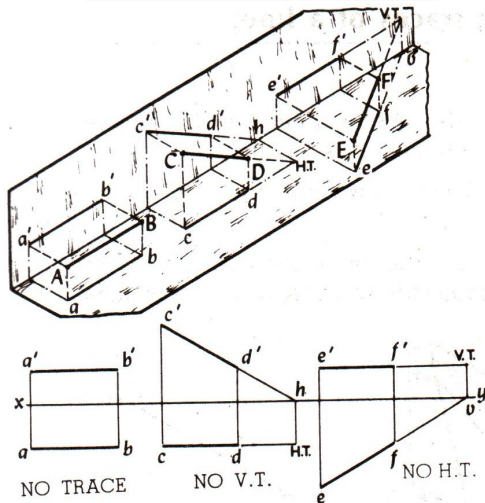
Projection of Lines

Line making θ with HP & ϕ with VP



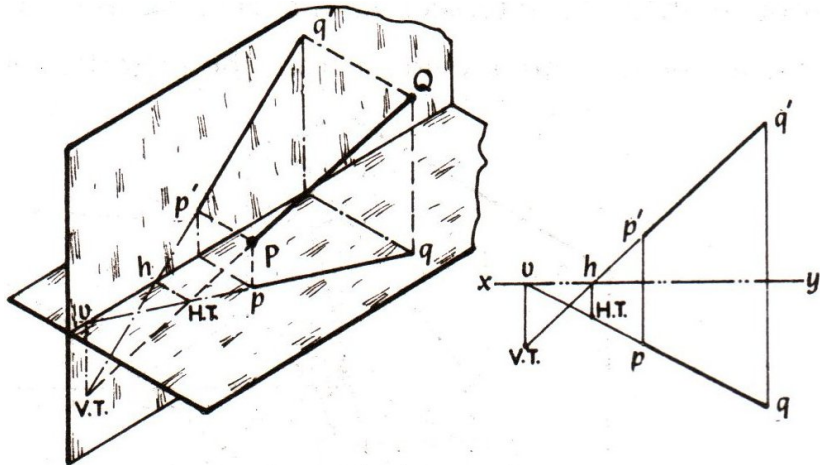
Traces of Lines

Line is parallel to any one plane



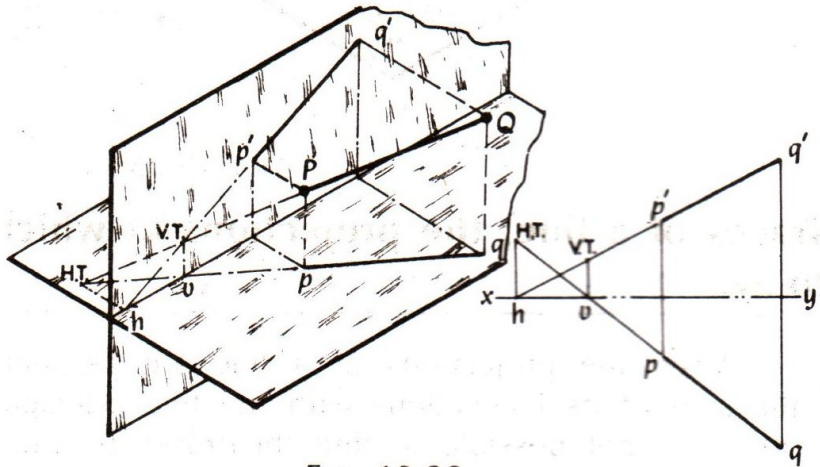
Traces of Lines

Lines inclined to both planes



Traces of Lines

Lines inclined to both planes



Naming convention

- 1 The line denoting the intersection of HP and VP is reference line and denoted by xy , x_1y_1 , x_2y_2
- 2 All points in a plan or top view are denoted by small alphabets. Any new position is denoted with suffix like a_1 , a_2 , a_3 ...
- 3 All points in an elevation or front view are denoted by small alphabets with prime ($'$). Any new position is denoted with suffix like a'_1 , a'_2 , a'_3 ...