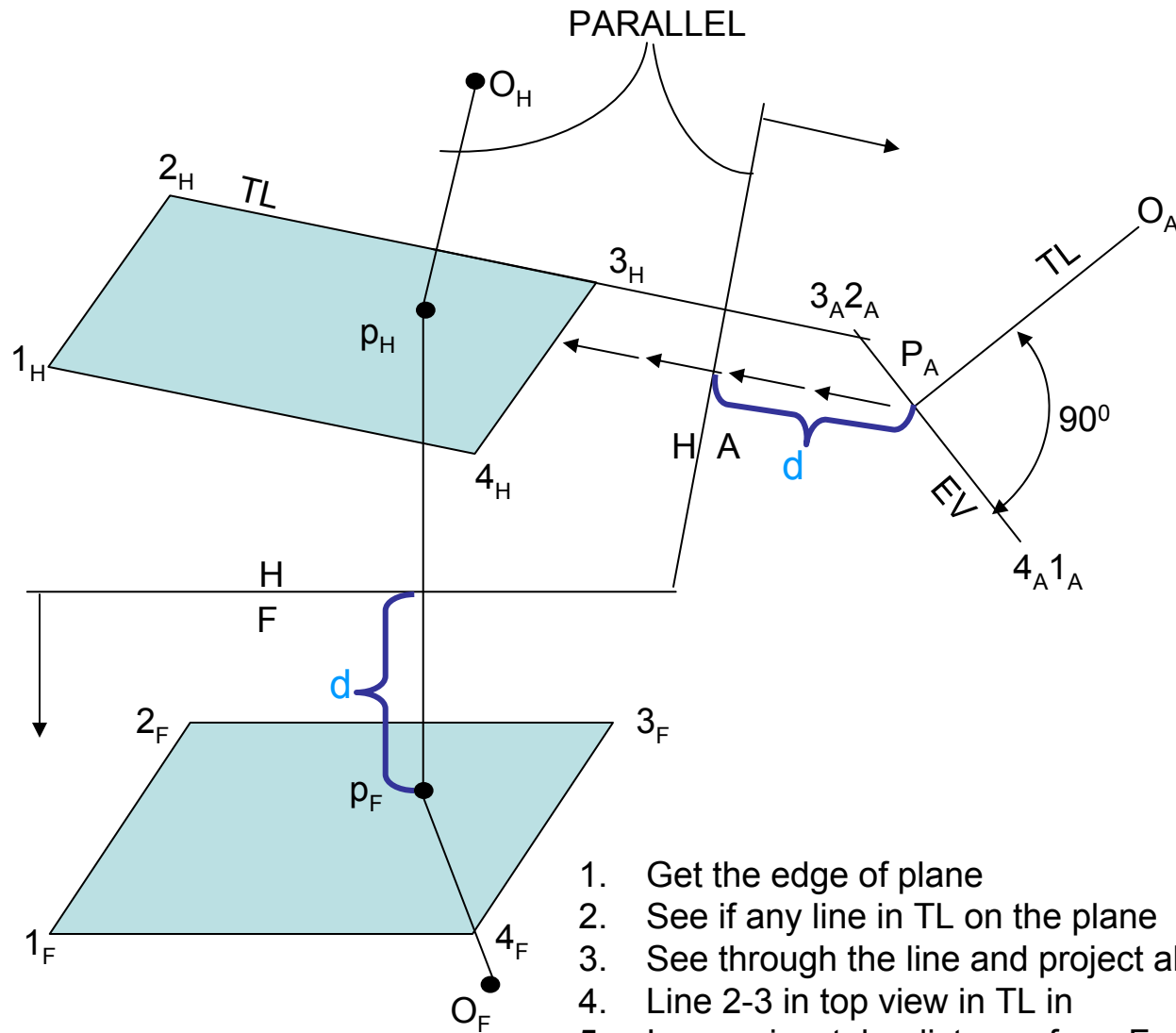


# TA 101

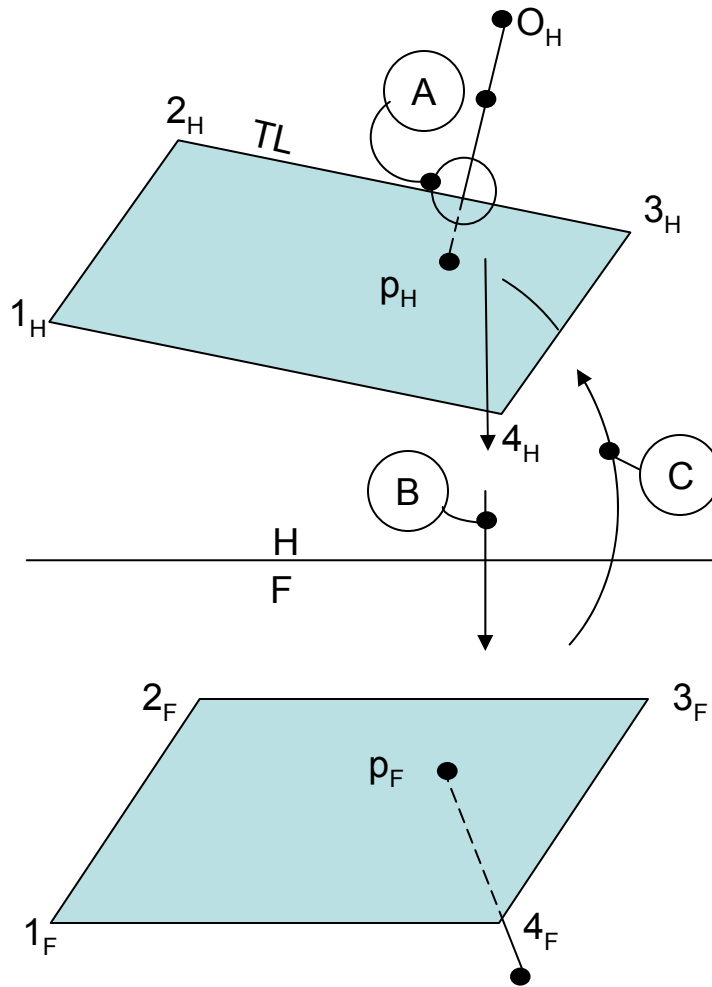
Lecture -18

<http://home.iitk.ac.in/~mukesh/>

Draw a perpendicular to a plane from point – Recall edge view of plane and perpendicular at 90° needed



1. Get the edge of plane
2. See if any line in TL on the plane
3. See through the line and project all points
4. Line 2-3 in top view in TL in
5. In aux view take distance from Front and locate points
6. Draw a perpendicular from  $O_A$  on EV  $\sim O_A P_A$  (in TL?)
7. Project  $P_A$  to Top view (see the arrows)
8. Project  $P_H$  to Front view see  $P_F$



Visibility of perpendicular OP

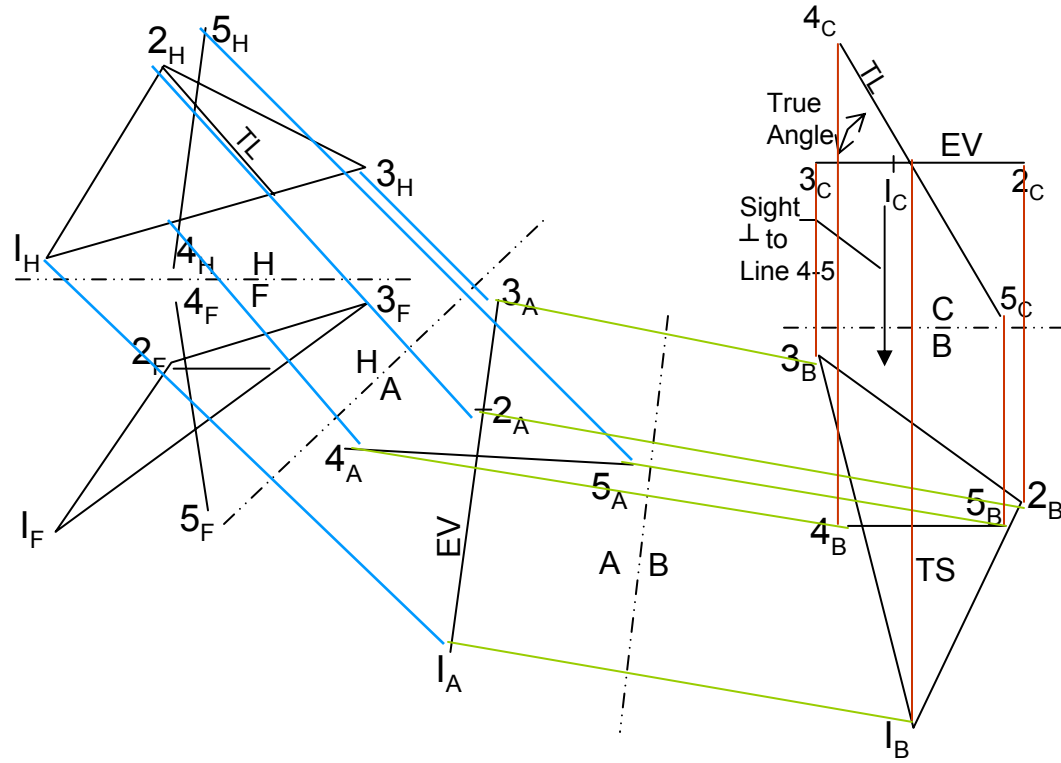
In horizontal and front views

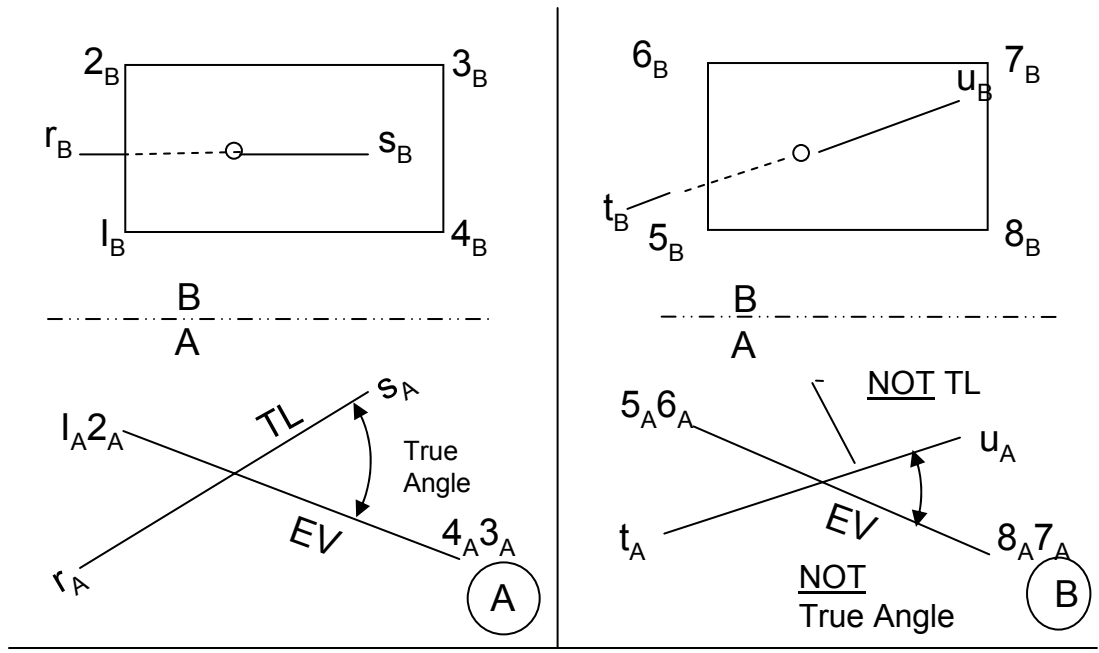
Part of the OP can be behind the plane thus become dash

Methodology: For Horz. View bring the point on OP drop t down to F

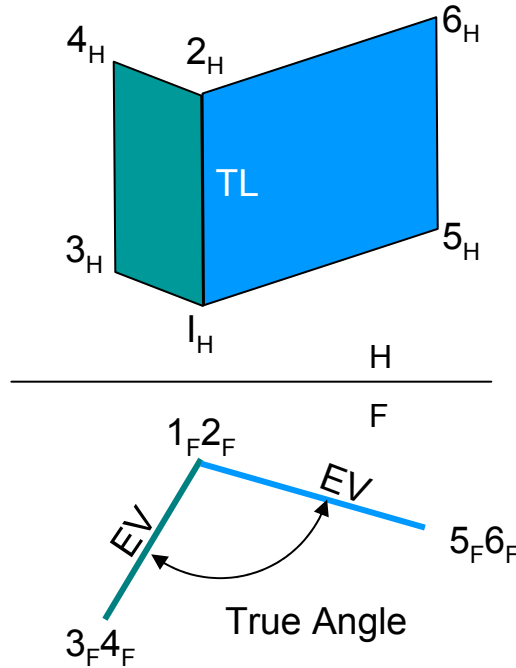
And see which line you encounter first

Line appearing first is above .  
The line appearing second is behind and thus should be dash



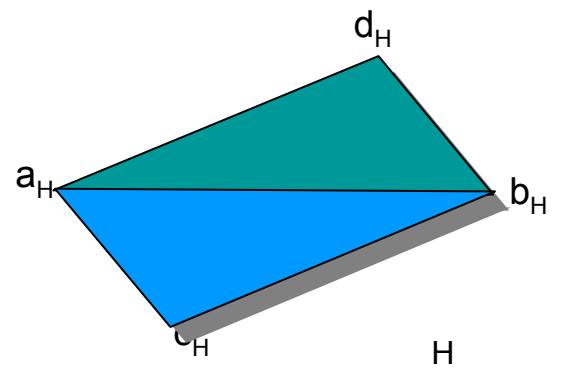


Recap of Concept – Did you get this?

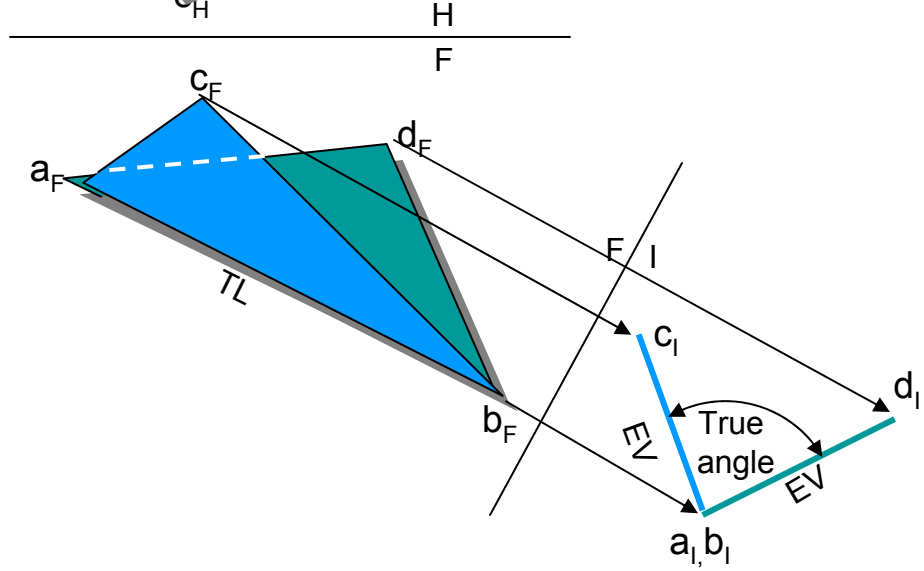


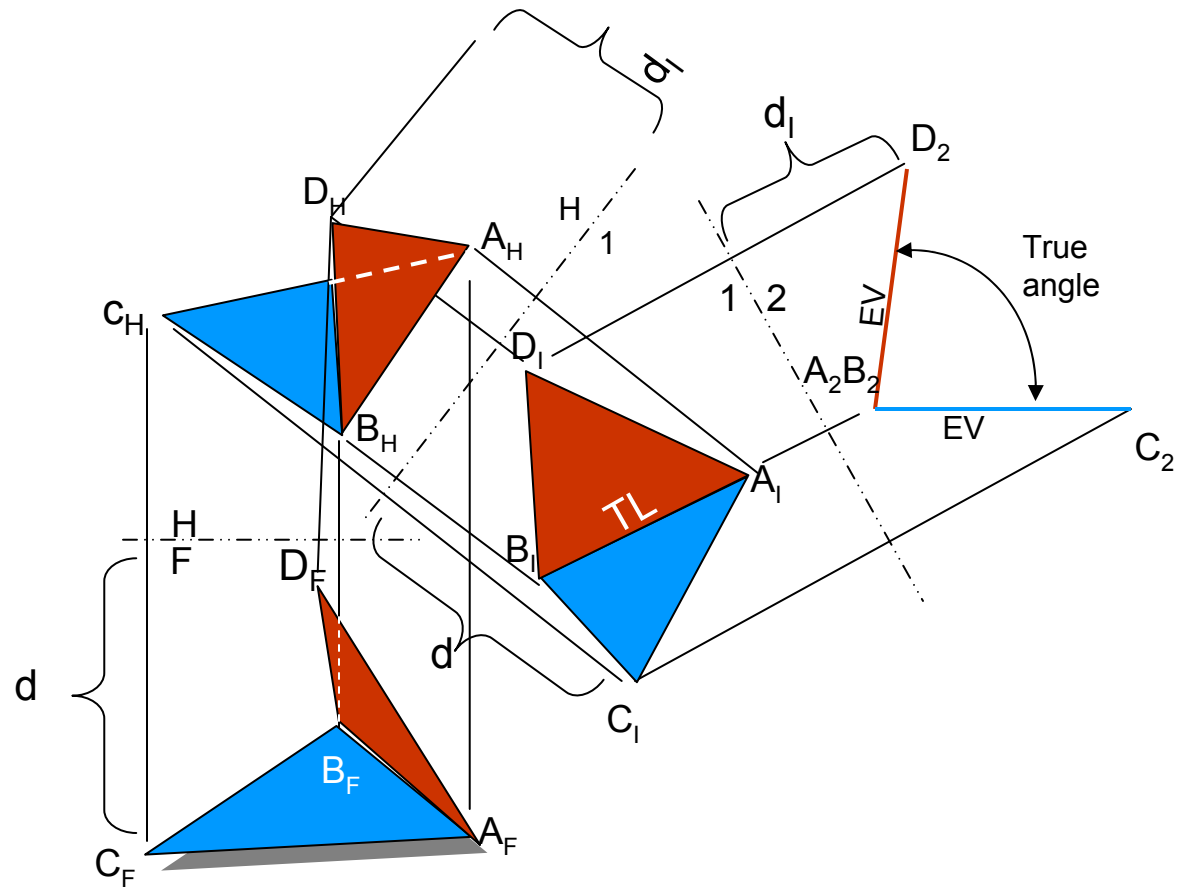
Objective find angle between two planes

Concept – if we can project the planes in their EVs  
 The angle between the EVs will be true angle between the planes



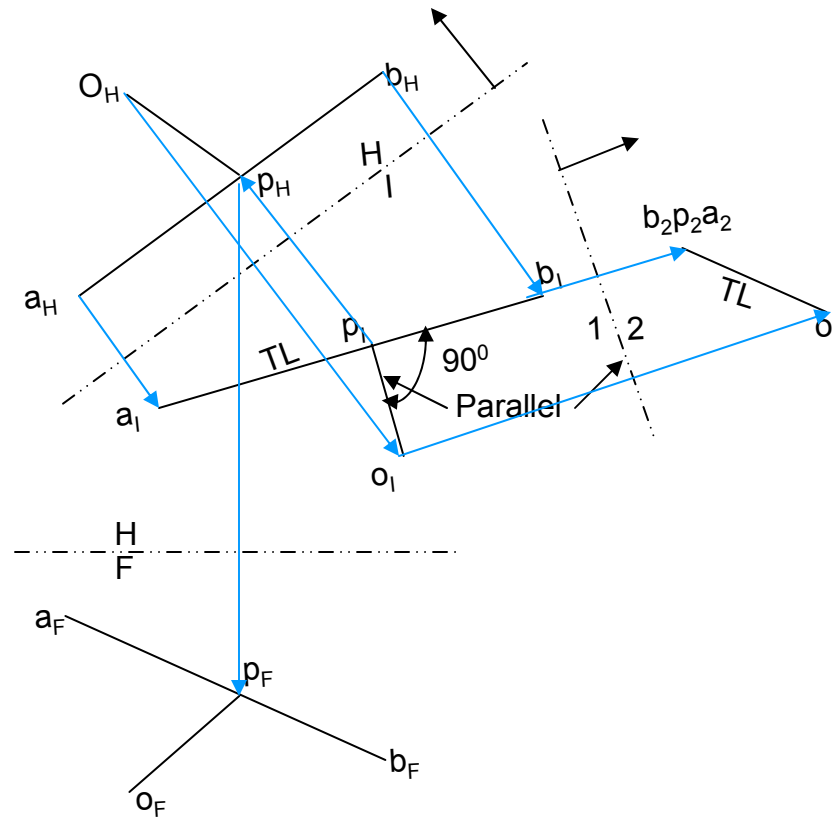
Get edge views of the planes  
 Do you see common line to be in TL  
 It is ab – see through it (e.g. hinge line  
 Be perpendicular to TL)  
 From EVs find true angle between planes





**Angle between planes – General Case**

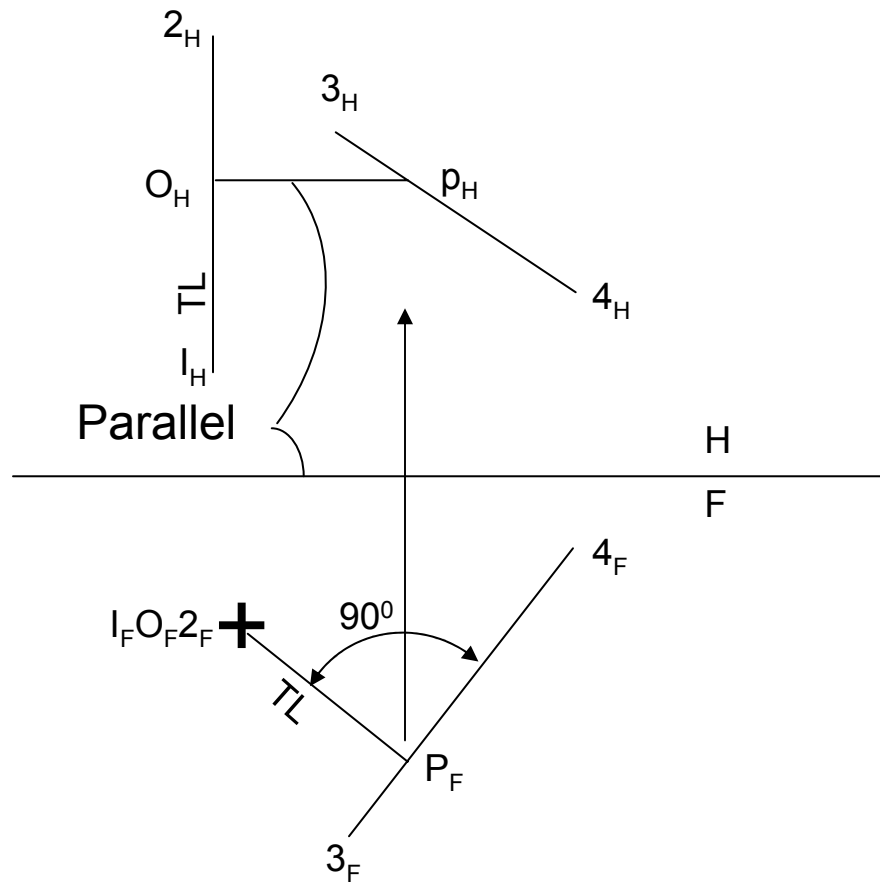




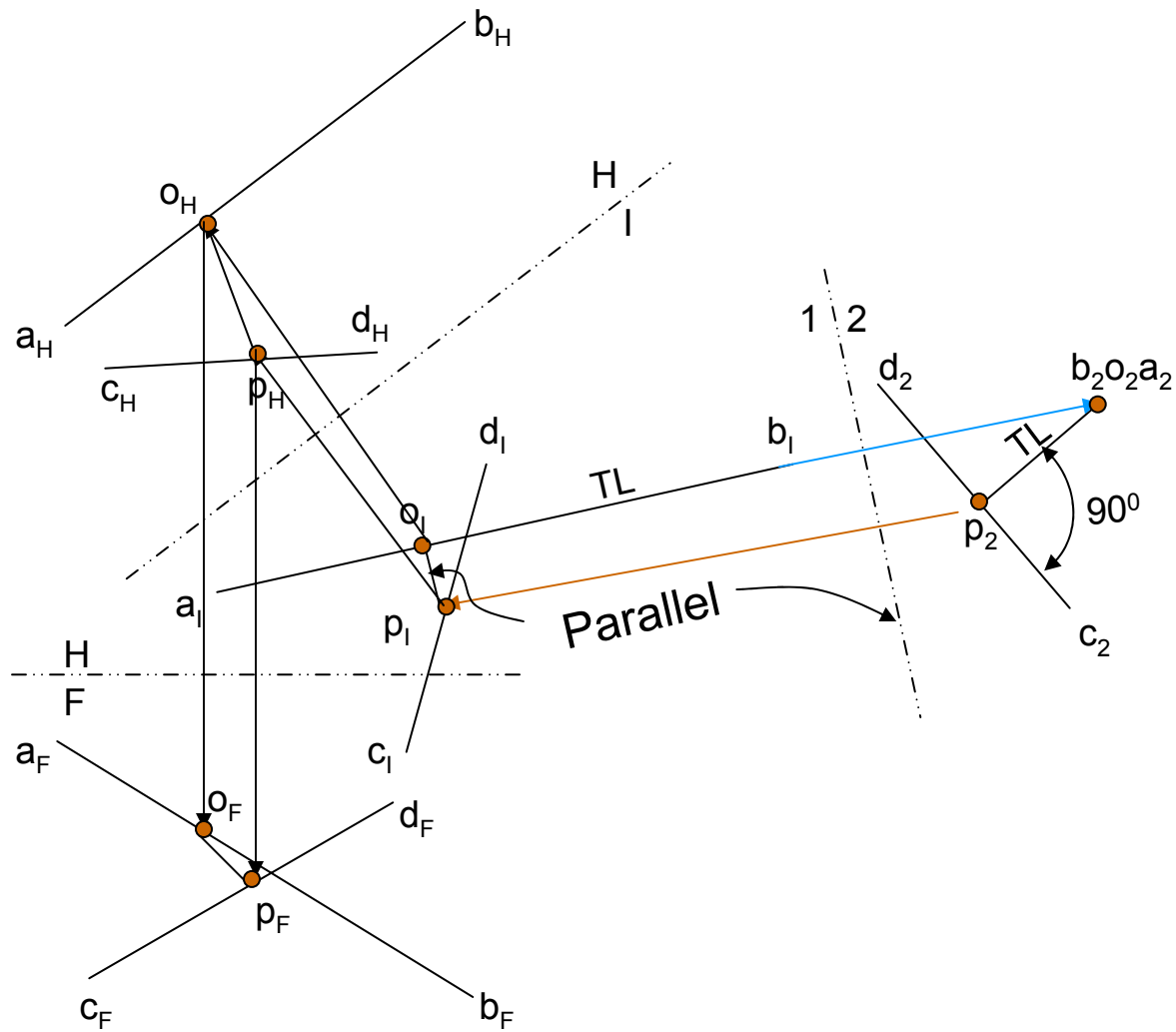
## Finding shortest Distance from a point to a line

Concept: Get the line in TL and keep projecting the point and then draw Perpendicular from the point on the obtained TL.

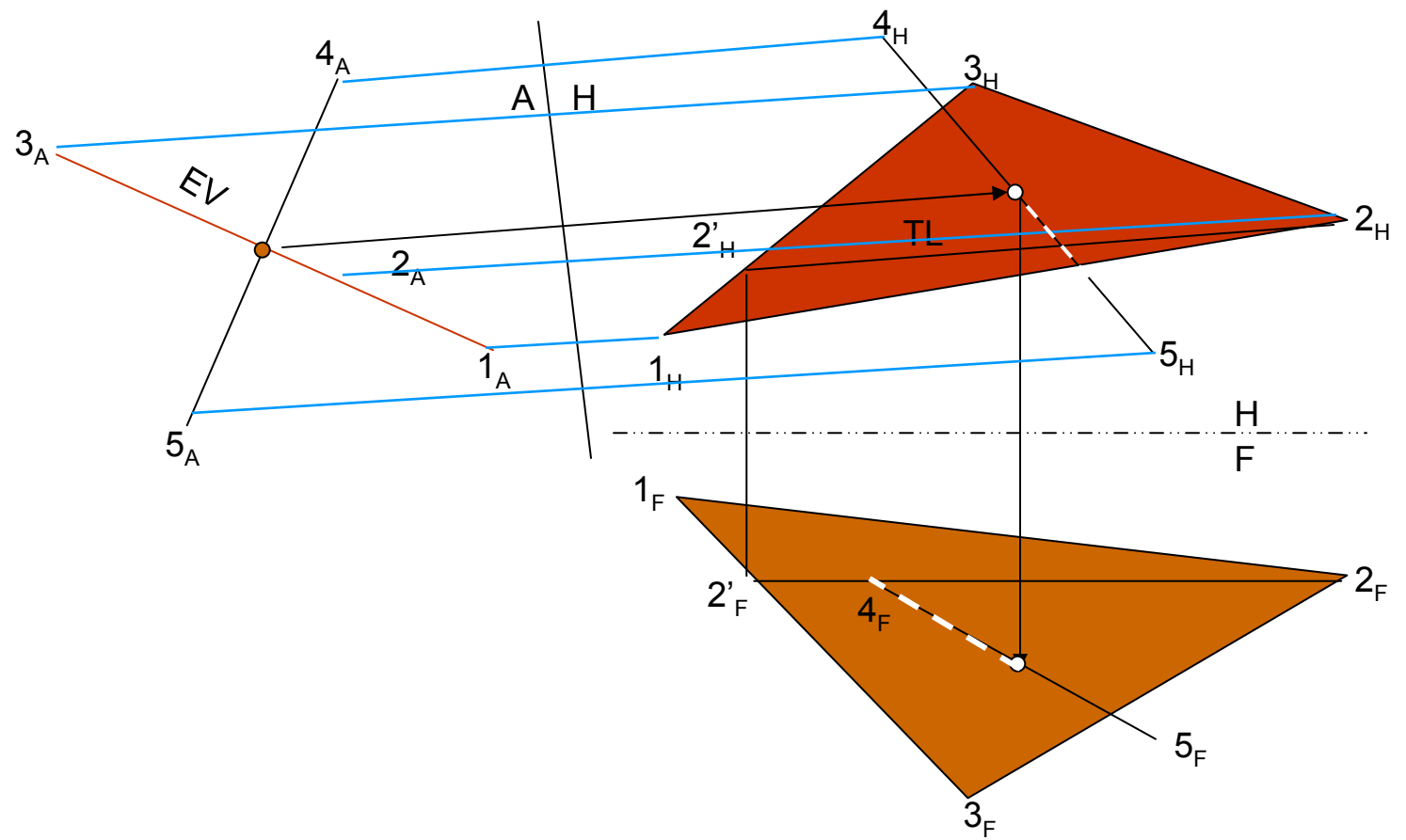
Next step is to get the TL in point view and you will see the shortest distance (point to line). Project the perpendicular in Front and Top view



Concept – Shortest Distance between two lines  
 What is the condition that should be met?



Shortest Distance between two lines – most general case



**Intersection of a line and plane – EV method**

