Chapter 4: One-Point Perspective

Diminuting World...

One Point Perspective Theory

Plan: The floor plan of the object/room (top down view).

Elevation: The wall of the object/room (side view).

Height (h): The distance your eye is from the ground.

Station point (sp): Representation of where your are standing, and the direction you are looking in relation to the object/room.

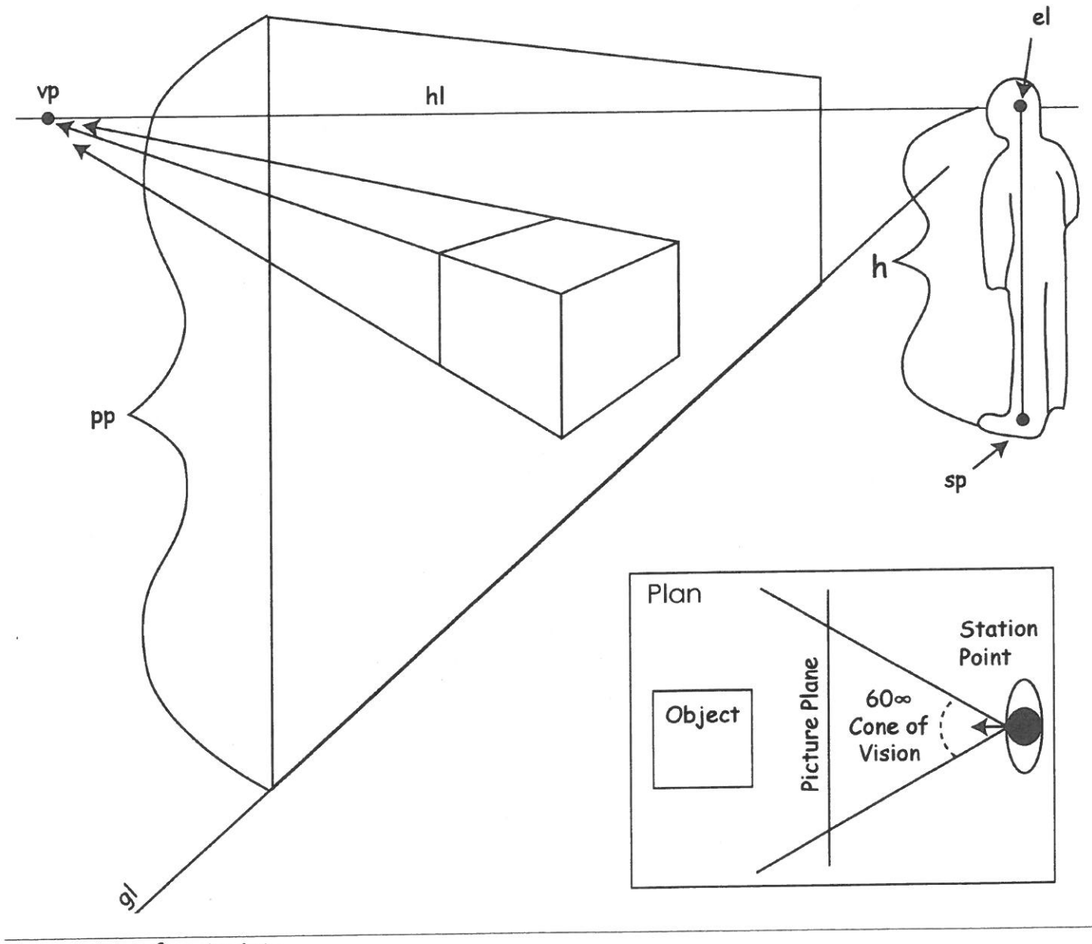
Picture Plane (pp): an imaginary giant paper/canvas/glass where you will project your object/room to. This can also be considered the surface of your paper you are drawing on.

Ground Line (gl): The line on the ground where you put your picture plane.

Vanishing point (vp): the dot where everything that is parallel to your view goes.

Horizon Line (hl): Eye level (el).

Cone of Vision: a 60∞ angle range that objects still appear normal within your drawing, outside the Cone of Vision objects in your drawing appear distorted.



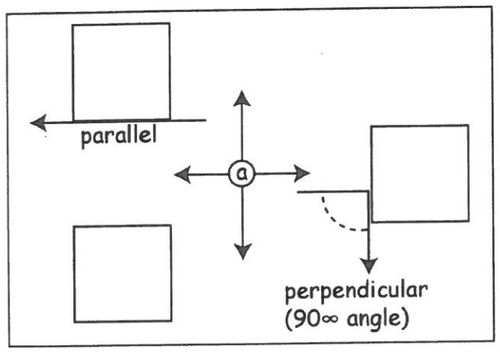
Chapter 4

One Point Perspective Theory

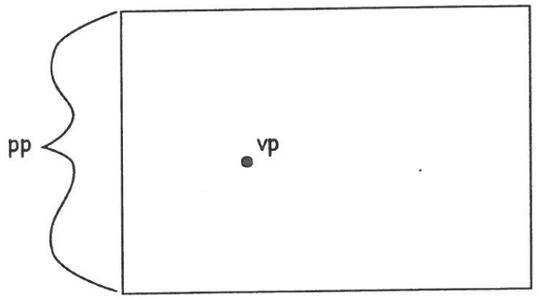
Direct Drawing Step by Step

a) **Decide Point-of-View**
Choose a view of the object (environment), looking at one side of the object, or parallel to one side of the object. Any other view is not one-point perspective.

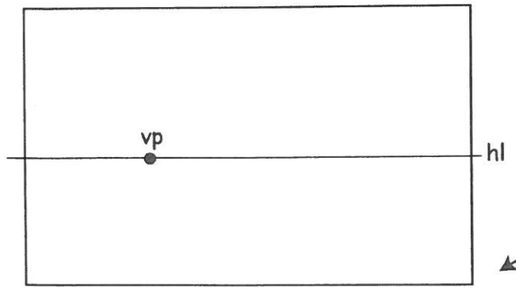
In the plan view below there are only 6 views from "a" that are one-point perspective: parallel or perpendicular to the objects. choose one of these views. The other 2 would be looking straight up (called the zenith) or straight down (called the nadir).



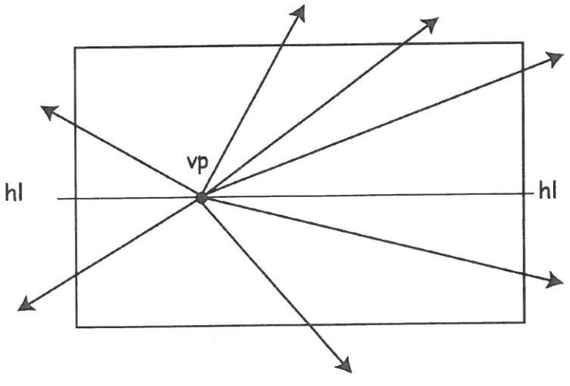
b) **Place Vanishing Point:**
The picture plane (pp) represents your drawing surface (paper). Place a dot on your paper, anywhere but on the edge or directly in the center (for better composition). This is your one vanishing point.



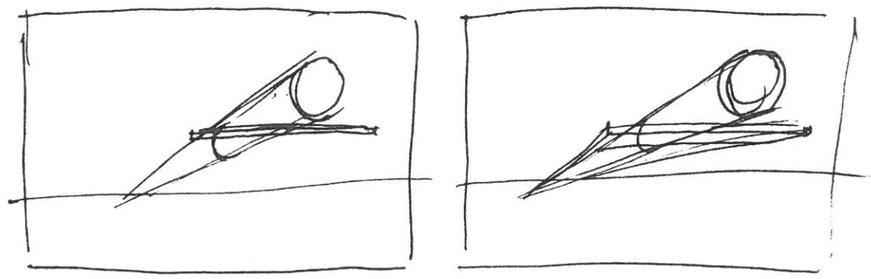
c) **Horizon Line:**
If you are not looking directly up or down, the vanishing point (vp) is on your horizon line (hl), draw a horizon line.



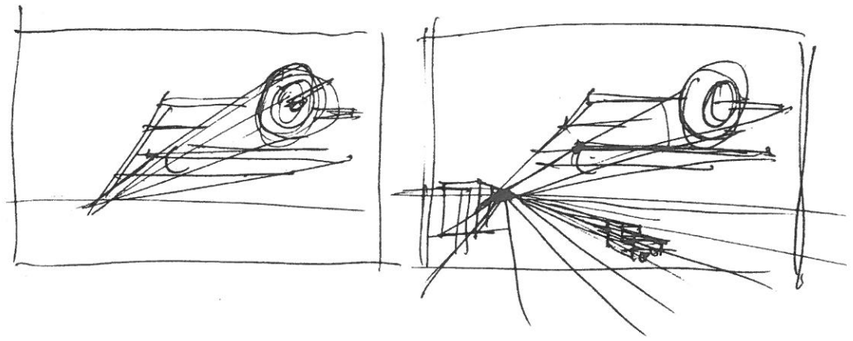
c) **Vanishing Lines:**
Draw vanishing lines radiating straight out from vanishing point (vp) to use as guides for your one-point perspective drawing.



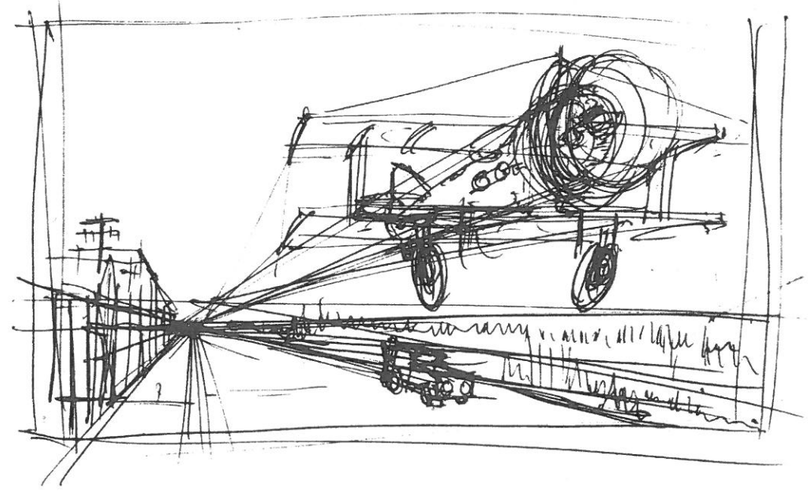
e) Sketch Shapes:
Draw shapes that would be repeated to the vanishing point (vp). Close the shape by repeating it.



f) Repeat Shapes:
Repeat the shapes until you have the object you want to draw blocked in.

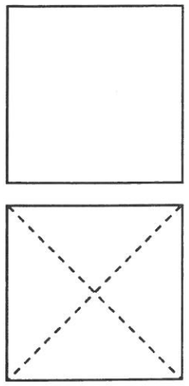


g) Finish:
Finish the drawing by adding smaller shapes and texture.

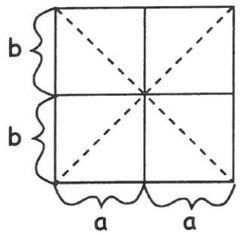


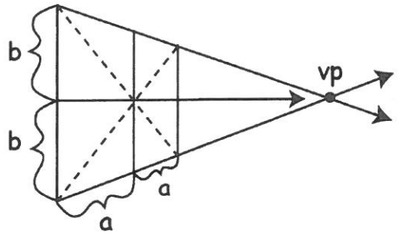
Chapter 4

Equal Shapes and Division

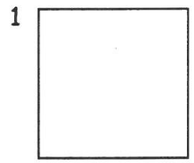


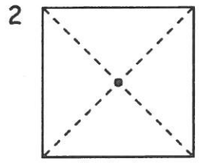
a) **Find the Middle:**
Without measuring the distance, you can find the middle of a box by crossing lines from the corners (subdivide). This technique of subdivision also works in perspective to find the "perspective center" of a box.

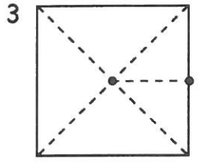


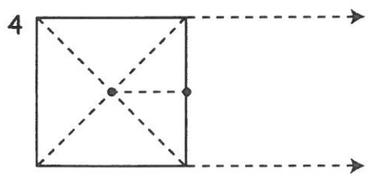


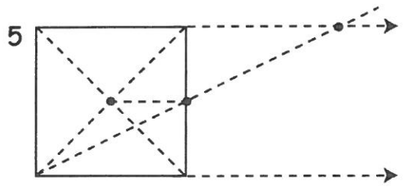
b) **Find Equal Distance:**
Knowing how to subdivide your box, you can find equal distance in perspective.

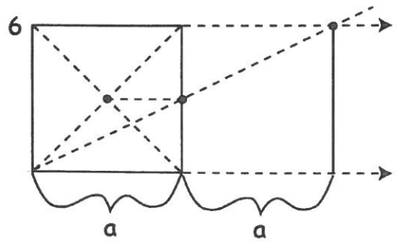




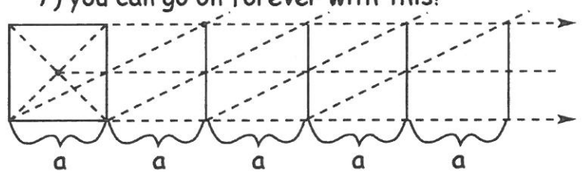






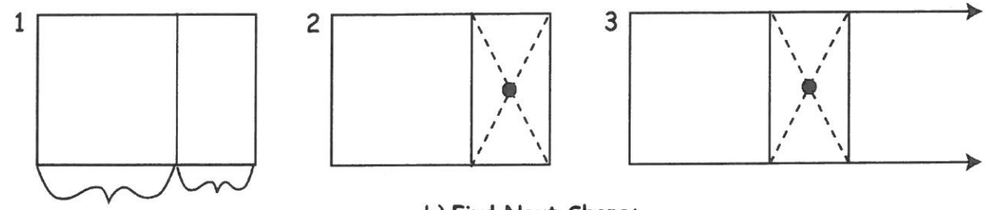


7) you can go on forever with this!

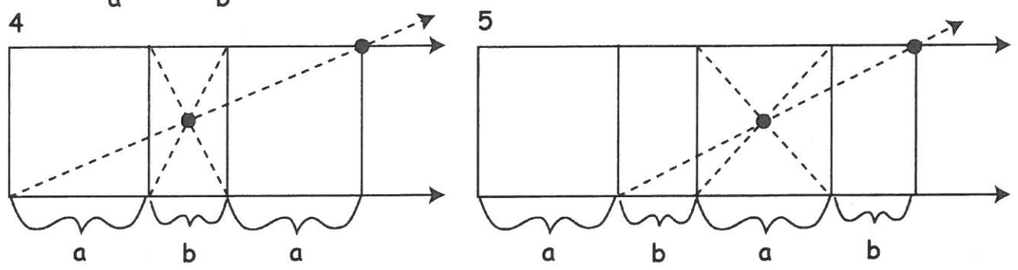


Equal Shapes and Division: More Complicated Division

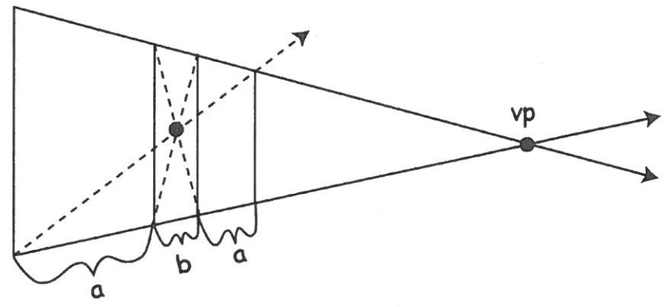
a) **Find the Middle of Each Shape:**
Find the next shape of (a) by finding the middle of (b).



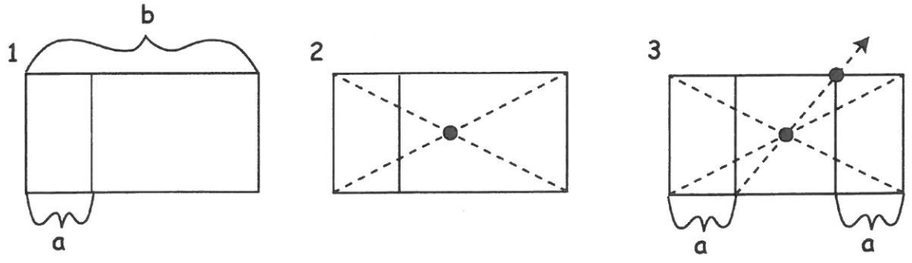
b) **Find Next Shape:**
Find the next shape of (b) by finding the middle of (a).



c) **Final Result in Perspective:**

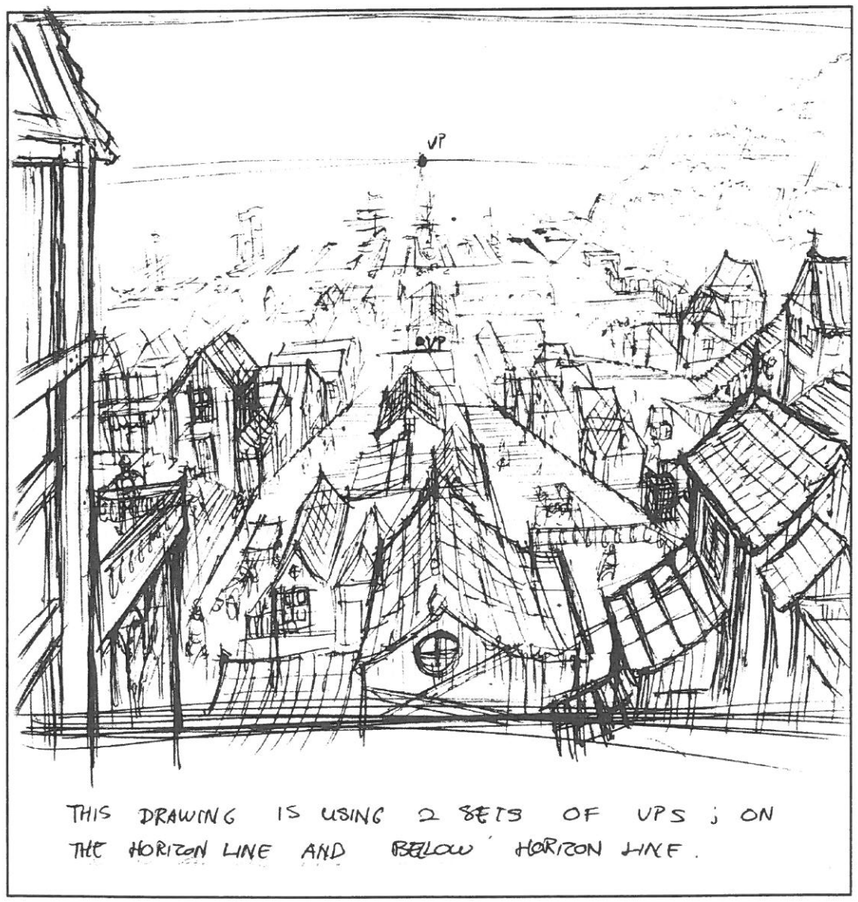


a) **To find a shape within a shape:**
Find the center of (b), use this as your reference point to find (a) again.

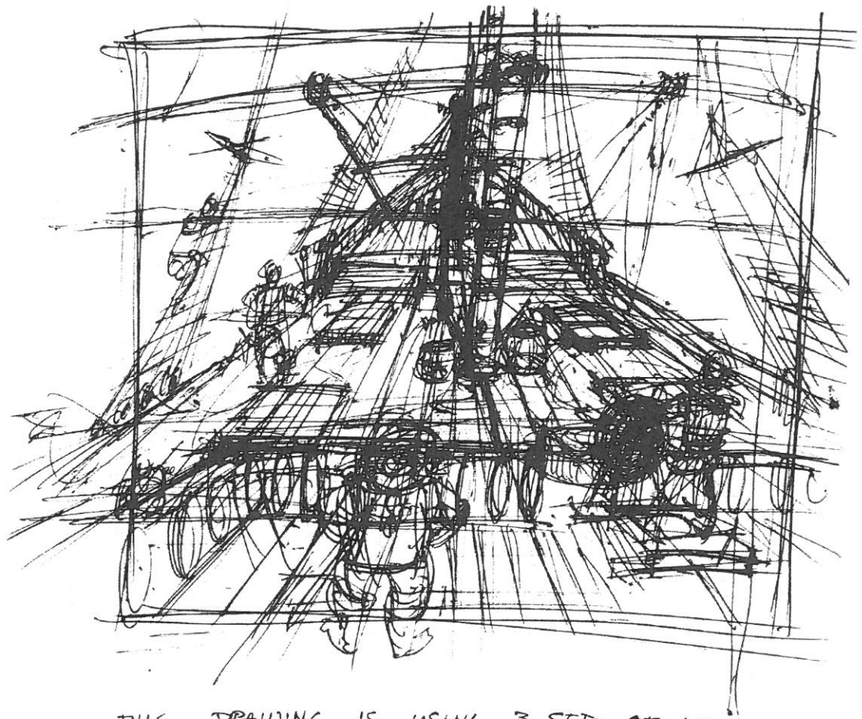


Trace Points and Vanishing Lines

At any vanishing point you can create a vanishing line. It is similar in function to a horizon line, all parallel planes that are also parallel to the vanishing line will disappear at the vanishing line. At any point along this vanishing line you can put a trace point. Trace points are used for angled planes, like angled rooftops and roads that go uphill or down hill.



THIS DRAWING IS USING 2 SETS OF VPS ; ON THE HORIZON LINE AND BELLOW HORIZON LINE.



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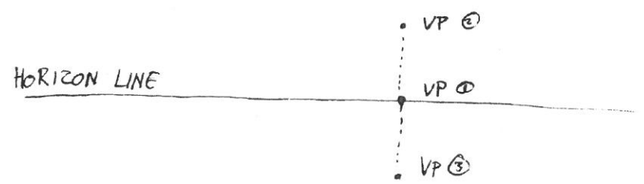
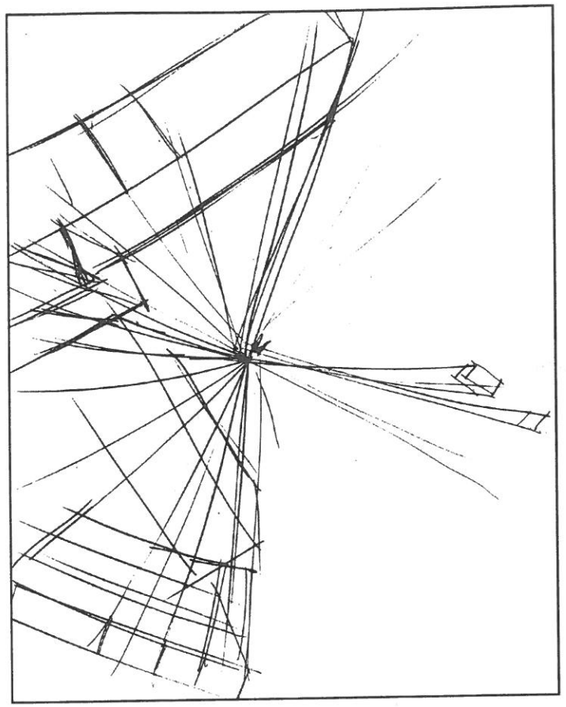
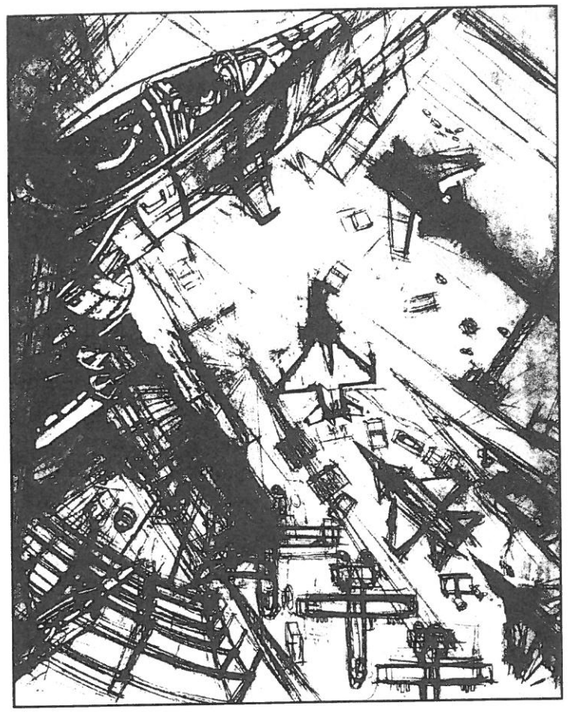


① VP ON THE HORIZON LINE
② VP ABOVE THE HORIZON LINE A LINE WITH THE VP ON THE HORIZON LINE
③ VP UNDER THE HORIZON LINE A LINE WITH THE VP ON THE HORIZON LINE.





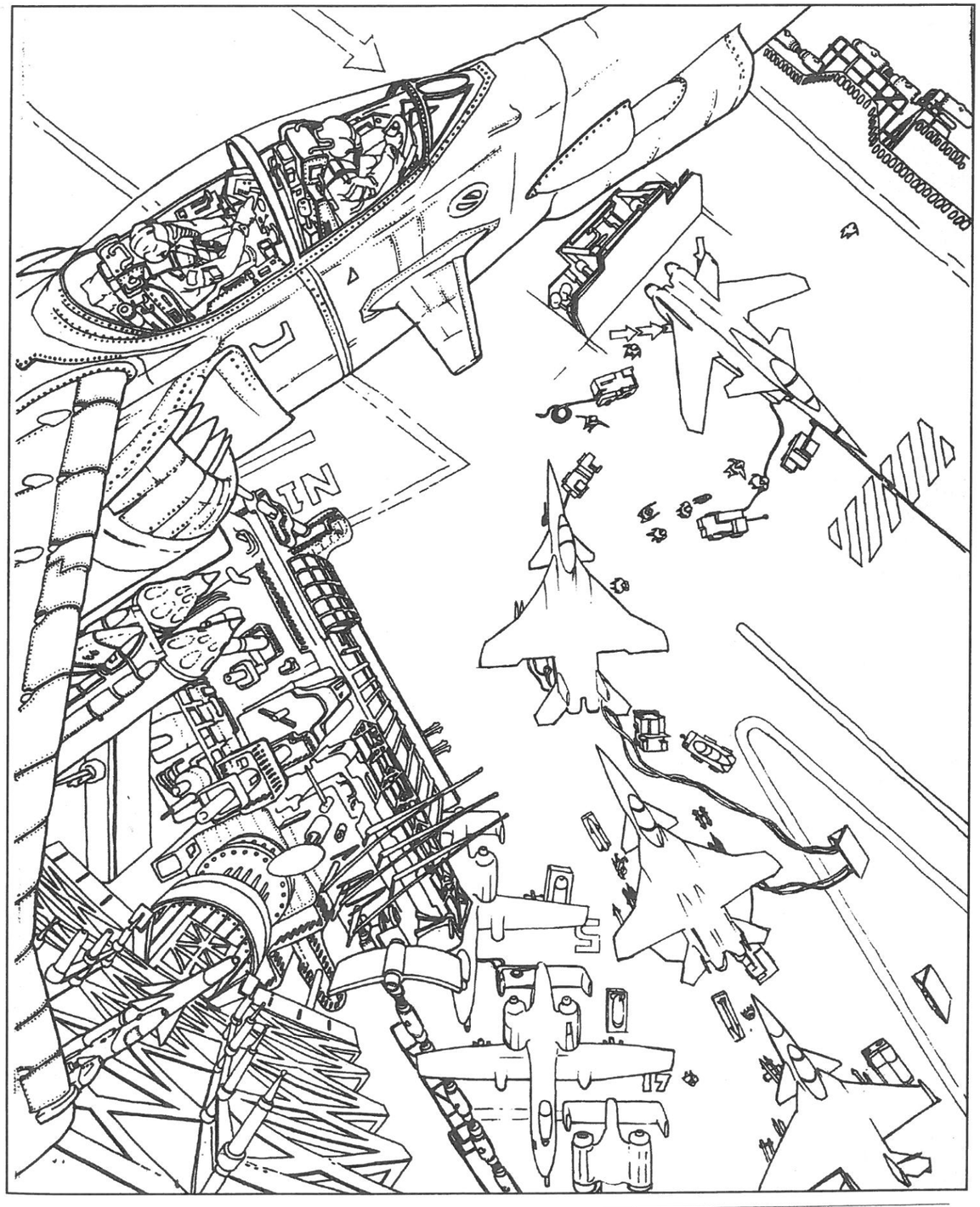
Step by step examples of a drawing in one-point perspective.

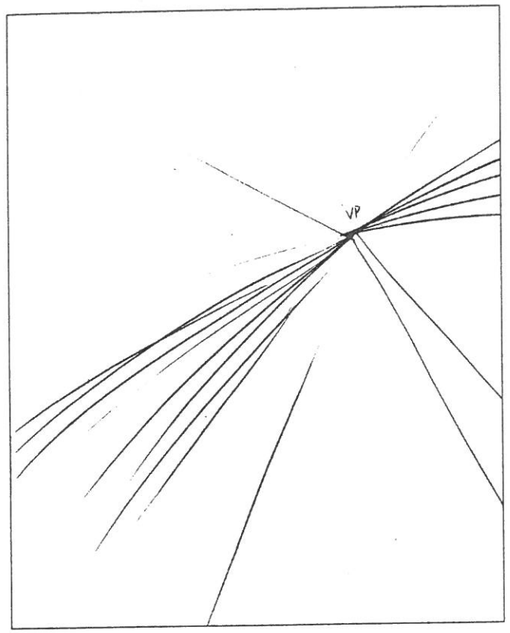
Here we've chosen a view looking straight down at the nadir, but all the elements in the drawing are still parallel to our view so they are in one-point perspective.

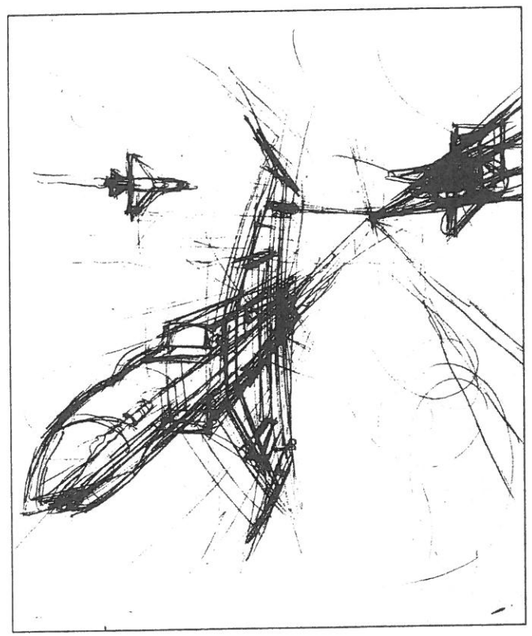
Sketching out construction lines in the beginning on a separate layer can really help to start visualizing our drawing in perspective.

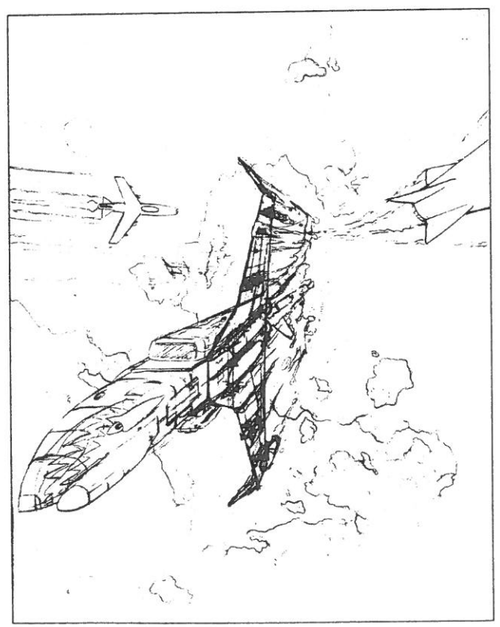
Keep your drawing, loose but never sloppy in order to have as much creative freedom as possible. The tighter you draw the less freedom you have, and the more you are using the analytical part of your brain. Let go and feel the drawing. Don't be afraid to make mistakes. Hesitation leads to an unconfident drawing. No matter how correct it is, a fearful and timid drawing can never be as good as a confident drawing, even if the confident drawing is "incorrect".

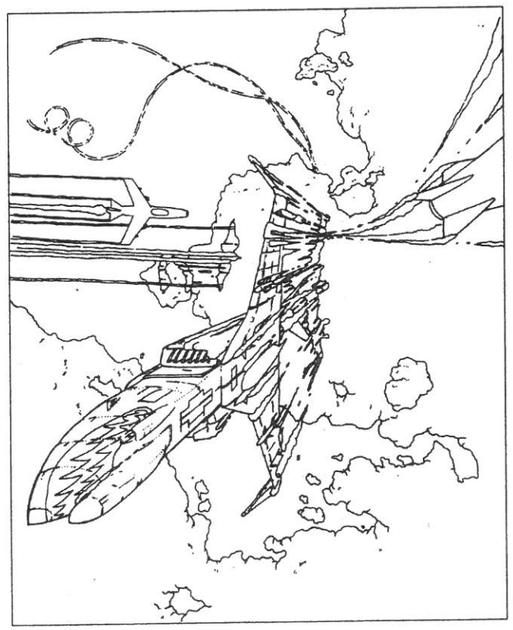
The more you sketch and the more thumbnails you do, the more authority your drawings will have and the more confident you'll be.

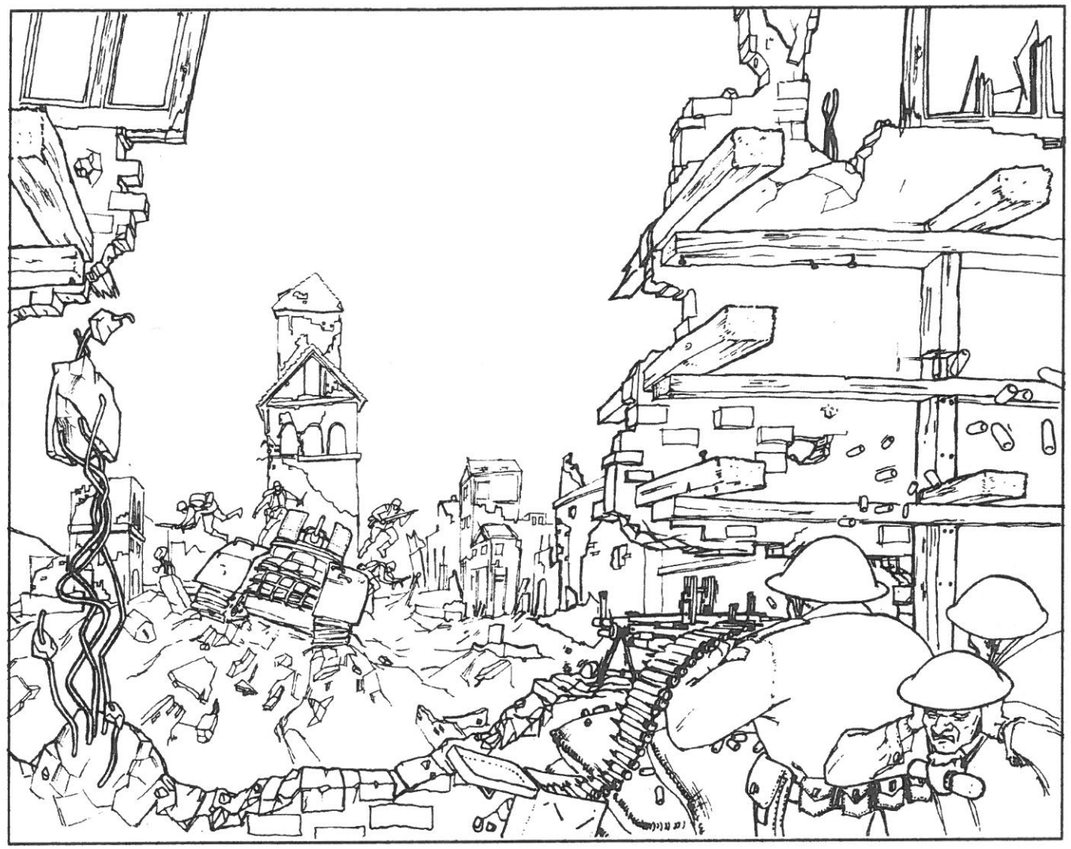








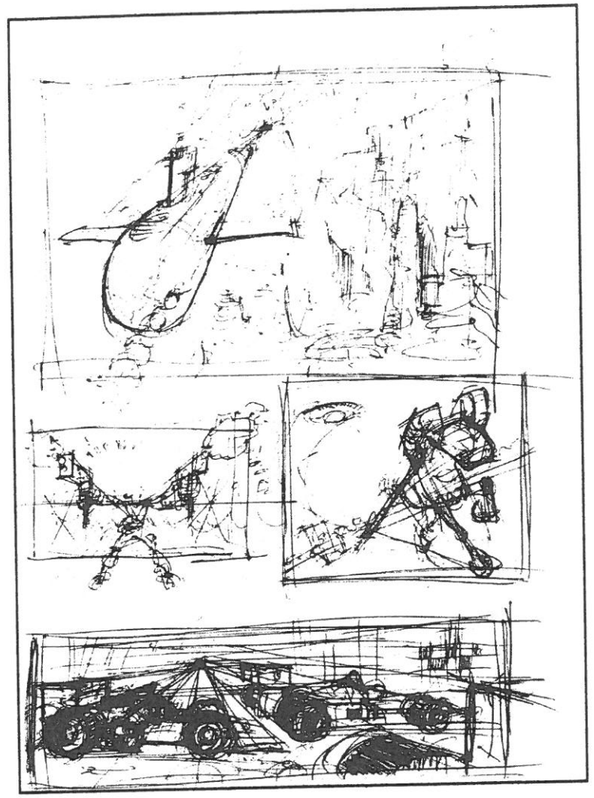


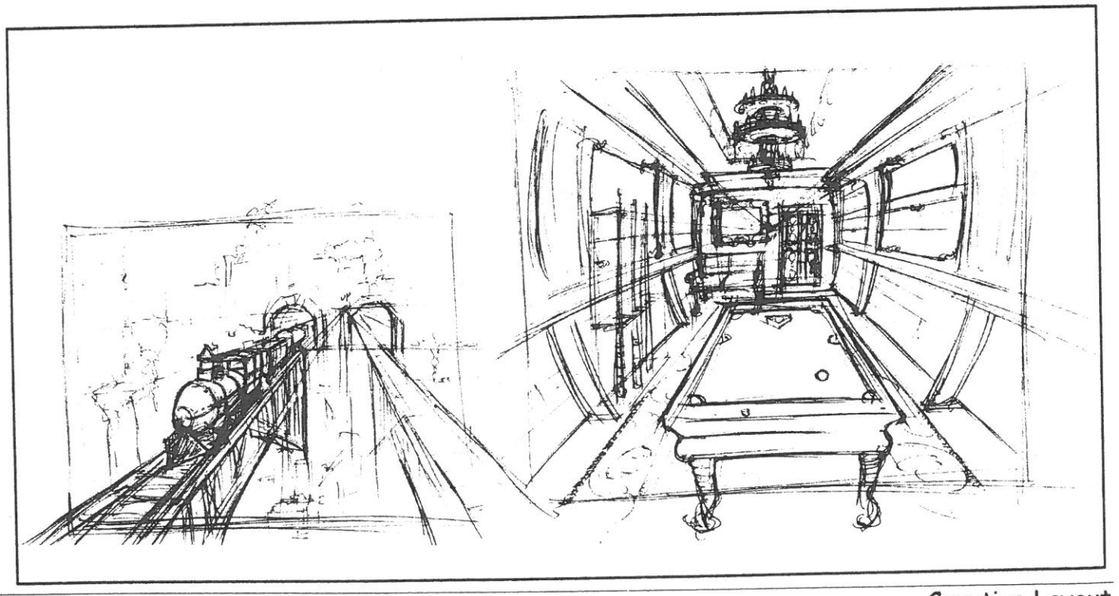


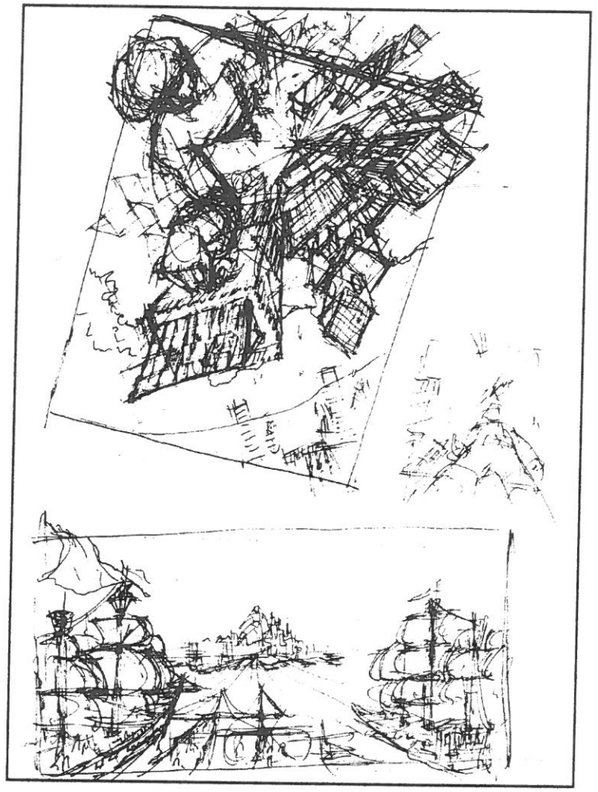
The Vanishing Point is on the Horizon Line behind the tower

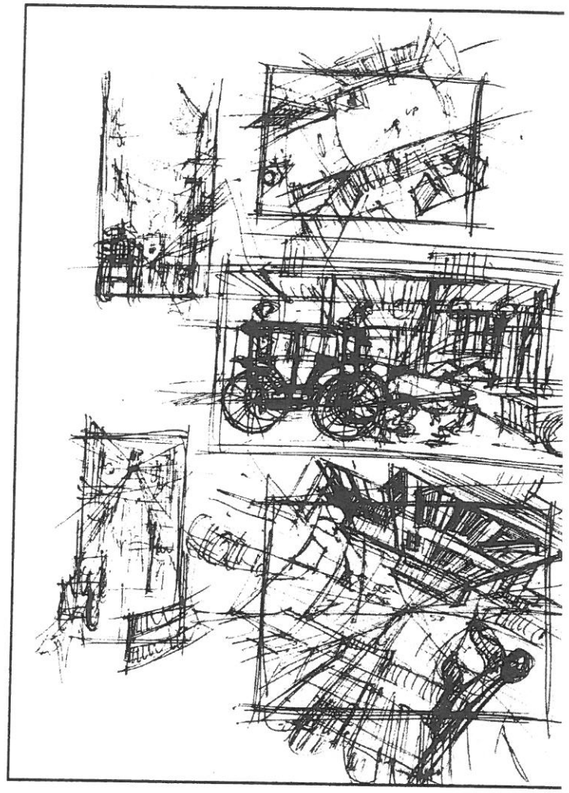
Chapter 4

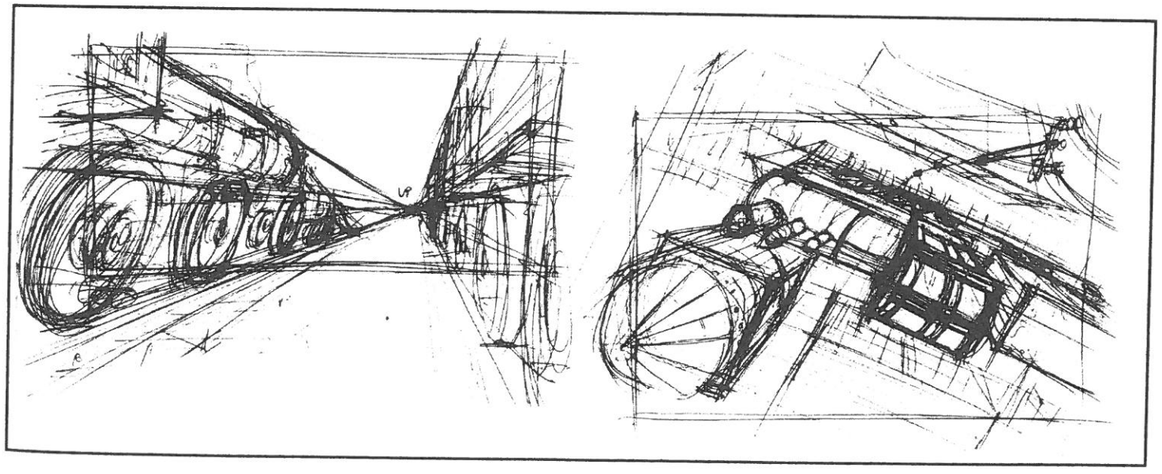
On the following pages are dozens of thumbnail sketches in one-point perspective. One-point can be a dynamic and simple method to create the illusion of depth correctly as well as helping to create a strong composition.

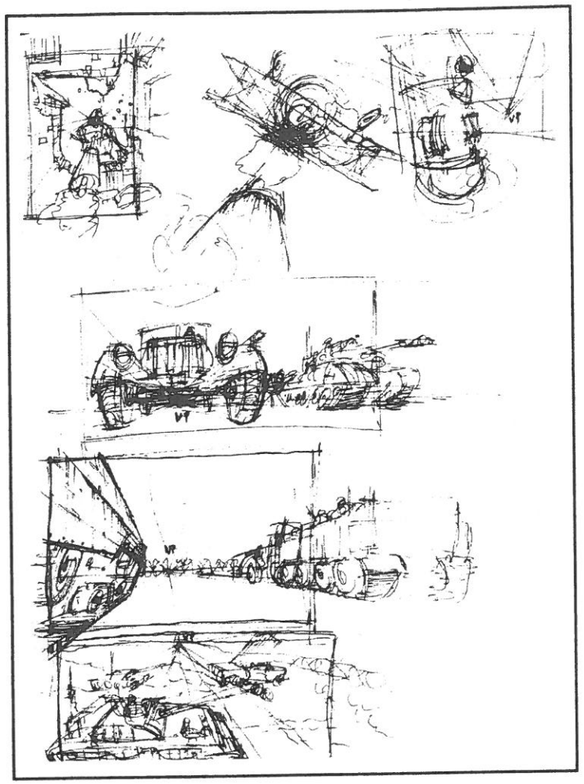


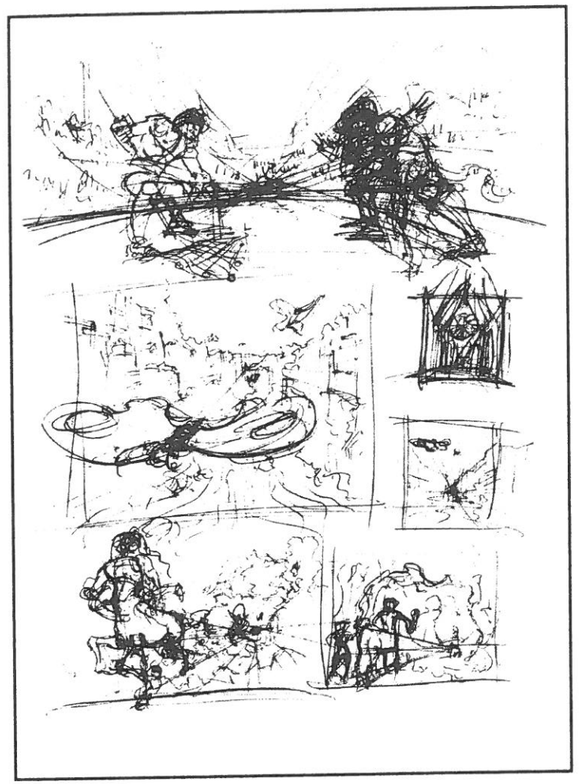


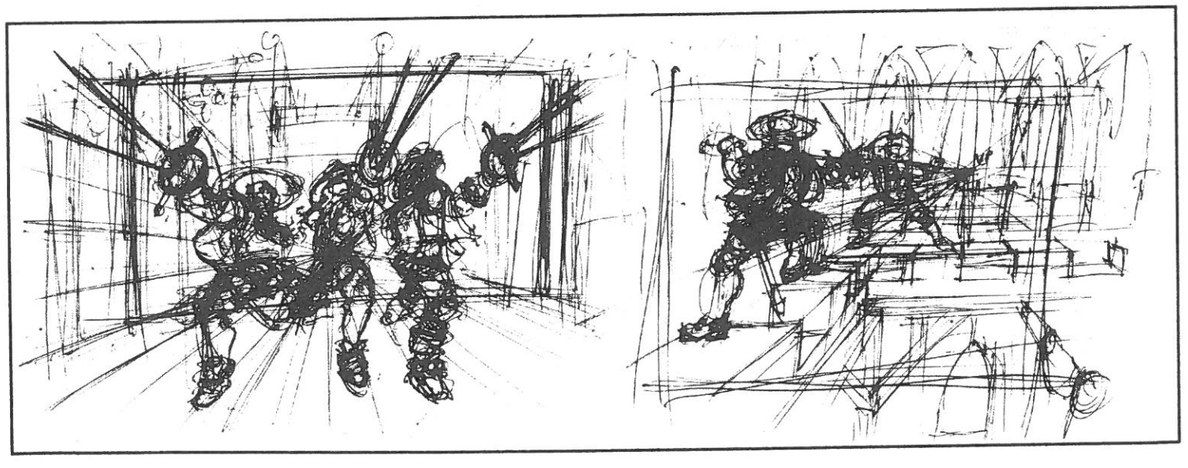


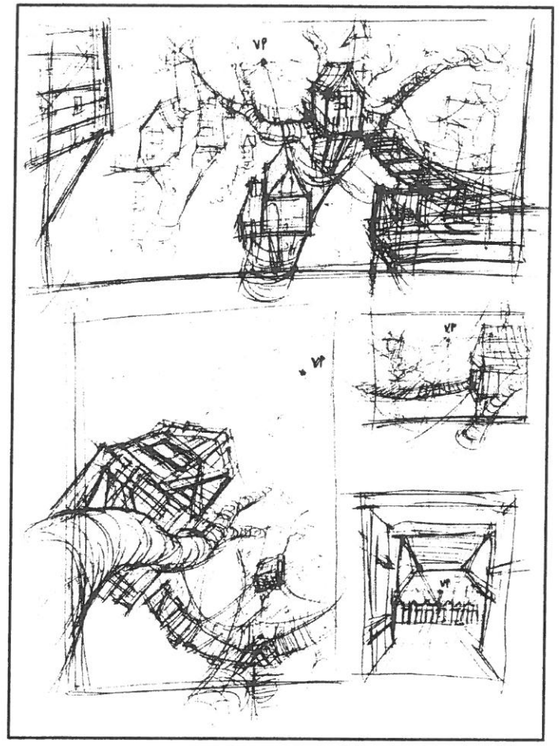


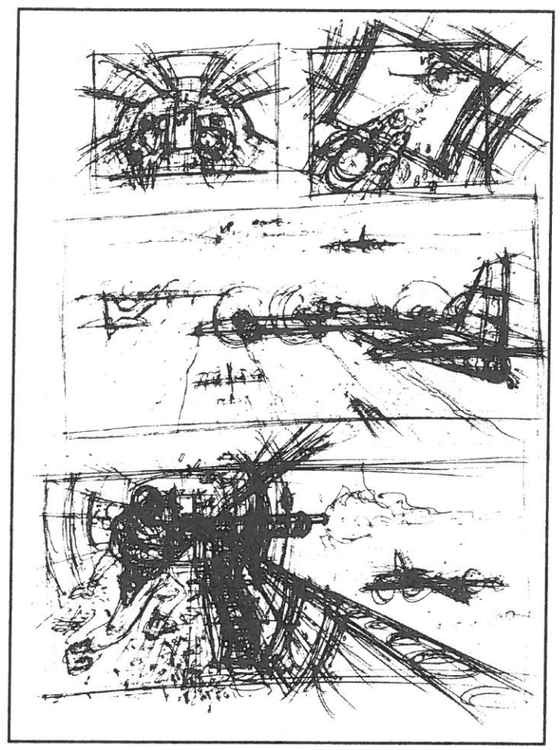


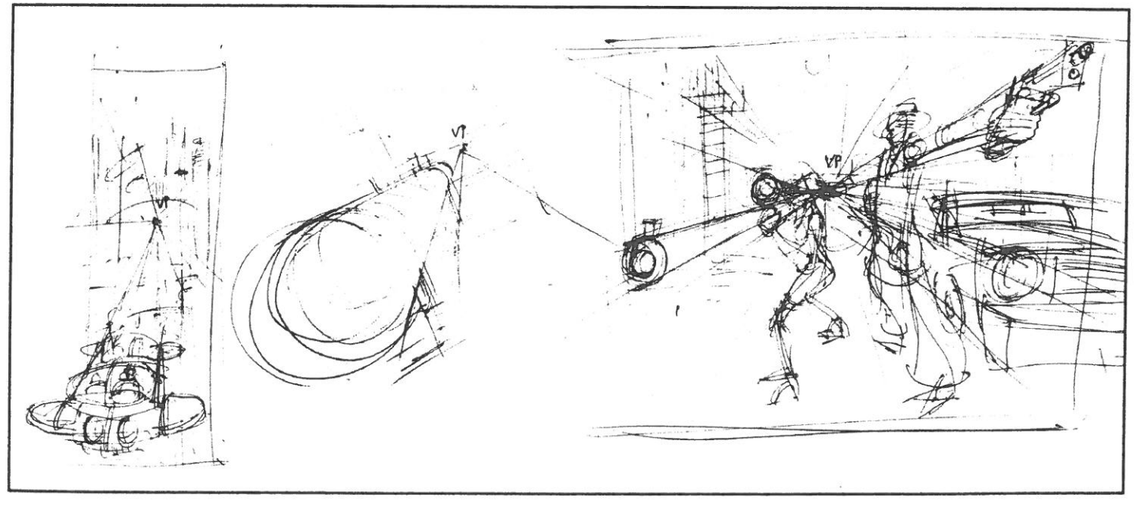


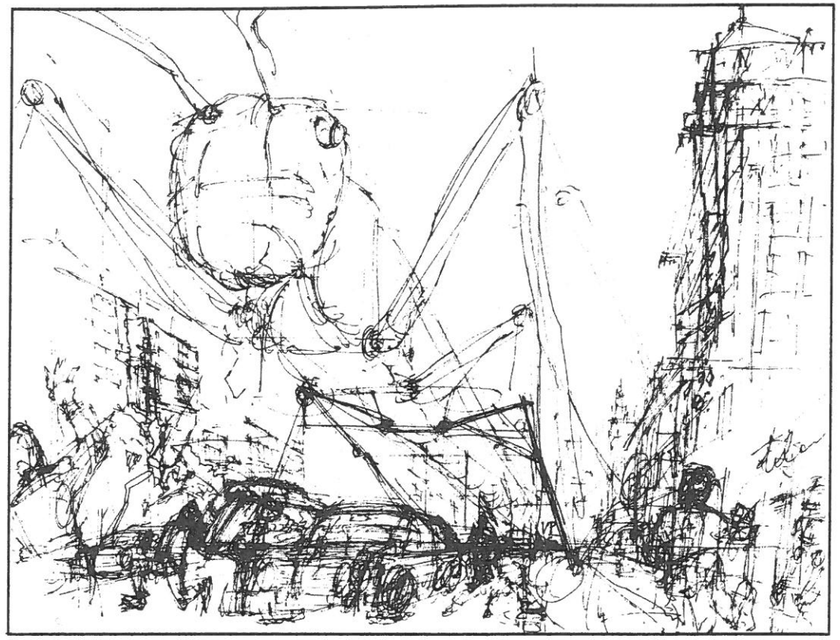


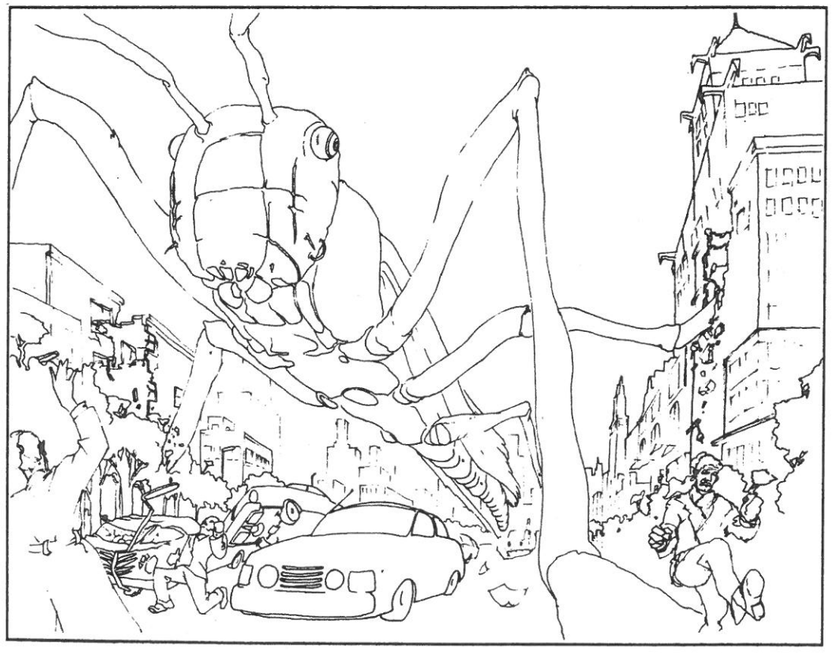


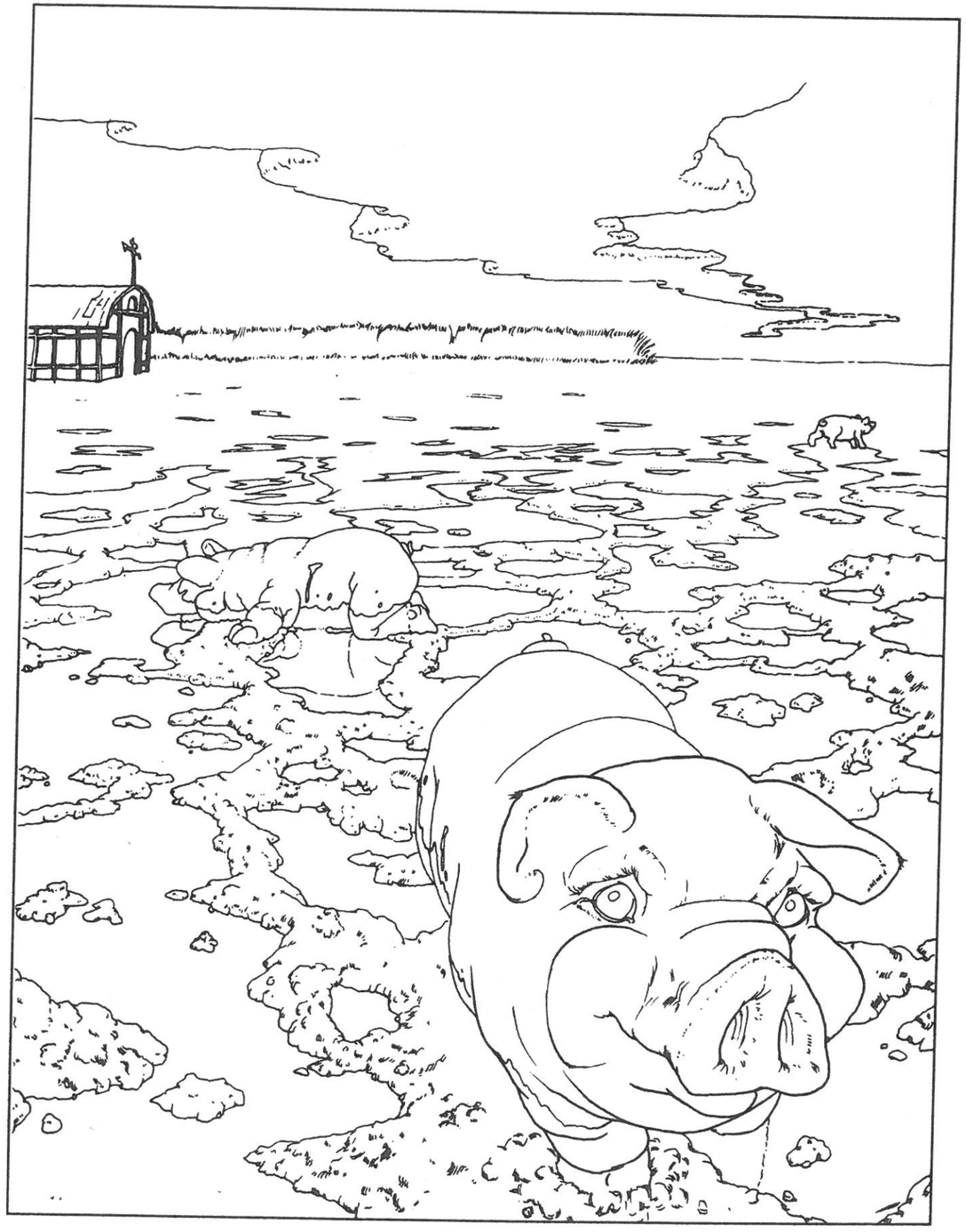










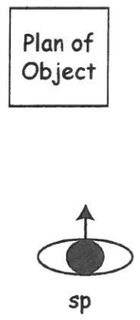


Chapter 4

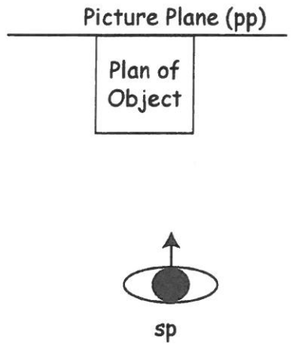
One Point Perspective Theory

Plan Projection: Pull Down technique Step by Step

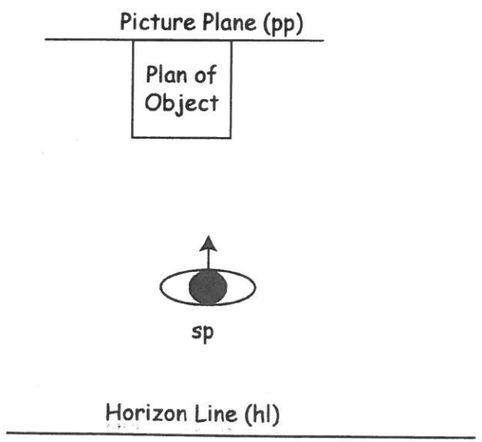
a) **Gather information**:
Plan view (top down view)
Elevation view (side view)
Relationship of station point to object



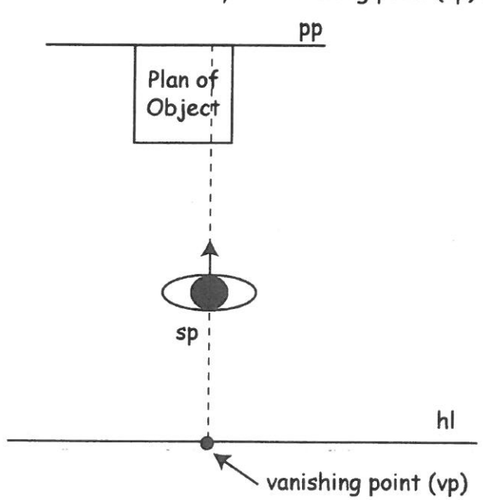
b) **Draw Picture Plane**:
The picture plane (pp) can be anywhere, as long as it is in front of you (sp) and perpendicular to the direction you are looking. It is easiest to put the pp touching one side of the plan.



c) **Draw Horizon Line**:
Draw the horizon line (hl) anywhere below the station point (sp) parallel to the picture plane.

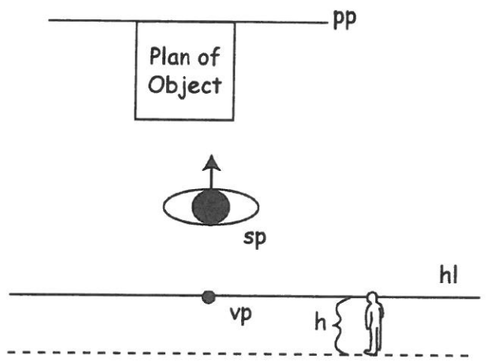


d) **Project Vanishing Point**:
Draw a line parallel to the plan, straight up from station point (sp) to the picture plane (pp) and down to horizon line (hl). This is where your vanishing point (vp) is.

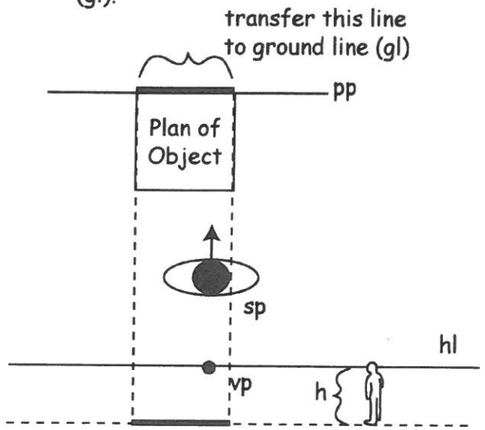


One Point Perspective, Plan Projection: Pull Down technique Step by Step

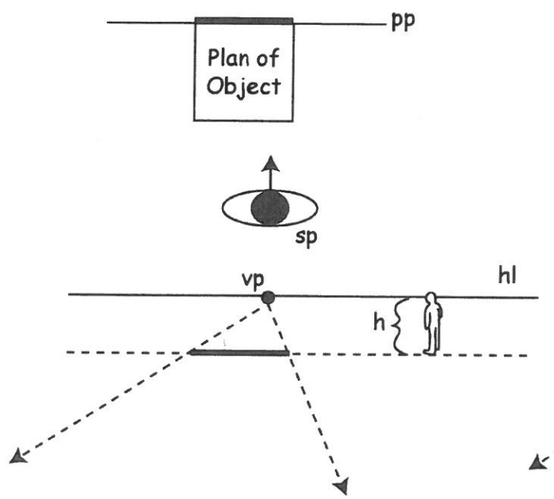
e) **Draw Ground Line**:
Draw a line below the horizon line (hl) that represents how high your eye level is from the ground, this is your ground line. The distance between hl and gl is h (height).



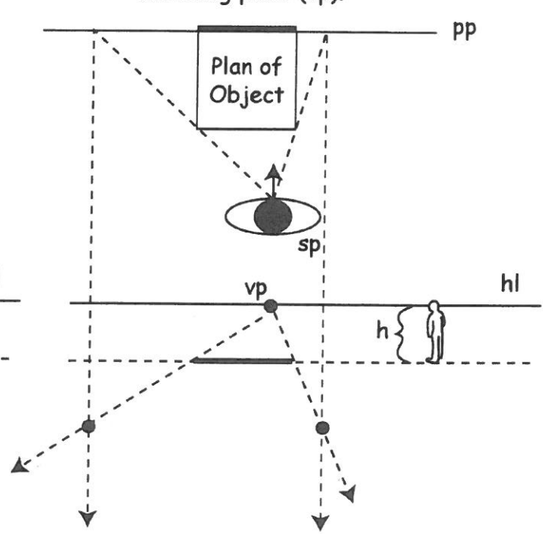
f) **Transfer Plan**:
Transfer one side of the plan that is on the picture plane (pp) to the ground line (gl).



g) **Connect Plan**:
Connect from vanishing point (vp) to the corners of the line that you just transferred, and continue the lines out.



h) **Connect Plan continued**:
Connect from station point (sp) to each of the front corners of plan to the picture plane (pp) and straight down until they meet the lines projected from the vanishing point (vp).

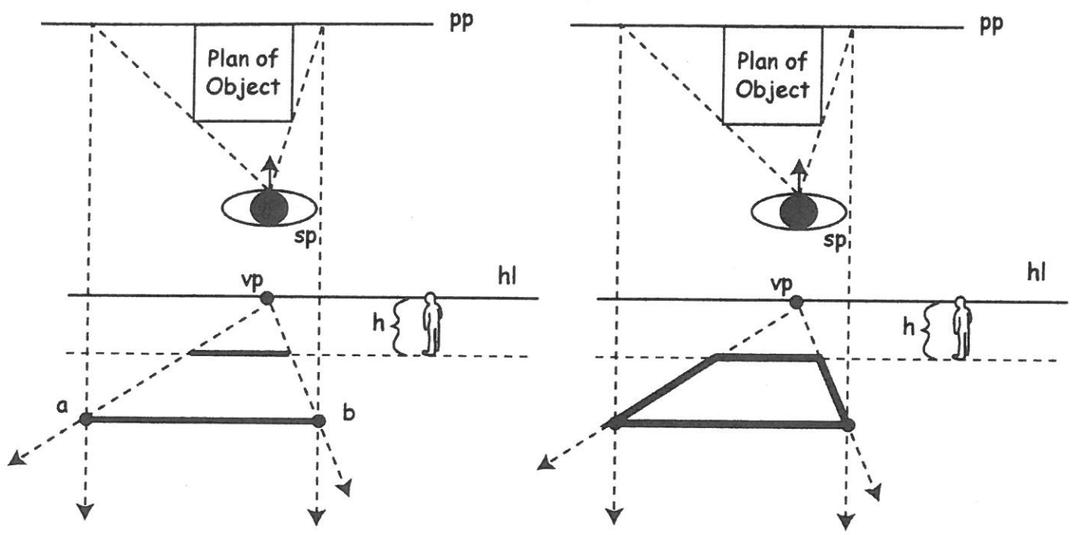


Chapter 4

One Point Perspective, Plan Projection: Pull Down technique Step by Step

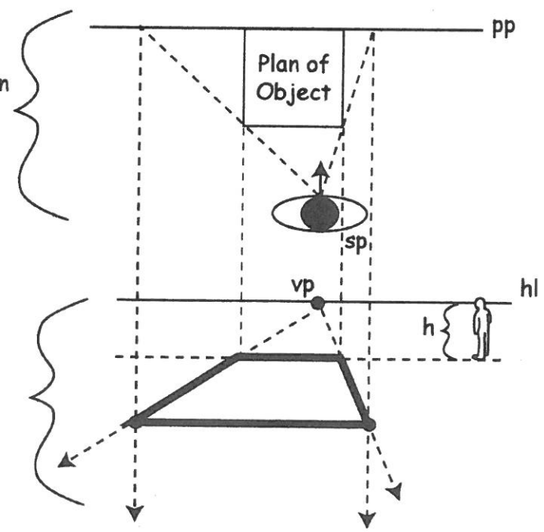
i) Connect Plan continued:
Connect a line from the two points you just found (a & b).

j) Connect Plan continued:
Connect all the lines of the plan together.

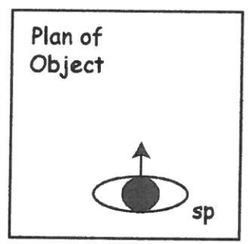


This area represents you (sp) and the plan (object) from above looking down.

This area represents the plan (object) from your (sp) point of view.



Plan Projection from inside of object



plan projection for an interior: put the sp inside of the plan, and finish without using step i.