SKETCH

Like an Architect

Step-by-Step From Lines To Perspective

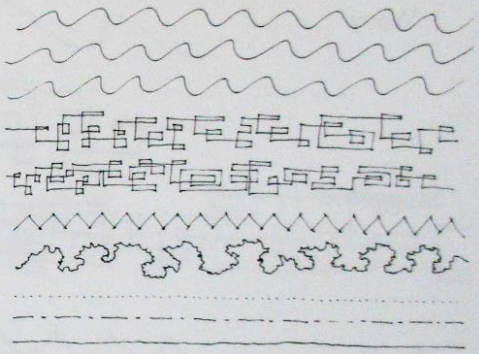
DAVID DRAZIL

Step 01

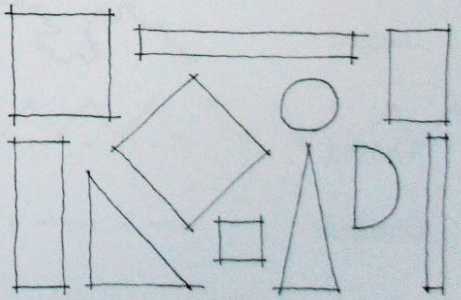
Lines & 2D Objects

If you look at most architectural sketches, they are made of a number of different lines. Some of them are wavy, jagged, zig-zag, and some are straight. They are used not only for contours, but also for guidelines, constructional lines, shading, hatching and texturing - pretty much almost everything in a drawing!

As the first step, we're going to learn to draw different types of lines. We start with relaxing our hand, getting familiar with the right posture and correct movement of our arm, and drawing various types of lines.

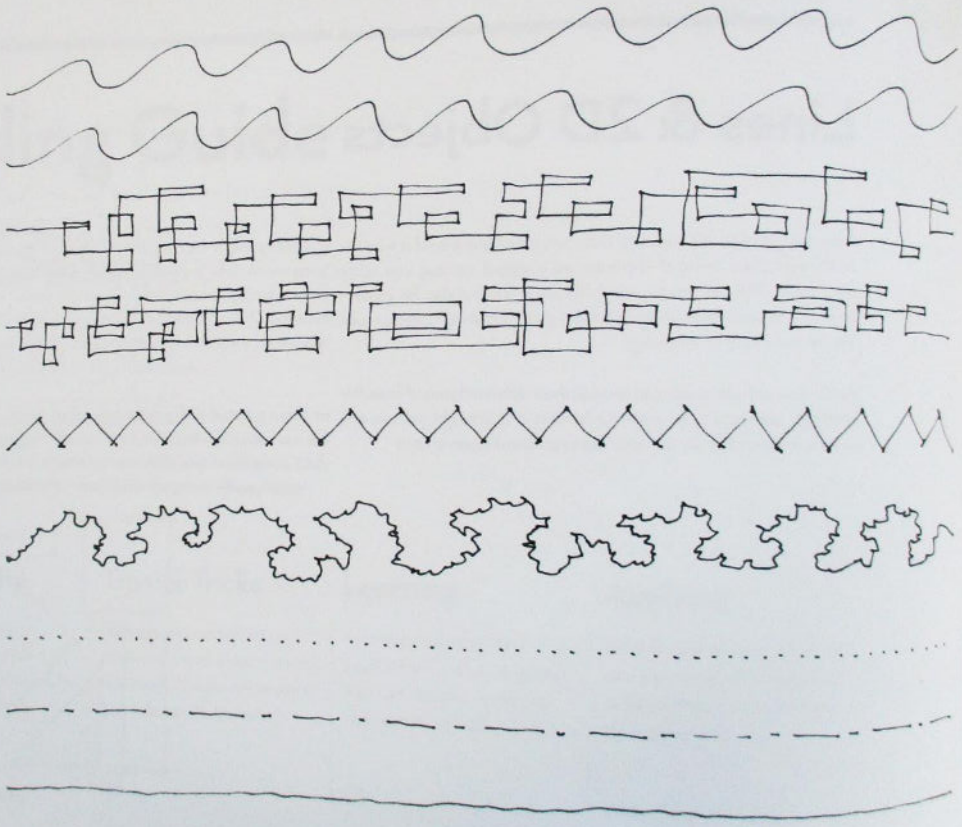


Different types of lines



Basic 2D objects

Line Types



Worksheets in your booklet

01.a

01.b

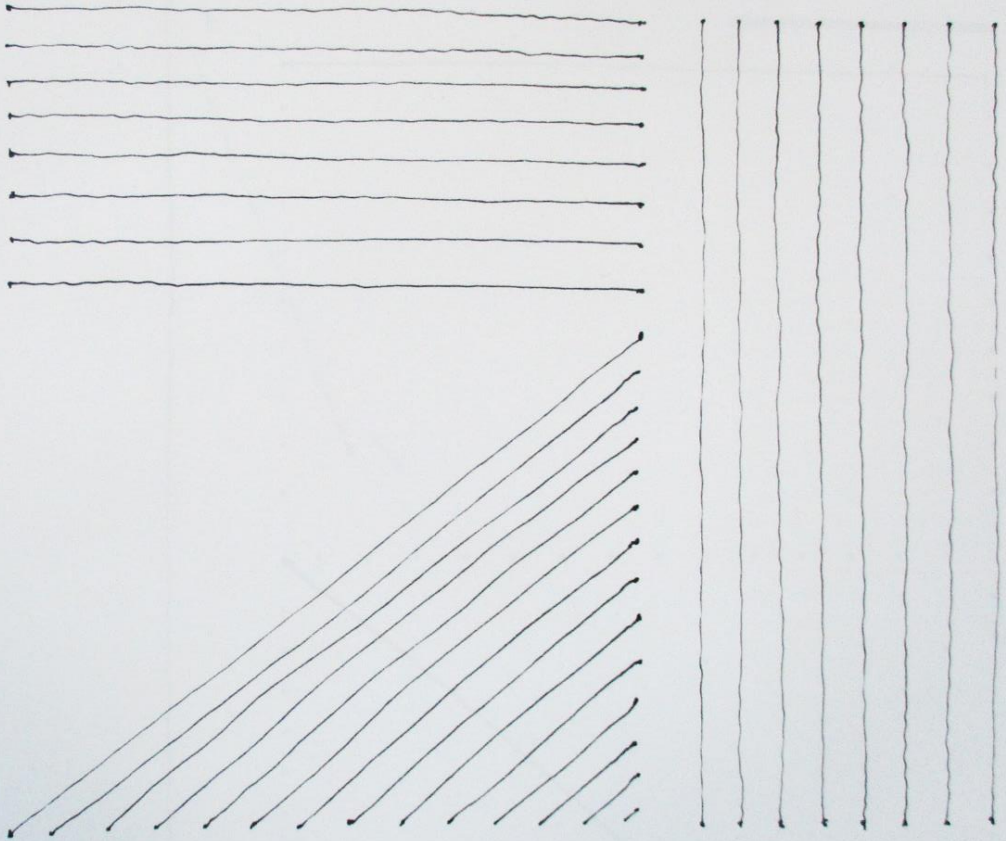
Drawing Straight Lines

For the construction of 2D objects and perspective views later on, we will need to practice sketching straight lines.

The best technique for practicing straight lines is to connect two points with the shortest possible line.

Basically, we are going to need 3 types of straight lines according to their direction - **horizontal, vertical, and diagonal.** All of them will be very useful in the later stages of our architectural sketching.

Practice drawing straight lines in different directions with the **Worksheet 01.c and 01.d** on the next pages. When drawing straight lines to the center point, it's important not to rotate the page and to get comfortable with various directions of your strokes.



Worksheets in your booklet

01.c

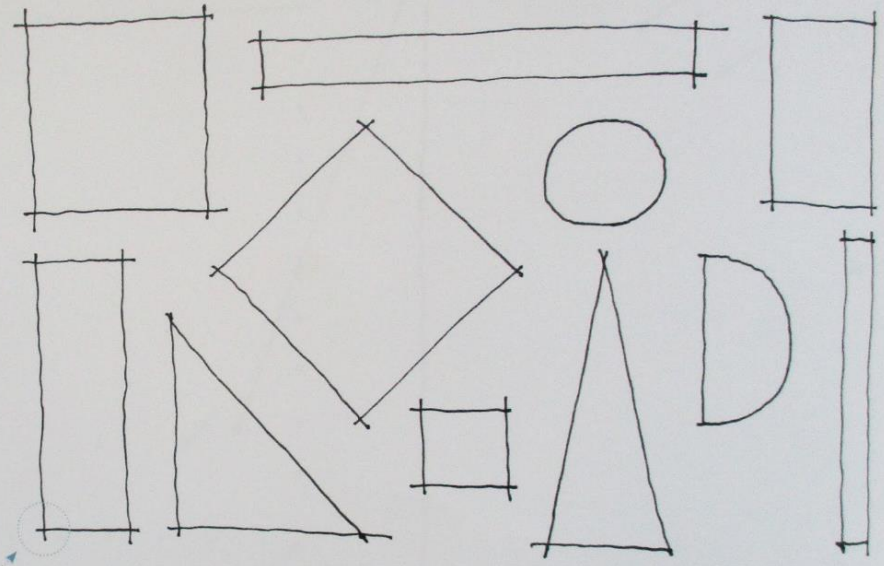
01.d

Drawing 2D Objects

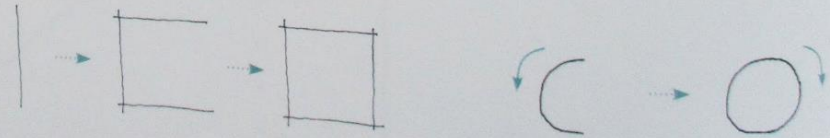
Once you become confident about drawing lines, you can move on to drawing some basic 2D objects. Typically, what we are going to need further on in the process are squares, rectangles, triangles, and circles or semicircles.

When drawing 2D objects, **it is important to draw each side of an object with a single stroke**, as shown in the explanation below.. It is not recommended to overdraw a line with more strokes as it only gets a bit messy ;) Try to draw only one line even if it's not perfect. Just practice more of them, they'll get better.

Another great tip is to **always connect two lines of an object without leaving a gap in between**, even quite the opposite - **create intersections** in corners. It will add a bit more technical look to your sketches.



Basic 2D Objects



The process of sketching 2D objects

Worksheets in your booklet

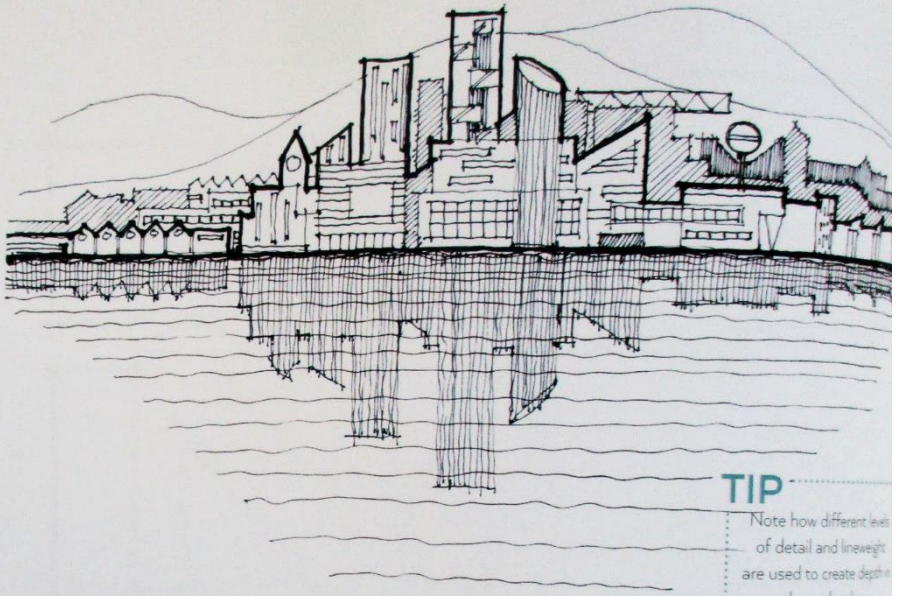
01.e

Exercise

Your Exercise for practicing Lines & 2D Objects is to **sketch a simple cityscape of your favourite city**. If you cannot think of any city, feel free to get inspired by your own photos, search on Google, Pinterest, or any other platform of your choice.

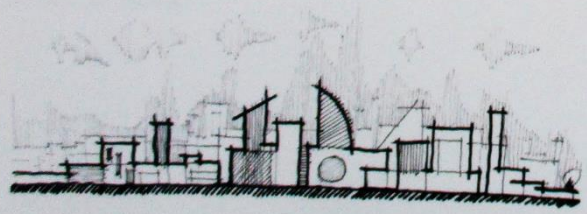
The point of this Exercise is not to get too complex, but to still practice different types of lines, long straight lines, various 2D objects, and also to get familiar with the use of lineweight.

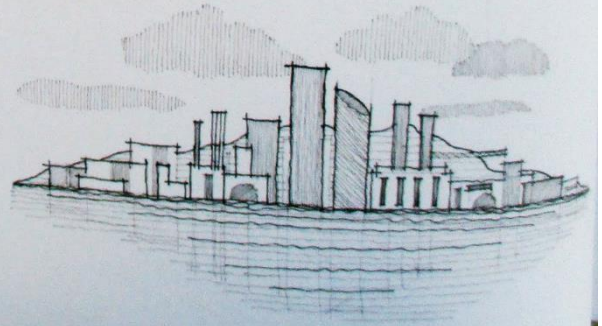
Don't worry too much about making it look perfect, the focus should be on becoming more confident about the mentioned techniques when drawing lines and 2D objects. Good luck!



TIP

Note how different levels of detail and lineweight are used to create depth in these sketches.





Worksheets in your booklet

Carry out this exercise in the blank page in your booklet

Step 02

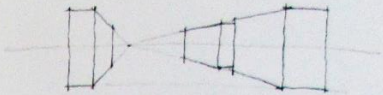
Basic Perspective Rules

The way we see the world is driven by rules of perspective - both linear and atmospheric. In this chapter we'll take a look at one point and two point linear perspective as it will lay the foundation for our architectural sketches.

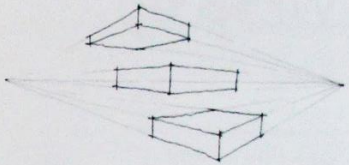
The important thing about perspective is to realize that it is applied everywhere, literally everywhere. Everything we draw, from an apple to a spaceship, needs to follow the rules of perspective in order to look realistic.

> **Perspective works like an invisible grid helping to place objects in our spatial composition. It is a way how to describe 3-dimensional space on a 2D plane.**

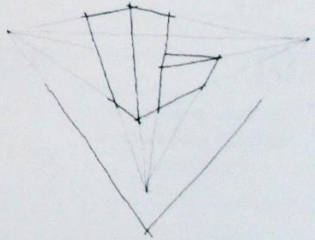
There is no reason to be scared of perspective drawing, it doesn't always require a ruler or math knowledge to handle it. By following just a couple of simple rules, you'll be able to express your spatial ideas through sketching in perspective. Let's dive into it!



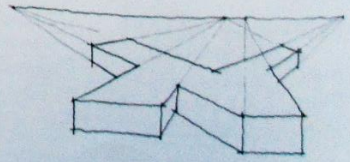
1-point perspective



2-point perspective



3-point perspective



Multi-point perspective

Concepts of Perspective

Let's have a look at the diagrammatic sketch on the right hand side of this page. Simple sketch of 1-point linear perspective illustrates its main components which we will further refer to. See the description in the tip-box to fully understand the key elements of every perspective.

TIP

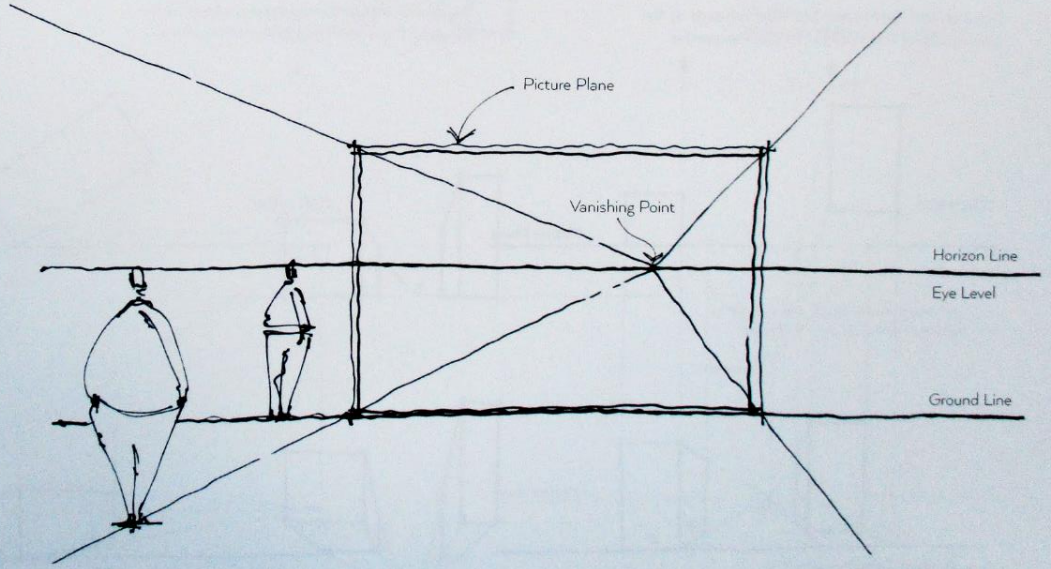
The key components of any perspective drawing are Picture Plane, Horizon Line, Vanishing Point, and Ground Line.

Picture Plane is an imaginary transparent plane the 3D space is projected onto.

Horizon Line is an imaginary horizontal line at eye level.

Vanishing Point is a point on the horizon line, where parallel lines appear as converging.

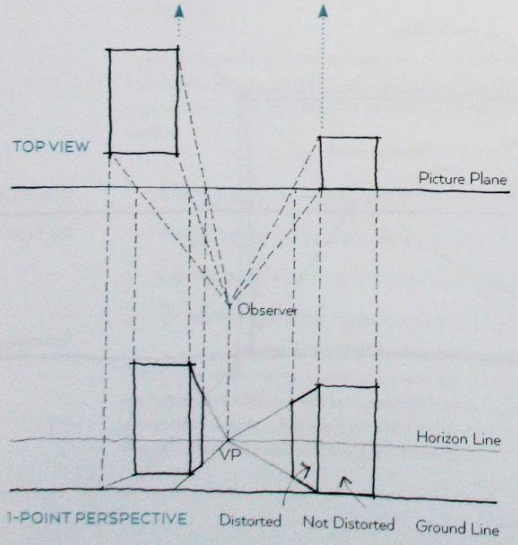
Ground Line is parallel to the picture plane and the ground.



More on Perspective

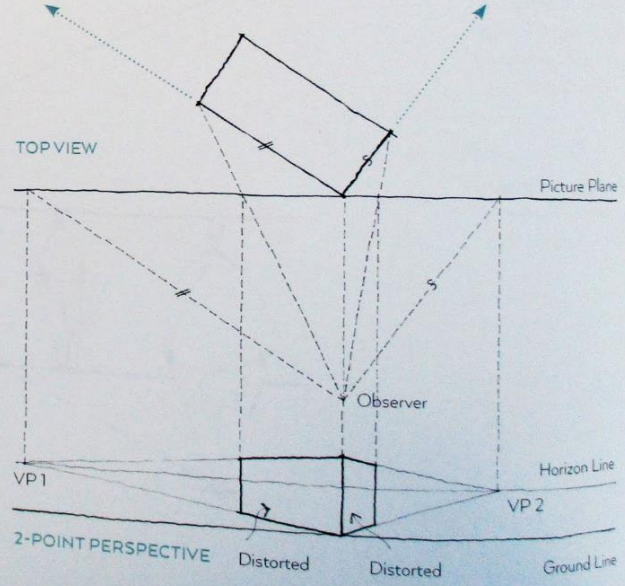
On the illustrations on this page you can explore the rules of perspective through a comparison of a Top View and a Perspective View of the same scene. Notice the position of the observer in the Top Views and how it is translated into the Perspective Views.

These parallel lines in the Top View converge at the same Vanishing Point (VP) in 1-Point Perspective.



The parallel lines of this direction converge at the Vanishing Point 1 (VP1) in 2-Point Perspective.

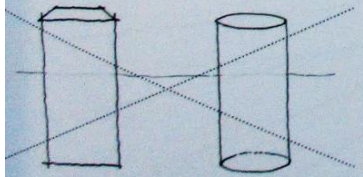
The parallel lines of this direction converge at the Vanishing Point 2 (VP2) in 2-Point Perspective



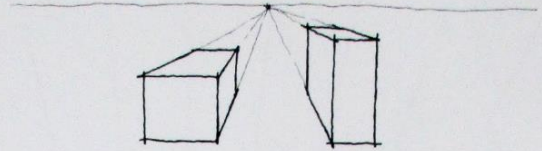
View in Perspective

Time for a quick demonstration! Take a box or any box-shaped object close to you and place it on a table in front of you. Because the box is now positioned under your Horizon Line, you are able to see its top surface. If you raise the object above your head (above your horizon), you will be able to see its bottom surface. Well, this is not rocket science, I know, but it dramatically helps to understand the importance of the position of a Horizon Line in relation to displayed objects in perspective. See the different positions of the Horizon Line on the right hand side of this page.

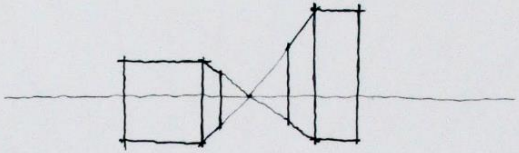
Find Worksheets 02.a-d on the next pages which will guide you while practicing free-hand perspective sketching.



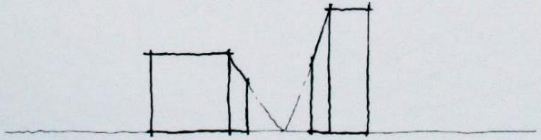
✗ Horizon is cutting through the Objects.
We shouldn't be able to see the top surfaces!



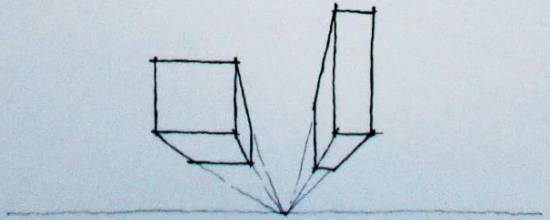
✓ The Horizon is above the Objects.
We can see the top surfaces.



✓ The Horizon is cutting through the Objects.
We can't see either top or bottom surfaces.



✓ The Horizon is aligned with the Ground Line.
We can't see either top or bottom surfaces.



✓ The Horizon is below the Objects.
We can see the bottom surfaces.

Worksheets in your booklet

02.a

02.b

02.c

02.d

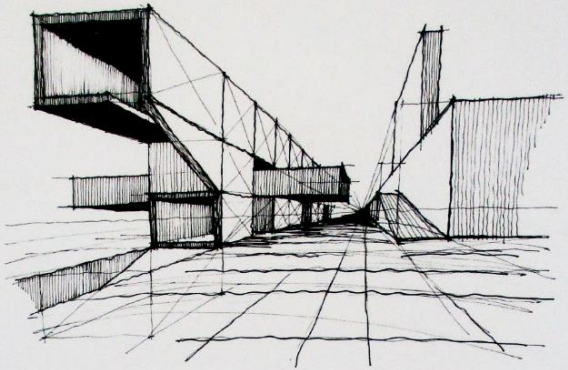
Exercise

Your Exercise for practicing Perspective is to **create a free-hand (1-point or 2-point) perspective sketch displaying at least three volumes of your choice.**

First, I recommend to start with placing imaginary boxes on your canvas and finding a nice composition and balance. The next step is to add more details to the boxes by playing with subtraction, addition, or intersection of volumes.

The focus of this exercise is on full understanding of the perspective rules, composition, and your spatial imagination during sketching.

The focus is not on scale or realism, so you are free to experiment. Give it a couple of tries to find the right balance in your image. Again, you are encouraged to get inspired by a movie, a poster, or whatever you find relevant. Have fun!



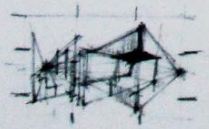
1-Point Perspective sketch evoking modular architecture

TIP

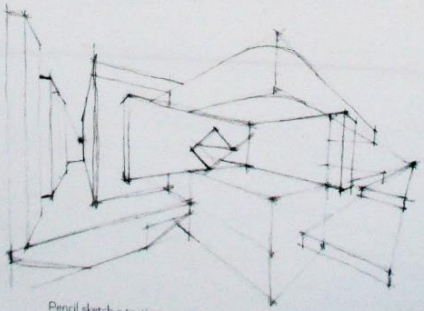
Start with small and quick thumbnail sketches to test different ideas of a sketched composition.

Follow any composition rules of your choice (the golden rule, rule of thirds, etc.) to guide you when placing volumes in perspective.

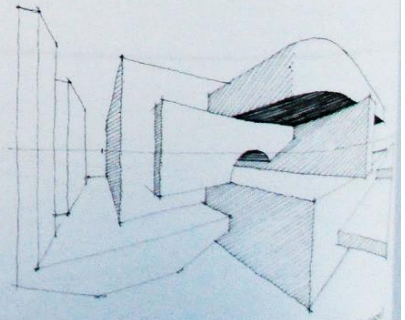
Always begin by drawing imaginary boxes first. Detailing and hatching comes later.



Thumbnail sketch suggesting a composition



Pencil sketch - testing proportions and detailing the volumes



Clean pen sketch of an abstract volumetric composition (tracing over)

Worksheets in your booklet

Carry out this exercise in the blank page in your booklet

Step 03

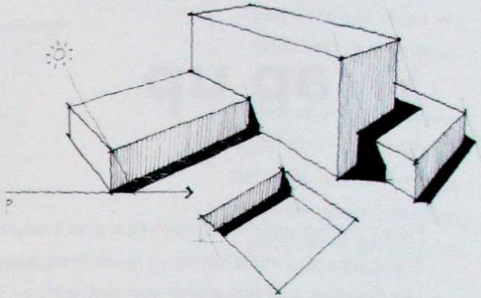
Shadows, Textures & Materiality

Now that we are confident about lines, 2D objects, and perspective sketching, we are ready to move on. To improve our sketches, we need to add more details, specifically by working with light and shadows and by expressing materiality through different textures.

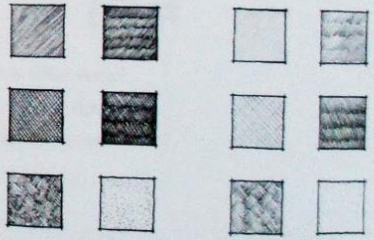
In this chapter, we will start by defining shade and shadow and sketching different lighting conditions in perspective to add more plasticity and depth to our drawings.

Subsequently, you will learn how to visually represent materials in your sketch, such as brick, stone, concrete, timber, or glass.

To create suggestive textures, we'll take inspiration from real-life references, simplify them to textures, and sketch them through various rendering techniques. Let's get started!



Shade and Shadow



Rendering Techniques

Shade and Shadow

In order to create a convincing perspective sketch with volumetric qualities, we should add correct shadows to our spatial composition.

First, we define the light source (sun, bulb etc.). In architectural sketches we choose the position of the light source with a certain intention to enhance the spatial qualities of our sketch.

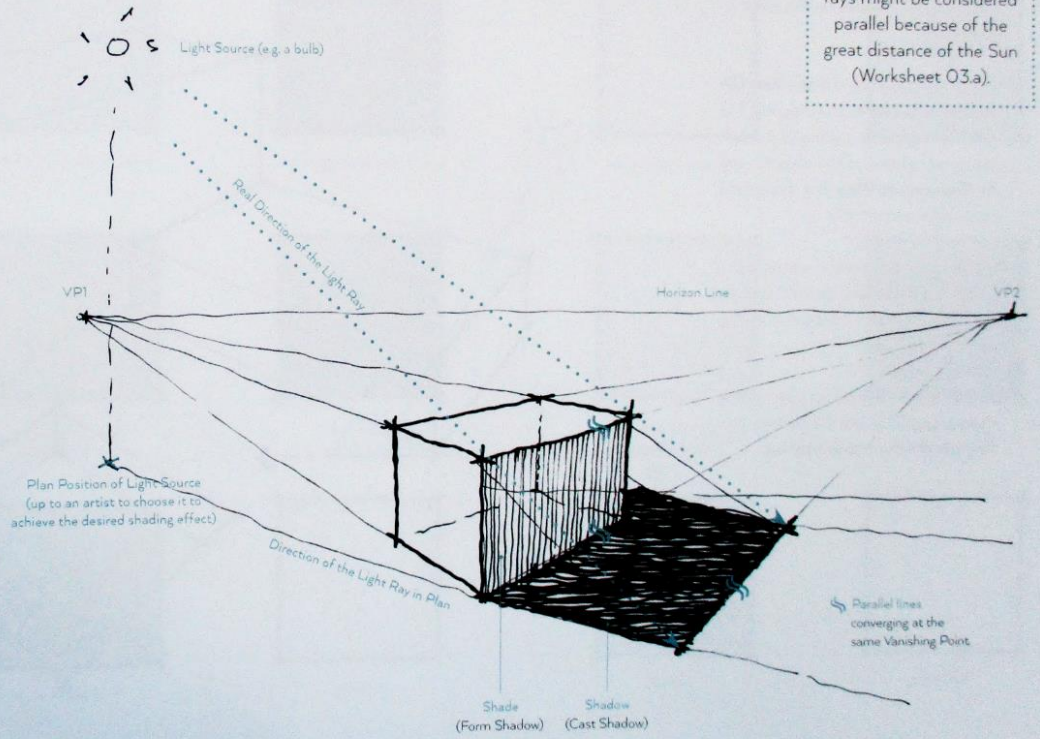
The brightness of the surfaces of our object are effected by the light source - exposed surfaces are brighter, sheltered surfaces are darker.

Furthermore, there are two kinds of shadows - **cast shadow (shadow)** and **form shadow (shade)**.

A **shadow** is the silhouette cast by an object that blocks a source of light. A **shade** is the less defined dark side of an object not facing the light source.

Use Worksheet 03.a on the next page to practice Shade and Shadow!

THE IMPORTANT RULE for our drawing is that a Shadow is always darker than a Shade.



TIP

In this explanatory sketch, a bulb produces a cone of light. In other examples using sunlight, Sun rays might be considered parallel because of the great distance of the Sun (Worksheet 03.a).

Worksheets in your booklet

03.a

Rendering Techniques

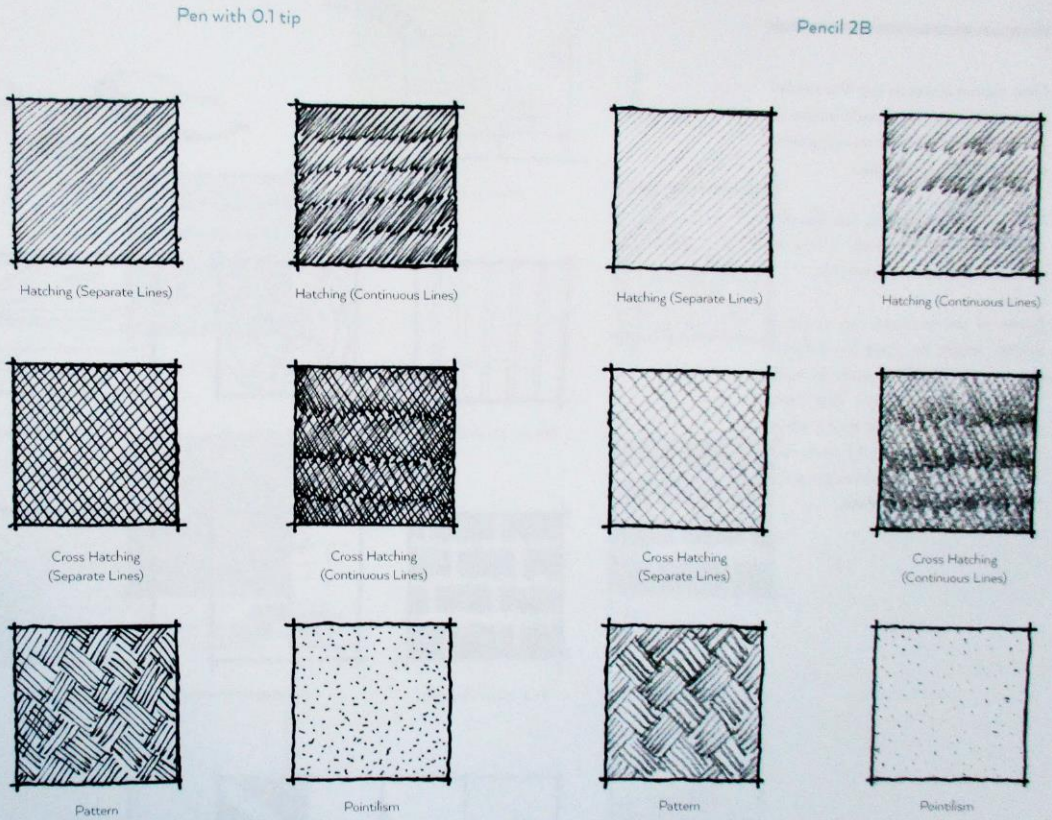
Mastering rendering techniques is massively important to ensure a high quality sketch. The effect of these techniques depends on a rendering medium and on a chosen paper and its texture.

In the examples on the right hand side of this page, you can see the differences between a pen with 0.1 tip and a pencil with graphite hardness 2B.

The pen lines are sharper in comparison to the pencil. However, the pen is not capable of drawing dynamic strokes, so there are almost no differences in the thickness of lines or tone values.

The pencil, on the other hand, is a softer medium than a pen and artists can vary the strokes depending on the level of pressure applied. Because of that, in my opinion, it takes more effort and experience to truly master pencil drawing techniques.

By practicing, you should understand the differences in the use of rendering mediums and papers together with appropriate techniques to achieve the desired impact in a sketch.



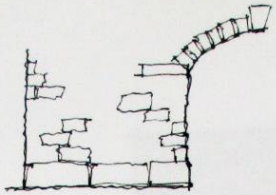
Textures & Materiality

Now we are going to use the rendering techniques mentioned before to create suggestive textures expressing materiality in our objects.

In these examples you can see the most common materials which we depict in architectural sketches.

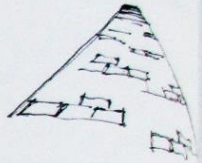
Some of the textures, e.g. stone or timber, might be used for different elements in a space, such as walls, floors/roads, beams etc. That being said, we should always try to adjust these textures so they fit their context - by means of correct perspective and the level of detail.

STONE



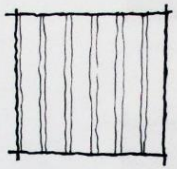
Stone wall

Stones by the road



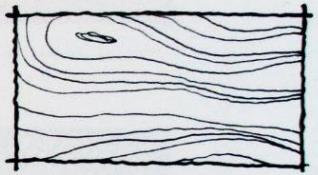
Stone road

TIMBER



Wooden planks (facade)

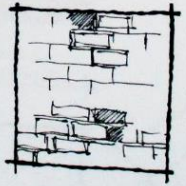
Wood section (beam)



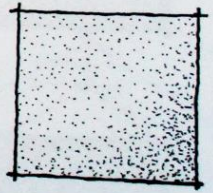
Wood texture (floor)

BRICK & CONCRETE

Brick texture (detailed)

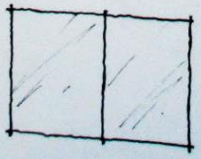


Brick wall



Concrete texture

GLASS



Window reflections

Worksheets in your booklet

03.b

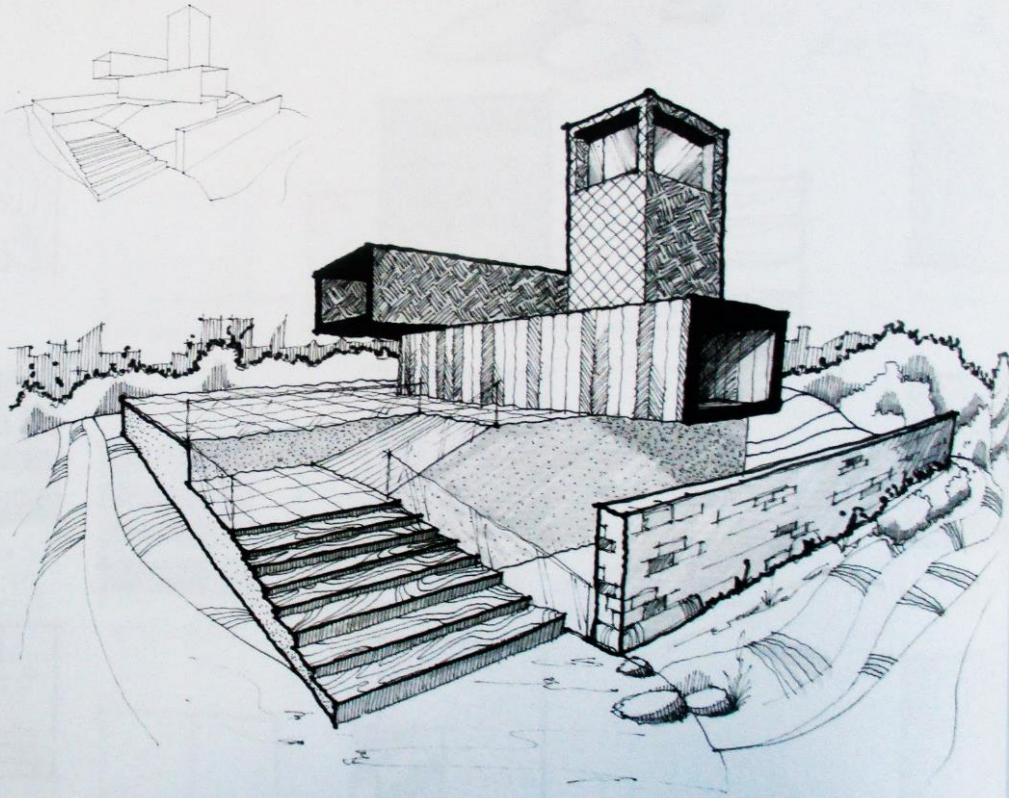
Exercise

This time the exercise will be even more fun to do. For practicing various texturing techniques and suggesting materiality in your sketch, I prepared a perspective composition without any textures. **Your task is to finish the sketch by adding all the details.**

Although the main focus here is on applying textures, feel free to add more details in perspective such as windows or railings. You can also add more volumes or play with the composition as you like. Again, feel free to experiment!

Make use of different lineweights, put city silhouettes on the horizon, draw jagged lines to suggest foliage, or get creative with the sky. Try to add different kinds of details to spice up this basic composition.

Use Worksheet 03.c on the next page or draw your own perspective composition. Make use of all the experience you have and you've gained so far to finish the image. Happy sketching!



Worksheets in your booklet

03.c

Step 04

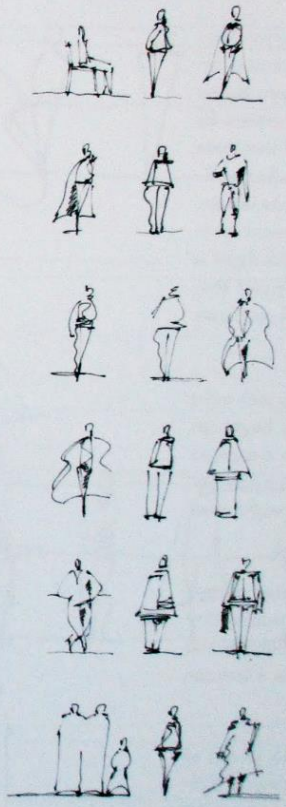
Populating Your Sketch

At this stage, we move forward to sketching human figures as it is an essential skill in order to better understand a sketched space. There are several reasons why integrating human figures in architectural sketches is important.

Generally speaking, architecture is about creating spaces for people. From this point of view, it makes sense to add people into spaces which are meant for them. By doing so, we depict more lively environments and we create greater opportunities to express our idea, because people are the key element of storytelling.

Finally, and most importantly, human figures add a sense of scale to our sketches. Therefore, we should always refer to a human figure when defining the scale of sketched spaces and surroundings.

In this chapter, we will learn a quick way how to sketch human figures based on the right proportions, how to incorporate them into perspective sketches, and how to work with them to build a sketched composition in the right scale.



Quickly Sketched Human Figures

Human Figures

When quickly sketching human figures, we use loose curves and more dynamic strokes. The important aspect of such drawing is the proportions. By keeping the right proportions, we make sure that our sketch evokes human figures, or even better - looks realistic. To support this, it is also recommended to draw the ground the figure is standing on, or the figure's cast shadow, so it doesn't seem like people are flying in the air.

We usually draw all figures with more or less the same relative height (as seen in the examples on this page). Another case is sketching sitting people or children - their height must be adjusted accordingly.

As always, the level of detail matters - sometimes just a curve or silhouette contour will do fine, sometimes you add more clothing details, a suitcase in hand etc.

It is a good idea to draw groups of people instead of a number of individuals - suggesting an interaction between them builds a foundation for storytelling in our image.

Worksheets in your booklet

04.a

Exercise

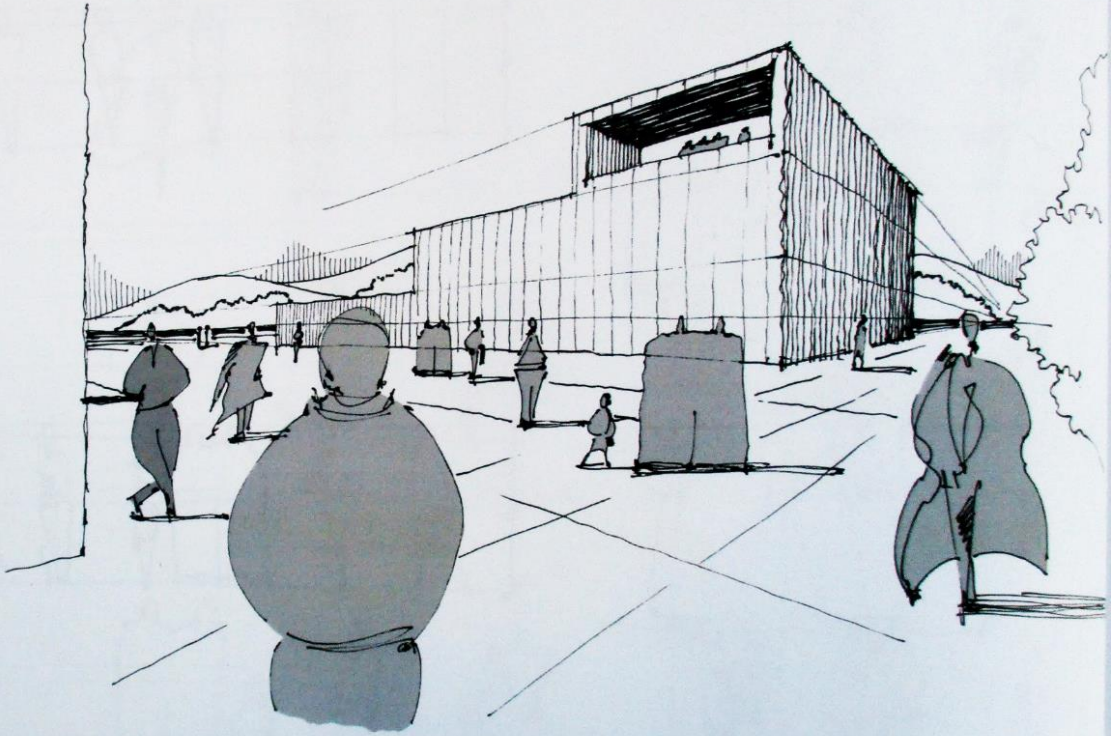
Your Exercise for practicing populating your sketch is to **sketch a composition of human figures in an eye-level perspective.**

For start, you can suggest a simple spatial setting in an eye-level perspective to put your figures into. In the example on the right hand side, I chose to sketch a space evoking a public plaza, so a number of differently distributed people would feel natural in there.

When you're done outlining the spatial setting, add 10 to 15 figures in various depth layers to your sketch. The rule number one for populating your eye-level perspective sketch is to keep every figure's head on the horizon. We assume that all of them would be the same height (except for children or sitting people).

Also keep in mind the composition of an image. Note, for example, how the main building is graphically balanced with the closest figure in the foreground.

Happy sketching!



Worksheets in your booklet

Carry out this exercise in the blank page in your booklet

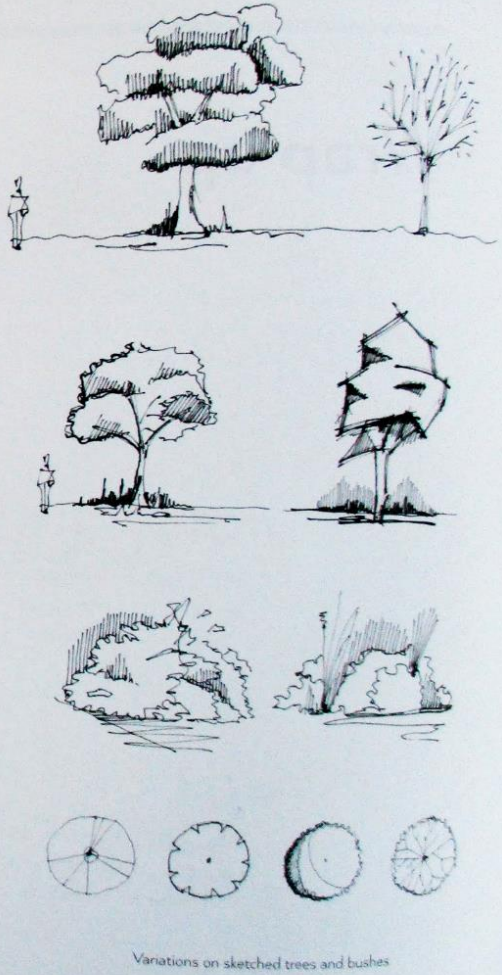
Step 05

Adding Vegetation

As a final step before putting everything together, we'll take a look at vegetation as an element in architectural sketching.

Natural elements can play an important role in any visuals. Through combining (very often) boxy architecture with more organic shapes of vegetation, we can achieve a very appealing image. Moreover, vegetation might serve well for defining a setting for our image, for framing the spectator's view, and unveiling the real focal point of an image.

That being said, vegetation is a very powerful and universal element to use in sketches. In this chapter we'll focus on drawing trees, bushes, and grass in different scales and from different angles. Let's dive into it!



Variations on sketched trees and bushes

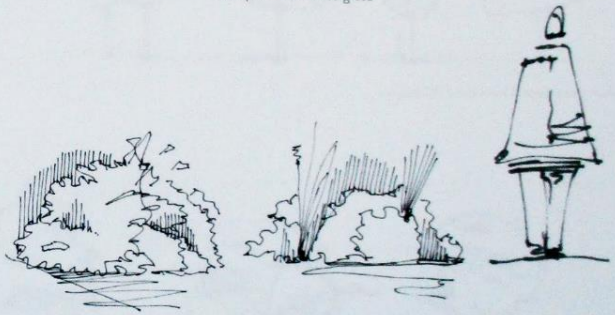
Vegetation

As you can see from the examples on this page, drawing vegetation does not require anything new from us. We still use lines and 2D objects, just in a slightly different manner.

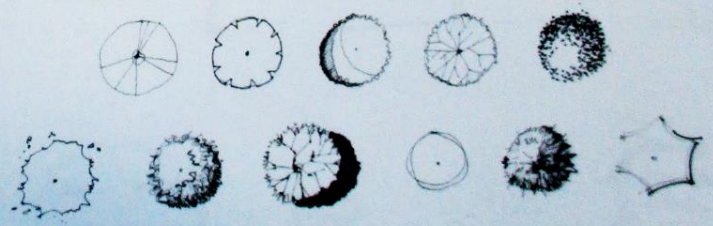
Since we graphically suggest something natural and organic, it should be also reflected in the style of our lines and 2D objects. To be specific, it means that we use jagged lines, irregular shapes, uneven distribution of elements, and generally a more free-hand style of sketching.

Take time to study examples on the next two pages and notice how the sketching techniques from previous chapters were applied to the sketched vegetation - various line types, hatching & shading techniques, use of lineweight, etc.

Examples of sketched grass

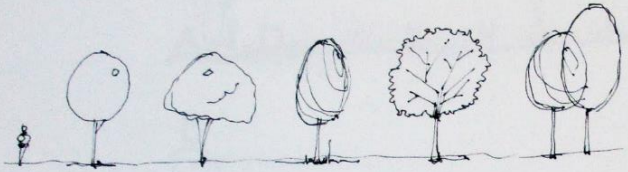


Examples of sketched bushes



Various styles of trees from a top view

A group of trees in small scale (in distance) is perceived as one coherent volume.



Examples of simply sketched trees derived from basic 2D shapes.

On this page you can see a number of examples of trees which differ in their scale and level of detail.

As a rule of thumb, I recommend drawing the trunk of a grown tree at least the same height as a human figure.

In case of more detailed trees, it is a good idea to add grass or bushes in the area where a trunk meets the ground. It makes a tree well-placed.

TIP

Note how the scale, defined by a human figure, influences the level of detail applied to the sketched trees.

Examples of trees with higher level of detail.

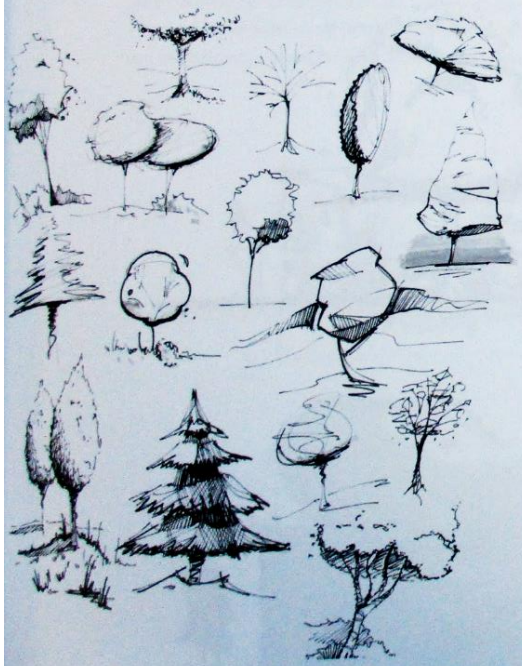
Worksheets in your booklet

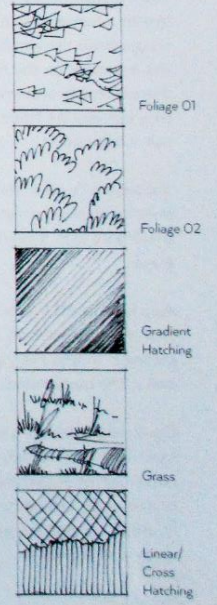
05.a

05.b

Inspiration

There are endless ways how to draw trees and vegetation. Use these sketches as a source of your inspiration and experiment with your own style!





Exercise

This time it is a quick and fun exercise for practicing vegetation.
Your task is to sketch a simple scene with different types of vegetation, including at least 2-3 trees, some bushes, and grass.

You should start by defining the scale with a human figure and then drawing a basic composition of trees. In the examples on the right hand side, there is always one small and one big tree, but you are free to choose your own composition.

Subsequently, you complement the sketch with smaller elements, such as small pots with flowers, bushes, and grass.

As a final touch, I recommend to anchor the composition by defining a setting - in this case, a simple brick wall in the background will do fine.

Don't forget to use your knowledge from previous chapters and thus make use of lineweight to add emphasis and contrast to your sketch, or use shading techniques to suggest volume of vegetation.

Good luck!

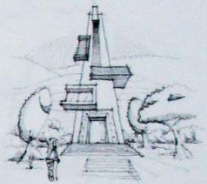
Exercise

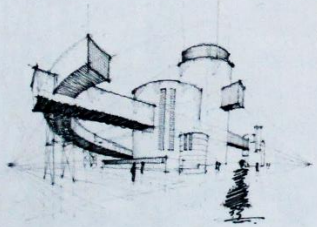
Your final task is to create at least one free-hand perspective sketch and use all the skills and knowledge you've obtained so far. The type of perspective is up to you, as well as the source of your inspiration - you can draw either from observation or from your imagination.

A good idea is to choose your favourite building or a building from your favourite architect, if you have one. It actually doesn't need to be a whole building, but it can be a small part of it or just an interesting detail.

Once you decide on the subject, I recommend creating a clear vision of what the final image should look like. It might help to answer questions like - **What do I want to show in this picture? What is the most important thing about this building? Where do I want the viewers to look first? What story should the image tell?**

Give it some thought, but most importantly, do it! Allow yourself to experiment, sketch several ideas and find out what suits you the best. Your unique human touch to a sketch is very often the most precious added value. Feel free to refer back to previous chapters and practise a specific technique if needed. Happy sketching!





One of the possible workflows might go like this:

- testing ideas on small thumbnail sketches
- choosing a good composition
- establishing the right scale with a human figure
- drawing a focal area (imaginary boxes first)
- adding surroundings, more people, vegetation
- adding more details, hatches, shading, and colour