

MASTERING PERSPECTIVE

By Kit Bell

Our Goal

Depicting 3 dimensions on a 2 dimensional surface

- Depth
- Volume
- Spatial relationships
- Distance

Perspective is the technique of depicting 3 dimensions on a flat or 2 dimensional surface such as paper or canvas.

It allows us to believe that what we are looking at is more like a window – through it we can see depth and volume, we can determine spatial relationships such as what is closer to us and what is further away.

It provides that sense of being able to step into the space.

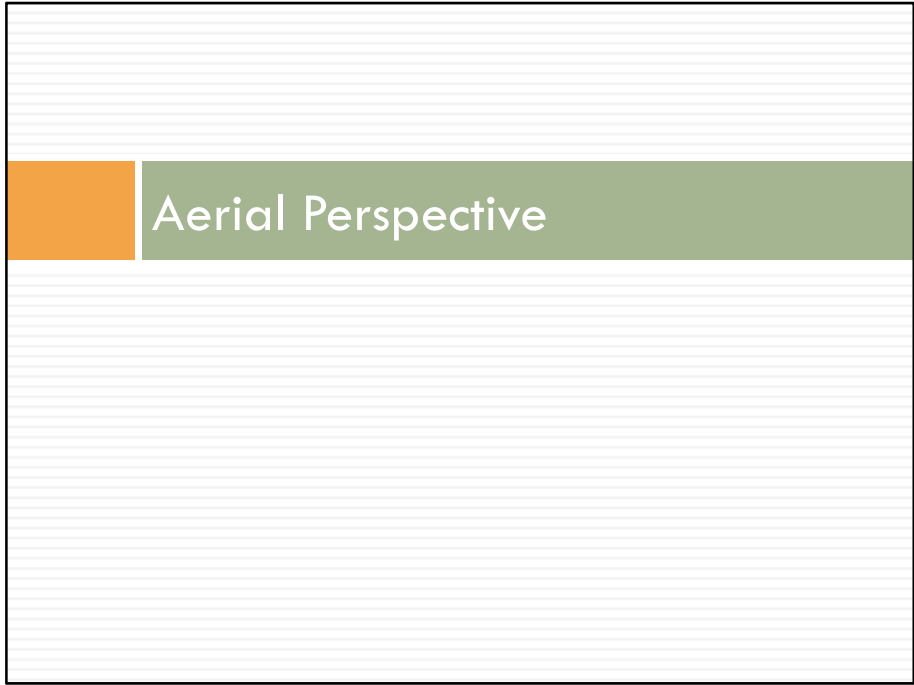
If it is off, even a person who knows nothing about art will sense that it is off somehow.

How to Create a Sense of Depth

- Aerial Perspective
- Overlapping Objects
- Linear Perspective and Vanishing Points
- Eye Level and the Horizon

We are going to look at several tools that allow us to create the illusion of depth in our paintings.

- Aerial Perspective – the effect of looking into the distance and the change that creates to the colour of objects.
- Overlapping objects – this technique provides information on spatial relationships.
- Linear Perspective – vanishing points, 1, 2 and 3 point perspective for ensuring objects are drawn correctly
- Eye Level – how eye level can assist us when the horizon is not visible



Aerial Perspective

Qualities of Colour

- Hue
- Intensity
- Temperature
- Value

To create the illusion of depth and distance in a painting, we utilize a tool called Aerial Perspective.

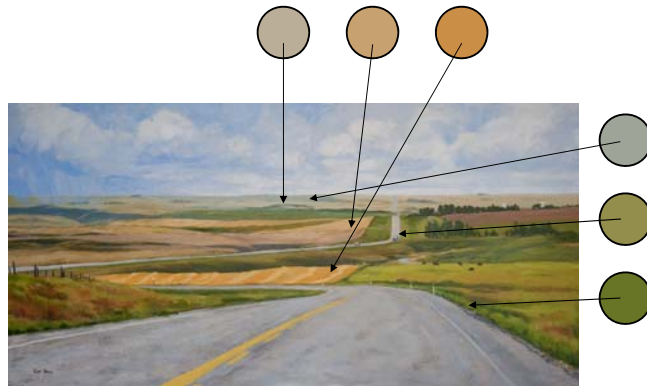
First, consider the qualities of colour:

- Hue – red, orange, yellow-green, blue-violet
- Intensity – how strong is the colour – also referred to as chroma
 - For example, Phthalo Blue is a very strong vibrant colour. Compared to it, Paynes Gray, even straight from the tube, is a duller, less intense colour
- Temperature – how warm or cool a colour is
 - Red is warmer than blue
 - Cadmium red is warmer than Alizarin crimson which is comparatively cool
- Value – how light or dark a colour is
 - Yellow is the lightest of the colours

Aerial Perspective

As objects recede

- Bluer
- Duller
- Cooler
- Lighter

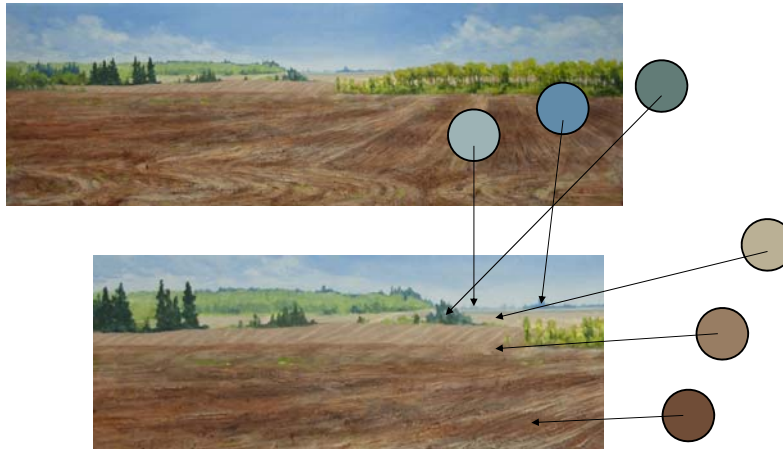


The major component affecting the appearance of objects during the day is the scattering of light. Scattering occurs from molecules of the air and also from larger particles in the atmosphere such as water vapor and smoke.

As objects recede they become

- Bluer – the hue shifts towards blue because the scattered sky light is predominately blue
- Duller – the intensity of the colour is reduced
- Cooler – the temperature of the colour is changed
- Lighter – the value becomes lighter

Aerial Perspective



This painting uses some linear perspective in the patterns on the fields made by the farming equipment but that would not be effective by itself to create the sense of space you get when looking out across the prairies. The careful use of colour changes to provide aerial perspective creates the vast sense of space.

In many cases, there will be a need to ***exaggerate the changes*** to give the sense of depth – particularly if you are using photo references to paint from.

Aerial Perspective

- Not only for the prairies



Atmospheric conditions vary widely but the same light scattering effect occurs everywhere to some degree. Emphasizing or exaggerating it to some extent will actually make your paintings more “believable”. Do not rely on your photo reference to give you “accurate” values and colours in the background.

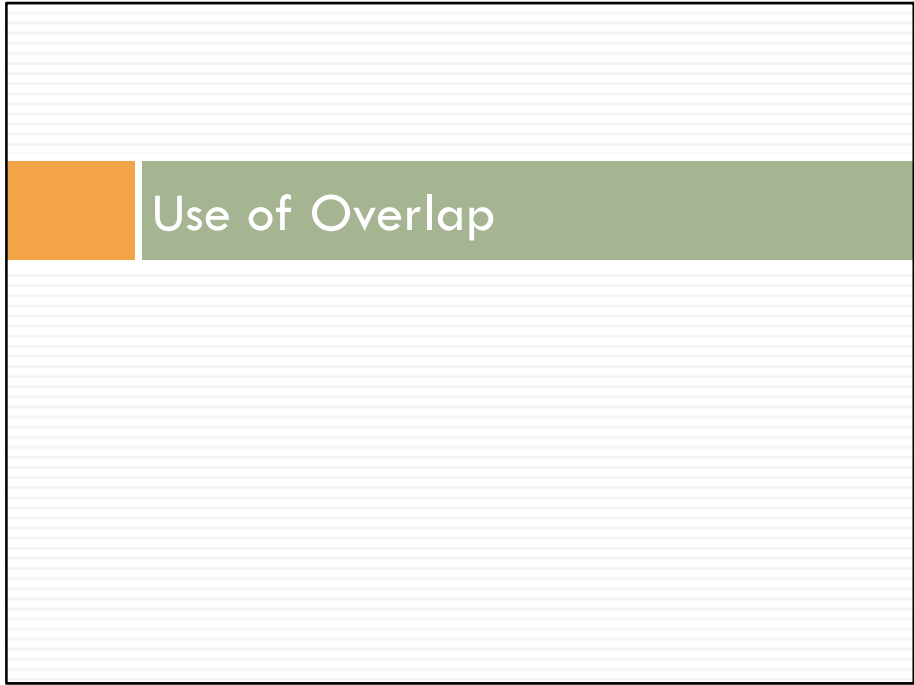
The Secret to Aerial Perspective

- Colour mixing!
- Know your pigments
- Modify the mixture as you work forward
- Use compliments to create greys

The secret to creating a sense of depth using aerial perspective is simple.

It is accurate colour mixing. Knowing your pigments is important. Cobalt blue is duller than Ultramarine blue and very useful in mixtures in the distance. Yellow ochre is also a duller colour. These two can predominate mixtures in the distance while Ultramarine and brighter yellows such as Quin Gold and Nichol Azo Yellow can predominate mixtures in the middle and foregrounds. Keep modifying your mixtures as you work forward.

Using black and gray to neutralize colour for the background may result in less convincing colours. Using complimentary colours to neutralize results in better colours for the distance. For example, to neutralize yellow, use a speck of purple.



Overlapping Objects

Overlap creates:

- Depth
- Spatial Placement

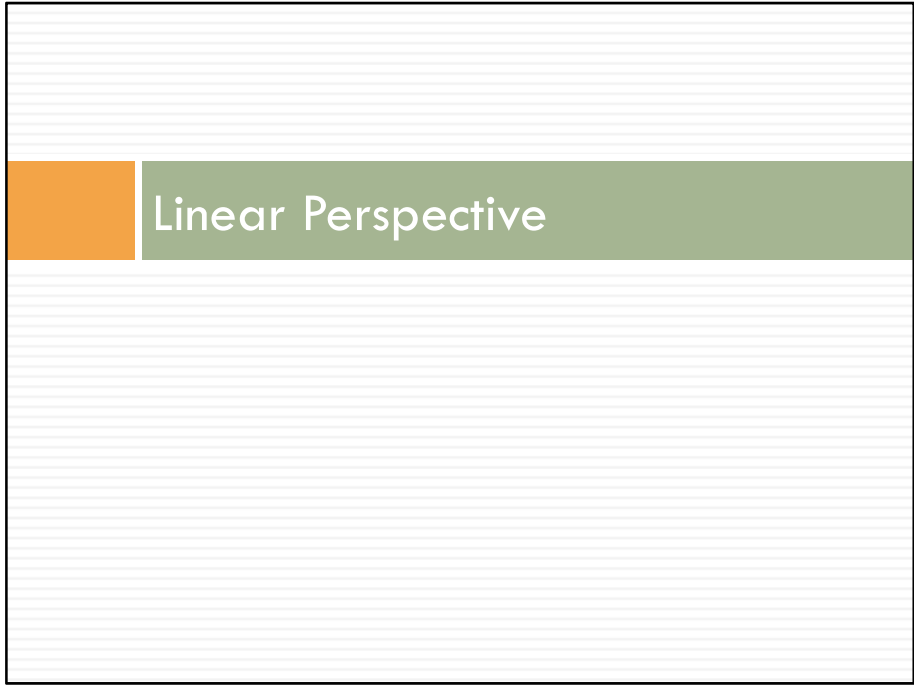


Allowing objects to overlap creates an immediate sense of depth. It tells us which object is closer to us and which is further away. Move objects in your composition to overlap where possible.

Overlapping Objects



This painting uses two of the methods of creating depth in the image. In addition to aerial perspective, the use of overlap tells the viewer which objects are behind and which are in front.



Linear Perspective and Vanishing Points

- Horizontal lines vanish on the horizon
- Vertical lines vanish above or below the horizon
- Vanishing points may be outside the picture
- All parallel objects share the same vanishing point

Horizontal lines, such as the top edge and bottom edge of a building (or any other type of cube) will vanish somewhere on the horizon.

Vertical lines, such as the upright edges of a building or the trunks of trees, vanish above or below the horizon.

Frequently, vanishing points may be outside the picture. This can require a large work surface and a long ruler to figure out!

All parallel objects, such as multiple buildings on a street, share the same vanishing point.

A Single Vanishing Point



In the Prairies, vanishing points are easy! Railway tracks and roads on flat ground are a good way to start exploring vanishing points. And the horizon is easy to figure out!

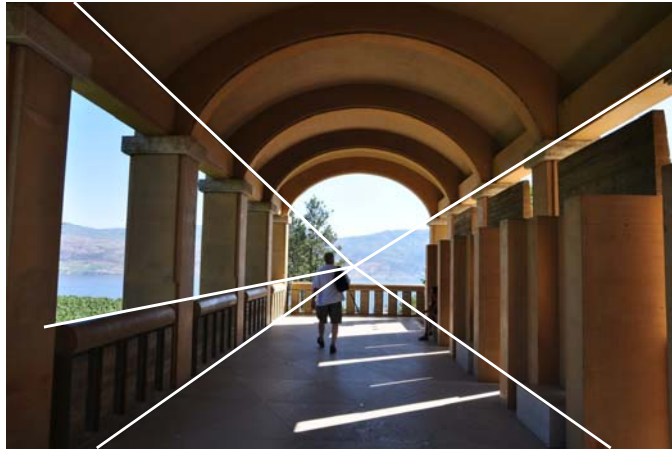
In this picture, the tracks and the top edge of the wall of the shack are parallel. They will, therefore, share a vanishing point.

Effect of slopes



Slopes effect perspective. A downhill will cause the vanishing point to be below the horizon, while an uphill will cause the vanishing point to be in the sky.

Architecture



Linear perspective is a handy tool when it comes to drawing buildings, either from the outside or from the inside. Each of these parallel, horizontal lines will share the same vanishing point.

This also demonstrates an important rule. All horizontal surfaces that are above your eye level will come down to the horizon. All horizontal surfaces below your eye level will rise to the horizon.

Above and Below



- Horizontal edges above you – come down
- Horizontal edges below you – come up

This principle is how we can tell if we are above, below or at the same level as, an object.

Skies and Natural Objects



Man made objects are not the only ones that exhibit vanishing point perspective. These clouds coming towards the viewer share a vanishing point – their point of origin.

Emphasizing linear perspective in the sky will increase the sense of depth in a painting.

Horizon Line and Eye Level

- Can't see the horizon?
- Locate your eye level
- Helps figure out the relative position of objects
- Helps with vanishing points



If you can't see the horizon, thinking about your eye level will help.

If you look straight ahead, where your gaze intersects objects that block the horizon, such as mountains or building, is where the horizon would be if you could see it.

You can then use linear perspective to aid with your drawing. This will help prevent things such as boats being drawn at the wrong angle to be sitting flat on the water.

Avoiding Shoreline Issues



This early painting of mine demonstrates the sloping shoreline issue. The shoreline and the edge of the trees along the shoreline slope downward at too sharp an angle. Comparing with the reference photo helps. Compare the distance between the horizon line and the beach as the beach goes past the tall tree.

Avoiding Shoreline Issues



Thinking about where your head would be can help prevent the sloping shoreline issue. On each of the points of land jutting into the water, figure out how tall you would be if you were standing there. That is how far down the painting the point needs to be to put your feet on.

Eye Level – Height of people



Do you enjoy painting people? In a street scene, on the beach or on a walkway like this one, adding additional figures to a painting, or moving figures around can create issues.

An easy way to determine out how big the figure needs to be is to first find the horizon or your eye level. People's heads will more or less line up with the horizon line depending on their height and assuming the ground is flat and level. Taller people will protrude above the horizon line and shorter people or people who are sitting will be below it.

To add a figure in the middle ground, locate where you want their feet. Then draw them in so that their head is in line with the horizon line.

Your View Point

Your View Point

- Looking up?
- Looking down?
- Where is the viewer?

Are you looking up at the scene?

Are you looking down?

Whether you are standing above or below a scene will make a big difference. It changes what you can see.

Let's look at some examples.

Looking Up



If you are looking up at trees or skyscrapers, vertical lines will taper to one or more vanishing points. Only the underside of the objects is visible

Your View Point

- Level with the scene



Being on the water or beach gives you one type of feeling. The horizon is basically the far shore of the water. This is a great point of view if you want to emphasize the sky or the water. Place your horizon line in your painting closer to the top or to the bottom of your canvas to change the emphasis.

Your View Point

- From a higher point of view



Looking down from a hillside or bluff creates a different feeling. We can see the tops of objects that are below us.

This painting gives the viewer the sense that they are looking down at the lake.

From “Sea” Level



Here are some sailboats viewed from the dock. The horizon line can be determined by your eye level.

The hulls of the boats are slightly below the viewer and the masts are above. They project above the horizon line and the background mountains. The viewer has to look up to see them.

From the Deck of a Ferry



This is a sailboat viewed from the deck of a large ferry. The entire sailboat, including the mast, is below the viewer and therefore below the horizon line. The viewer has to look down to see it.



Reference Photo Issues

- The mountains look tiny!
- Too much contrast
- Shadows are too dark

Ever notice how those big, impressive Okanagan mountains you photographed turn out pretty puny and far away looking when you view your photo? That is because camera lenses do not work the same way as our eyes do. Always take a “sight sized” photo of the background for reference.

Another common issue is that cameras always try to improve the photo for you. Adding contrast is one of the ways they do this. This creates shadows that are too dark to see any detail. Altering colour to make the photo look like a nature show on TV is another.

Avoiding the Telephoto Problem



When taking reference photos, photograph your subject using a variety of zoom settings from a view of the whole landscape to zooming in on something that catches your eye. But be aware of the distortion in perspective that comes with zooming in.

Avoiding the Telephoto Problem



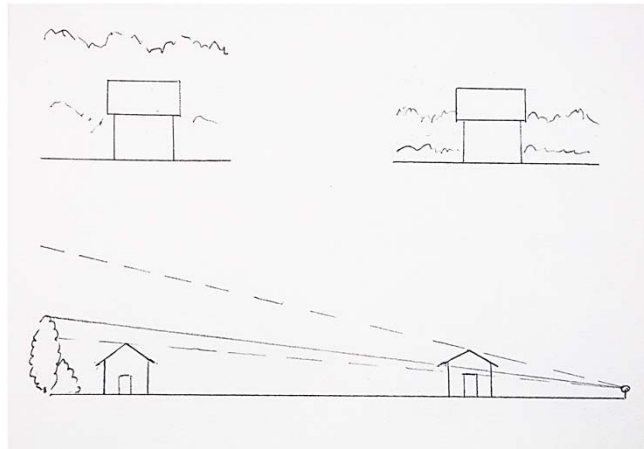
In this scene, we see a barn and an old tractor. If we zoom in on those objects, you might think that you could paint that as if you were closer to it. But it doesn't work that way.

Avoiding the Telephoto Problem



This is what it would look like if you were actually closer to it. The roof is higher than the background trees and projects clearly above the horizon and into the sky.

Avoiding the Telephoto Problem



This diagram illustrates the effect. The relationship between the building and the background changes as you physically move closer to the building. If something attracts your interest, do your best to get physically closer to it.

References

- Carlson's Guide to Landscape Painting – John F. Carlson
- Color and Light: A Guide for the Realist Painter – James Gurney

There are many books on the market about perspective as well as many YouTubes and Video Workshops.