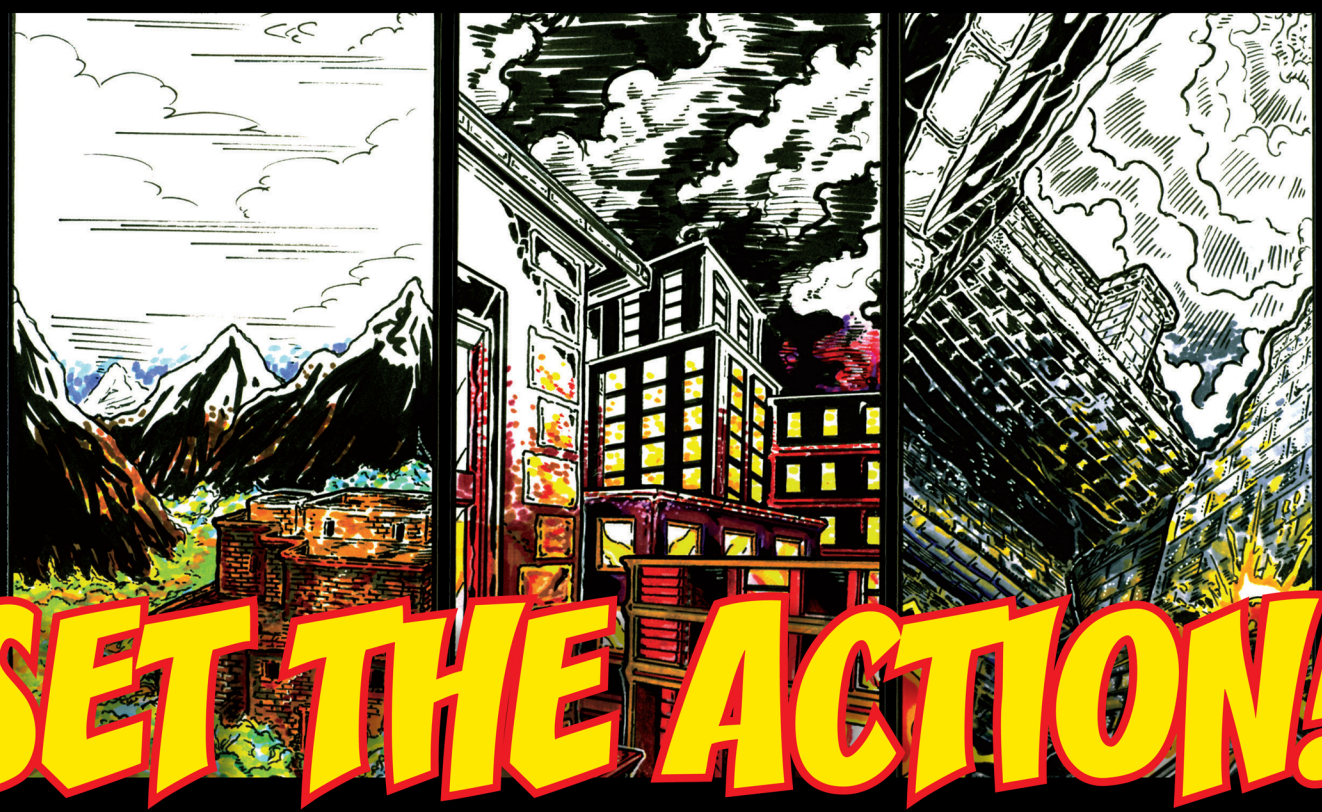
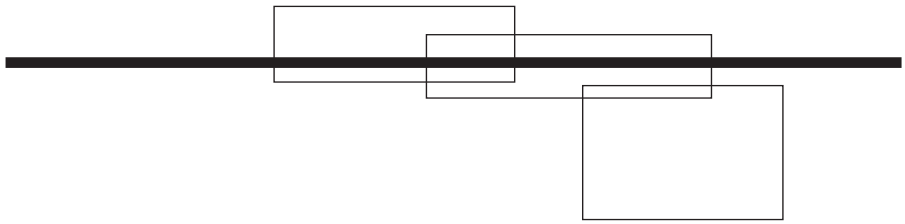
Elvin A. Hernandez



SET THE ACTION!

Creating Backgrounds for Compelling Storytelling in Animation, Comics, and Games



Set the Action! Creating Backgrounds for Compelling Storytelling in Animation, Comics, and Games

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BELIEVE IT OR NOT, SOMETIMES, THIS "JOB" HAS ITS PERKS.
FOR STARTERS, YOU GET TO GO TO NEW, EXOTIC LOCALES...
... MEET INTERESTING PEOPLE...
K-BOOM
... AND, YOU KNOW, FIND NEW WAYS TO PUNCH 'EM, I GUESS.
LISTEN, DON'T FEEL TOO BAD FOR THESE GOONS; NOT ONLY ARE THEY A BUNCH OF JERKS... THEY'RE ALSO ROBOTS.
AND ME?
JUST A POOR SAP...
... WHO'S ALWAYS IN THE WRONG SPOT.

Introduction

Permit me, if you will, the chance to paint with words an all-too-familiar picture: a young illustrator is waiting in line at a comic book convention, hoping to speak with the senior editor of Whatever's Awesome This Month Comics. As the line gets shorter and shorter, the young artist beams with confidence. He knows full well that his portfolio, filled with powerful figures in exciting action sequences, will knock this particularly stodgy editor's socks off. Finally, he stands in front of the editor, who turns each page slowly, studying every panel, while our hero stands quietly, waiting for some much expected praise and recognition. Putting the portfolio down, the editor looks up, locks eyes with our friend, and says, "That's nice, kid . . . but where are the backgrounds? You telling me these guys are fighting over *nothing*?!"

The truth of the matter is that given an option, a lot of aspiring artists would gladly answer "yes" to that question. Backgrounds are generally relegated to the "boring" parts of the visual narrative process. Even as kids, we've gravitated toward drawing the characters rather than drawing their worlds. That's because instead of relating to the worlds they live in, we tend to connect with the characters first. We learn to draw superheroes, funny cartoons, or just about any character that strikes our fancy, and then we draw some boxes behind them, some green grass (in crayon, one color), or even leave the page blank with no backgrounds, unaware that we are still missing a vital character in our little play on paper.

Confused? Well, try this: think about your favorite story or scene from any particular genre. Chances are good that their environment had an incredible part in the plot's development. I mean, seriously, without a city to defend around them, your favorite heroes would just be weird bullies with capes punching out (mostly) deformed saps for no good reason. They need their cities (whether crystalline beacons to a better tomorrow or dark, art-deco nightmares), space stations, secret caverns, or dormitory basements to help us understand their motivations as well as their goals. In short, these sets make up the iconography that sticks with us, the readers, and helps us remember their story.

Now, I can see you dragging your feet a bit, and I can sort of understand your dismay; I too have looked at some point at a perspective grid and taken stock of the decisions in my life that had led me there. But that's because we tend

to see perspective as an overly precise measurement that needs to be studied down to the minutiae, missing the key reason behind perspective in the first place, which is that it's not about how it's done but rather what it's being done for. Perspective is an illusion on paper of relative space, and once you get past the rigid elements (such as equations and measurements), it becomes the window through which we interpret our world.

See? Doesn't that sound better already? Ah, but that's just the beginning.

Within these pages, we'll explore not just how to build an environment but also how to build a world. We'll take elements of character and concept design and adapt them towards the goal of environment study, tying both concepts together. You'll also study facets of art design, color, texture, and format as you discover how to create places that help define events and how to take your audience on a storytelling journey that will leave them craving more adventure!

Think about those poor drawings from your childhood . . . running around and living out your wildest dreams but with no place to call home. Well, no more. From this moment on, our warriors, damsels, and buffoons will have castles, villages, and dungeons worthy of their majesty—and what's more, they will be of our own making! (Cheers are optional at this point. I won't judge.)

All right, then, enough with the chatter. Let's start building ourselves some dynamic backgrounds!

Act 1

Establishing Shots!


THE NAME'S FELIX FAHRENHEIT, AND I'M THE WRESTLING CHAMPION OF THE WORLD.
AIN'T NO ONE ALIVE WHO CAN TOP ME IN A RING. BIG, SMALL, YOUNG, OLD... I'VE FOUGHT AND BEAT THEM ALL.
HIT HIM WITH A CHAIR
WIA
RULE


... NOPE. YOU'RE THE WORLD CHAMP, MEANS YOU DEFEND THE WORLD.
TAKE THE LEGGY LIBRARIAN AND THE LITTLE WEIRDO OVER HERE...
HOWEVER, IT TURNS OUT, WHEN YOU'RE THE CHAMP, YOU'RE NOT JUST DEFENDING A BELT IN A RING...
IN A SEA OF WRESTLING FANS, THEY COME OFF AS TWO OVER EAGER, HARMLESS SPECTATORS.
BUT WHAT YOU DON'T SEE IS THAT THE SHORT STUFF OVER THERE ONCE WAS THE GREATEST CHAMPION THE WORLD HAS EVER KNOWN.
AND IF HE'S HERE...
... CHANCES ARE, I'M IN FOR A WORLD OF HURT.
IT'S AWESOME
KILE
HOT
COLD
CALL ME! 555-6782
FELIX #1


AFTER THE MATCH, I HANG OUT WITH MY MANAGER, VIC MONSTROSO, AND HOPE THE BIG MAN'S HERE FOR A SOCIAL VISIT.
ENTRANCE
BABY, DID YOU DIG THAT ACTION!? THE PLACE IS PACKED... AND GOING INSANE!
WELL... THAT'S HOW WE ROLL, VIC! NOW, DO YOU SEE THE BIG MAN AND THE ICE QUEEN OUT THERE, OR WHAT?
MAN, IF SHE HEARD YOU SAY THAT, SHE'D SPIKE YOU WITH HER HEEL... AND, MAYBE, LAUGH AS SHE DOES IT! LEMME CHECK...
STILL, I KNOW BETTER...
NOPE, DON'T SEE 'EM... I THIN' WE'RE...
AHEM!
OH, $#@@!
COLORFUL AS USUAL, FAHRENHEIT.
MI CAMPEÓN... WE HAVE A NEW ASSIGNMENT FOR YOU...
NOW, LET US FIND A QUIET SPOT...
... AND GO OVER THE BASICS...

Section 1

Gaining Perspective

Just as Mr. Fahrenheit, the hero of our concurrent story, is about to enter into some strange mission, we are about to enter into one of our own: understanding and exploring perspective layouts. It's not the most glamorous of jobs, but it is a necessary "evil," and one that gets a bad rap. In all actuality, as part of a visual tradition, a universal language that predates the media arts and actually relates to our earliest forms of communication, environments are just as strong an element as any character or act displayed.

First, however, we've got to learn to walk, before we run (which is a stupid saying, because *of course* we learn to walk before we run—just ask a baby). We need to learn how to set up a particular scene in order to better develop the action that will be played upon it. That means we have to discuss (gasp!) *perspective* and *layout*. I know, I know... I can hear you groaning from here. Still, we need to develop those skills that will better help us design strong backgrounds in order to aim and enhance them toward any particular story or image, through which we'll create fully engrossing and dramatic visuals

that connect with the viewer and create memorable experiences on paper or on screen. Think of it as a first step towards an even greater world of adventure! There, isn't that already more exciting?

To all of you still groaning, I apologize for the corniness of my delivery, but let's push forward, folks!

WHY WE NEED PERSPECTIVE

To better understand the extent of the value presented by the question of why we need perspective, we should first decide how we are going to be defining perspective for the purposes of this book. Well, I did a little checking and prodding, looking the word up in different dictionaries and encyclopedias to get a better sense of how the world defines it, and I think we can agree on the following: *perspective* is all about *dimensions* and *depth*.

Depth, or in this case depth in design, implies the illusion of distance (a three-dimensional element) in a two-dimensional plane. In other words, it's the trick by which objects seem closer and further away in what essentially is a bunch of pencil or ink lines on a piece of paper. This effect can be achieved with the use of line weight and color (elements that we cover in future chapters), but it is certainly made easier through the proper use of perspective.

If you look at the following pieces (done by a five-year-old, a two-year-old, and a nine-year-old, so don't hate; I rather like it), you'll see a couple of completely adequate interpretations of an environment, with a very defined space and recognizable details found in our world:

Even though each interpretation here shows different levels of competency, due to their ages, we can definitely understand each as a representation of the world surrounding these kids. However, these pieces tend to be flat and one-dimensional, with only a rudimentary understanding of space—which,

as it turns out, is not far off from how art looked for quite some time. If you view any Egyptian hieroglyphs or some medieval woodcarvings, you'd see characters and buildings sharing one particular plane. The artwork was symbolic and illustrated events as well as characters clearly, but it didn't quite imitate the depth and dimension of the real world (this is not to say that all art was like this during these periods, or else we wouldn't have statues from the Greeks or the Egyptians—but it would be during the Renaissance, a period of intellectual and artistic rebirth after the Dark Ages, where art started to imitate the depth of an actual livable environment).

To illustrate this point further, I present the following image:

Ah? See? This drawing presents a similar image to the previous piece, with the same elements in design within the drawing, yet with the added element of depth and line weight. Suddenly, the environment feels like characters could inhabit it more readily, as well as adding to the illusion of an even bigger world surrounding it. In short, it feels *real*.

Thus, we finally arrive at our definition of perspective, the one we will be employing in this endeavor: *perspective in layout design* is a visual trick that allows for the illusion of dimension and distance within a two-dimensional medium (the page, as it were).

Well that sounds… wait a minute! *A trick, you say!?*

Yup. A trick.

Truth of the matter is that although perspective adds a sense of space to a drawing, it's based on the notion that all lines go towards a particular point on the horizon (more on this later). However, due to the fact that we live and build upon an Earth that's anything but flat, if we were to line up a perspective grid using what we see out of our windows as our reference point, most of what you see outside would *just about* line up, but not in a completely perfect line within said grid. Perspective, or the study of it, adds to the illusion of an even horizon and creates what the viewer considers to be actual dimensions on land. There are circumstances in which this illusion can be used to cover areas where the horizon is not clearly defined or is in a different spatial relation to several elements of a particular scene (this effect is called *zero point perspective*, and we cover it in different sections of this book, but, for now, let's stick to the basics).

Perspective also helps the viewer understand and implement the basic concept of *mass* on paper. Mass is, much like depth, an illusion, but in this case it pertains to the physical aspect of a particular object or element in real space or rather the space provided in the image presented. In other words,

whereas depth is all about the distance between objects, mass is about the actual space a particular object occupies. Here's a perfectly adequate example:

Once again, the story is present in the scene (a giant lizard attacks a city), but the situation loses dramatic context because the scene just doesn't feel real or natural. However, if we were to change the angle of the image and present the same scenario in a different light:

Well, that's more like it! Carnage!

The scene attains a dramatic push by adding depth and mass to the equation. Suddenly, the lizard monster is an actual threat, and you can connect with the events of the scene at a more personal level (or as personal as giant lizard attacks get).

In the end, all elements of design—perspective, line weight, composition, color, or any number of features that make for an effective artistic piece—derive from the *purpose* or *focus* that is being projected throughout. I'm talking, my friends, about *story*. The viewer must connect with the central concept of any illustration, comic, or game being viewed, and to do so, all the elements of design must work in tandem to achieve this goal.

In this book, my ultimate goal is to present the components of spatial design (environment study) to enhance dynamic storytelling in the visual arts. Later chapters expand on different concepts for a full understanding of their narrative use.

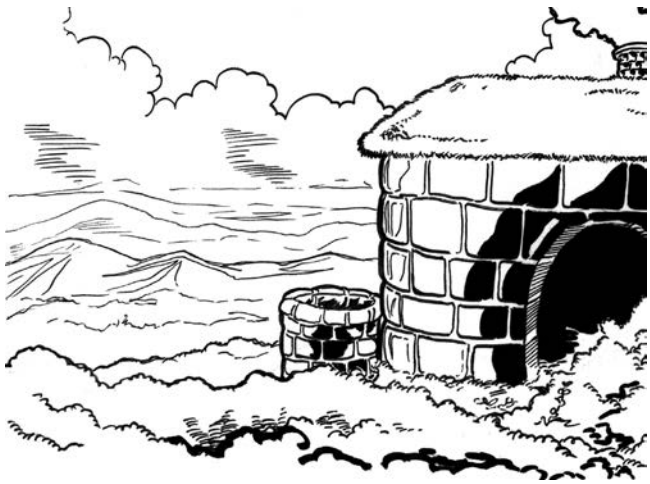
Think of it as adding elements to your artistic utility belt (actually, don't—that sounds stupid).

THE HORIZON, EYE LEVEL, AND THE CONE OF VISION

Now that I've established the ultimate goal of the study of perspective, let's start viewing its basic elements, starting with the horizon.

As discussed in the previous section, we used to think that the world was flat—that is, until people far braver than I sailed the ocean blue and found that it went beyond that deceptive line at the edge of forever that gave the impression of a very flat surface.

Well, that line that created all that fuss was called the *horizon*. The horizon could be best defined by physical elements (by what you can or can't see). Essentially, it's the farthest point on which the eye can rest on a particular plane or surface up to the point that the actual landscape begins to curve downward, adhering to the roundness of the planet. We can't really see the bend from the point at which we stand, which is where the illusion of a flat surface comes from. It's also where the concept of depth begins. For example, here's an illustration of an environment going onto a perceived horizon:



As you can see, we've got a nice little cottage in front of a vast view that goes off into the distance. Now, the house is right in front of us, so the detail is crisper and more defined (we could even expect someone to casually walk out and greet us from some cartoon world). But as we move further back, details get lost, lines come together—in short, things lose definition. If you look outside your window (provided that you live somewhere with some sort of view), you'll see the same effect in actual space: color, light, opacity, and everything else diminishes once you start viewing objects that are farther away. We will be exploring the ways by which we can create the illusion of distance as we go into texture and line weight in design, but for now, let's push on!

Actually, let's go back to you looking out the window for a moment. See how you can view the horizon from there? Now, say you live in a house with two floors, and you are viewing the horizon from the second floor. Run downstairs real quick, and open the door, provided that your front door view also allows you to see the horizon. Go ahead, I'll wait.

Ready?

You might not notice it at first, but you have been viewing the horizon differently from this point (in fact, it may now seem a tad bit higher). Also, look at everything around you. Say, your dad's car is parked outside. Its relation to the horizon has now changed because you have changed your viewing spot. From the window, we could see the car slightly from above, thus implying a different angle and, conversely, a different relation to the horizon line in general. Yet none of the elements have moved or changed—just your vantage point.

You may go back to your room now.

As you can tell by this example, the relation between the horizon and all the elements connected to it is completely dependent on the viewer's *eye level*. If we're standing on the ground, the horizon's impact on all props leading up to it tends to be equal (we are looking straight at it, and only corners and angles make any difference to how things are viewed). However, if we were to lie down on the ground or get on the roof of our house and look at those

same props, the relation is different because we are not on the same level as said props. Let's look at some examples: first, a straight-on view of a house at eye level:

Pretty cut and dry, correct? The house is directly in front of the horizon (in fact, the horizon almost cuts the image in half, doesn't it?). But now, let's look at the same house from a slightly higher angle. Let's pretend we're the front-door neighbors, looking from our second-floor window:

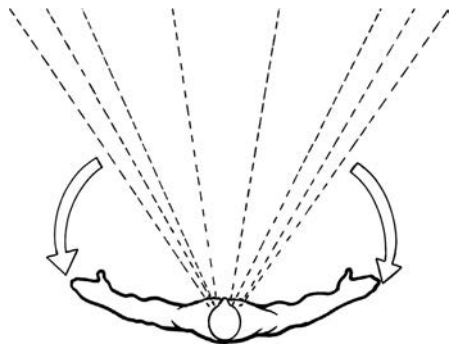
Aha! The horizon moves higher in the frame, because our viewpoint changes!

Before we continue onward with different points concerning layout, one note must be made clear: the horizon is supposed to be the farthest point on a particular plane and the spot at which the viewer's ability to distinguish individual shapes ceases to be. In order for that concept to work, avoid drawing elements that end directly on the horizon if the scene is supposed to have a sense of depth to it because any three-dimensional object on the horizon would still have its own vanishing points and its own dimensions, needing its own horizon. It would immediately imply even more distance, thus killing the original effect. We will explore more elements like this when we go directly into layouts in design. It's just that this turns out to be a common mistake, and I want you to avoid it.

With just these two concepts (the horizon and the eye level), you are already well on your way to illustrating stronger, more dynamic environments for storytelling. However, there is one basic concept we should discuss before we move into the type of layouts that you'll generally produce for visual narratives: the *cone of vision*.

As human beings, we have a limited vantage point by which we can view the world, simply because we only have one point of visual access: our eyes. There is a point at which we lose sight of a particular panorama or shot because we are limited by our optical vantage point, in which case, generally, we would turn our heads or step back to increase said vantage point. The *cone of vision* represents the space around which our eyes can see when focused on a particular point within the horizon. This includes said point of focus (what you are actually looking at) and your peripheral vision (those elements surrounding said focus, stretching to the point where one

can't see). As a quick exercise, stretch your arms out in front of you, as if to point out the horizon. Now, pull them back slowly to your sides, but keep both arms stretched out. There will be a point at which you won't be able to see your outstretched arms any more as they leave your *cone of vision*, thus showing the limit of your point of view.



We'll review more specific ways by which the cone of vision is determined in the next couple of segments, but one thing that should be made clear beforehand is that the cone of vision is most closely related to the way an image is laid out in terms of its relation to the established horizon. To do so, we establish *vanishing points* on the horizon, which are the points (or point) by which elements on a particular image measure out toward the horizon (basically establishing the ground and dimensions of a piece). There are various layout types that take into account the relation towards the horizon, which we will be reviewing shortly. They include:

- One-point perspective
- Two-point perspective (along with two-point vertical)
- Three-point perspective
- Four-point and zero-point perspective

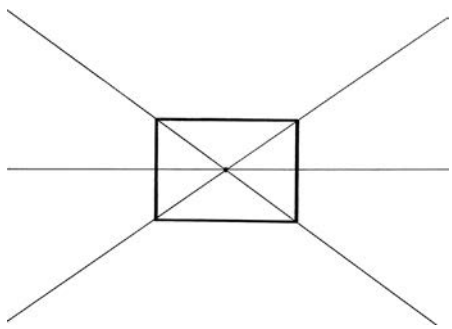
Now, don't look so scared. The purpose of this book is to clarify some of these terms, and I'm sure that after these chapters, you'll walk out with newfound confidence in your design skills.

So let's push onward, I say!

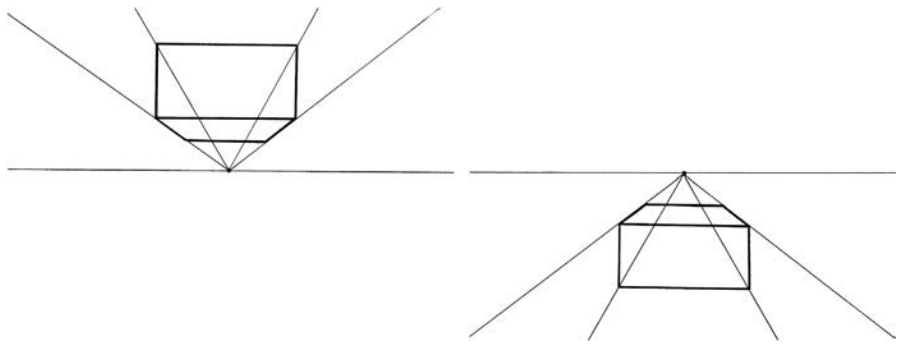
ONE-POINT PERSPECTIVE

One-point perspective is the most commonly viewed of the perspective points when dealing with establishing shots, environment studies, or just clear background sketching. We generally relate to it the most, as we tend to observe things in terms of a direct point of view.

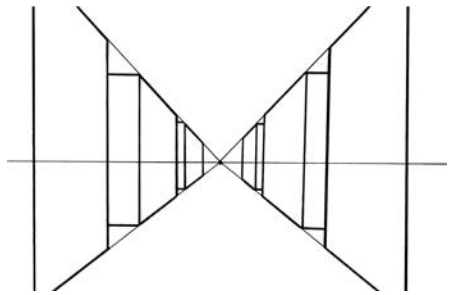
An image demonstrating a one-point perspective layout employs one vanishing point on a horizon from which all elements extend and connect. It implies that we are at eye level, looking forward, viewing a full environment that itself stretches back toward just one spot on the horizon. Let's take, for example, a simple box, and place it in one-point perspective, to better understand this concept:



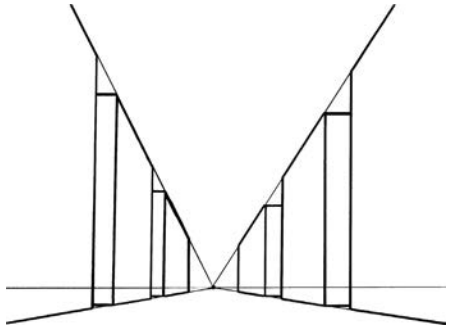
The box basically looks like a square, doesn't it? That's because it is directly in front of the viewer and its layout is connecting to the horizon. Let's move the box around a bit to better see this relation:



See? The box remains in connection to one point in the horizon, even if the object is above or below the horizon line. Keep in mind that one-point (as well as two-point perspective) is dependent on the viewer's direct relation to the horizon on the notion of the eye level being level, meaning that the image implies we are looking directly towards the horizon. Now, let's add some more elements to our layout, such as more boxes and a road: we're drawing the layout of a street:



Now, let's drop the horizon a bit, implying we are closer to the ground but still dealing with only one point within it:



The relation between the very same objects with the horizon changes depending on the placement of the horizon, as well as the way the lines (and the layout) extend from said horizon. In other words, the closer we place our lines from the central vanishing point, the closer we'll be to the ground in the layout.

So, where do we see one-point perspective often? Try a first-person shooter game or watch a film in which you see a character's point of view (POV). Any time we see our hero drive into the sunset on a deserted road, that road tends to be in one-point perspective. One-point perspective offers clarity and a sense of understanding to our surroundings. It can also create a clear focal point for our action and leave us to view the action on the scene unencumbered. (To go back to gaming, classic side-scroller games tend to happen in front of a one-point perspective world. They serve to better present the eternal struggle between the forces of our champion—Player One—versus the opposition—the computer, or a friend playing against you—whom I will not judge because I don't know you that well. I'll leave that to your parents.)

TWO-POINT PERSPECTIVE

So far, we've discussed the horizon, vanishing points, and their relation to objects within layout when being viewed from one-point perspective.