



ADOBE ILLUSTRATOR

Gradient Mesh: Tips, Tricks and Techniques

■ By Kerstin Upmeyer

The gradient mesh tool is arguably one of the most powerful, yet frustrating tools in Adobe Illustrator. Many designers leapt into using the gradient mesh with enthusiasm when it was first added to the program, only to end up avoiding it after many frustrated attempts. It is a complicated tool that can produce amazingly realistic shading and coloring that is airbrush-like in it's ability to create photo-realistic shading in the hands of a skilled user.

The goal of this tutorial is not a step-by-step process on how to illustrate this specific photo, as each piece of art created using this tool will bring with it it's own unique challenges. Instead, I will be offering a series of tips, tricks and techniques, using this particular illustration as a reference, to hopefully help you tackle this difficult tool with satisfactory results on your own projects.

01_ One of the first steps is to bring the photo, art or scanned sketch in as a template. Don't link the file; embed it, so you never have to worry about making sure the graphic is with your Illustrator file when moving from computer to computer. By bringing it in as a template, the image will automatically be placed in it's own locked layer, dimmed to 50% and set to not print.



02_ It's best to look over the image carefully and try to break it into the SIMPLEST shapes possible. One of the biggest issues with the gradient mesh is that shapes must be basic; otherwise there will be kinks and tangles in the grid. If a shape is very complex (such as the frog's feet) you can break that complex shape into simpler shapes, start with a more basic shape, make it a mesh, then drag it into the more complex shape, or the technique using masking that I will outline here.

Breaking into simpler shapes doesn't always work optimally as the shapes may not blend together as well as one would like, leaving faint lines where they join. Starting with a basic shape, like a circle or square and then reforming it after making a grid is a method used by many talented gradient mesh artists, but it can be very time consuming. I will show a third option in this tutorial. It begins by first tracing the initial shape, like I have done with the feet.

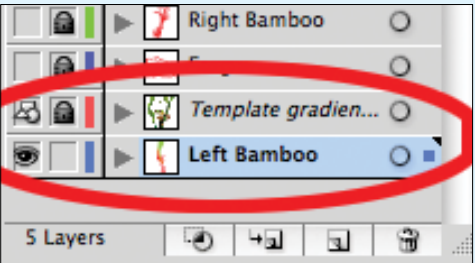


03_ Once you have completed the outlines of all the basic shapes and broken them into whatever number of layers makes sense for your job, copy a set of all the outlines into a spare layer and drag it to the bottom of the layer palette, then lock and hide it. Once an object is a gradient mesh, you cannot return it to being a regular path, so it's a good idea to keep a spare set of outlines for possible things like masking or adding strokes that you may want to do when your are done.

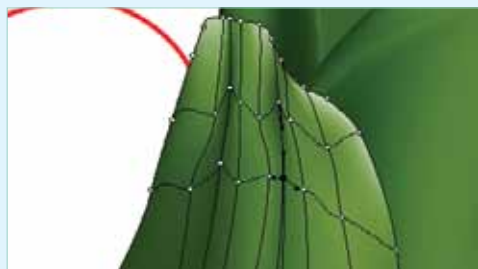
04_ I like to work from "back to front" so I began on the left stalk of bamboo, coloring the inner leaves down to the outer ones. One issue when working with colors and the Gradient Mesh is that if you are going to pull colors from the original picture (using the eye dropper) they may end up too light because of the dimming setting on the template.

Turn the dimming option off of the template in the layer options if you are going to build your colors from the original image. I ended up having to go back into the left bamboo stalk and deepening some of the colors later as they were lighter from being picked off the dimmed image.

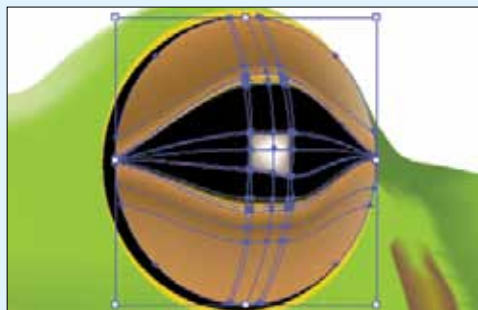
05_ One good method when setting up the gradient mesh on a simple shape is to give it a base color, then move the layer you are working on below the template layer. With the template layer locked, you can view the grid through it, adding mesh lines and arranging them where you like. Some people use transparency to see the picture through the mesh, but I find it difficult to read and that it often leads to colors being off. Rapidly turn the view of the template layer on and off as you work to see the results of the mesh compared to the picture, but with everything at full opacity so colors look correct.



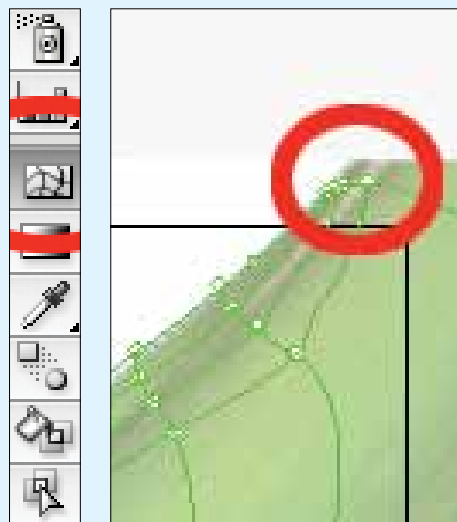
06_ A few specific tips for using the mesh tool. Remember it is not only where you want to put color, it's where you want to stop color. Like chess, you must think a few steps ahead when using the mesh tool. In the example shown of the lines in the leaf of bamboo, I place grid lines on either side of the darker line to constrain the color to make the crisp lines.



08_ Another tip for dealing with getting grid lines to go where you want them to is to use the Convert Anchor Point Tool (located in the pen tool group) on mesh anchor points just like you would on points on a regular path. The only difference is that you are working with four handles instead of two. You can pull out a "fresh" set of handles, or use the tool on a handle itself to "break" the handle's seesaw action and let it move independently from its opposite handle. This can go a long way toward teasing wayward grid lines into contours you want.



07_ Another important method for making a realistic mesh is that the more contoured the mesh lines are, the more realistic the look will be as the color follows the arc of the grid lines. I usually start with a smaller number of grid lines and add more after some contouring, as they will follow the form of the lines I have already changed. To make the lines go where you want them to, hold the SHIFT key while dragging a point in the grid. This will constrain it to move along the grid line without moving the line itself. You must be using the gradient mesh tool to do this; it will not work if you are using the direct selection tool. This is a great technique to use if you have a grid line on one side of a shape and want to move it way above or below without distorting the outer edge of the shape. Grab the point on the outer edge of the shape with the mesh tool, hold down the SHIFT key, and slide it along the outer path to the new location.



09_ When working on the frog's body, I discovered that the bumps I had made where the eyes would go were making the grid lines act up. After backing out with undo, I temporarily moved those anchor points to smooth the body into an even simpler shape. Once I did, I was able to make and contour a cleaner mesh and later, go back and restore the "eye bumps", continuing to add grid lines and contouring. Be aware that if you only want a horizontal or vertical mesh line and not both, you can click on an existing horizontal mesh line with the mesh tool to get a vertical mesh and a vertical one to get a horizontal one. Clicking into an empty area of the mesh will give you both a vertical and horizontal line. I usually start with a minimum number of grid lines, contour them to the shape and color flow in the photo, and then add more as needed.



10_ The eye, while it looks pretty impressive, is fairly simple. First, I copied the circle and used Edit>Paste in Front, giving the back circle a gold stroke and black fill. The front circle was offset slightly and made a little smaller using the scale tool.

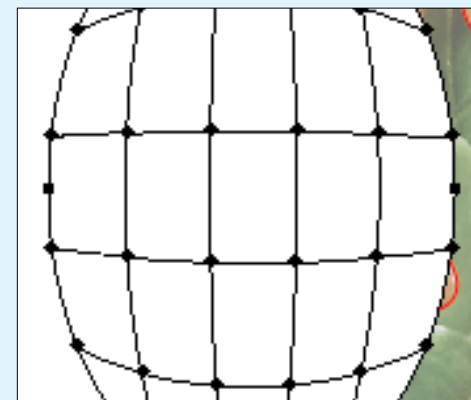
A simple gradient mesh was added to the circle, using Object>Create Gradient Mesh. I chose only four rows and columns initially, then using the gradient mesh tool and SHIFT, moved the outer anchor points together in the corners to make the pupil. More grid lines were then added to both stop colors to add the gold edge.

11_ Remember, the closer the grid lines (or handles of an anchor point) are to each other, the tighter the gradient is. This is the best technique to create crisper lines in the pupils of the eyes, the mouth and even the seeming "hole" that makes the nostril. One color-stopping grid line is close to the brown colored anchor point on the right, making the

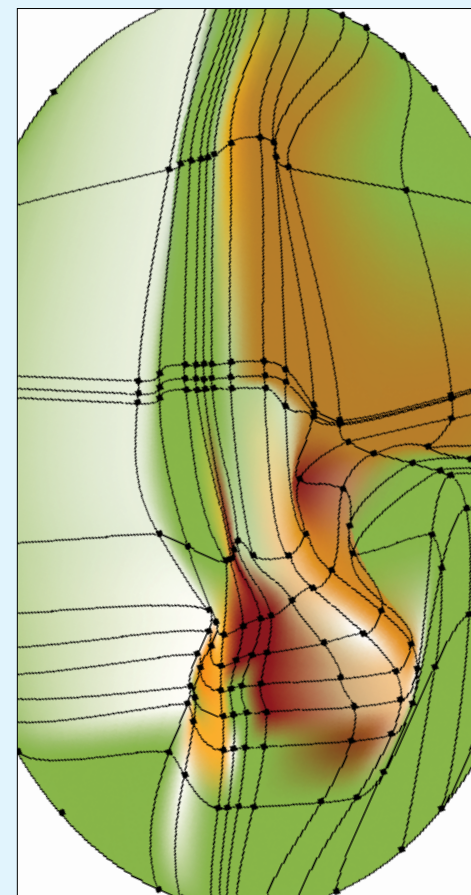
edge of the nose hole, while the grid line to the left of it is farther away, making it fade away softly from the opening.



12_ The feet presented a bit of a challenge, as they were too complex to turn into a gradient mesh object. I could have created a simple shape, turned it into a mesh and spent a lot of time trying to get it to form into the toes, but instead, I used a new technique that still requires some work, but can be a better way of approaching this and produces some really impressive results.

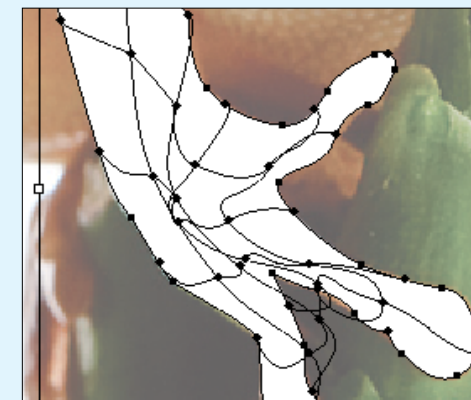


14_ Next, I hid the template and brought back the outline of the foot, arranging the colors and grid lines more exactly by showing and hiding the top template layer repeatedly, using it for reference.



13_ I started by creating a basic circle, (you could use that or a square) and created a simple Gradient Mesh using Object>Create Gradient Mesh.

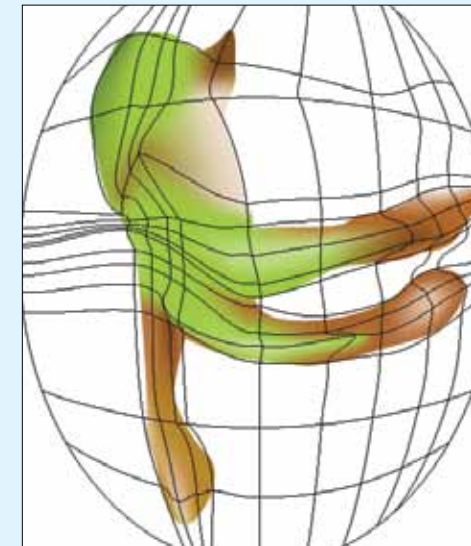
I then rotated the circle slightly to an angle more fitting to the shape and then hid the foot outline from view (Object>Hide>Hide Selection). After that, I moved the layer with the circle under the



15_ To finish, I masked the foot outline over the circle by showing the outline I hid in the previous step.

To do this, I used Object>Show All, selected both, with outline on top, and applied a clipping mask using Object>Clipping Mask>Make. At this point, you are able to make adjustments to your shading, while looking at the final shape.

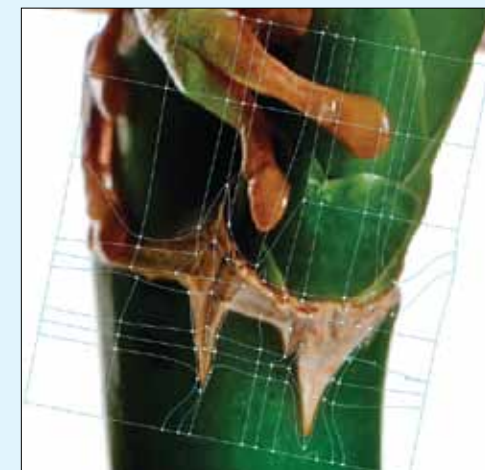
You can edit the mesh within the clipping mask by double clicking to go into Isolate Mode, then select the edge of the foot outline with the direct selection tool and lock it (Object>Lock>Lock selection). You can grab and edit the gradient mesh within the clipping mask to finish off the look of the object. Remember to continue to show and hide the top template repeatedly for reference.



locked template so the grid could be moved to contour the lines and colors of the foot. The outer edge of the circle was not a concern at the time, as it would eventually be masked out.



16_ Once I had completed the illustration, I compared the colors and shading of the mesh to the template, and tweaked some points of color by shifting grid lines as needed for a more refined look and accurate color. In some cases, you might just adjust something using your eye, translating what looks best for the realism of the drawing. After all, no one will even know what your reference photograph looked like unless you choose to show it.



You can learn more about Kerstin and view her work at www.kupmeyer.com