



PHOTOS: SEAN O'SKEA

# Artful illusions

Creating three dimensions out of two  
with shading and shadows

BY SEAN O'SKEA

IN THE BASIC scene-painting and brick project articles featured in the fall and winter issues of *Teaching Theatre*, I introduced several fundamental techniques. The trompe l'oeil project I'm going to explain here assumes you have read the previous articles or have some basic scenic art experience. This project looks very impressive and complicated, but I've always had stunning results, even with novice students. By following these steps and choosing the right source material, both you and your students can achieve illusions like those pictured here.

Trompe l'oeil (it's a tricky French pronunciation but "tromp loy" is pretty

close) means "fool the eye" and is present in any kind of two-dimensional painting suggesting three-dimensional space. It became popular during the Renaissance when the techniques of foreshortening, forced perspective, and highlight and shadow became common in art. Today it typically refers to any kind of painting on a flat surface that attempts to make viewers believe they are looking at an actual 3D object.

Trompe l'oeil is very valuable in theatre as we can use paint to make flat surfaces of muslin or plywood appear to be richer and more detailed than they actually are. The brick project offered a simple example of that visual

illusion. By adding the cast shadow and the highlight to the rectangles of orange paint, we were able to suggest the "bricks" had actual dimension. With attention to light and shadow, all sorts of low-relief ornament can be convincingly suggested. Master the basic techniques, and trompe l'oeil can make the moldings on your sets appear to be far more elaborate than they are. You can suggest wainscoting, tile, flagstones, bookshelves, and all sorts of textural finishes you might otherwise have to build. There are plenty of ways to create dimensional bricks, for instance, but most involve gluing something to your flats. All that extra material still

has to be painted, and once you've stuck something to your stock flats you'll have to scrape it all off. With trompe l'oeil effects, after you add a quick basecoat, you're ready to create the next set piece.

### Step 1: Find the images

While faux wainscot and molding will probably be more useful in the long run, it's nowhere near as fun and rewarding as painting a bas-relief lion's head, green man, or gargoyle. For our purposes, I'm using the lion. But you can easily find something else for students to choose from on websites like flickr.com. Search with terms like "bas-relief" and "architectural ornament"; even something as specific as "carved stone green man" will net hundreds of results. I usually have a few quatrefoils or fleur-de-lis for students who might be overwhelmed by more detailed images. Typically, organic shapes are more forgiving. Art-deco style motifs might look simpler, but all that geometry has to be just right. Similarly, avoid perfect little marble angels and Greek goddesses for all but the most advanced students. The quirky, crude carvings of medieval ornament (green men, gryphons, and gargoyles, oh my!) tend to be the most successful subjects for beginners.

### Step 2: Basecoat the canvas

You can paint on any material commonly found in your scene shop. Masonite is inexpensive and its smooth surface makes it easy to paint on, but I tend to have my students work on muslin so they can cut it off the frame and take it home with them when done. A three-foot by three-foot flat, give or take a foot, is about right for this project. You might ask your students to think about what kind of material their sculpture is carved from. A simple beige limestone is easy, but they might consider terracotta, various colors of granite, sandstone, even bronze or marble for more ambitious students. Have them do a little research and they may come up with some interesting choices.

Once the primer is dry, scumble colors appropriate for the choice of material you are suggesting. Here I decided

to use yellow-ocher sandstone (figure A). I then spattered on a fine spray of dark brown and light gray dots to suggest the surface has a little grittiness. This base coat needs to dry completely before moving on to the next step. If your students mix their own colors for use in the basecoat, make sure they save a little as it could come in handy later to touch up mistakes.

### Step 3: Cartoon your image

There are a number of ways of getting your image onto your flat. A pounce wheel and paper were used by Renaissance fresco artists, and these remain tools used by professional scenic artists today. But a pounce may be a bit more complicated than you might want for a class project. Pounced patterns are especially useful if you are going to repeat the image in several places on the set or if the image is strongly symmetrical. For now, use an overhead projector. If you're set up to use a digital projector attached to your laptop, great, but old-fashioned transparency projectors work just as well.

Photocopy your image onto overhead film and tape it to the projector plate to prevent it from sliding around while you work. Adjust the projector so the image fills the flat. Use chalk or charcoal (depending on the color of your basecoat) to trace out the image (Figure B). It's tempting to use a sharpie, but the ink will bleed through several layers of paint. Don't put in too much detail or the cartoon can get confusing. Have the original image in your hand as you work so you don't get lost in the enlarged projection. Turn off the projector and make sure you haven't missed any areas (Figure C).

### Step 4: Prepare your cartoon for painting

Set the flat onto a worktable and clean up any ill-defined or confusing parts of your cartoon. It's important you understand what you're looking at before you start applying paint. Of course you can add or simplify any elements you wish. "Flog" your flat before moving on, using a rag to swat the surface of the flat to knock off excess charcoal. Careful not to wipe or you'll smear.

Now you have a clear cartoon you're ready to paint.

First, you need to decide what direction the light is coming from, so you can figure out how to highlight your image. For beginners, I highly recommend simply matching the light direction in your original image. Mark the direction of the light with an arrow in the corner of your flat to help you remember. If there isn't a strong light direction, forty-five degrees above and to the side is usually the easiest.

The trick here is to think in 3D. Picture a ball sitting on your flat and a desk light pointing at it in the direction of the light in your image. The parts of the ball that are facing the light will be brighter (highlighted) as the surface curves away from the light it will move into mid-tones, and as it starts to curve toward the side opposite the light it becomes shaded. Finally the ball itself will cast a shadow onto the flat directly opposite the direction of the light.

### Step 5: Add shade and shadow

I encourage students to start with shade as it is a bit easier to visualize than highlights. Following along your cartoon, paint in the shade. Shade is the "dark side" of objects. Shadows are in areas that aren't receiving any direct light. For example, in figure D, notice how the lion's lip gets shade (a thin wash of dark tone) as it curves away from the light (coming from the upper-right), but black shadows fill the mouth, nostrils and deep valleys in the mane that are completely blocking the light. Areas that are flat (parallel to your wall) can be left alone. These are mid-tone areas that are halfway between highlight and shadow. Hard edges of shadow will indicate a sharp corner on the object. Soft, gradual shadows will indicate a smooth curve. Notice how quickly the tones shift from mid-tone (no shade) to shadow on the nose or on the architecture. This is indicating a sharp change of angle, unlike the long, soft transitions on the cheeks, suggesting a more rounded shape. For these gentle shades, use a clean, wet brush



or sponge to soften the edges of your brushstrokes.

It's very important to thin the paint considerably, almost to a watercolor consistency. The paint should flow off your brush like ink from a fountain pen. Thick paint right out of the can leads to a smeary frustrating mess for new painters. Keep clean water and a clean brush nearby to soften any heavy brush marks before the paint dries.

It's much better to have just three tones of paint: a thin shade wash, black for deep shadows, and a thin highlight color. Use multiple coats of shade tone to gently darken areas (not unlike watercolor), instead of a paint-by-numbers approach with many different pots of paint.

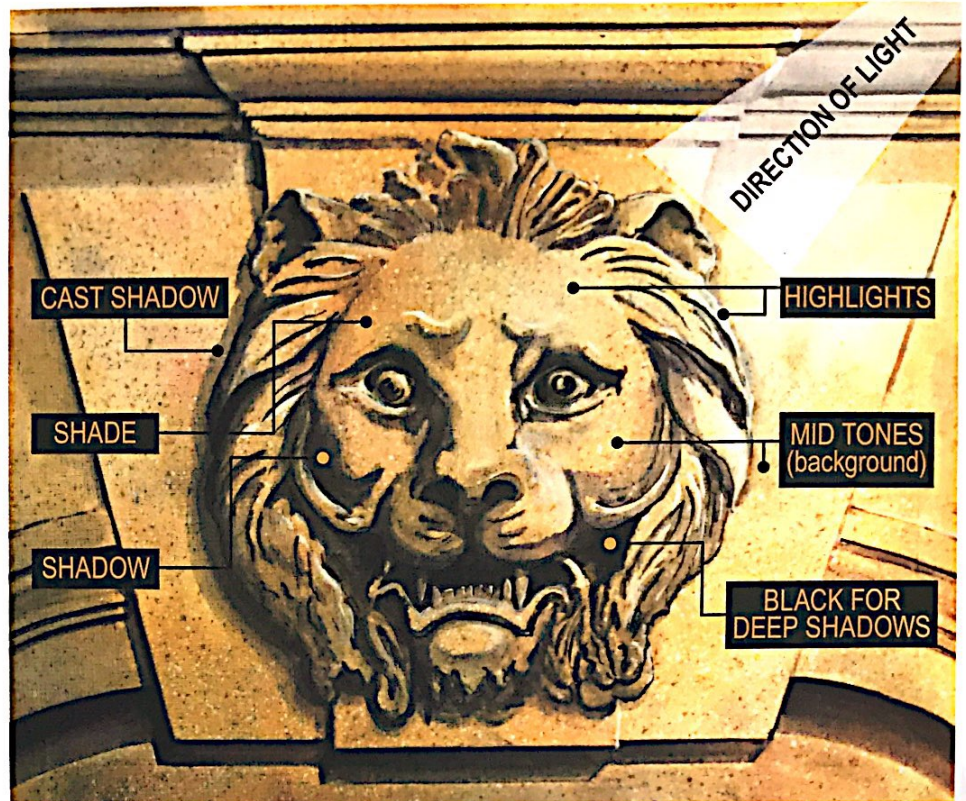
Refer to your original frequently so you don't "get lost" as you paint. Step back and check your work often. Keep a clean, damp rag or sponge nearby to quickly wipe up drips or mistakes. With the paint so thin, if you catch a mistake right away, it will usually just wipe off.

### Step 6: Add highlights

Tint a little white with your primary basecoat color and use it to add highlight. Here I've used the same creamy-grey I used in my spatter. Highlights are just like shade but on the opposite side of the object. Remember to think in 3D. The parts of the object that are directly facing the light will get highlights. For example, the side of the lion's nose getting highlights in Figure E is facing the light coming from above-right. Usually, unless you are suggesting a very glossy material, you can go easy on the highlights. I typically have to encourage students to darken their shade and shadows. Too much highlighting can make your object look dusty or covered in snow. Notice in figure F how little highlight there is compared to shade and shadow.

### Step 7: Add cast shadows

If you haven't already, add cast shadows. These are areas where projecting objects are blocking the light and casting a shadow onto areas that



Highlights go on areas facing the light. Shade and shadow go on areas opposite the light.

might otherwise be mid-tones or even highlight. Look at the shadow just to the left of the lion's mane in Figure F. That area is actually flat but because the lion is projecting off the surface of the wall, it's casting a shadow onto the keystone. Now look at where the arch molding meets the keystone in the lower left. Notice how the top of the trim appears to be almost flush with the face of the keystone, so the cast shadow is very thin. But look how the shadow gets bigger as the trim steps back further down. The size of cast shadows depends on how far off the surface the object is projecting. When you're done don't forget to step away. This kind of painting is meant to be seen from a distance.

This lion seems to be a complicated image, but as I said at the outset, creating it is easier than it looks. Figure G points out the image's shadowing and shading. If you look closely, except for the eyes, nose and mouth, everything in the image is either a straight line, or vague wavy lines like those in the mane.

Occasionally I'll have a student struggle with a trompe l'oeil project, overwork the paint, and end up with a dark blurry mess. I always encourage the student to start over. It's just paint. Usually, in a second attempt, a student pressed for time will lay in the tones in a hurry and be stunned by how much better the work looks. In my experience, working quickly and using the largest brush you can produces the best work. I painted most of my lion with a 1 1/2" sash brush (Figure D). With a good brush, if your cartoon is clear and your paint is thin, you or your advanced students should be able to lay in the shadows of a fairly involved image in an hour or so. A beginning student might take six or seven hours to create a piece like this, but if you have the class time just imagine the self-confidence a project like this can instill in your students.

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