

17 Using the Envelope Tool, Lens Effects, and Bevels

When you feel a design needs an element of realism—or even surrealism—to add attention, complexity, or that “certain something” that makes a shining piece absolutely brilliant, you turn to some of the effects CorelDRAW offers. Specifically, you need the ones not covered yet in this book—and more specifically, you need effects that can add lighting to an object, bend it, twist it, and, in general, modify it as though you are sculpting and not drawing.

This chapter reveals the inner workings of the envelope effect—probably the most advanced effect of its kind in any drawing program—and the Lens Effects docker, which provides some pretty wild variations on your artwork by overlaying it with a lens object. To round out this chapter’s collection of neat embellishments, you’ll also get hands-on experience with creating beveled objects; you can create anything from an emboss to a 3D starfish shape. These effects are easy to use and apply—the only hard part is deciding which *type* of effect works best in your illustration!



Note Download and extract all the files from the Chapter17.zip archive to follow the tutorials in this chapter.

What Does an Envelope Do?

You’ve probably seen this effect in stores a dozen times: for example, the words “Fresh Fish” shaped in the silhouette of a fish. In CorelDRAW, conforming objects to a different shape is done with the Envelope tool.

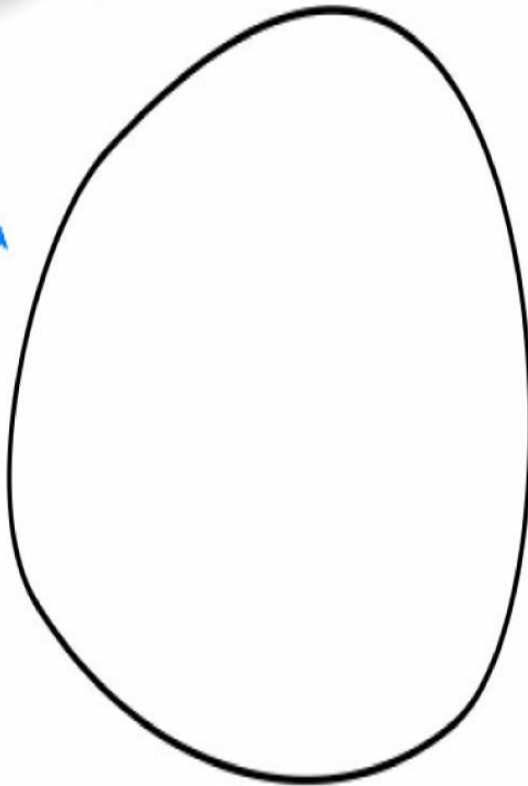
In CorelDRAW, you can start with a fresh envelope around an object, use presets, and copy a shape to use as an envelope of a different shape. Then, you edit the envelope until the shape suits your need. Envelopes are nondestructive; your original artwork can be restored at any time. The Property Bar includes a Clear Envelope button when an

enveloped object is selected with the Shape tool. Once an envelope has been defined, you edit the envelope exactly as you would a path—you can drag on segments and nodes and change the node control points to your heart's content.

Here are two visual examples of how useful the envelope effect can be. At the top illustration, the Artistic Text object is enveloped, and the envelope is based on an existing shape (shown on the right). The bottom illustration shows the envelope control segments and nodes in the process of being edited. It's true: the CorelDRAW envelope effect is just like playing with Silly You-Know-What!

Envelope shape copied from the object

WAVE



Envelope manipulated

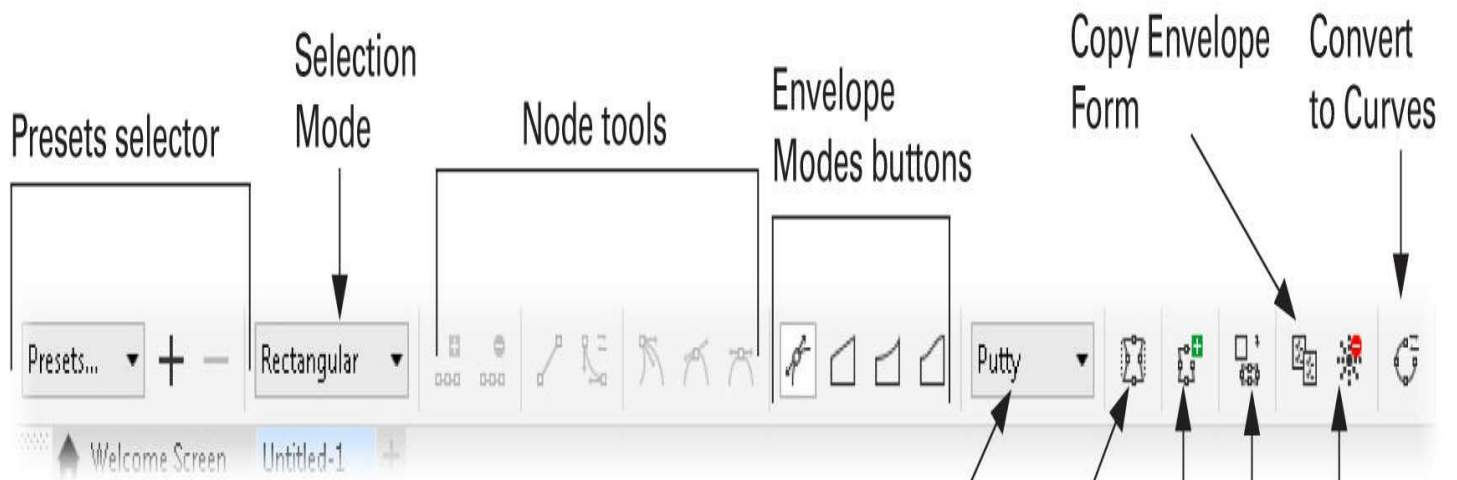
Creating Envelope Effects

When creating envelope effects, you can choose from three different methods. You can shape your envelope from scratch by defining a default envelope and then manually reshaping it. You can copy an envelope shape based on an object on the drawing page, and you can also use a preset shipped with CorelDRAW.

Using the Envelope Tool and Property Bar

Using the Envelope tool along with the Property Bar options is the most intuitive way to apply envelopes. You'll find this tool in the Toolbox with the other effects, such as the Extrude and Drop Shadow tools.

With both the Envelope tool and an object selected, the Property Bar displays the options shown here:



Mapping Modes

Keep Lines

Add New Envelope

Create Envelope From

Clear Envelope



You'll get the best results from the Envelope tool if you follow a sequence of moves in CorelDRAW. Let's work through some basic maneuvers using the following steps.

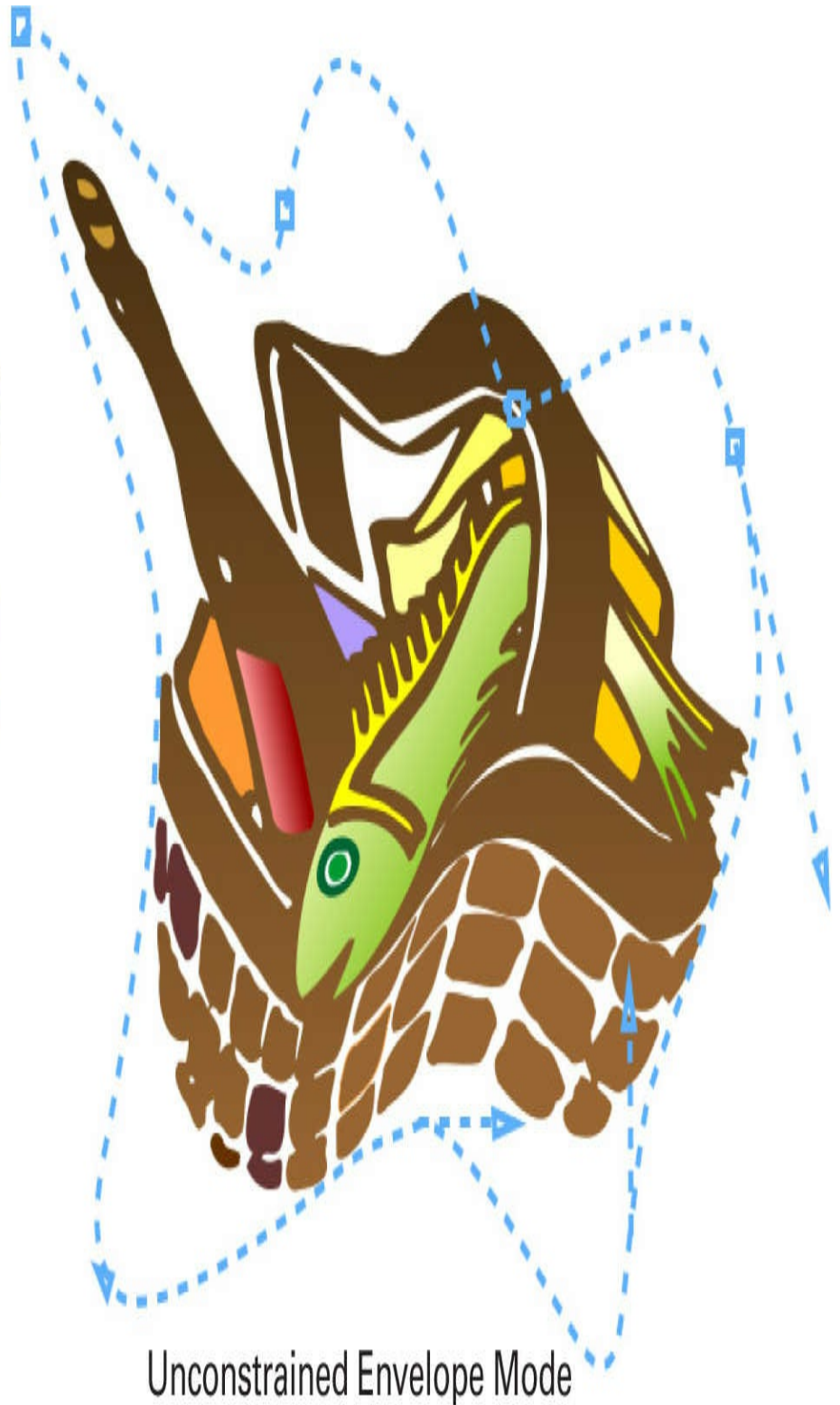
The Envelope, Please

Tutorial

1. Create or open an object (or group of objects) that you feel would make a good target for the envelope effect, and then choose the Envelope tool from the Toolbox. Notice that the Property Bar shows Envelope options. The more intricate the object, the more noticeable the effect will be. In general, don't choose a rectangular shape to which you want to apply a rectangular envelope; the effect would be more or less defeated.
2. Click the Envelope Mode button that resembles a square with one corner higher than the other—Straight Line Mode—and notice the markers surrounding your shape.
3. Drag one of the nodes on your object in any direction. Notice the direction of movement is constrained and the shape of your object changes to match the envelope as you release the mouse button.
4. Click the next Envelope Mode button resembling a square with one curved side—Single Arc Mode. Drag any node in any direction, and notice the object shape changes, but this time you have some curvature going on with the edges of the envelope and the object(s) inside. Double Arc Mode provides more distortion, most noticeably when you drag a center envelope node instead of one of the four corner bounding nodes.
5. Notice that you can drag an envelope node to reshape the object, but the direction handles on either side of the node are fixed and won't budge. Click the Unconstrained Mode button, the leftmost Envelope Mode button on the Property Bar. Now try dragging nodes and then their direction handles. The following illustration shows the object group in its original state; on the right, it has been worked over a little in Unconstrained Mode (it looks reminiscent of how your packages occasionally arrive on Mondays, doesn't it?). Seriously, though, nothing is hard and fixed in a CorelDRAW drawing, and no changes are permanent.



Original



Unconstrained Envelope Mode



Note For most effects in CorelDRAW, the Property Bar offers presets and the ability to add your own preset by clicking the + button; whereas clicking the minus button (-) deletes the currently selected preset on the drop-down list.

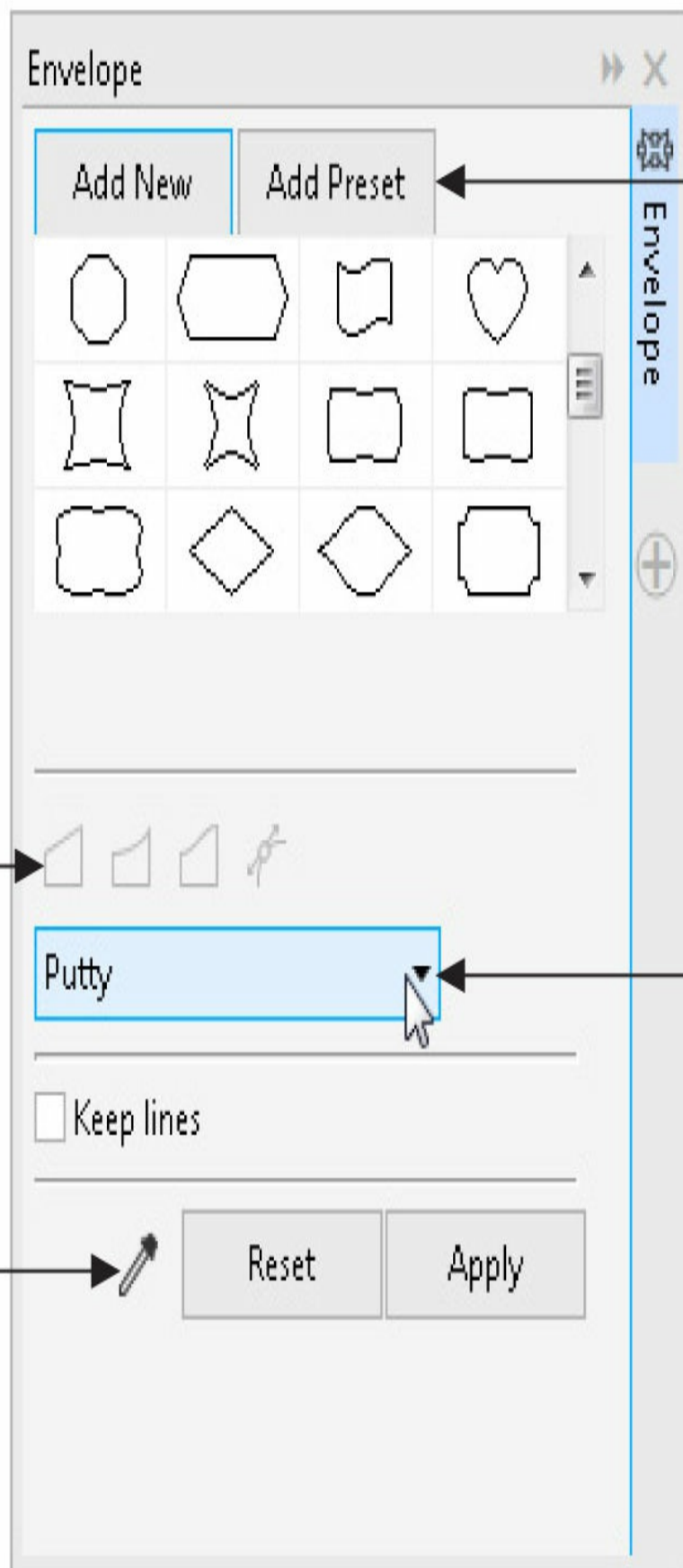
Clicking the Clear Envelope button on the Property Bar removes the last applied envelope, but don't stop reading here! You can apply an envelope to an object that already has an envelope by clicking the Add New Envelope button on the Property Bar. If you want to return the object to its original state, you must click the Clear Envelope button, which returns you to the Pick tool and only reverts one stage of enveloping. You then have to select the Shape or Envelope tool, reselect the shape, click the Clear Envelope button, and then *repeat* this somewhat tedious process until you return the object to its original form. It's far better to choose Windows | Docker | Undo Manager and click on a saved state that precedes an Envelope effect, reverting the object completely to its original state. One click, nice trick.



Caution There is a limit, particularly with grouped objects in an envelope, to how much you can reshape before the paths that make up an object begin to self-intersect. Self-intersecting is usually an unwanted effect, so either use the tool sparingly on a group, or ungroup the group and apply similar envelope effects to individual objects.

Using the Envelope Docker

The Envelope docker provides an alternative to using the Envelope tool in combination with the Property Bar. You can select options before they are actually applied. To open the Envelope docker, choose Effects | Envelope, or press CTRL-F7.



Preset
Selector

Mode buttons

Mapping
options

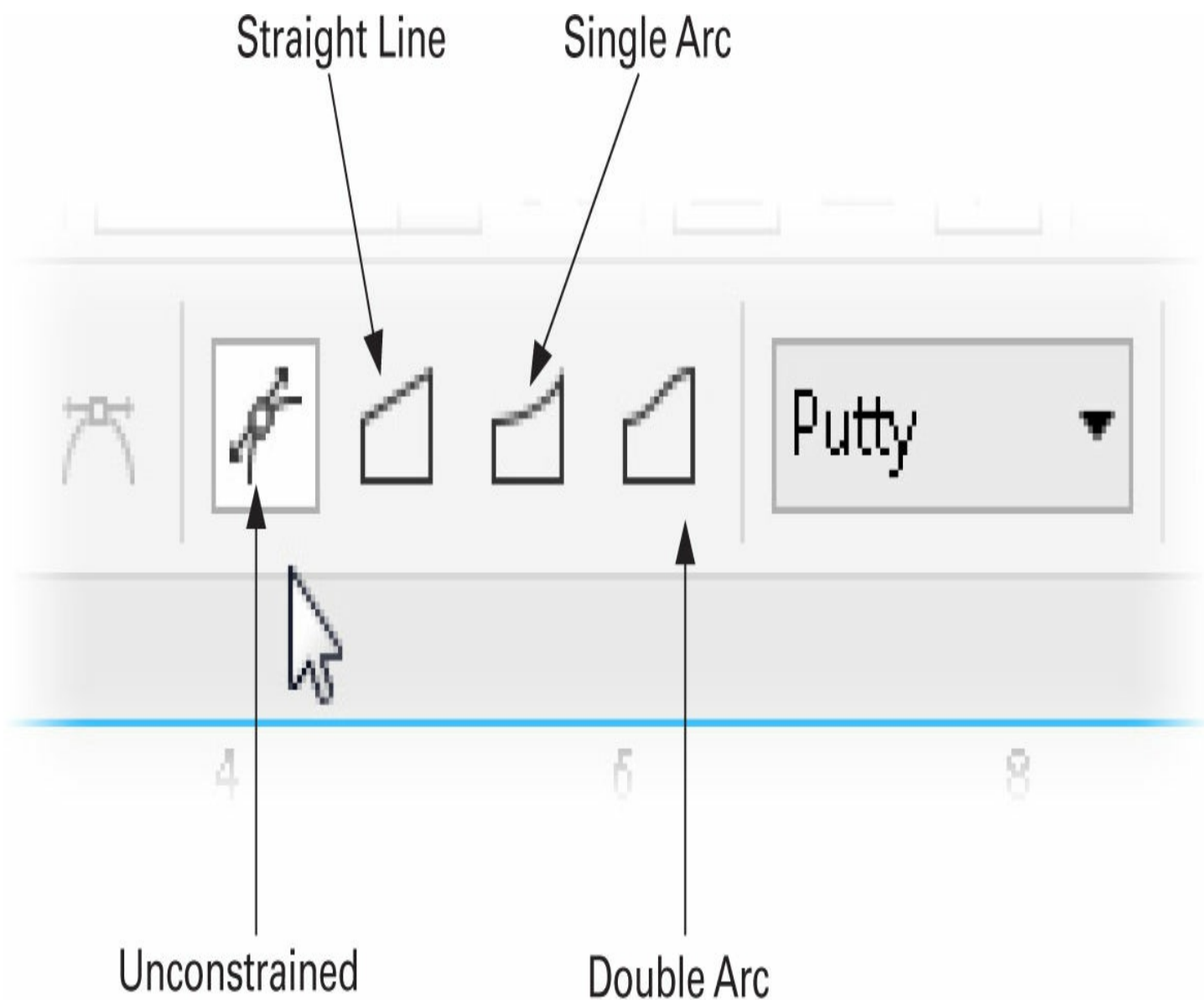
Create From



Tip For speedy envelope editing, use the Pick tool to double-click any object that has an envelope. The enveloped object is immediately available for editing, and the Pick tool becomes the Envelope tool. A single click with the Shape tool also opens an enveloped object for editing.

Choosing an Envelope Mode

The Envelope mode you choose has no initial effect on the envelope you apply to an object; however, as you begin to move envelope nodes around, the selected Envelope mode offers features and limitations. Depending on the mode, corner and segment nodes take on different properties, which result in different capabilities to edit the envelope, as seen here:



Envelope modes (shown on the Property Bar)

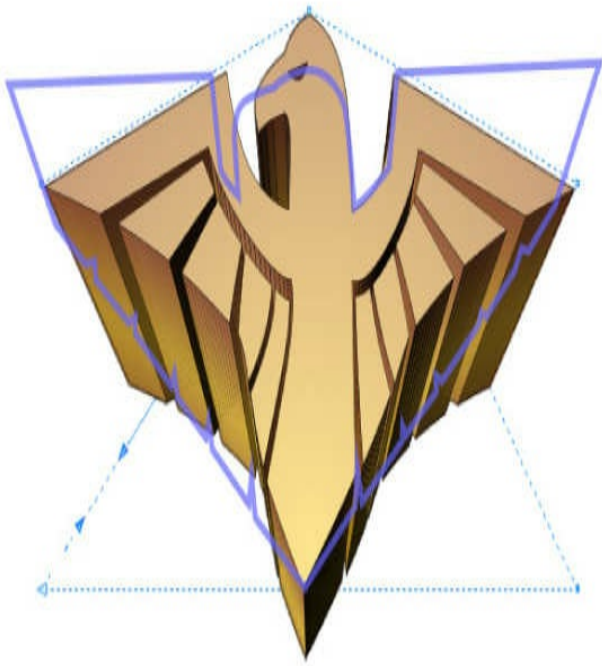


Tip At any time while editing an envelope, you can change its mode just by clicking a button on the Property Bar. This capability gives you control over the overall shape you're trying to create. Any previous mode limitation is inherited with existing nodes, but nodes you've not changed inherit the new node property. For example, if your envelope is in Double Arc mode and you drag a node to make a swooping arc, and then you click the Straight Line Mode button on the Property Bar, the arc remains an arc, but all the other nodes can now only be edited as connectors to straight lines.

These modes have the following effects during shaping operations:

- **Straight Line** This mode (the default) makes envelope segments be straight lines; in effect, you're manipulating an eight-point polygon when the envelope is in Straight Line mode. Dragging an envelope node creates a different polygon shape, and this mode serves you well for imitating the shape of a traffic sign, a simple house shape, and other outlines you create with straight line segments.
- **Single Arc** This mode sets the resulting envelope segments to curves, sets side nodes to smooth nodes, and sets corner nodes to Cusp nodes; you can't change the angle of the cusp for corner nodes directly, but you can change it when you reposition a side envelope node. Using this mode, dragging corner nodes creates a curved side on the envelope, whereas side nodes align with the path of the resulting curve.
- **Double Arc** This mode creates sine-wave-shaped sides. Behind the scenes, corner points become cusp nodes, and side nodes become smooth nodes. However, the curve handles of side nodes remain stationary in relation to the nodes, causing the segments to take on a double-arc shape. The same vertical and horizontal constraint restrictions as with the previous modes apply.
- **Unconstrained** Unconstrained mode gives you complete control over nodes, segments, and control handles for envelope elements; it gives you almost unlimited freedom to reshape an object. You can position either side or corner nodes as if they were vector path object nodes. In this mode, the Shape tool and Envelope tool let you *severely* reshape objects, and nodes can be dragged in any direction to shape the envelope in any way. Unconstrained mode also allows you to add or delete nodes, change any line segment states to straight or curved, or change the properties of nodes to Cusp, Smooth, or Symmetrical using Property Bar buttons for these tasks.

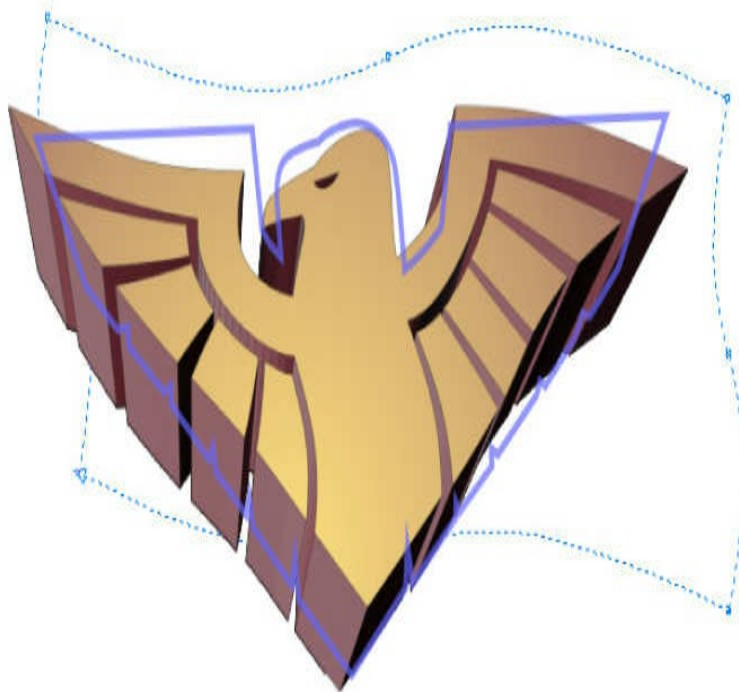
Here's a visual example of the four modes, with a faint outline overlay indicating the original shape of the extruded phoenix object:



Straight Line



Single Arc



Double Arc



Unconstrained



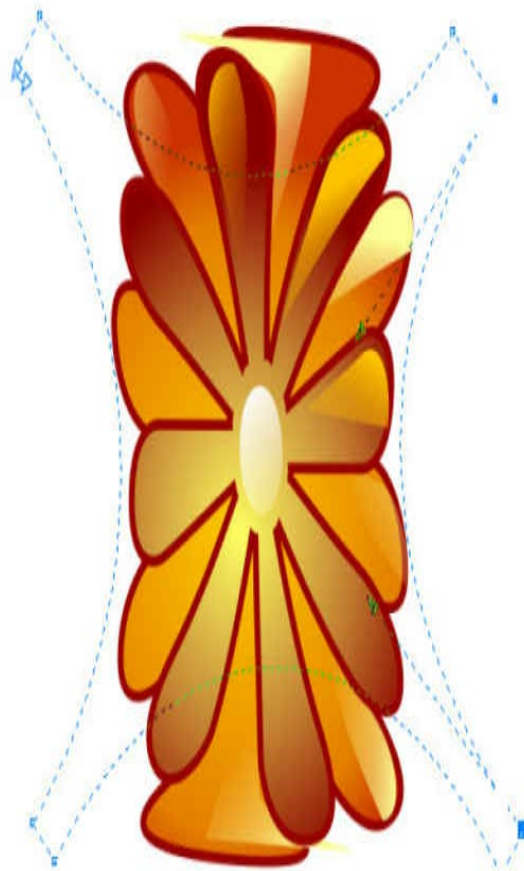
Note Modifier keys offer valuable ways to constrain the shaping of an envelope while using *Single Arc* mode. By holding key modifiers, you can quickly shape two sides concentrically or simultaneously. Hold SHIFT and drag any side or corner node to move the corresponding node on the opposite side in the *opposite* direction. Hold CTRL to move the corresponding node on the opposite side of the shape in the *same* direction and by an equal distance.

Choosing Envelope Mapping Options

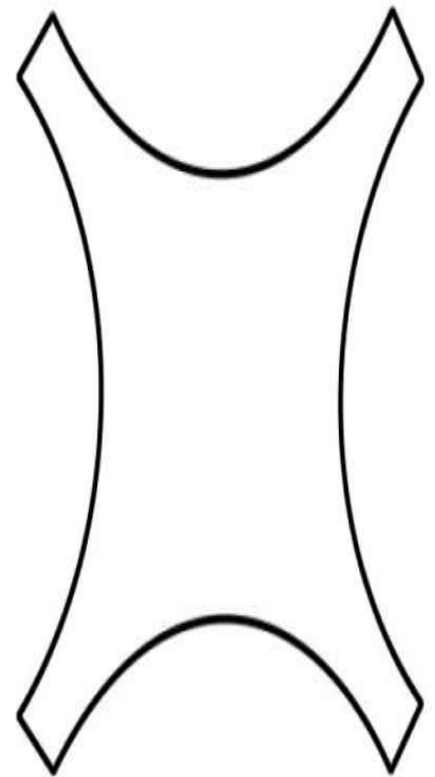
Envelope mapping options are available from the Envelope docker as well as when you're using the Envelope tool and Property Bar options, which control how the shape of an envelope changes your object's shape (see [Figure 17-1](#)). As you can see, Original and Putty mapping provide almost identical results for this particular group of objects and the envelope shape used here, but Horizontal and Vertical mapping give you the design opportunity to ignore the other envelope axis (Horizontal mapping ignores the vertical aspect of the envelope, and vice versa). This option is handy when you want to limit distortion of an envelope but don't have the time (or need!) to create a unique envelope for several different design purposes.



Original shape



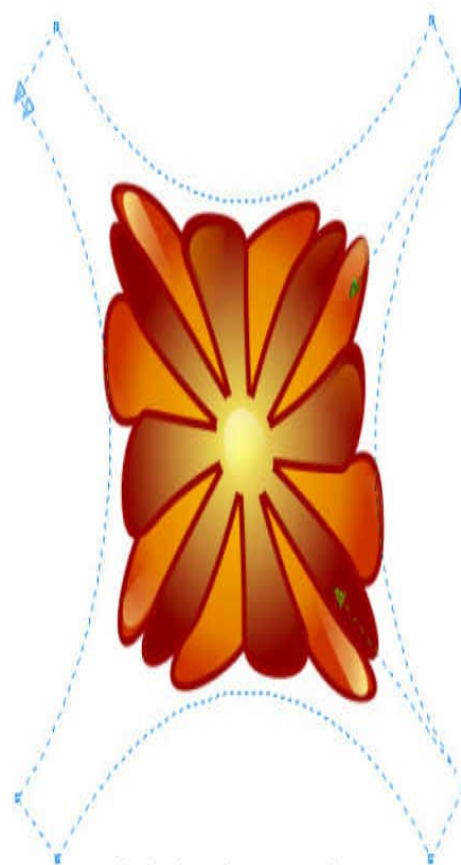
Horizontal mapping



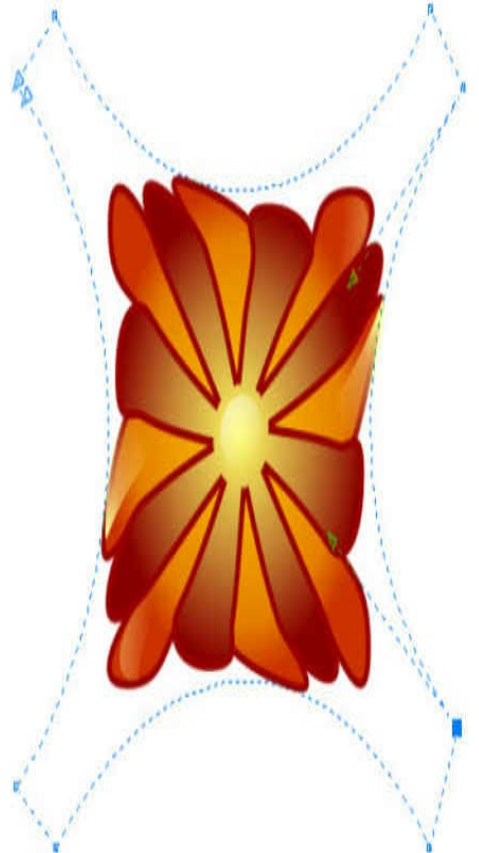
Envelope shape used



Vertical mapping



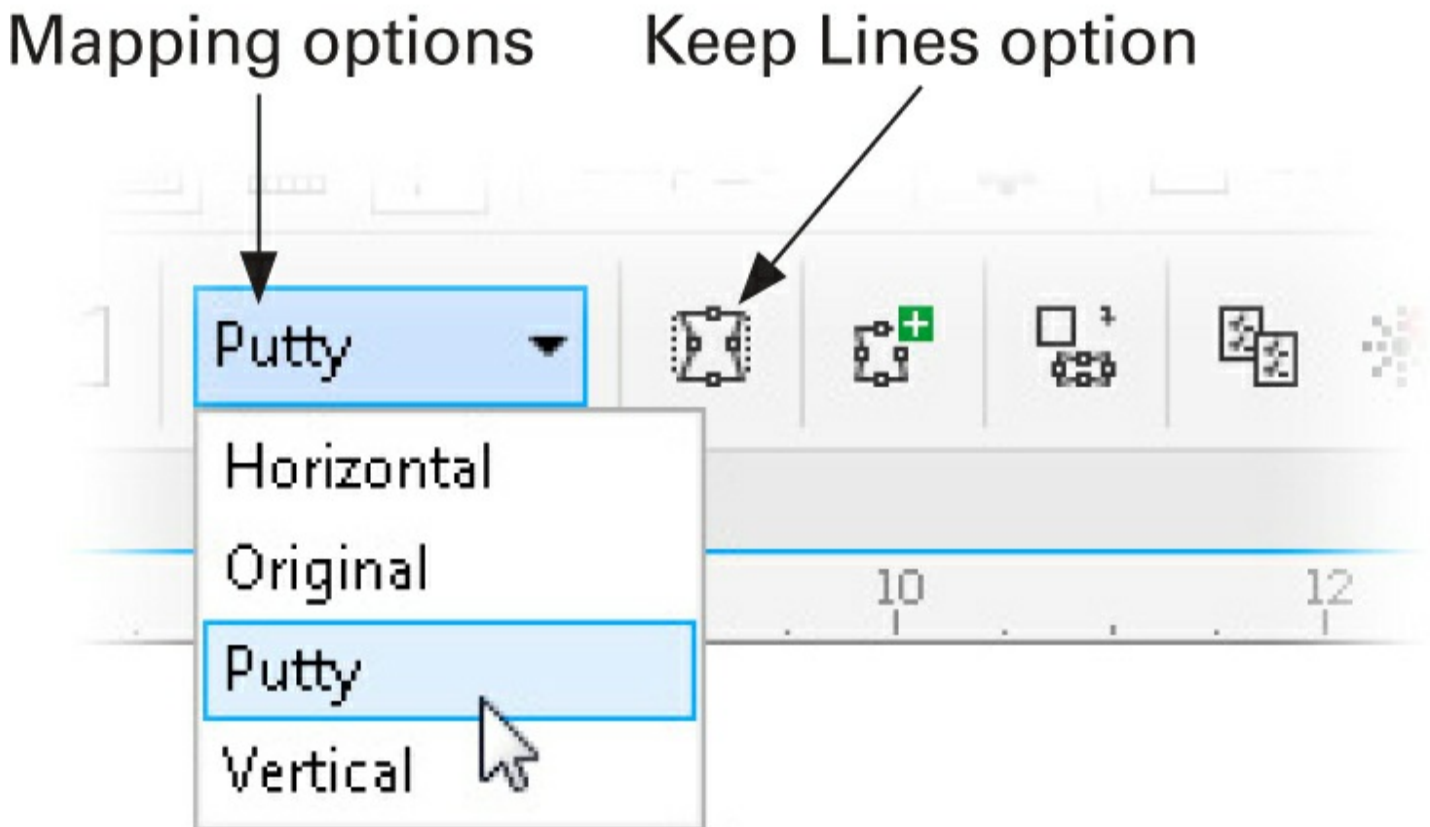
Original mapping



Putty mapping

FIGURE 17-1 This object group uses the same envelope but different mapping options.

Mapping options give preference to the shape of your original object's node positions and path shapes. Four types are available: Putty (the default), Horizontal, Vertical, and Original, as shown here:



The four Envelope mapping options, plus a special option for text and another to preserve lines, are worthy of explanation:

- **Putty** This option (the default) distorts the shape of your object to match the envelope as closely as possible; the envelope's nodes are given priority over the nodes in the object being enveloped. Putty maps the envelope shape to your object and results in a smoothly mapped effect.
- **Horizontal** This option maps the lines and node positions in your original object to match the horizontal shape of the envelope, without significantly altering the vertical shape of the original object.
- **Vertical** This option maps the lines and node positions in your original object to the *vertical* shape of the envelope, with the horizontal shape mostly ignored.
- **Original** This mapping type is similar to Putty. The main difference is that Original

maps *only the outer shape* of your original object to the envelope shape. Corner nodes are mapped to the corner nodes of your original object's shape, whereas node positions and line shapes toward the inside of your object are mapped using an averaging value. The result can be less distorted. If Putty mapping is too severe, try Original.

- **Keep Lines** Using this option changes only the node positions in your object to match the envelope shape being applied, leaving any existing straight lines unaffected. If your object is already composed only of curved lines, choosing Keep Lines has no effect. When Keep Lines is *not* selected (the default), all node positions and lines in your original object are reshaped to match the envelope shape—even if this means changing straight lines to curved lines.
- **Text** This option is the only mapping option available when a Paragraph Text object frame is selected. Text mode applies an envelope to the *frame* properties of a Paragraph Text object; the actual text and line of text are not distorted. This feature presents a wonderful opportunity to walk through a tutorial.

In this tutorial, you'll use the Violin.cdr file, which contains a silhouette drawing of a violin and a block of Paragraph Text attributed to Wikipedia. Your task is to fit the text inside the profile of the violin drawing. It's a class act, and this technique can be used for scores of designs—especially music scores.

Creating a Text Envelope

Tutorial

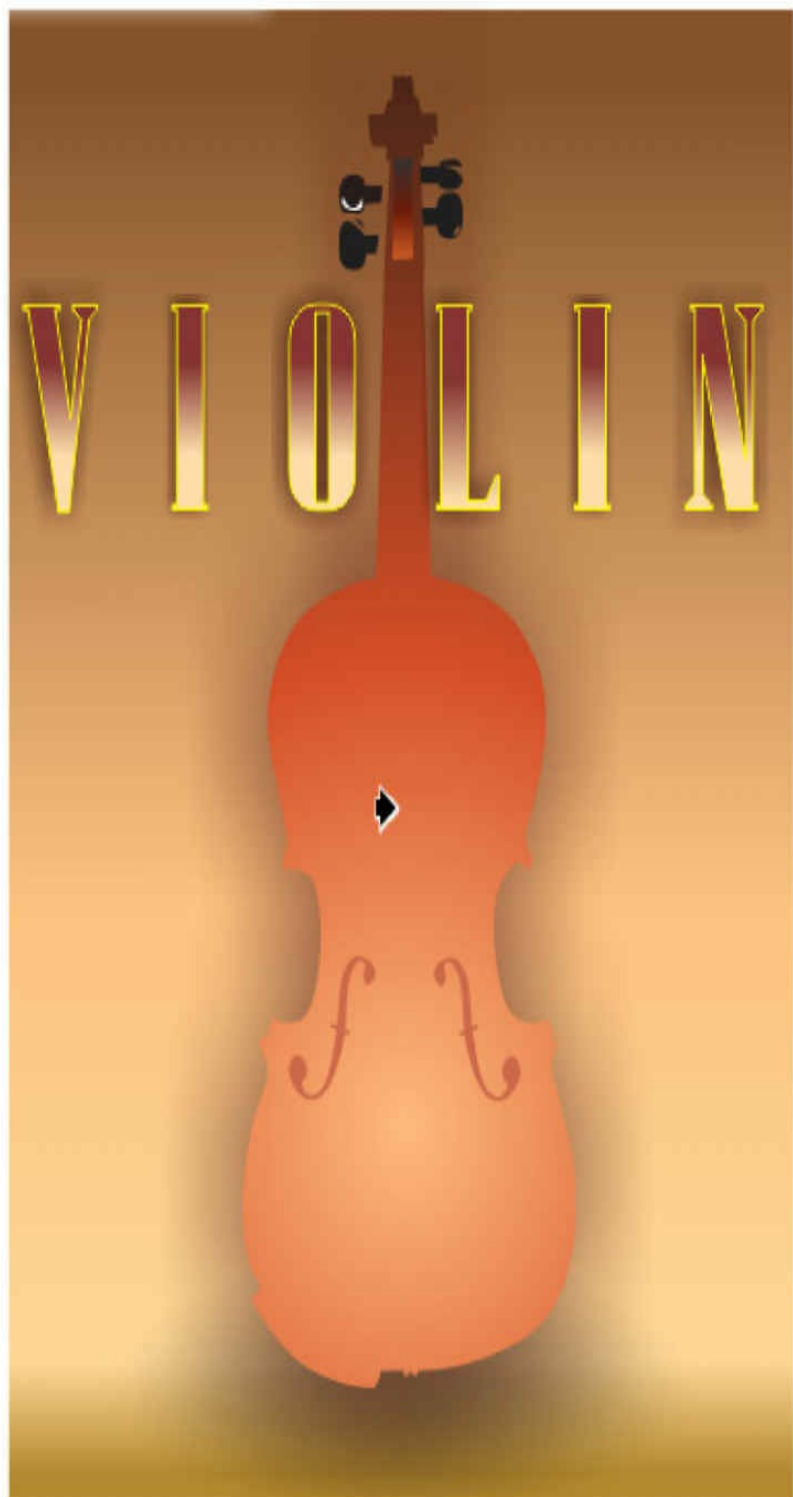
1. In the Violin.cdr document, choose the Paragraph Text object with the Envelope tool.
2. On the Property Bar, click the Create Envelope From button, and once your cursor changes to a targeting arrow, click the violin shape.



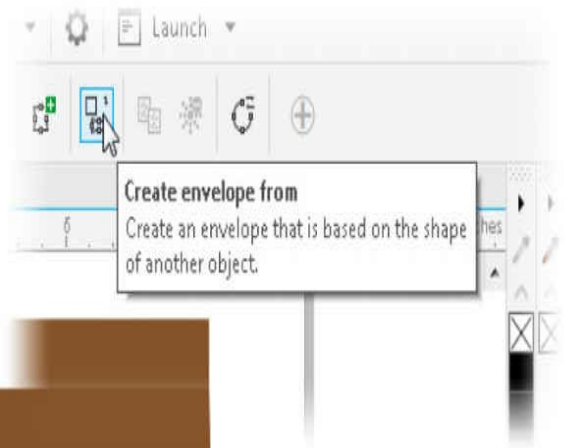
The violin is sometimes informally called a fiddle, regardless of the type of music played on it. The word violin comes from the Middle Latin word *vitula*, meaning stringed instrument; this word is also believed to be the source of the Germanic "fiddle". The violin, while it has ancient origins, acquired most of its modern characteristics in 16th-century Italy, with some further modifications occurring in the 18th century.

Someone who plays the violin is called a violinist or a fiddler. The violinist produces sound by drawing a bow across one or more strings (which may be stopped by the fingers of the other hand to produce a full range of pitches), by plucking the strings (with either hand), or by a variety of other techniques. The violin is played by musicians in a wide variety of musical genres, including Baroque music, classical, jazz, folk music, pop-punk and rock and roll. The violin has come to be played in many non-western music cultures all over the world.

—Excerpt credited 2010 to Wikipedia.



3. Click the Paragraph Text object with the Pick tool and then choose the Envelope tool to be able to copy the effect. Click the text using the Paragraph tool. Then click the Create Envelope From button on the Property Bar; your cursor turns into a targeting cursor. CorelDRAW recognizes this as a change to the Paragraph Text and obligingly pours the text into the violin shape, as shown here.

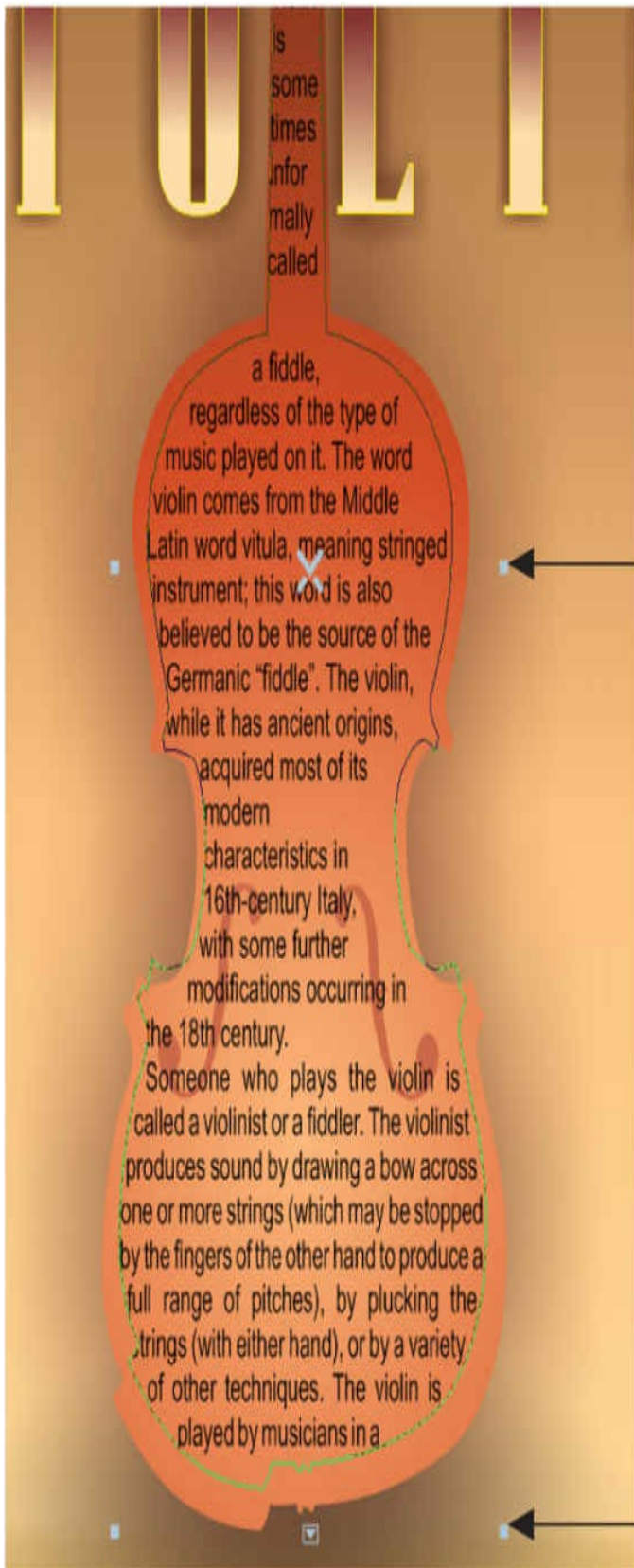


The violin is sometimes informally called a fiddle, regardless of the type of music played on it. The word violin comes from the Middle Latin word *vitula*, meaning stringed instrument; this word is also believed to be the source of the Germanic 'fiddle'. The violin, while it has ancient origins, acquired most of its modern characteristics in 16th-century Italy, with some further modifications occurring in the 18th century. Someone who plays the violin is called a violinist or a fiddler. The violinist produces sound by drawing a bow across one or more strings (which may be stopped by the fingers of the other hand to produce a full range of pitches), by plucking the strings (with either hand), or by a variety of other techniques. The violin is played by musicians in a wide variety of musical genres, including Baroque music, classical, jazz, folk music, pop-punk and rock and roll. The violin has come to be played in many non-western music cultures all over the world.

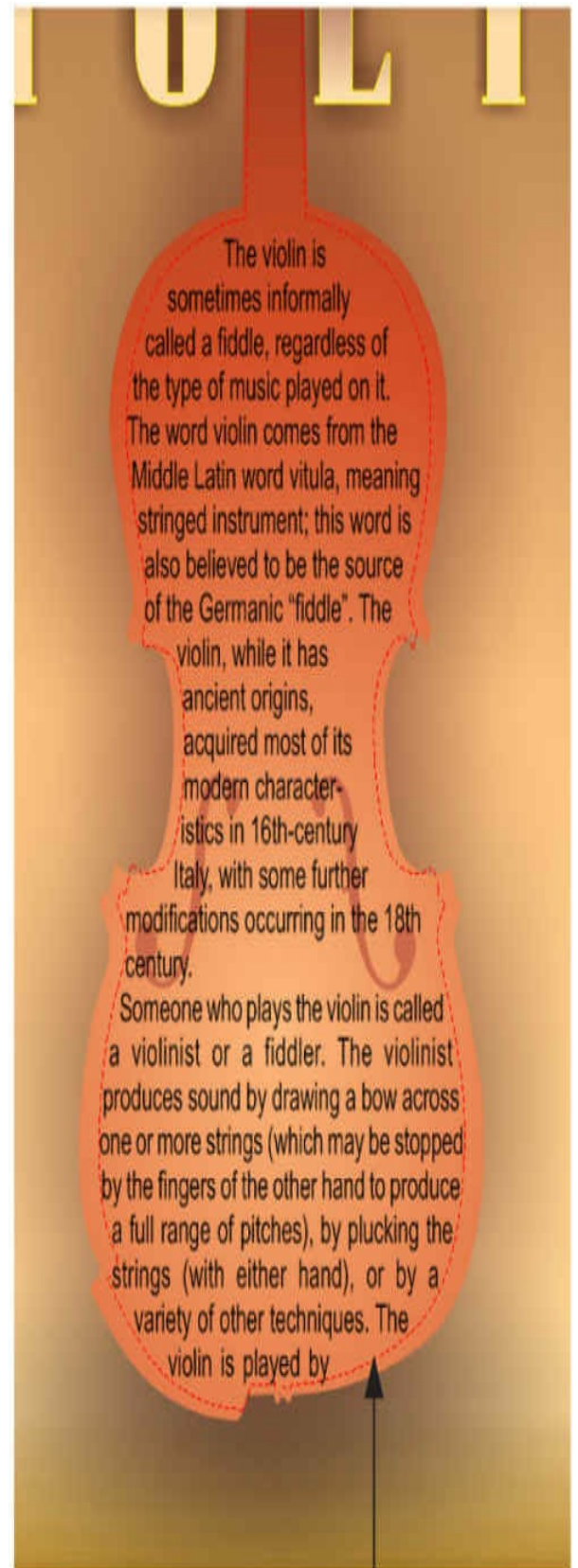
—Excerpt credited 2010 to Wikipedia.



4. Choose the Pick tool and move the text to fit over the violin drawing. You will probably have to scale the enveloped text up a little. When you do this by dragging on a corner selection handle, try to keep the text just a little to the inside of the violin shape so there is a small margin between the text and the edge of the violin shape. You can also click-drag the object selection handles with the Shape tool to fine-tune the flow of the text.
5. With the Text tool, insert your cursor at the beginning of the paragraph and then press ENTER to kick the text down so none of it is in the neck part of the violin, which looks awkward, reads terribly, and makes it hard to play the instrument. See [Figure 17-2](#) as a reference for where your composition should be now.



Scale envelope to
fit within violin.



Force text lines down
using Text tool.

FIGURE 17-2 Perform a little manual editing to make the envelope text fit within the violin drawing.

6. Optionally, choose a more elegant typeface than Arial. Select the text with the Pick tool, and then on the Property bar choose an installed font. In [Figure 17-3](#), Mona Lisa Solid (distributed by ITC) is used. End of exercise—pretty fancy graphic using the Envelope tool!



VIOLIN

The violin is sometimes informally called a fiddle, regardless of the type of music played on it. The word violin comes from the Middle Latin word *vitula*, meaning stringed instrument; this word is also believed to be the source of the Germanic "fiddle". The violin, while it has ancient origins, acquired most of its modern characteristics in 16th-century Italy, with some further modifications occurring in the 18th century. Someone who plays the violin is called a violinist or a fiddler. The violinist produces sound by drawing a bow across one or more strings (which may be stopped by the fingers of the other hand to produce a full range of pitches), by plucking the strings (with either hand), or by a variety of other techniques. The violin is played by musicians in a wide variety of musical genres, including ...

FIGURE 17-3 Create an elegant symbiosis of text as a graphic combined with a simple CorelDRAW drawing.



Tip Once the text has been enveloped, you can add this shape to your Envelope Presets list. Unfortunately, you cannot add an object as a preset envelope, but only the product of enveloping an object based on the shape of a different object.

Let's move now from twisting objects to recoloring, magnifying, and, in general, applying a lens over an object.



Tip You can apply *several* instances of an envelope, an envelope enveloping an envelope, and so on, if you need a truly gnarly effect. After you've sampled the envelope, click the cursor over the target shape three or four times until your laughter subsides.

What's Behind a Lens Effect

Looking at your drawings with a lens effect object on top is like looking through a window or a magnifying glass. What you see is influenced by the *properties* of the glass. For example, tinted glass in the real world makes objects in the distance appear darker—you can easily simulate this phenomenon with the lens effect set to Color Limit and applied to a 50% black object.

One of the more popular uses of this feature is to overlap a shape partially with a lens effect so you can see both affected and original areas at once. You can also freeze the lens effect object, capturing whatever's underneath the lens, and then move the lens object around, retaining the original view within the object.

Using the Lens Docker

The only way to apply a lens in CorelDRAW is through the Lens docker, opened by choosing Effects | Lens (ALT-F3). [Figure 17-4](#) shows the Lens docker, whose options change depending on the function you choose. Operate the Lens docker by first placing an object—which becomes the lens object—over a *different* object (or several objects, vector or

imported bitmaps), choosing a Lens type from the drop-down menu, and then choosing from the different property options.

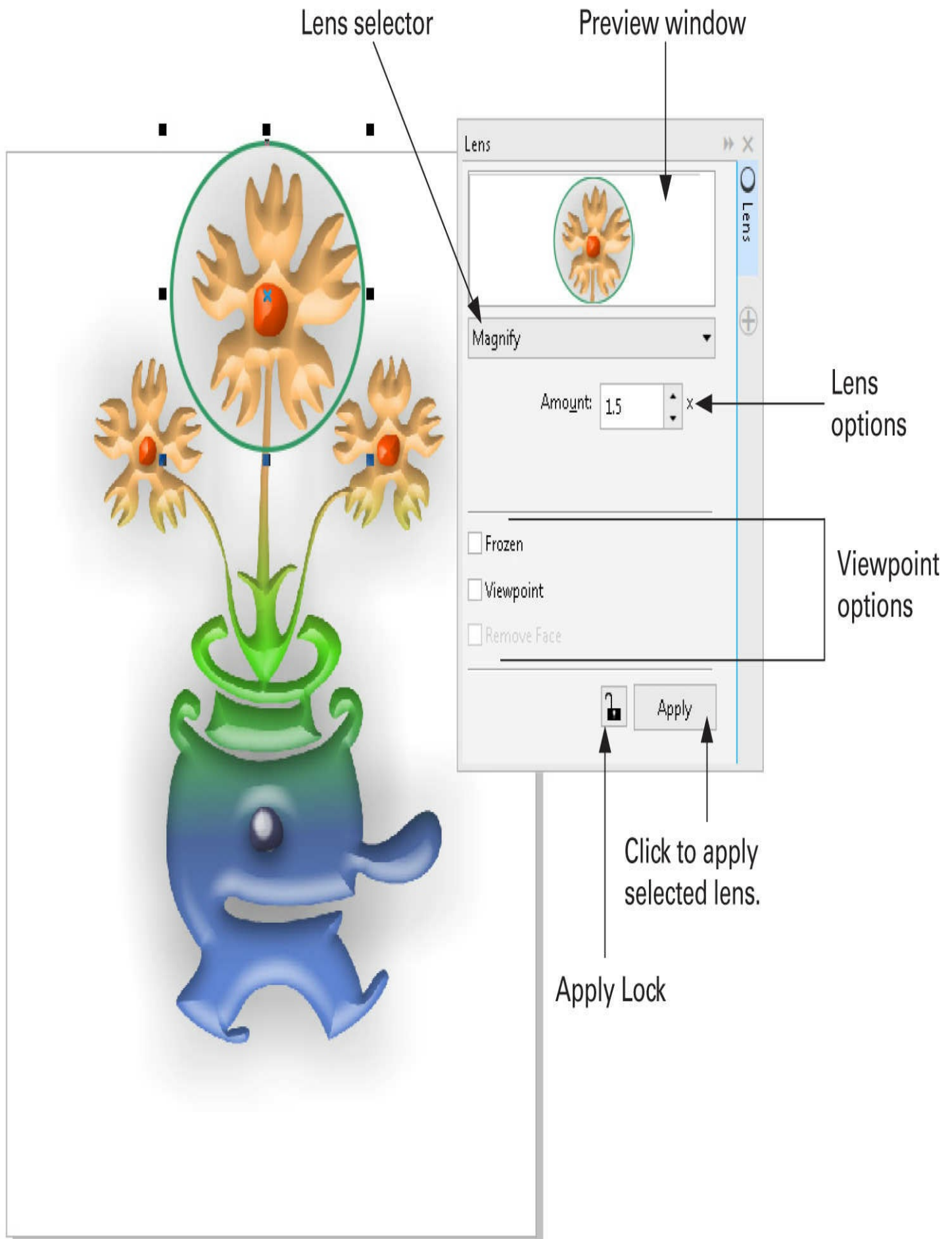


FIGURE 17-4 The Lens docker is where you customize effects to create the specific type of lens you need.

It's easier to understand lens effects if you just do it, as the manufacturer of running shoes says. Let's take the Lens docker out for a trial spin.

Working with a Lens Effect

Tutorial

1. Create a rectangle and then, with the Fill tool, click-drag to create a default Linear fountain fill from black to white. This rectangle will serve for this demonstration, but you'll most certainly get better effects using artwork of your own.
2. Create an ellipse and, with the Pick tool, arrange the ellipse so it partially overlaps the rectangle so that you can better see the creative possibilities of applying a lens to the ellipse object.
3. With the ellipse selected, open the Lens docker (ALT-F3).
4. Choose Custom Color Map from the docker's Lens selector drop-down list. Choose a deep blue from the From Color picker and then choose a bright green from the To Color picker.
5. The Apply Lock button, when in the locked position, auto-applies the effect as you adjust the parameters. If you like to review stuff *before* applying it (such as car wax or cosmetic surgery), click the lock icon to unlock the auto-apply state, and then click the Apply button to finalize the effect. The lens effect has remapped deeper shades in the rectangle to blues and lighter shades to greens, but areas of the rectangle not covered by the ellipse are still a black-to-white fountain fill.
6. Move the ellipse around a little to see how the lens effect changes only those areas of the rectangle that the ellipse covers.
7. With the ellipse partially eclipsing the rectangle, click the Frozen check box to put a check mark in it.
8. Move the ellipse around. As you can see, its content colors remain constant, even when you move the ellipse totally away from the rectangle.
9. Show your friends this effect. This is *fascinating* stuff!



Tip The Apply Lock option on the Lens docker applies lens effects immediately, so you don't need to click the Apply button.

Exploring the Lens Effects

Each lens effect has different properties you set using the docker controls. Each lens type is covered in the sections that follow so you can better judge your starting point when you want to dress up an illustration with a certain type of lens effect.

- **Brighten lens effect** Colors in objects seen through a Brighten lens can appear brighter *or* darker, depending on the setting in the Rate num box. The Rate setting can be between 100 and -100; positive values brighten up underlying colors, whereas negative values darken them. Brighten is a handy effect when, for example, part of an illustration you've worked on for days looks under- or overexposed when you print it. The solution is to design an object to use as the lens and place it directly on top, perfectly aligned with the area that prints poorly.
- **Color Add lens effect** The Color Add lens fills the lens object with the color you choose by clicking the Color mode color picker and then combining all underlying colors in an additive fashion—the culmination of the three primary colors being white instead of the real-world physical pigment model of subtractive colors, which eventually produce black when excessive amounts of primary colors are mixed. As an example, if you created an object with a red-to-blue fountain fill and then put a red Color Add lens object over it, the red areas will look unaffected at all rates, whereas the blue areas will change to cyan. This effect is good for adding a tint to isolated areas of an illustration and imported bitmaps. Any color can be added within a range of 0 to 100 percent in increments of 5 percent. Higher values add more color; 0 adds no color at all.
- **Color Limit lens effect** The Color Limit lens produces an effect that looks like the opposite effect produced by the Color Add lens. Color Limit tints underlying areas and decreases brightness in all underlying areas *except* for the hues in the color you choose from the docker. Color Limit can be quite useful, for example, to highlight an object in a composition by deemphasizing all other objects.
- **Custom Color Map lens effect** This type of lens object looks at the original colors in the underlying objects based on brightness values and then reproduces the design with the remapping colors you specify on the Lens docker. Usually, you want to choose a deep From color and a light To color; this tints and colorizes a drawing or bitmap in a predictable way. You can also remap your drawing colors in untraditional ways; mapping options include three palette-mapping choices: Direct Palette, Forward, and Reverse Rainbow.
 - Choosing Direct Palette offers two colors (From and To) and maps the colors found in your objects evenly between the brightness values of colors found directly

between these two around the color wheel.

- Conversely, Forward Rainbow has the same effect as Direct Palette, but in this case each of the object colors is mapped to *all* colors between your two chosen colors in a clockwise rotation. For example, if you choose red as the From color and green as the To color, instead of a blend between these two colors throughout your illustration, you'll get greens making a transition to magenta and then purple recoloring the underlying design. If you want the entire spectrum of the rainbow, choose red as the Start color and violet (purple) as the End color.
- The Reverse Rainbow option has the effect of mapping the colors in your object to the RGB brightness values of all colors between your two chosen colors in a counterclockwise direction. If you choose this option after setting up Forward Rainbow colors, you'll get a chromatic inverse of Forward Rainbow color mapping, a highly solarized look, much like what developed physical film would look like if you opened the back of the camera before rewinding the film.



Tip To swap your selected From and To colors quickly in the Lens docker while applying Custom Color Map Lens effects, click the small button located between the From and To color selectors. You might need to click Apply to make the swap and change what the lens object is doing.

- **Fish Eye lens effect** A conventional camera “fish eye” lens has a very wide angle of view. CorelDRAW’s Fish Eye lens performs the virtual equivalent; you can produce exceptionally distorted artwork, which can be an interesting, if not an everyday, effect in commercial design. Fish Eye is controlled by setting the rate of distortion within a range of 1,000 to –1,000 percent. You’ll probably find these extreme values useless in your work. At lower rates, the effect is subtle while retaining a sense of drama and dynamics.

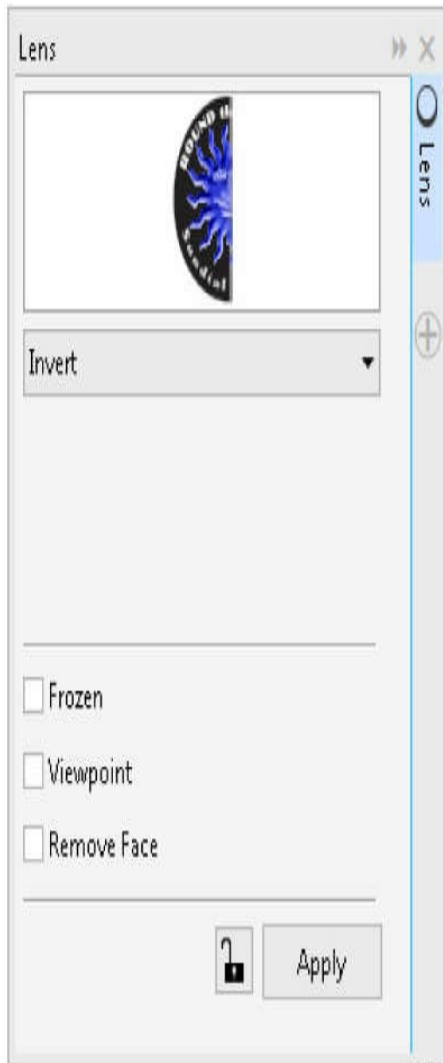


Note The Fish Eye lens’ strong suite is distorting over vector drawing. If you try to distort a bitmap with this lens, the effect will be subtle to no effect at all.

- **Heat Map lens effect** The Heat Map lens is similar to the Color Map lens effect, except the colors are predetermined (there are no specific color options). The effect simulates “black body” physics: a hypothetical object (in space) absorbs all light, and the presumption in this hypothesis is that the body is warm. With the Heat Map lens,

colors in underlying objects on the warm side of the color wheel (red, orange, yellow) appear in shades of red or orange. Cool colors (green, blue, and violet) appear in shades of white, yellow, purple, blue, and light blue. You can also offset the color mapping by using the Palette rotation spin box. When you use the Palette rotation spin box, values of around 50 usually make colors appear cooler, and as you move to 0, or in the opposite direction (100), colors appear warmer.

- **Invert lens effect** The Invert lens applies color inversion to the colors of underlying objects. In this case, colors are directly mapped to colors found on the opposite side of a color wheel. Black areas change to white, light grays turn to dark grays, reds turn to greens, yellows turn to blues, and so on. To make a “day and night” composition, follow these steps:
 1. Open the Sundial.cdr image.
 2. Put the black half-circle over the left half of the logo.
 3. Choose Invert from Lens selector list on the Lens docker.



- **Magnify lens effect** Although this lens produces a straightforward and predictable effect, it can make underlying objects larger *or* smaller, depending on the value you enter for the Rate setting. The Rate can be set within a range of 0.1 to 100, where values between 1 and 100 increase magnification and values less than 1 reduce magnification. Try opening Swamp Water.cdr and then magnify the 1-point text at the bottom of the bottle so the public can see what's in this "sports drink." Bitmaps are resolution dependent, so you can only magnify the image of the bottle so much. The text in this composition is, however, a pure native CorelDRAW vector. Place the ellipse over the fine print in the image, and then magnify it 8× or even higher if you like, and the text remains crisp and legible—and, in this example, you'll get a little reminder about what it is you're potentially putting into your system.
- **Tinted Grayscale lens effect** By default, the Tinted Grayscale lens converts the colors of underlying objects to grayscale values, which is terrific if you're into black-and-white photography, but you can use any color you like, thus tinting photos and drawings just by choosing a color from the Color flyout palette on the docker. Remember that digital images use the additive color model, so the lighter the lens color, the fainter the resulting composition. You might want this effect, however; try light grays and light warm browns to make new photographs look like they were originally taken in the 1940s.
- **Transparency lens effect** This lens effect is a simplified version of the effects you can achieve using the Transparency tool on the Toolbox. Blending modes are unavailable, and the object itself becomes transparent—not the underlying objects—to varying degrees based on the rate you set on the Lens docker. The perk to using a Transparency lens effect over the Transparency tool is that you can freeze the effect and then move a partially transparent copy of the underlying area anywhere you like on the page.
- **Wireframe lens effect** This lens effect converts the color and outline properties of objects to specific colors; this effect is useful for pointing out the technical details in an illustration. You can set the outline and fill colors of objects beneath the lens to any uniform color you choose by clicking the Outline or Fill flyout palette on the docker. The fill and outline colors of your objects are replaced with the selected colors, whereas outline properties—such as applied widths and line styles—are ignored; Wireframe produces a fixed-width outline.

Although Burger.cdr—the file you'll work with in a moment—is a good illustration, let's say the fictitious client, Mr. Beefbarn, wants to "accentuate" his sixteenth of a pound all-beef special by plumping up the illustration for the advertisement instead of the actual weight of his product. Instead of using the envelope effects (which will not work on imported photographs), in a few mouse clicks, you can create a shape that roughly fits over only the burger in the drawing and then apply the Fish Eye lens.

Changing Object Size with the Fish Eye Lens

Tutorial

1. Open Burger.cdr; with a Pen tool, draw a shape that roughly matches the shape of the hamburger, just a little larger so the lens effect works. If you want to cut to the chase, creating an ellipse around the burger provides decent results.
2. On the Lens docker, with the object selected, choose Fish Eye. Set the Rate to **65%**. If the Apply button is unlocked, click Apply now to see the results. Try moving the lens object around a little if the illusion that the burger is almost twice its original size isn't perfect.
3. Let's say Mr. Beefbarn gets on a health-food kick and wants you to design a leaner burger. You just crank the Fish Eye lens effect to -90 and then click Apply. With just one click (and perhaps moving the lens object a little), you can get today's health-conscious culture to buy the advertisement, if not the burger.

In [Figure 17-5](#), you can see, on the left, the result of an ellipse shape with the Fish Eye lens type defined at a rate of 65%. The burger bulges toward the viewer, and Mr. Beefbarn is happy. On the right, a negative rate (-90%) is defined using the same lens object. Happy client and very little editing work needed.

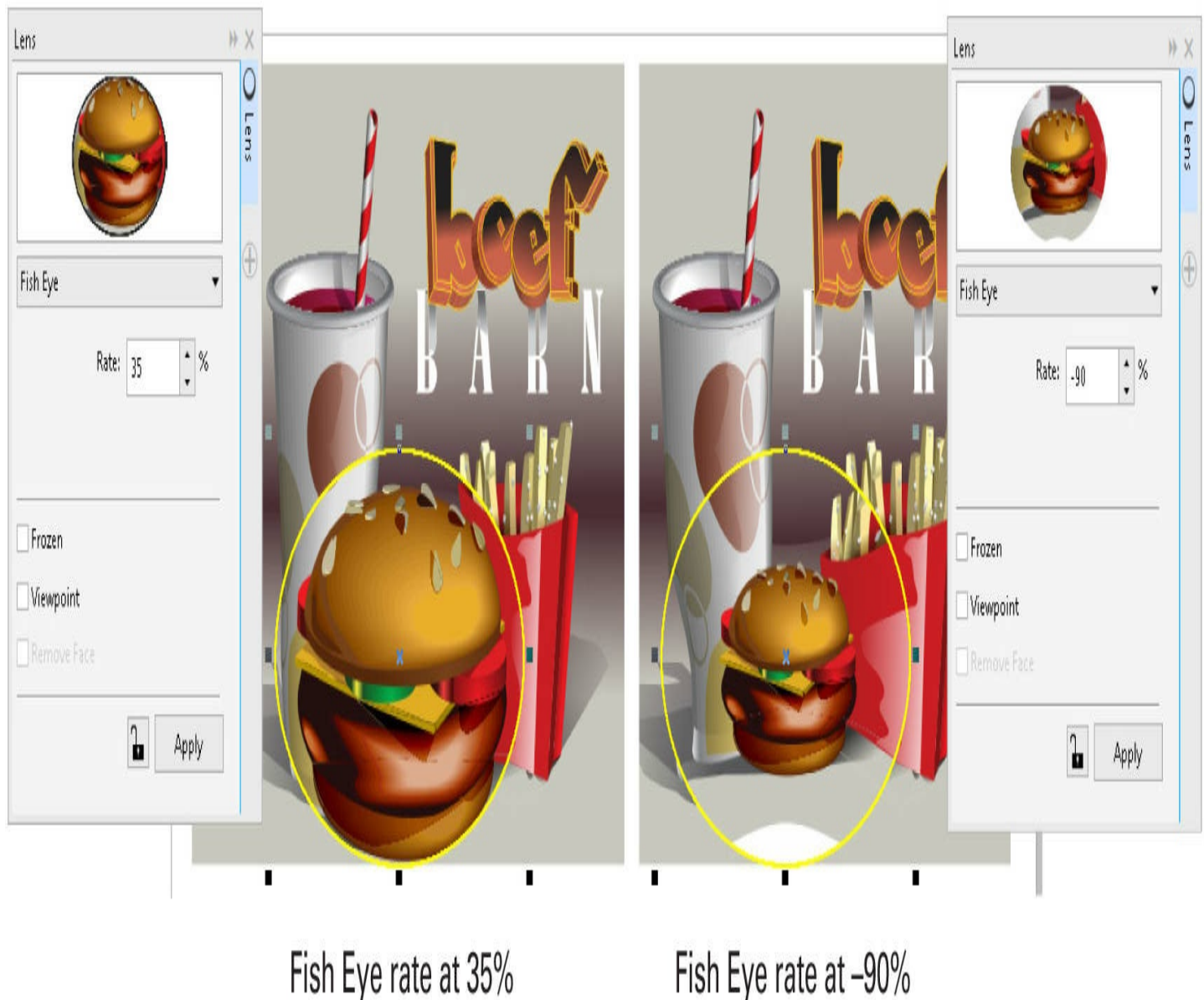


FIGURE 17-5 Two different Fish Eye lens effects settings are used to bloat and pucker the underlying drawing area.

Using Lens Options

Only one option has been discussed so far with the Lens docker: the *types* of effects. You'll gain more control of your effects when the other options on the docker are explained in the following sections. Locking an effect, altering viewpoints, and controlling whether the page background is involved in an effect open extra doors to this docker.

Using the Frozen Option

The Frozen option “freezes” the view seen through any lens effect—even if the lens object itself is moved. You can then apply and freeze the lens object view and use it for other purposes. A Frozen lens effect object can actually be ungrouped to reveal a set of objects

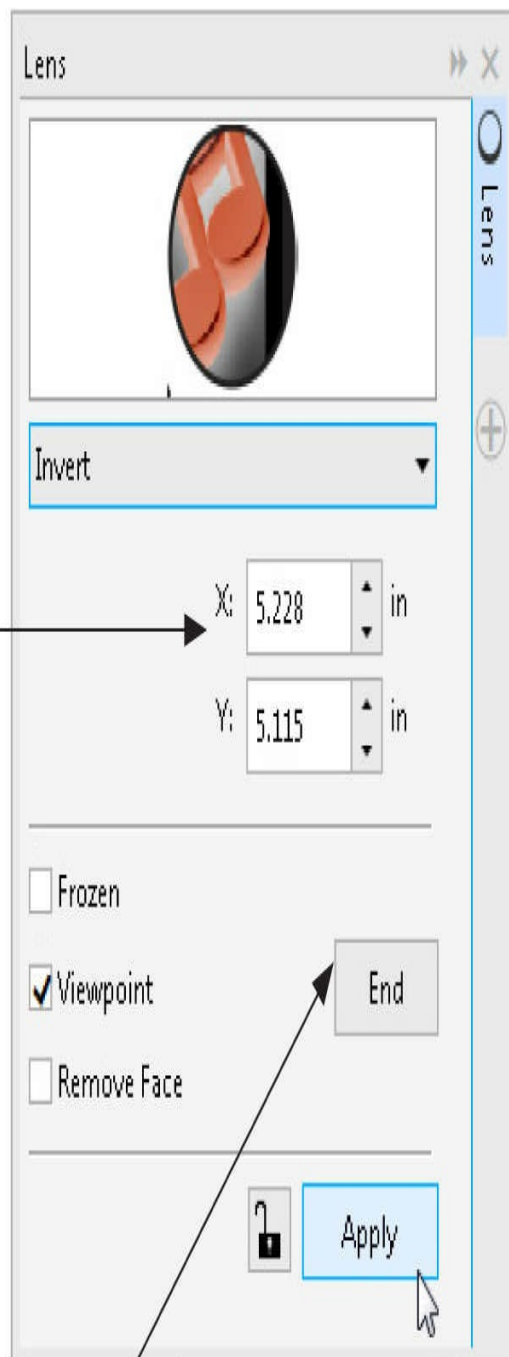
based on the lens you've applied. If the effect is applied above a bitmap, the result is often a complete copy of the filtered image area, and it can be exported as a bitmap.

After choosing the Frozen option, you can ungroup the lens object (CTRL-U). This action converts the effect to a collection of ungrouped vector and/or bitmap objects. Each of the objects representing the complete effect becomes a separate object, including the lens object, the page background, and the objects within the lens view.

Changing a Lens Viewpoint

The Lens Viewpoint option lets you move a lens and keep the view inside the lens constant—like freezing a lens, but this option *keeps the effect dynamic*. When you check Viewpoint on the docker, an Edit button appears. You then click-drag interactively to reposition the viewpoint of the lens effect either using your cursor (indicated onscreen by an X) or by entering numeric values in the X and Y page position boxes.

Numeric
entry boxes
for Viewpoint
page position



Edit/End button



New Viewpoint
marker position

Lens object with Invert
lens effect applied





Tip The view seen through a lens object depends on the object order on a layer—all objects layered below the lens object appear in the lens. When the Viewpoint is repositioned, you may find that an object is not visible. Arranging objects in back of the lens object causes them to be affected; arranging them in front of the lens object prevents the lens effect from changing them.

The default Viewpoint position of a lens effect is always the center of your object, but you can move it anywhere you like. After moving it, unlatch the lock button and then click the Apply button on the Lens docker to set the new position.

Using the Remove Face Option

Remove Face is available for only a few types of lens effects. It lets you specify whether other objects and the page background participate in the effect. By default, whenever a lens effect is applied, the background—your page, which is usually white—is involved in the effect.

If the lens you are using changes the colors—such as with Custom Color Map—and you *don't* want your background to be changed within the view seen through the lens object, selecting this option leaves the background unaltered. The design idea is to remap only the objects under the lens. Without Remove Face, a background on your drawing page is tinted, but after Remove Face is applied, the page background of your composition is unaffected by the tinting effect.

Using the Bevel Effect

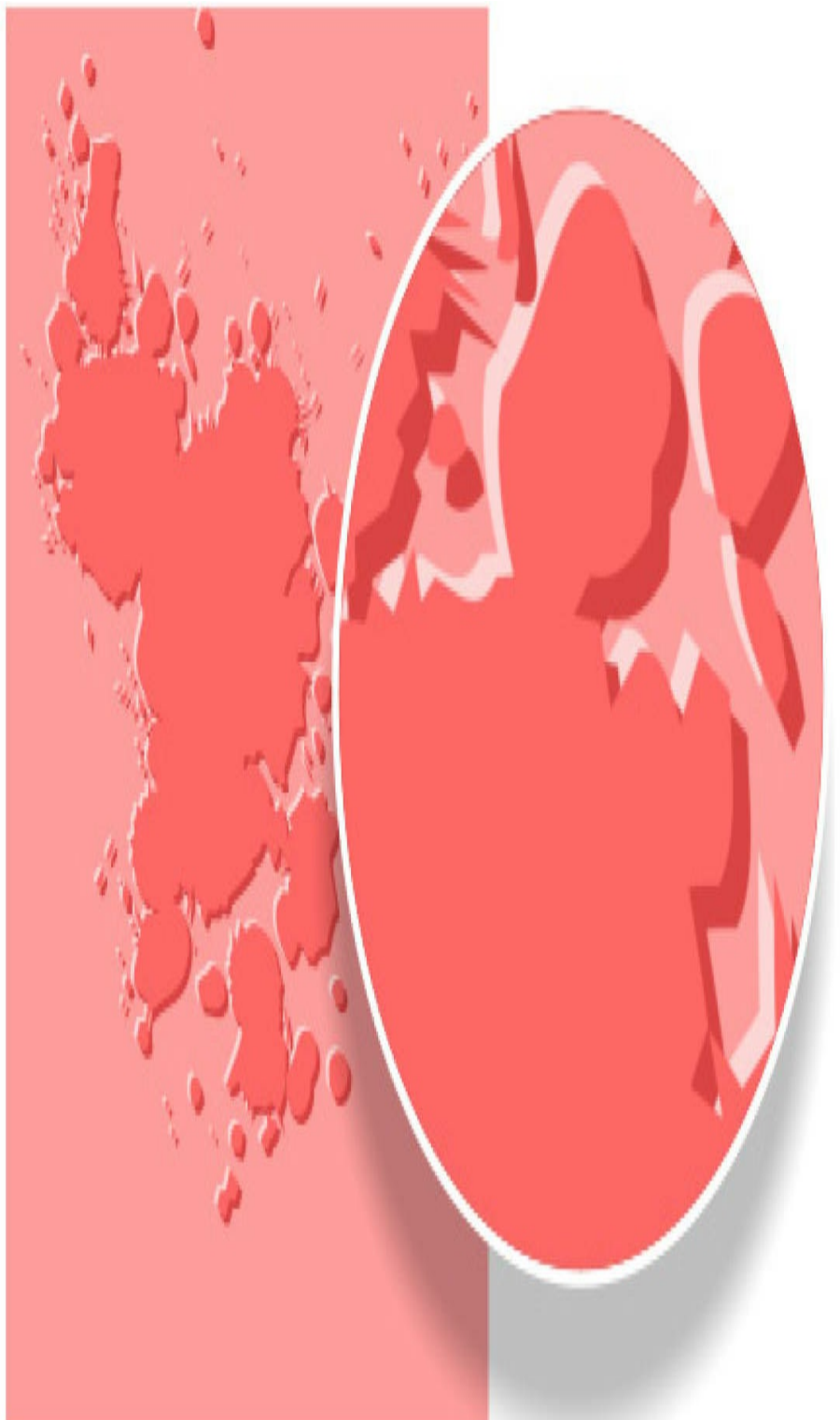
The Window | Dockers | Effects | Bevel docker gives you a way to make objects dimensional, but not as completely three-dimensional as the Extrude tool. The Bevel docker offers two different types of engraving effect: Emboss and Soft Edge. The Emboss mode is an automated routine that creates duplicates of an object, offsets them, and gives them different colors to create the effect of, for example, a seal crimped onto a piece of paper like notary publics used to do. Although you can manually create this emboss effect, the Bevel docker creates a dynamic, linked group whose color and position can change when you define different light intensities and light angles.

Here are visual examples of the emboss effect. If you choose to use Emboss mode, create a background for the object because either the highlight or the shadow object might not be visible against the page background. Usually, a color similar to the background will serve you well for the object color. You can use any fill, including bitmaps and fountain

fills, for the object you want to emboss, but the resulting emboss objects will not *feature* the fill, only solid (uniform) colors.

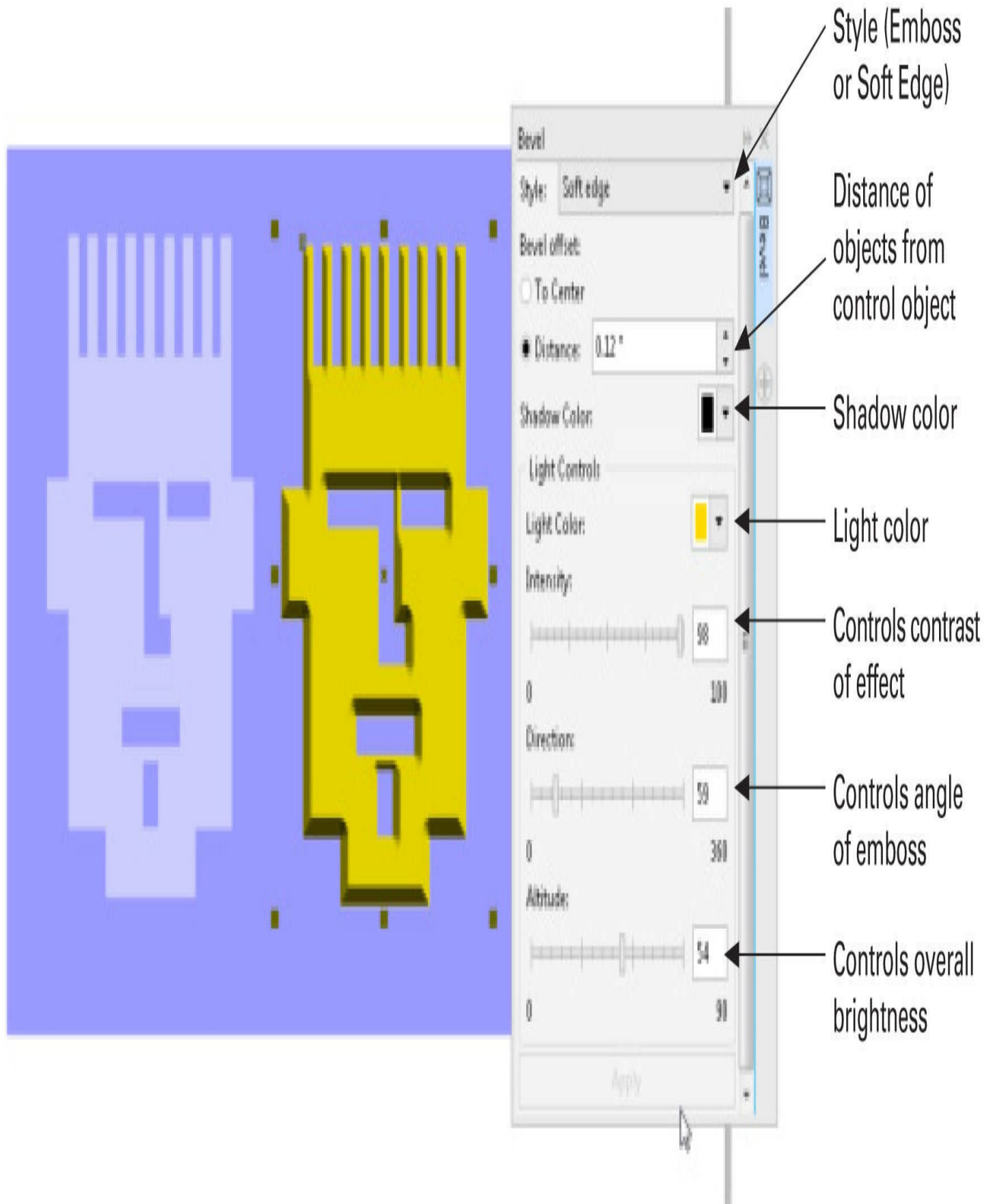


Original



Two offset duplicates create the effect.

Here, you can see the Bevel docker and the options available while applying the Emboss mode.



Here's a rundown of what the options do on the Bevel dock in Emboss mode:

- **Bevel Offset—Distance** This combination num box and spin box is used to set the distance of the duplicate objects from the original. You don't gain anything visually by setting a high value for an object; rather, this box is used to set a relational distance, depending on the size of the object to which you apply the emboss effect. For example, a 4" object looks embossed if you use a 0.09" Distance setting, but the effect looks a little phony at greater distances. On the other hand, an 8" object will probably not look embossed with a 0.09" Distance setting—0.16", however, scales the effect proportionately to the object and the emboss effect looks good. If you need to resize an object, plan to redefine the Distance setting for the Emboss mode after you scale the parent object.
- **Shadow Color** The color of the object has a direct influence on the color of the shadow object behind the control object. For example, if you create an emboss effect with a blue object, the shadow object is a dark blue, even if you set the color to black. You can neutralize the shadow color by defining the color opposite the control object; for example, if you have a cyan circle, set the Shadow Color to red, the color complement of cyan. The resulting color is always duller than the color you define because—well, it's a *shadow*! Shadow Color is unaffected by the Intensity option.
- **Light Color** This controls the color of the highlight object; it affects neither the control object's color nor the color or brightness of the shadow object. Light Color at full intensity displays the color you choose, and as you decrease intensity, the Light Color blends with the object color—Light Color does not depend on any object's color you might have beneath the effect. As light intensity decreases, a bitmap-filled object's highlight color changes from its original color to white.
- **Intensity** Use this slider to control the contrast of the emboss effect. Although the shadow object's color is not affected by intensity, the highlight object's color is.
- **Direction** Use this slider to control the direction that light seems to cast on the emboss object(s). A Direction setting of 0° points the highlight at 3 o'clock, traveling counterclockwise. Therefore, if you need a highlight on an emboss effect at 11 o'clock (a very classic lighting position), set the Direction at about 120°.
- **Altitude** This option is only available in Soft Edge mode and not Emboss. It changes the simulated position of a sun or light. Lower altitudes produce darker shapes and bevels, while higher values brighten and reduce the contrast between the shape and the bevel.

Creating Soft-Edge Bevel Effects

The other mode on the Bevel docker, Soft Edge, performs many more calculations than the Emboss mode and actually creates a bitmap image, masked by the control object, which you can adjust dynamically. The Shadow Color, Light Intensity (and Color), and Direction options on the docker produce predictable results, much like those you get when using Emboss mode, but because the Soft Edge mode is generated to bitmap format, the results

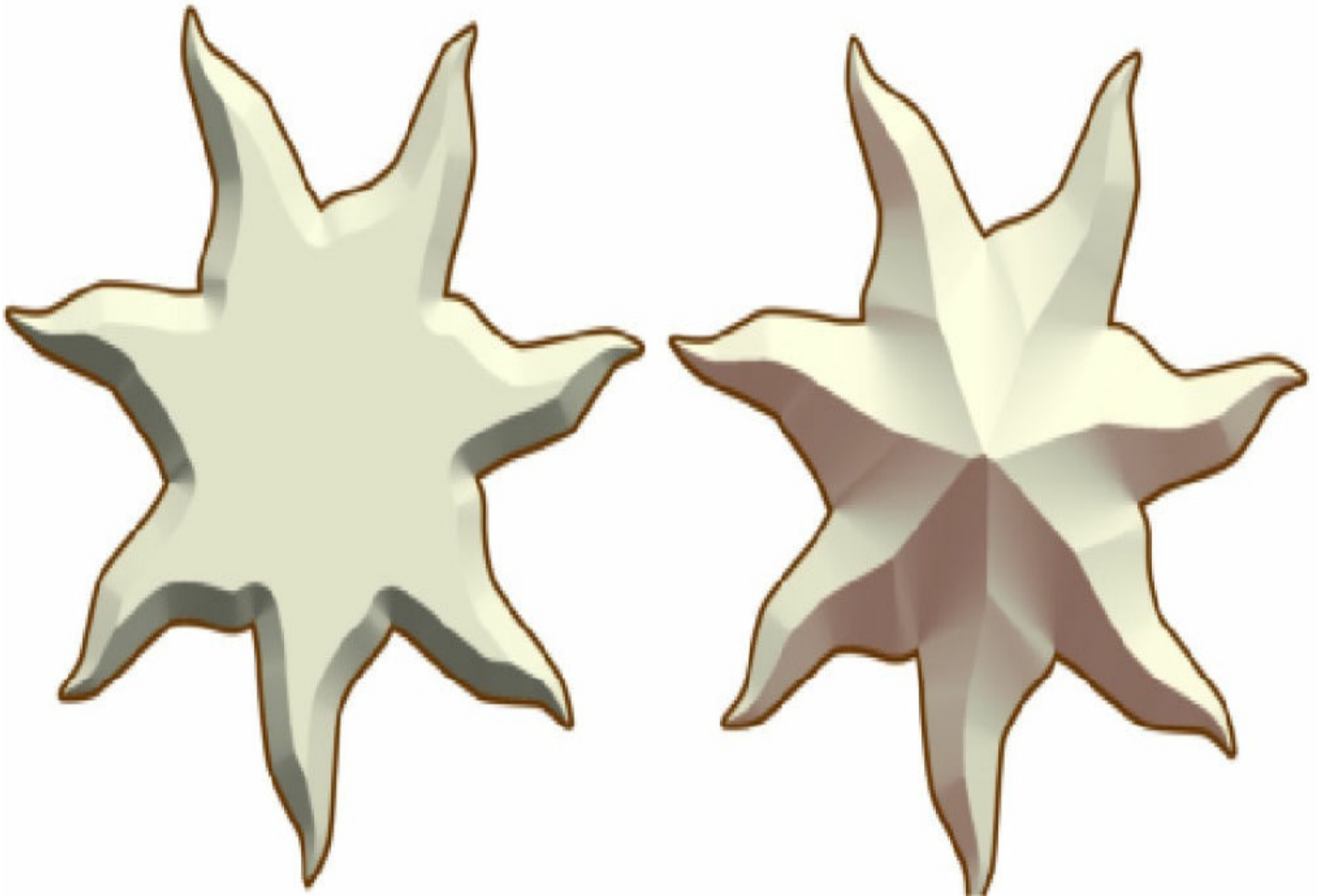
look more detailed, refined, and almost photorealistic in appearance. In addition to having an Altitude slider in this mode, you have To Center as an available option in the Bevel Offset field. Here's what it does and how To Center works.

All soft-edge bevels are produced from the edge of a shape traveling toward its center. If, for example, you've created a circle that's 3" across and then type a Distance offset value in the num box in any amount less than 1.5", you'll see a dimensional, sloping bevel created inside the circle, with a flat top in the shape of the circle in its center. If, however, you type in a value greater than 1.5", the center of the object bevels to a point, and the front face of the object is entirely lost. The reason this happens is that the bevel effect travels toward the interior of the shape, and half of the 3" diameter of this circle is 1.5". Just keep in mind the size of the shape to which you apply a bevel effect to gain total control over the effect. If, on the other hand, you intend for the sides of the bevel to come to a point, you don't need to set values in the Distance field; you choose To Center, click Apply, and CorelDRAW creates the maximum-width bevel, meeting at a point inside the shape. You can create interesting marine creatures such as a starfish by using the Polygon tool to create the silhouette. Then you fill the object and choose To Center to auto-create a very lifelike composition.

Here are two different looks for the bevel effect: on the left, the Distance is set for Offset; on the right, To Center has been chosen.

Distance: 0.18"

To Center chosen



Determining Altitude

Altitude determines the angle of the sun illuminating the bevel effect...if the sun were actually *involved* in creating the effect. Altitude is a simulation that does something a little different than Shadow and Light Color do to increase and decrease the contrast of the effect. At Altitude settings that approach 90°, you lessen the difference in brightness between the darkest and lightest areas in the bevel effect. Think of a coin on the sidewalk at high noon; you can't really see the embossed famous person on the coin because the bulges and recesses on the coin are fairly evenly lit. It's the same with the Bevel Altitude setting; smaller Altitude amounts cast the hypothetical sun closer to the hypothetical horizon, and you get more contrast on the bevel. If you want the bevel effect to have the greatest visual impact on your work, use a moderate Altitude value most of the time.

This chapter has shown you a lot of effects that do more to please than to stun your audience. Envelopes, lens effects, and bevels speak of a quiet elegance that strikes the viewer on a subliminal level. It's well worth your time to become proficient with these effects for the future when you need a touch of photorealism in a drawing—something that

strikes the audience without hitting them over the head.

The following chapter takes you into two more embellishments—of the photorealistic variety—that can complete an “almost-done” composition you’re not getting almost done! Transparencies are a treat to work with in version X8, and drop shadows don’t just drop; they anchor your composition to the page so your design elements rise above the page, or walk into the sunset casting a hero’s shadow. Bring some objects along; we’re going to create new materials and new suggestions of surfaces they rest on using shadows.



PART VII Special Effects in CorelDRAW