

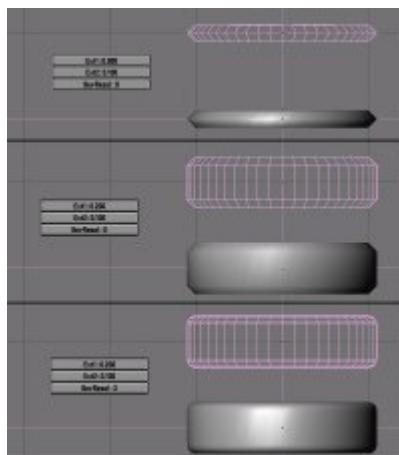
[Back to reD_Fox's
Blender Tutorials](#)



Curves -n- Bevels by **Justin Barrett**

One of Blender's powerful features is its ability to quickly create beveled objects from simple curves. However, the real power (IMHO) lies in the BevelOb button, which allows you to use another object to define the shape of the bevel. Through this tutorial, we will explore just a few of the possible uses for this technique, and hopefully give you some ideas on how you can use curves and bevels in your projects.

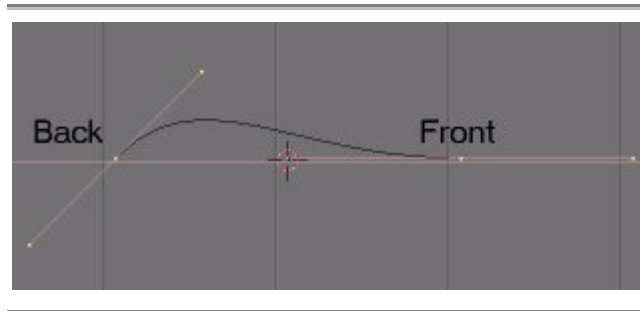
First we'll create an object with Blender's default bevel. With an empty screen, add a Bezier Circle in the top view, and TAB out of Edit mode once it appears. Switch to the front view and press F9 to bring up the Edit Buttons. The default bevels are controlled by two buttons: Ext2 and BevelResol. You might include Ext1 in that list as well, but that simply controls the extrusion depth of the curve. Ext2 is the depth of the bevel, which is added on top of the extrusion, and BevelResol controls the resolution, or smoothness, of the bevel. The following are some examples using various bevel settings:



As you can see, the default bevel is okay, and you can even create the bevel with no extrusion if you wish. However, the bevel shape is limited to either a chiseled edge or various degrees of roundness. Let's say you want to make a table with a routed edge. For that, you'll need to use the bottom button, BevelOb. Still in the front view, create a Bezier Curve somewhere to the left of the circle. This will become our new bevel.

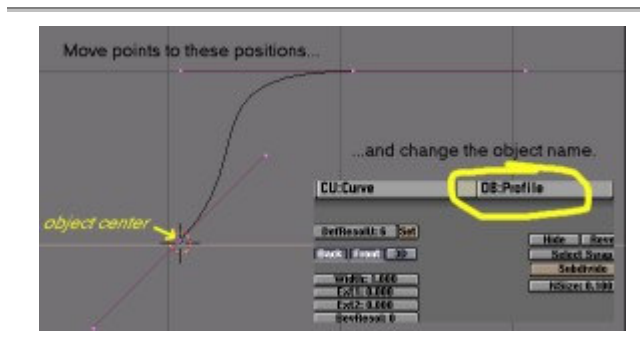


Before using this as a bevel, you need to understand something about curves: direction. Even though it doesn't show on the screen, all curves (open and closed) have a front and back, and the positions of a curve's front and back make a difference when you're using it as a bevel. When a curve is first created in Blender, the front and back are as follows:



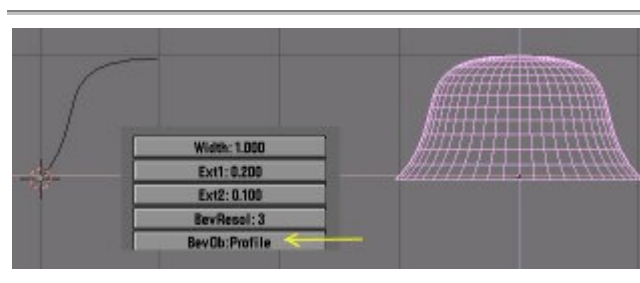
Keep this in mind as you shape your bevel curve. If you ever find that the shaded view of a beveled object looks odd, it probably has something to do with the direction of the bevel curve. Luckily you don't need to re-shape your curve. Simply select the curve, TAB into Edit mode, select any part of the curve (even a Bezier handle), press W, and choose "Switch Direction." TAB back out of Edit mode and the shading should appear normal.

Anyway, back to beveling. Zoom in on your newly-created curve, select the right-most point, and move it up a little bit. SHIFT-select the other point and move them both so the lower-left point is on top of the object center (more on this later). Change the name of this object (in the OB button) to something more meaningful, like "Profile."



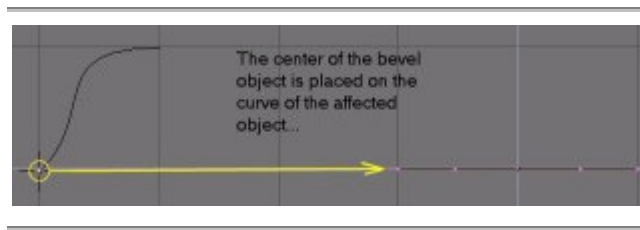
Select the circle, click on the BevOb button, and type "Profile," or whatever name you chose for your bevel curve. Be sure it's typed exactly like the original; Blender is case-sensitive in these matters, and typing "profile" won't work.

As soon as you hit ENTER, you should see something like the following:



The bevel looks nice, but we now have a VERY thick table top with almost no top surface. Here's why this happened: When a custom bevel is used, the center of the bevel curve is placed on the curve of the object to be beveled. To verify this, select the circle (which now looks like fat bottle top) and press TAB to see the original curve. Because we moved one point of the bevel curve on top of the object center, you can see that this spot perfectly corresponds with the actual circle within our

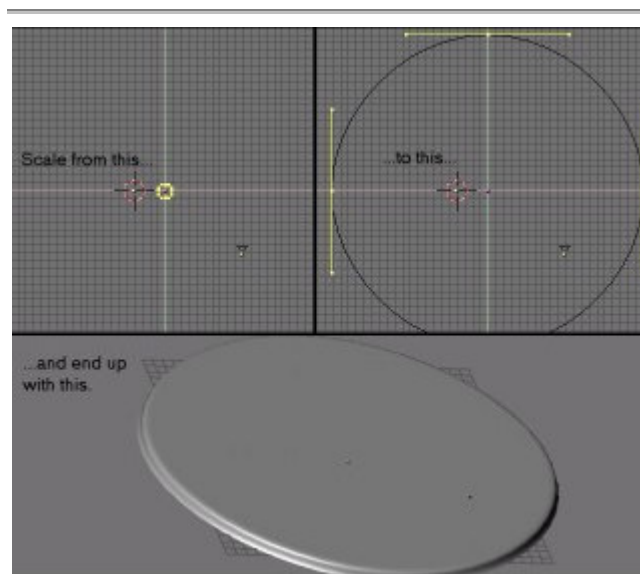
other object. This illustrates the point that the position of the vertices in the bevel object affects the final appearance of the object you're beveling. You'll also notice that the Ext1, Ext2, and BevResol settings no longer have any effect.



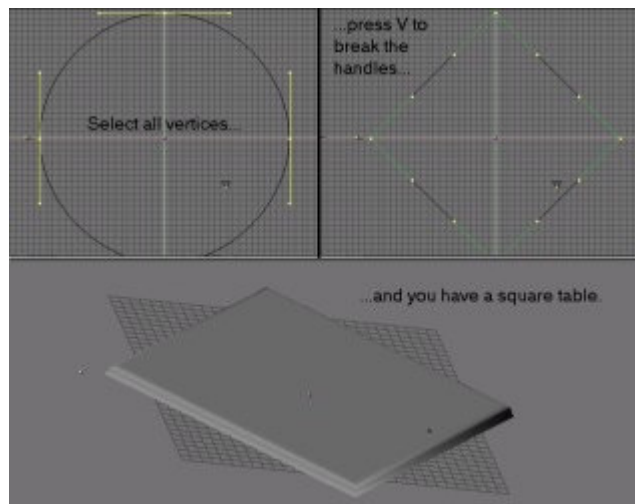
Because the bevel and object curves can always be edited, it makes modeling with this technique incredibly easy and interactive. If we're going for a table top, there are a few ways we can modify these objects to get the result we want:

- Move the points in our bevel object, either closer together, or farther away from the object's center.
- Scale the affected object larger, and then CTRL-A to accept the new size
- TAB into Edit mode and scale the points of the original circle larger.

There are advantages and disadvantages to each method. In this case, I think it would be easier to use the third technique. Select the fat table, TAB into Edit mode, select all the points, and scale them about 20 times larger. TAB again to see the new, larger table top:



Want a square table instead? TAB back into Edit mode, press A (select all vertices), then V (breaks handles on selected vertices). TAB again to see the result:



Once the beveled object is to your liking, you can either leave it as-is or press ALT-C to convert it to a mesh for further tweaking.

Here's my finished table after a little more editing:



All parts of this table were created with custom bevel objects. This tutorial has just touched the surface of the BevOb capability. Here are some things to think about when experimenting with curves and bevels:

...you can mix open and closed curves. The table top and center support have an open curve applied to a closed curve, while the legs have a closed curve applied to an open curve.

...you can mix curve types, i.e. a polygon curve applied to a Bezier curve...

...either object can contain multiple joined curves, and even those curves can be of different types...

While the name of the BevOb button may refer to bevels, don't let the name limit your thinking to bevels alone. The more you experiment with curves and the BevOb feature, the more ways you'll find to apply them to your 3D creations. If you really feel like it, you can even use vertex keys to animate the curves over time!

...And they heard him exclaim
As he flew 'round the bend,
"Happy bevels to all,

And to all, a good Blend!"