

Boring Path Information

The path is comprised of two components with both straight and curved segments. Black squares are anchor points, the open circle indicates the selected anchor, and the two open squares are the handles associated with the selected anchor.

GIMP paths belong to a mathematical type called “Bezier paths”. What this means in practical terms is that they are defined by anchors and handles. “Anchors” are points the path goes through. “Handles” define the direction of a path when it enters or leaves an anchor point: each anchor point has two handles attached to it.

Paths can be very complex. If you create them by hand using the Path tool, unless you are obsessive they probably won't contain more than a few dozen anchor points (often many fewer); but if you create them by transforming a selection into a path, or by transforming text into a path, the result can easily contain hundreds of anchor points, or even thousands.

A path may contain multiple components. A “component” is a part of a path whose anchor points are all connected to each other by path segments. The ability to have multiple components in paths allows you to convert them into selections having multiple disconnected parts.

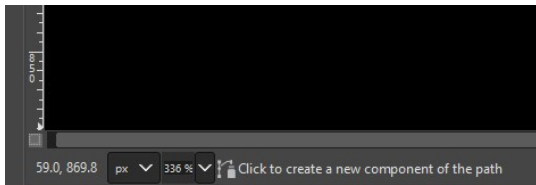
Each component of a path can be either open or closed: “closed” means that the last anchor point is connected to the first anchor point. If you transform a path into a selection, any open components are automatically converted into closed components by connecting the last anchor point to the first anchor point with a straight line.

Path segments can be either straight or curved. A path is called “polygonal” if all of its segments are straight. A new path segment is always created straight; the handles for the anchor points are directly on top of the anchor points, yielding handles of zero length, which produces straight-line segments. Drag a handle away from an anchor point to cause a segment to curve.

From Gimp Help

Path Tool Icons and Straight Path Shapes

Remember to keep an eye on the notification area for helpful tips.



Open a new image and click on the path tool: You will see this cursor:



Move this cursor and start your path by clicking somewhere to add a first anchor point.

This may look like a messy square but it is actually a circle with two squares above it. The two squares are control handles that can be used to create curved sections (segments) of the path.

If you keep the pointer in the same position (over this anchor point) the cursor should change to the Tool-Move icon:

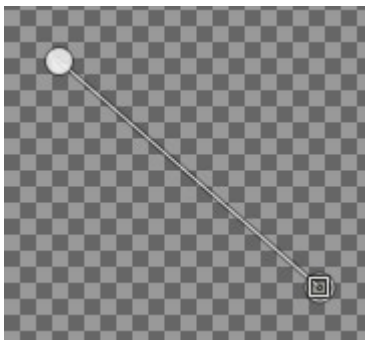


This indicates that you can press and hold the mouse button and move the anchor point.

Move the cursor away from this first anchor point and the shape of the cursor will change to the Tool-Add-Anchor icon ready indicating that you can add a new anchor point when you next click with the mouse:

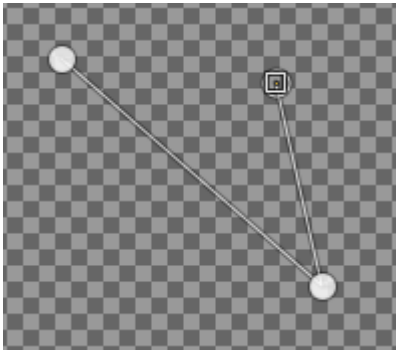


Here is the path; it shows the two anchor points joined by the straight line path segment.



The first anchor point is shown as a solid white circle.

The second anchor point (the current active anchor) is an open circle but it is difficult to see because of the two square handle symbols that are currently directly above the circle.



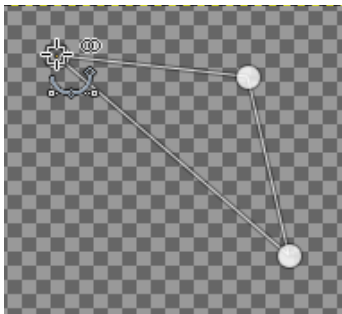
Move the cursor and click again:

Now the first two anchor points are represented by solid circles and the currently active third anchor point is shown by the usual messy square symbol.

To close the shape and create a third side (segment) move the pointer over the first anchor point. Hold down the Ctrl key (the cursor will change to show the Tool-Join icon).



Click with the mouse to join up the segments (close the path).



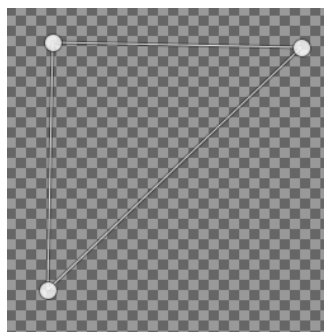
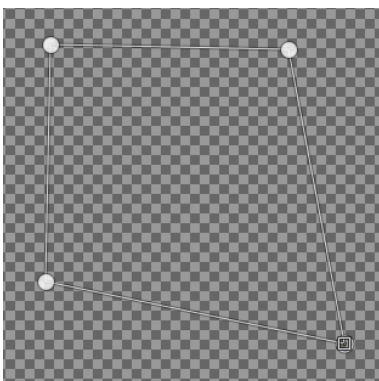
To delete an anchor point move the mouse over a point and hold down Ctrl + Shift. The cursor will change shape (the Tool-Delete icon):



Click to remove the control point.

N.B. You can also delete an anchor by moving the mouse over the anchor (click to make it the active anchor) and hitting the backspace key (not the delete key).

Another example with a four sided path and the result of deleting the active anchor point.



One other cursor shape that you may now see is the Tool-Idle icon:



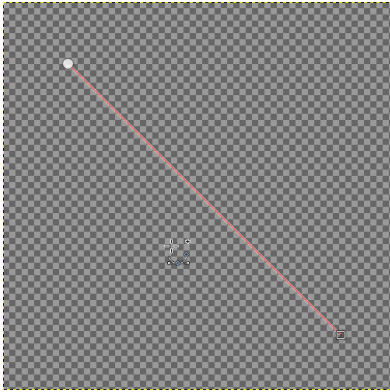
After you close a path this is displayed to indicate the completion status. Of course you can add more anchors by clicking in new locations.

Curved Path Shapes

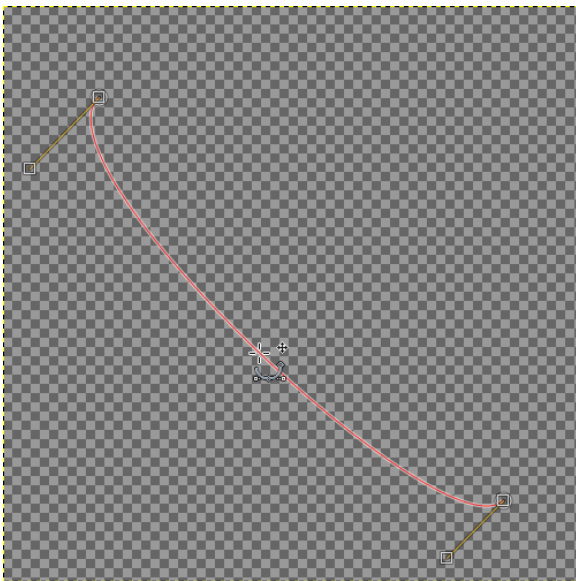
When you first add anchor points to an image it seems as if there is no easy way to draw out the two associated control handles in order to create a curve but there are two ways to accomplish this.

Method 1

Position the cursor over the middle of the path segment that you want to change to a curve.



Hold the mouse button down and drag the path to one side.

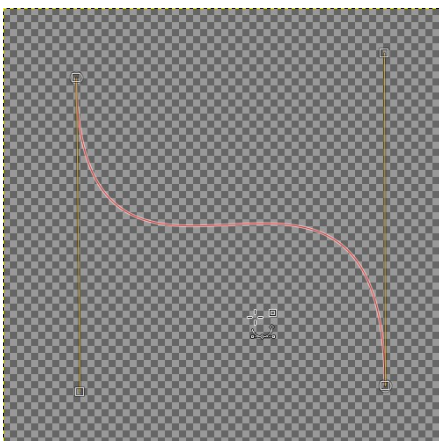


The anchor handles have been moved away from their initial position and you can now drag these around to achieve the curved shape that you require.

(Note how the cursor changes when positioned over one of the handles.)



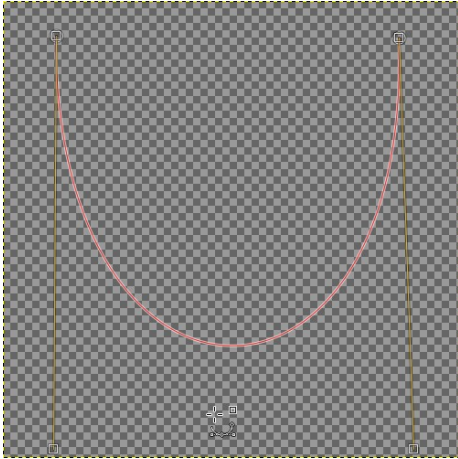
The curved path after dragging the handles into new positions.



Method 2

Position the cursor over one of the messy square anchor points; hold the mouse button down and press the Ctrl key. The cursor will change shape and you will be able to drag the mouse away from its initial position and reveal a control point handle. Repeat the process to access the other handle for the same control point.

Now you can use the handles to create the curve you require.



Hints & Tips:

Just the way I work with paths. It may suit you or it may drive you to distraction. If it helps then I am happy.

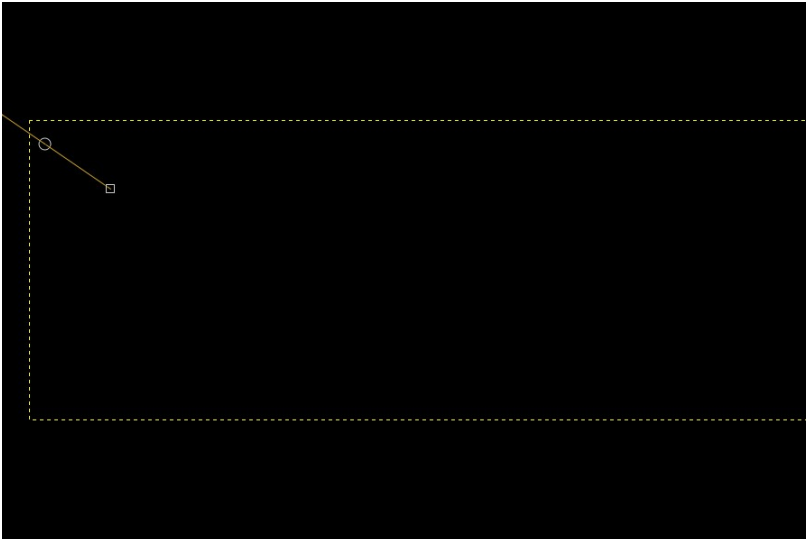
Main Tip

Use as few anchor points as possible: That way you have fewer points to edit if you later need to adjust the shape of your path.

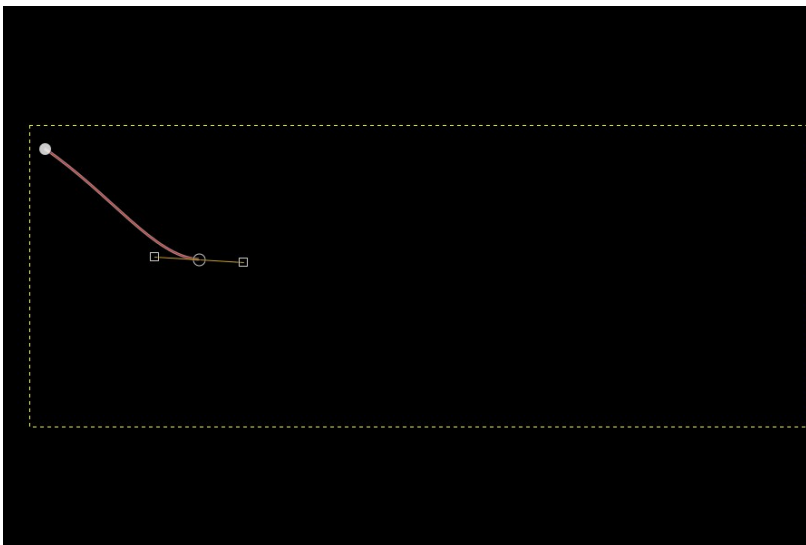
1: Flowing Curves

I often like to use nice smooth, flowing curves with paths to add text with custom fonts. To get smooth curves click, hold and drag out the anchor point handles before moving to the next point in the curve. As you can see, in the series of images below, the two handles are spaced evenly apart during this process which helps to balance the two sides of the curve on each anchor point.

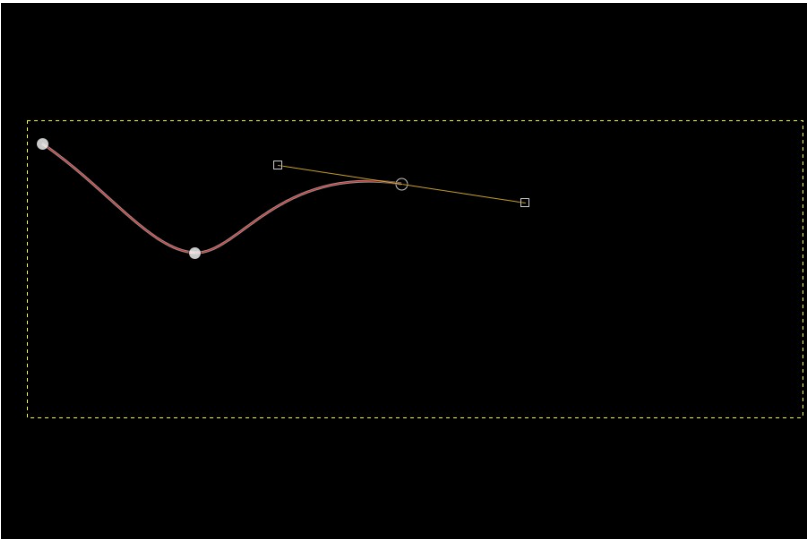
First of five anchors:



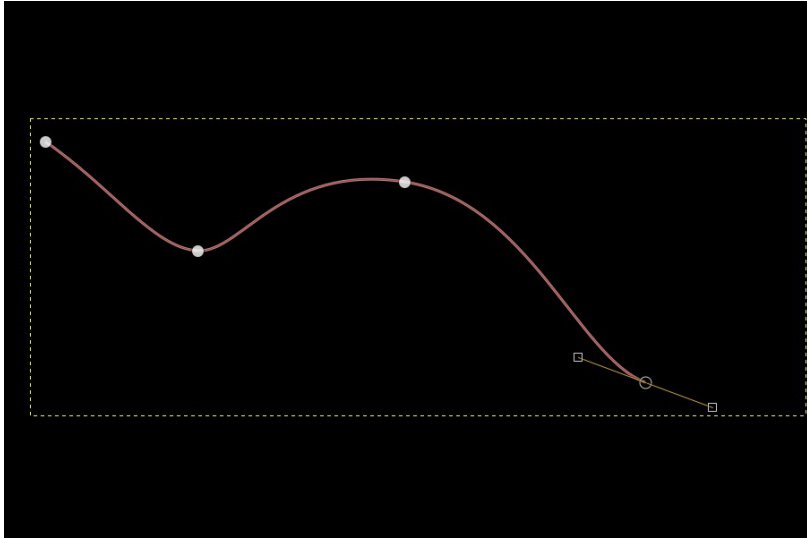
Second of five:



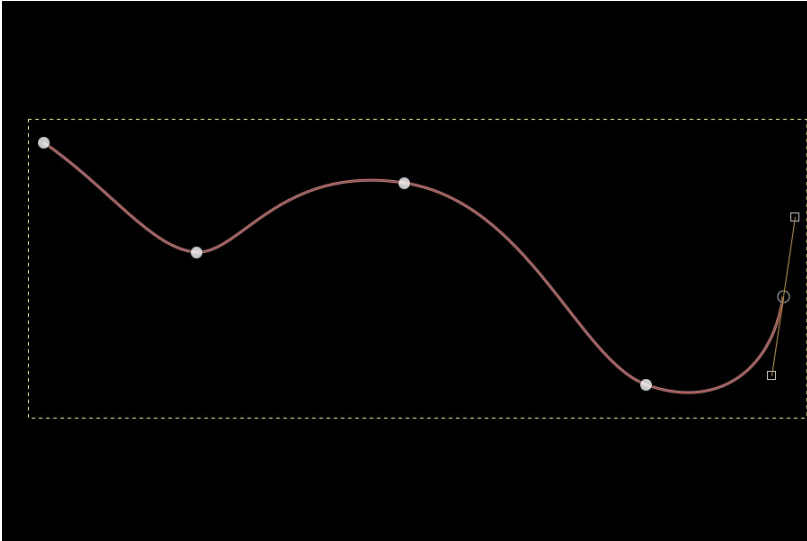
Third of five:



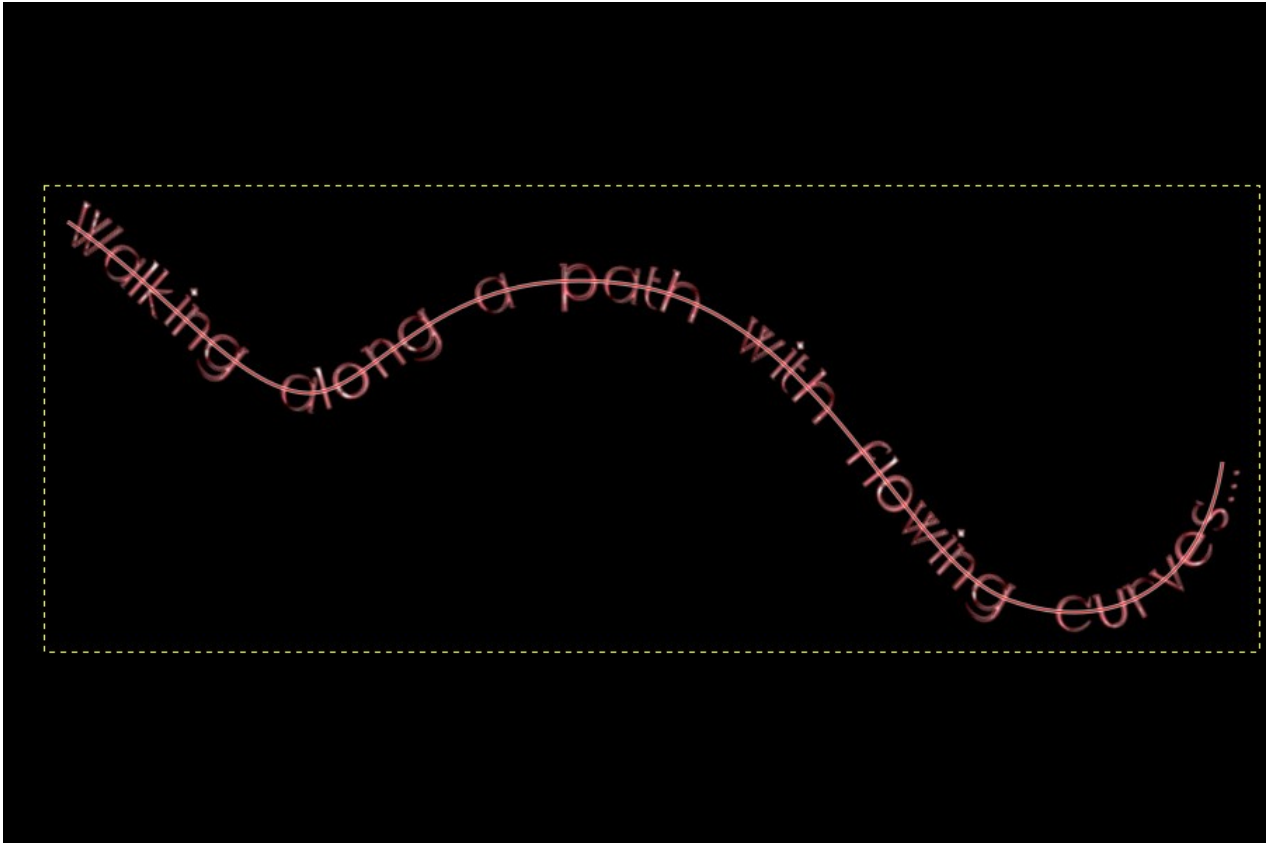
Fourth of five:



Fifth of five:



And with text added:



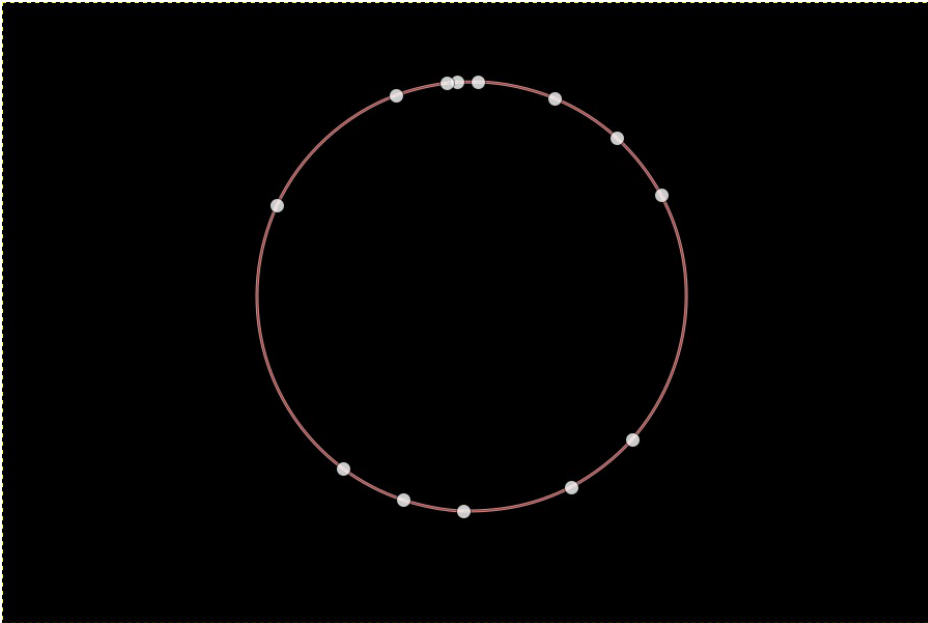
If you want to remove a handle (or both handles) to produce a sharp or pointed path then position the cursor over the offending anchor handle and hold down Shift + Ctrl before clicking with the mouse button.

2: Use as few points as possible.

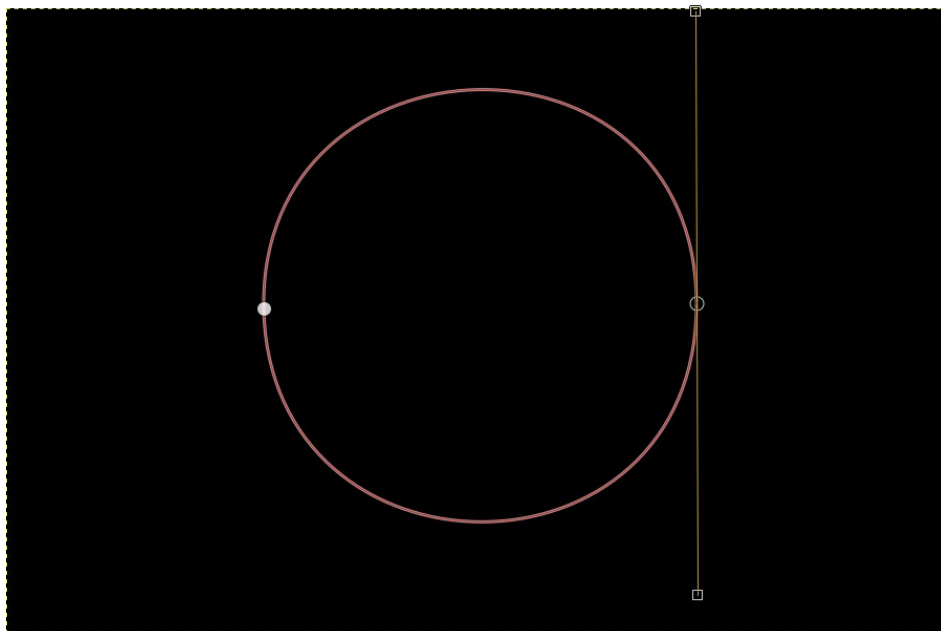
If you create a circular path from a selection:

Select>>To Path

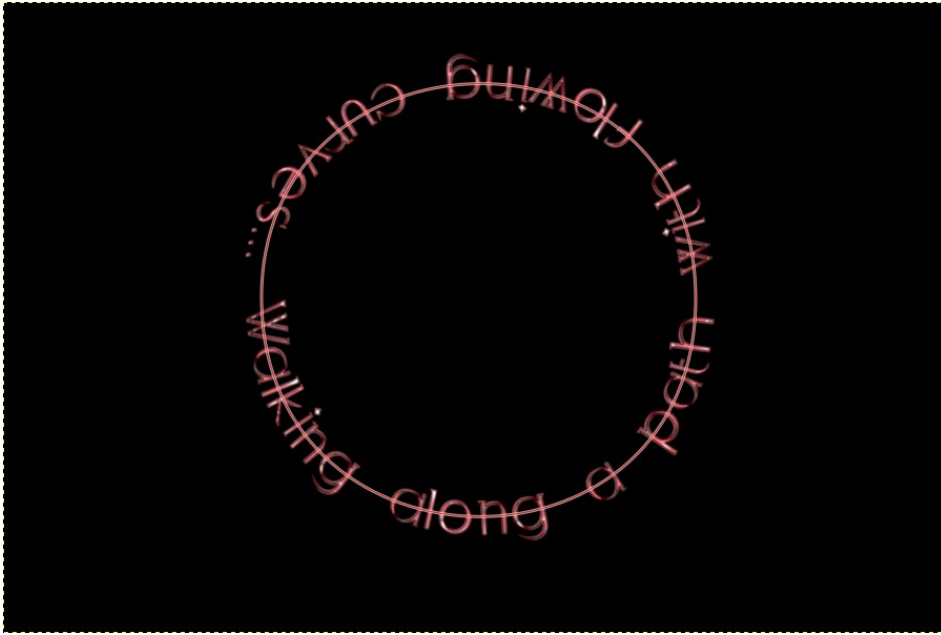
When you click on the path with the path tool (Keystroke B) and count up the anchor points you may be surprised at how many are used. (I counted thirteen anchor points.)



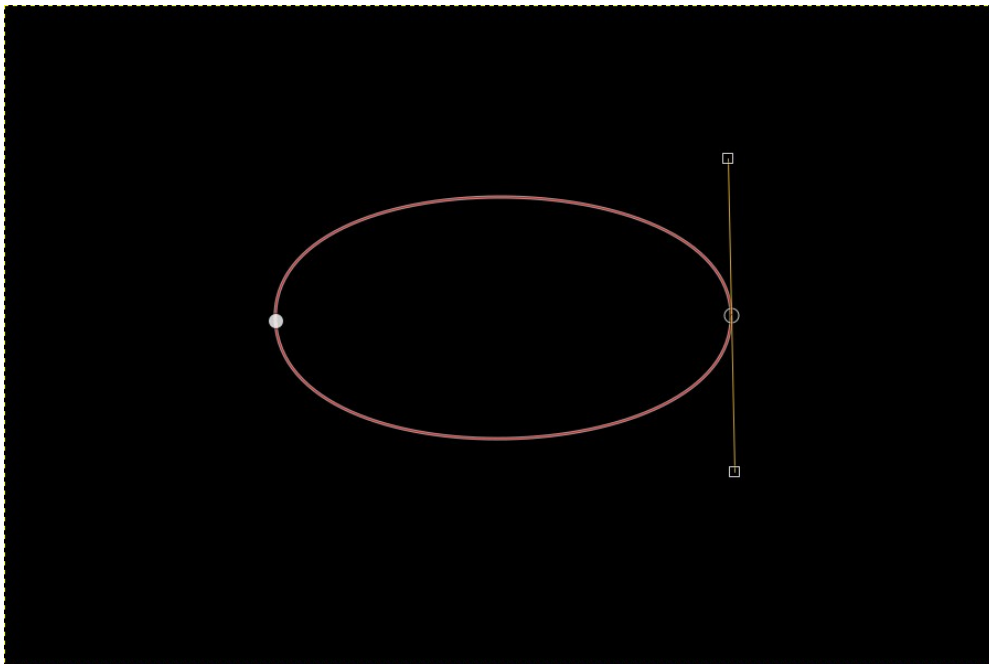
You can produce a similar path by using only two anchor points and then closing the path with the final anchor on top of the first. (The control handles are the same size for both anchor points.)



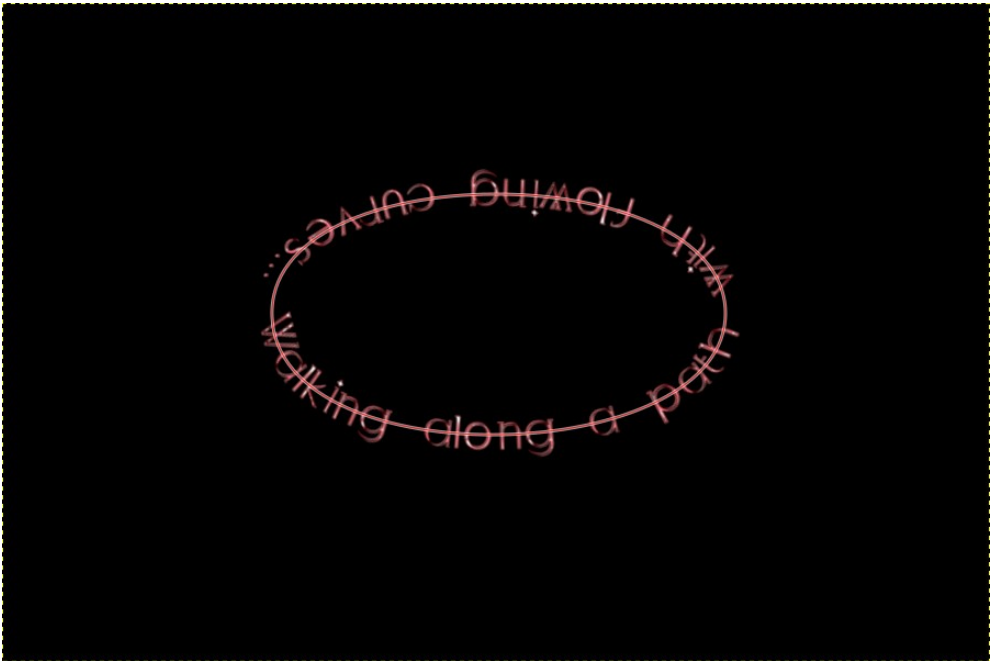
And with text applied to the path...



The path can be edited by adjusting the handles; click on one of the handles and hold the shift key down while moving the mouse. Reducing the length of the anchor handles produces a more elliptical shaped path.



And with the text added to the path.



3 Love your guidelines

If accuracy and/or symmetry is essential element of your path construction then guide lines can help position your (main) anchor points. You could also employ the ‘snap to grid’ option but I sometimes find that this can interfere with the positioning and moving of anchor point control handles.

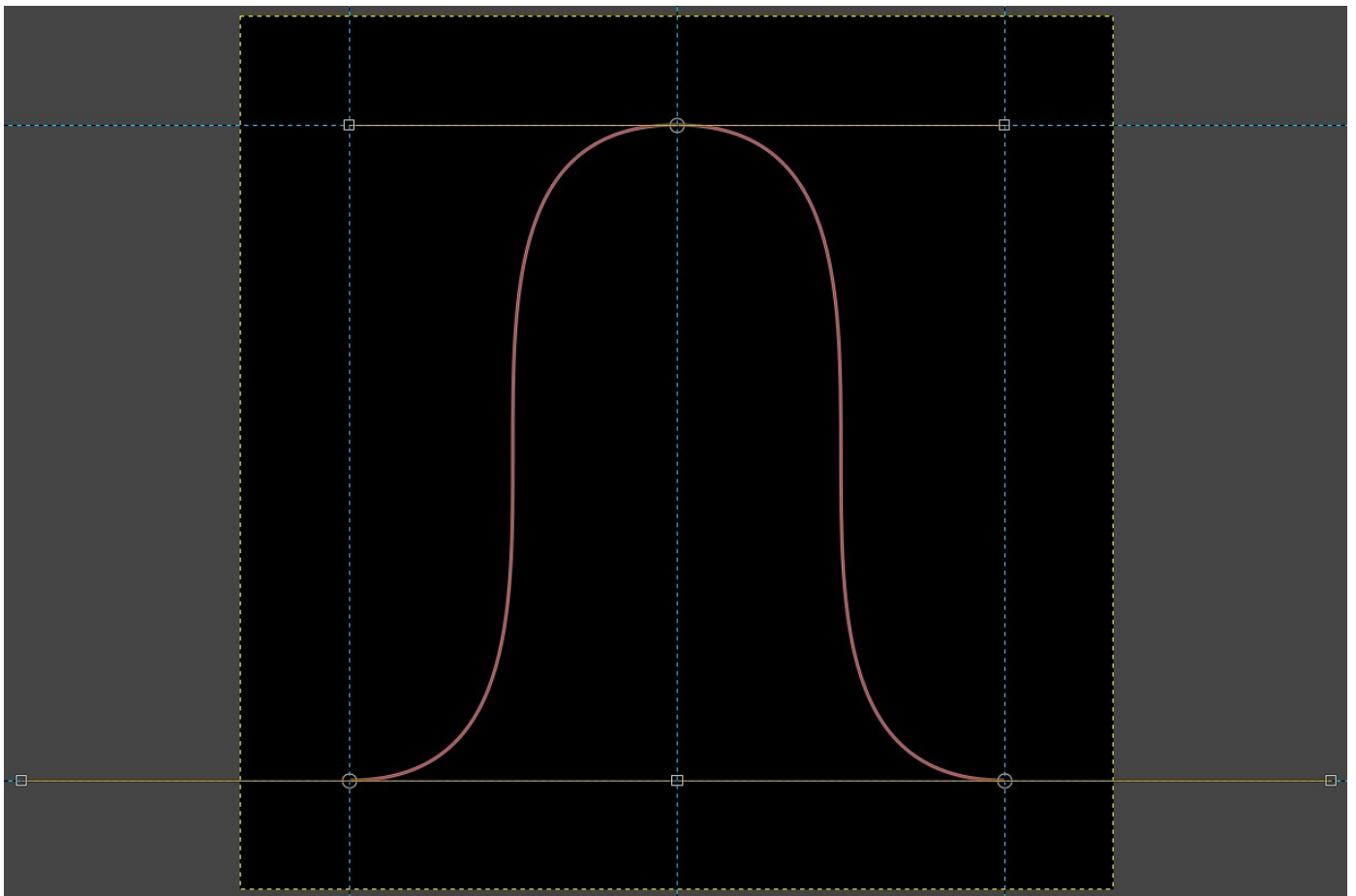
Below is a screenshot of a stylized hill shape – image size 800x800 pixels.

The guidelines were placed 100 pixels from each edge and a central vertical axis was also added.

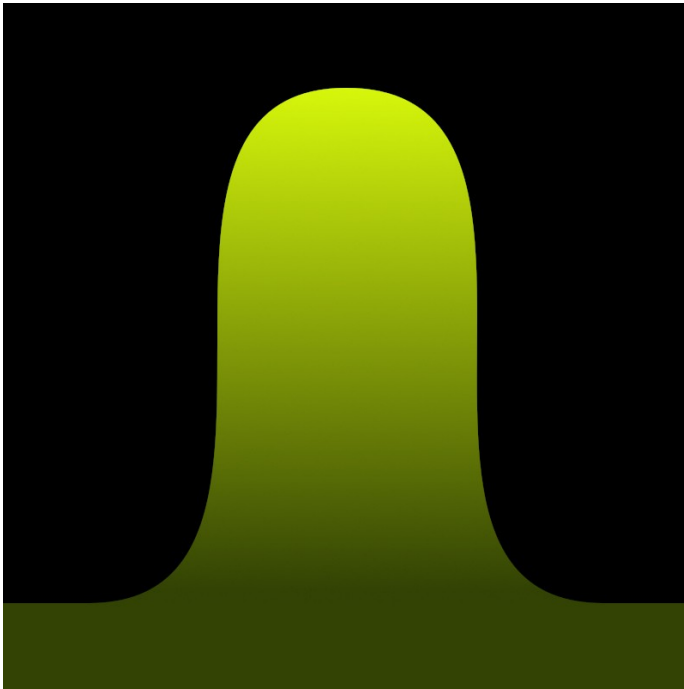
Starting in the lower left corner, I placed an anchor point at the intersection of the two guidelines and dragged out the control handles to the central guideline.

I placed the second anchor point (the top of the hill) at the intersection of the upper guideline and the central vertical guideline and dragged out the control handles to the right-hand guideline.

I placed the final anchor point at intersection of the lower right-hand guidelines and dragged the control handles out until the left-hand control handle was positioned over the intersection of the lower guideline and the central vertical guideline.



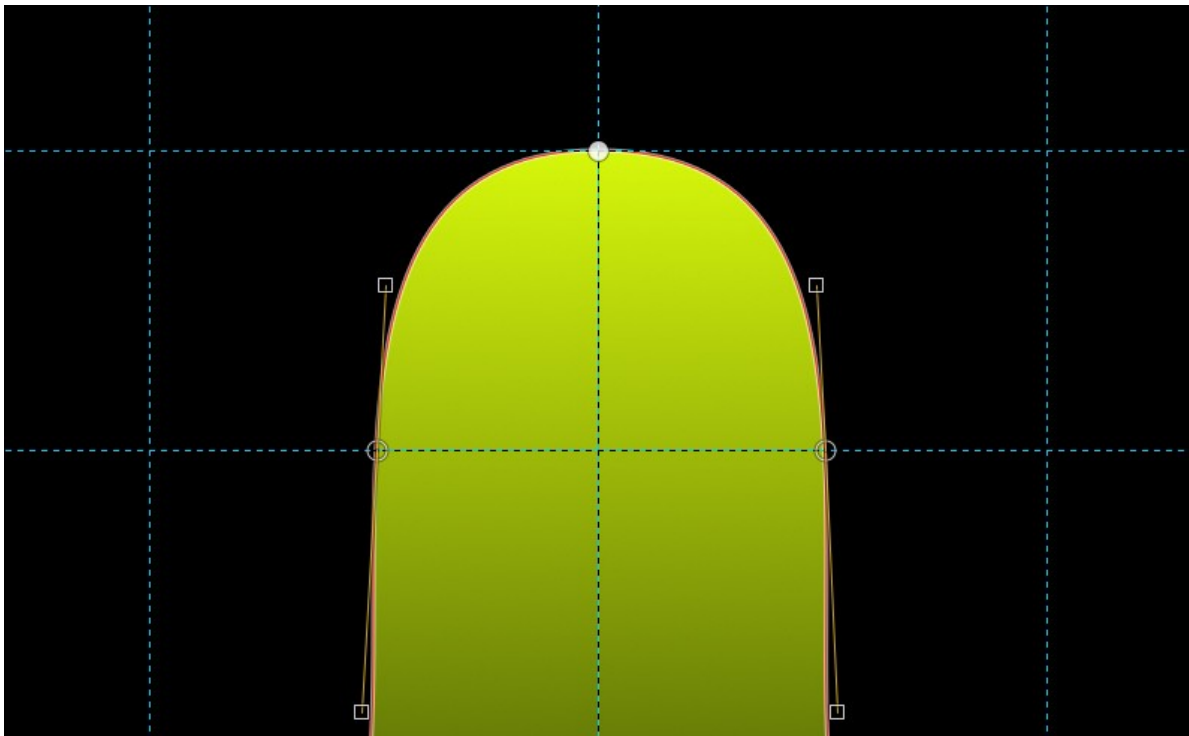
The hill was filled using a gradient to a new layer. The base of the hill was added with a filled rectangle.



Moving multiple anchors

I often move a couple or a group of anchors to new positions when editing a path: Sometimes individual anchors may need further fine tuning.

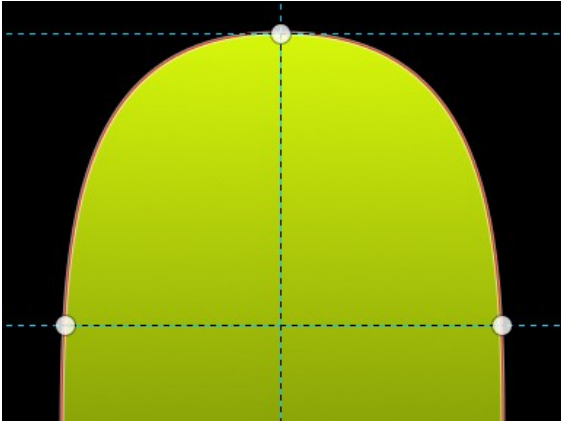
Returning to the hill: Since this is a symmetrical path I added a new horizontal guideline at 300 pixels from the top of the image and then inserted two new anchors where that guideline intersected with the path. (Remember: With the path tool active use Ctrl + mouse-click to insert the new anchors.)



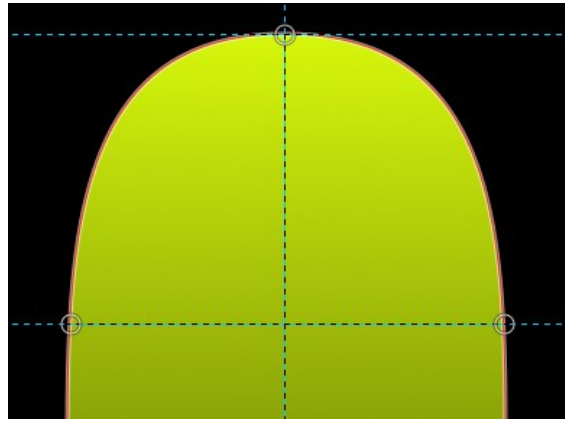
Remember: To select multiple anchor points click on the first anchor and then use Shift + click with the other anchors.

I wanted to move the top of the hill path to the left so I needed to make the top three anchors active (looks like an unfilled circle).

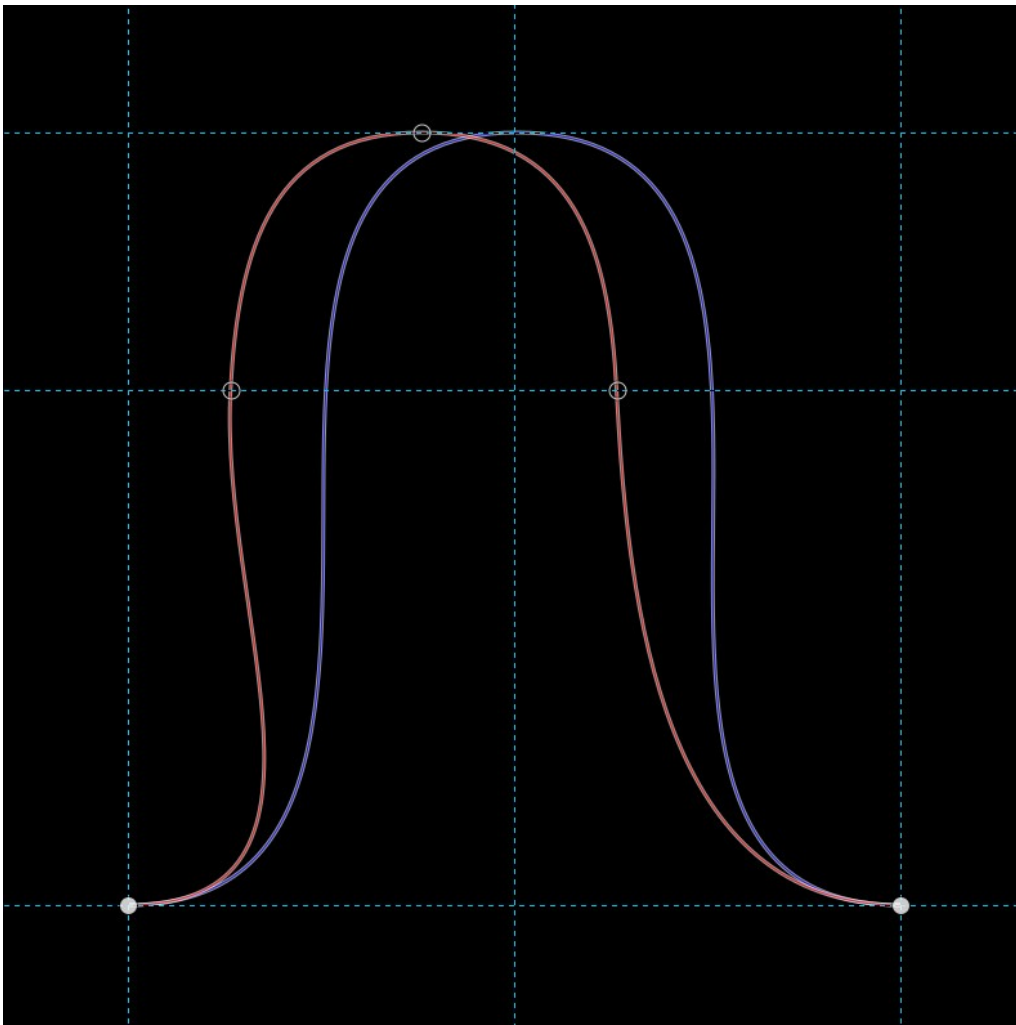
From this:



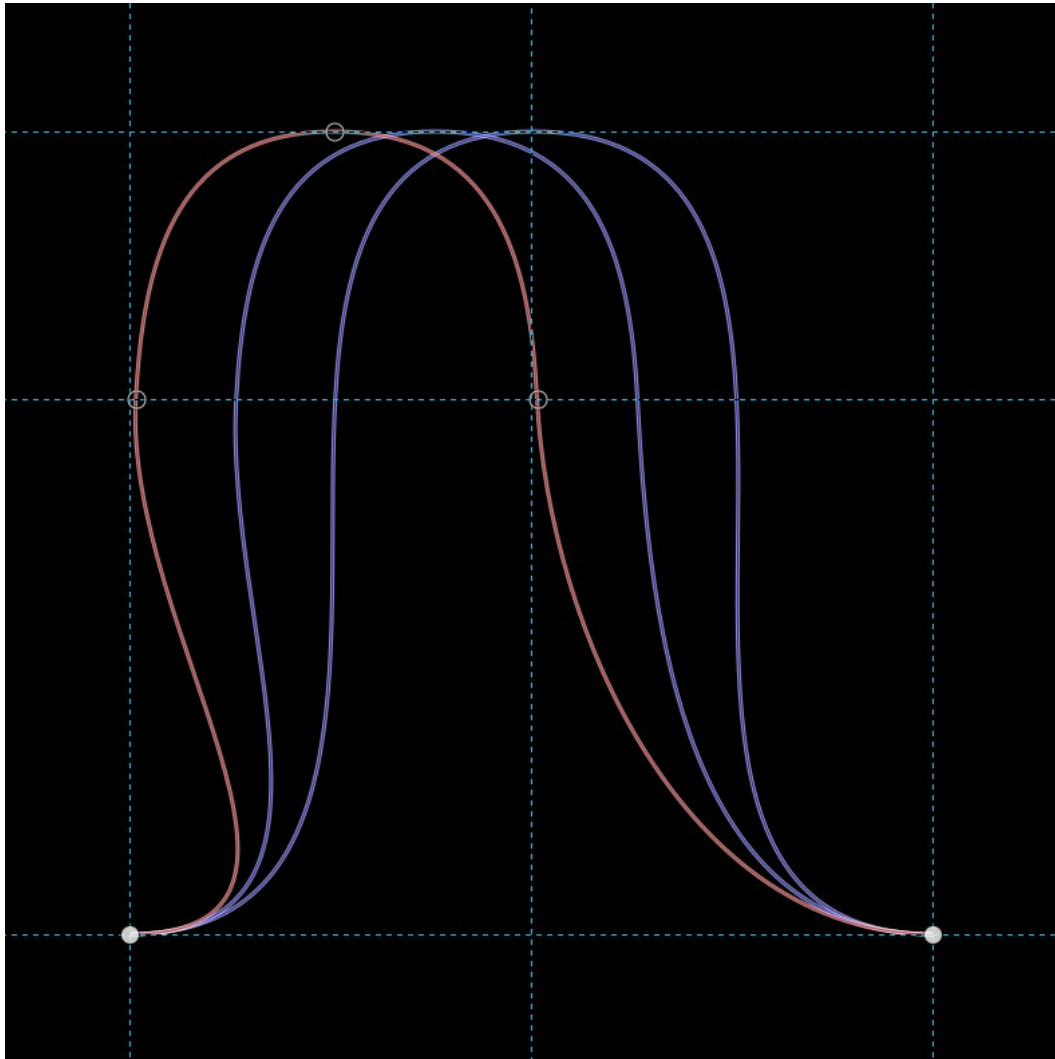
To this:



Once all the anchors were selected, I dragged that section of the path with the mouse to a new position (the original path is shown in blue below).



To finish off I made another copy of the path and dragged those same three anchors to the left-hand guideline.



With my three paths available I could now create various selections and use my gradient fill to add to some new layers to complete my vision of the leaning hill.



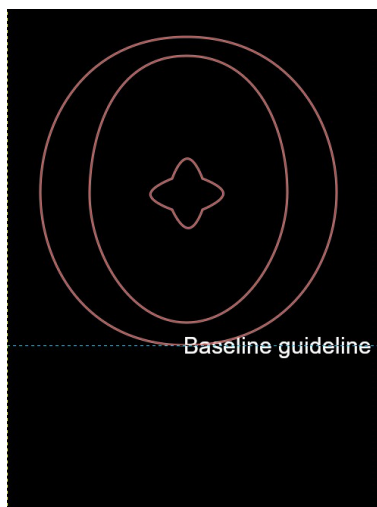
Use the keyboard arrows to adjust the position of anchors

Sometimes it can be hard to adjust the position of an anchor or control handle when a guideline or grid line wants to snap the anchor to its location. You could turn off the ‘snap to’ from the relevant option on the View menu – but then you would have to remember to turn it back on again.

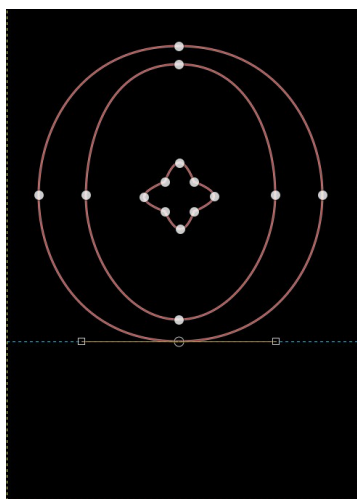
I often find myself in this position when using paths to create letter shapes for custom fonts and I need to move an anchor slightly below (less than the value of the snap setting) the guideline that I am using for the character baseline.

Simply select the anchor or anchors and then use the arrow key to move it. (If necessary, you could adjust the control handles before moving the anchor with the arrow key.)

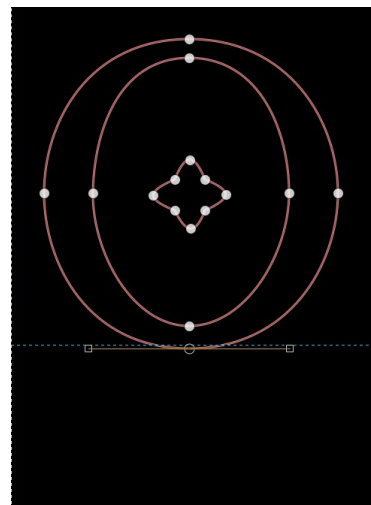
Path sitting on guideline:



Anchor selected:



Anchor moved:



Close up of path now sitting below the guideline:

