

Make a Feather with Inkscape's Live Path Effects (LPE)

Even though this tutorial uses one of Inkscape's intermediate level features (Live Path Effects), (imo), it really is targeted for beginner to intermediate level users. We'll be using the following tools:

- Selector
- Node Tool
- Pen Tool

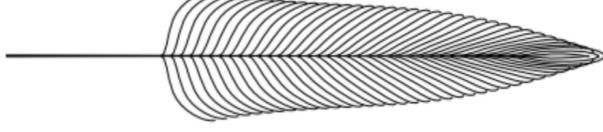
And these features:

- Snapping
- Zooming
- Moving

And these dialogs:

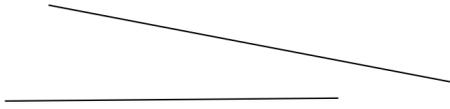
- Fill and Stroke
- Live Path Effects
- Stitch Sub-Paths

Prior knowledge is not required for LPE and Stitch Sub-Paths, because the goal of this tutorial is to introduce them. But you should be comfortable with all the others. Don't forget the Undo/Redo buttons, as well as the Undo History dialog. Also, I won't be instructing you when to Save, but be sure to do so frequently -- it's just a good habit to reinforce :-)



1. Draw 2 lines using the Pen tool.

One should roughly simulate the shaft of the feather, the horizontal line in my illustration. The other should roughly define one outer edge -- the diagonal line.



2. Select both lines.

Path menu > Combine

3. Path menu > Path Effect Editor >

Stitch Sub-Paths > Add

4. In the LPE Editor, change the number of paths from 5 to something more appropriate. I'll use 40 for now.



Now it is important to notice 2 things:

- Using the Node tool, we can still see the nodes of our original paths. They can be used to tweak the general shape of the feather. Eg - drag out handles, add nodes, drag nodes, etc.
- By clicking the node tool icon in the LPE Stitch Sub-Paths controls dialog, we see the green path which is used to adjust the newly created segments. It functions just like a regular path, but editing affects the segments. Try it!

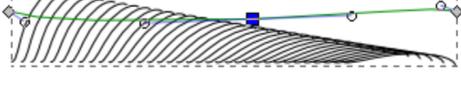


5. Now just play around with the nodes of these paths, until you have something you like. I'll keep mine simple, and you can use it as a guide.

Note that I've had to reduce my number of paths to 35. Also, I've left the side of the arrow straight, but you may wish to give it a gentle curve, by either dragging out the node handles, or adding a new node. Or there will be another opportunity to make the curve, later on in this process.

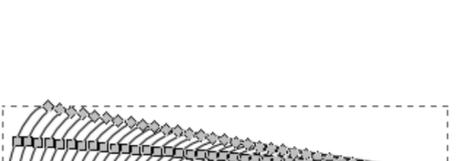


You could also curve the shaft, which I think would best be done now. Although that will require extra effort on some of the next steps, as you will learn. You may want to keep it simple to start.



6. Select the object, then Path menu > Object to Path

Please be sure this half of the feather is as you want it, before performing this step. This will remove the ability to edit live, the path effects. But it is necessary for the next steps.



7. Next we'll draw a shaft for the feather using the Pen tool.

If you have indeed made a curved shaft, try to fit the curve to the nodes as closely as possible.



Now for a bit of tedious node editing, which depending on your purposes, could be skipped entirely. If you choose to skip it, please jump to Step #14 or 15.

8. Enable snapping of nodes and handles, and snap to paths.

9. Zoom in to whatever level you need.

10. Snap each cusp node to the shaft.

Try to drag nodes straight toward the shaft, so as to avoid distorting the nice curves we created. Note that this will not be necessary for the first several paths (pink circle). But some distance down the shaft, the paths start to overlap the shaft (blue circle). Exactly where it happens depends on your unique drawing. *Note that even after you snap the nodes to the shaft, the paths may still appear to overlap. But no worries, we'll address that next.



11. Disable snapping.

12. Select each node, one by one, to display the node handles. Drag each handle to the shaft, and position it anywhere from slightly above, to slightly below, the next node (depending on your unique image).

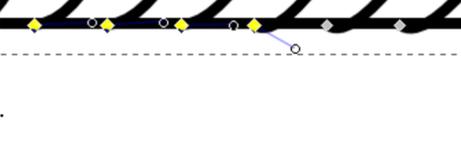
Exactly where it happens depends on your unique drawing. *Note that even after you snap the nodes to the shaft, the paths may still appear to overlap. But no worries, we'll address that next.



13. Zoom out until the whole image is visible..

14. Select the object with the Node tool, and select all the outer nodes. While holding the Alt key, grab one of the nodes, in the general area of the pink circle, and drag up and to the right. (This is called "node sculpting".) Just play around with it, until you're satisfied.

Exactly where it happens depends on your unique drawing. *Note that even after you snap the nodes to the shaft, the paths may still appear to overlap. But no worries, we'll address that next.



15. Duplicate, and Flip vertical.

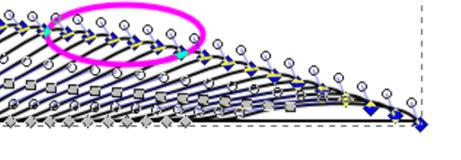
16. Enable snapping of node and handles, and snap to cusp nodes. Then snap the cusp nodes in the area of the blue circle.

Now we can see our feather is almost finished! I see that the shaft of the feather seems a bit too brittle for my taste.



17. Select the shaft. Object menu > Fill and Stroke > Stroke Style tab. Increase stroke width, I've set it at 2 px.

But now I see that it's too heavy for the tip of the feather. We'll do some quick node editing to fix that.



18. Select the shaft with the Node tool.

Path menu > Stroke to path.

19. Zoom in quite a lot

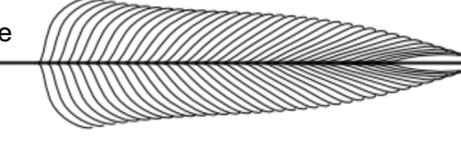
20. Select one of the 2 nodes at the tip of the shaft. Delete it.

If you see that the handle of the remaining node is trying to retain the original shape of the line, then retract the handle (highlight, then Ctrl + click).



21. Engage snapping of nodes and handles, and Path Intersections. Then snap that single node to the intersection of the last 2 paths. Disable snapping afterwards.

While we're working at this end of the feather, and at this zoom level, let's go ahead and add a couple of paths to fill in the hole.



Throughout writing this tutorial, I've been wondering what to call the part of the feather that all the 70 sub-paths represent. In any case, we need to add a few, to fill in the tip of the feather.

22. Select either one of the 2 compound paths, then Path menu > Break apart.

To keep them all together while we work, Object menu > Group.



23. Using the Node tool, select the last path, Duplicate. Move it over so that its position matches the pattern of all the others. (just colored pink for clarity)

You may wish to temporarily assign these tiny paths a different color as well, just to make it easier to see what you're doing, while editing with the Node tool.



24. Still using the node tool, edit that path so that its shape follows the pattern as well. Duplicate, Flip vertical, and Move it into position.

Note that in your unique shape of feather, you may need more of these "units" or fewer than mine. So just use your best artistic judgement :-p

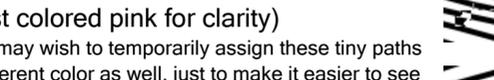


25. Now duplicate it again, move it over, and edit the shape so it follows the same pattern. (2nd pair colored blue)

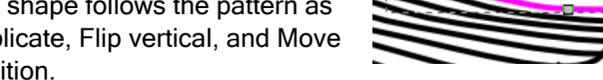
Note that in your unique shape of feather, you may need more of these "units" or fewer than mine. So just use your best artistic judgement :-p



And here is the first rough draft of my feather:

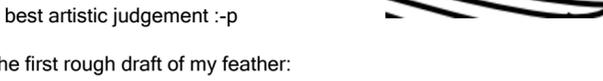


I think I would like to see a longer shaft, so I'll stretch it out.



Yes, I like that better.

Now for one last final touch, I think I would like it ever so slightly blurred.



26. OK, to finish the image, I want to Edit menu > Select All, then Group.

This will keep everything together, for whatever use the final image is intended. Also, I always like to use File menu > Vacuum Defs, to get rid of unused data and reduce the file size. In this case, there won't be many.

Of course, you could really jazz it up with some color. A linear gradient would be awesome! You could increase the number of paths (step #5), and reduce the stroke width, to make it even more realistic. Here are a couple of other feathers I've done, just to show some variety.

