

3D & 2D TREES



Hopefully this tutorial will give you an insight into how I create 3d and draw trees. There are four parts all dealing with trees. Amorphium, Bryce and Photoshop. I have had many requests for this tutorial, so here goes ☺ I hope it is useful.

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3D & 2D TREES

Amorphium 1.0

Amorphium is a great organic modeller, which needs no real getting started tutorial. Basically the layout of tools is so simple and the ease of use is amazing, in a few clicks you can mould your organic model into any shape you desire.

For the trees I build there is only a few steps required.

After Amorphium is loaded select a new shape (cylinder) to work on. Now select the taper tool and taper the cylinder slightly at the top. You can stretch the model at this point too.

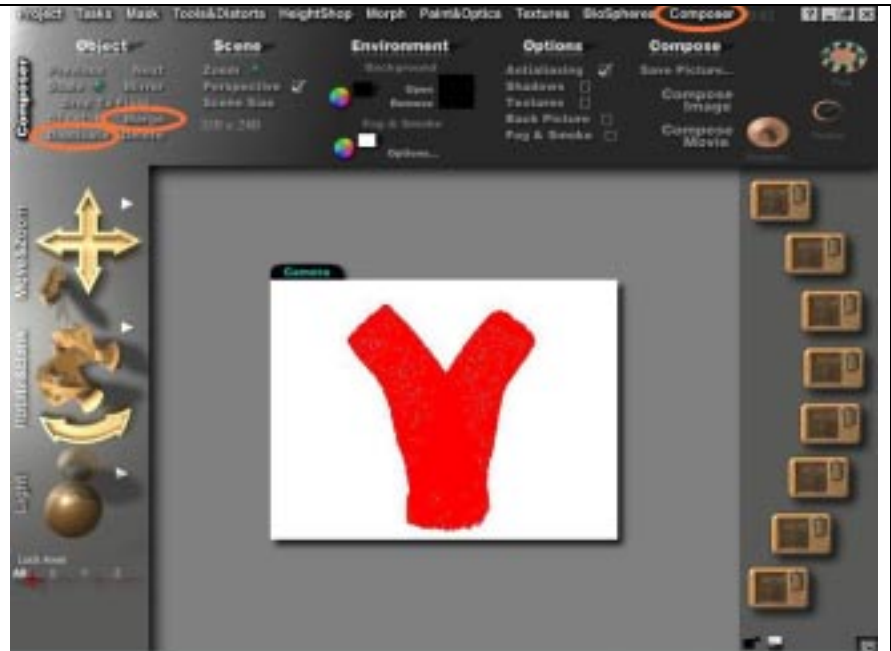


Next apply some noise to the shape (noise tool). This adds a rough textured surface to the model. Ok, next start twisting/ twirling and bending until you are satisfied with the shape. Depending on how much detail you want, it is possible to double the mesh size (under new-mesh man menu). If you double the mesh it can only be exported as a obj type, the mesh becomes too large for 3ds. Both import into Bryce anyway, it is up to you how much memory is spare.



3D & 2D TREES

At this point I usually take the shape into the composer section. This section is not user friendly. I've have not mastered this side of the package so I don't stay here very long. With your shape selected, duplicate it, arrange the duplicated object however you want it and join the two together using the merge command. You should get the two objects merged as one.



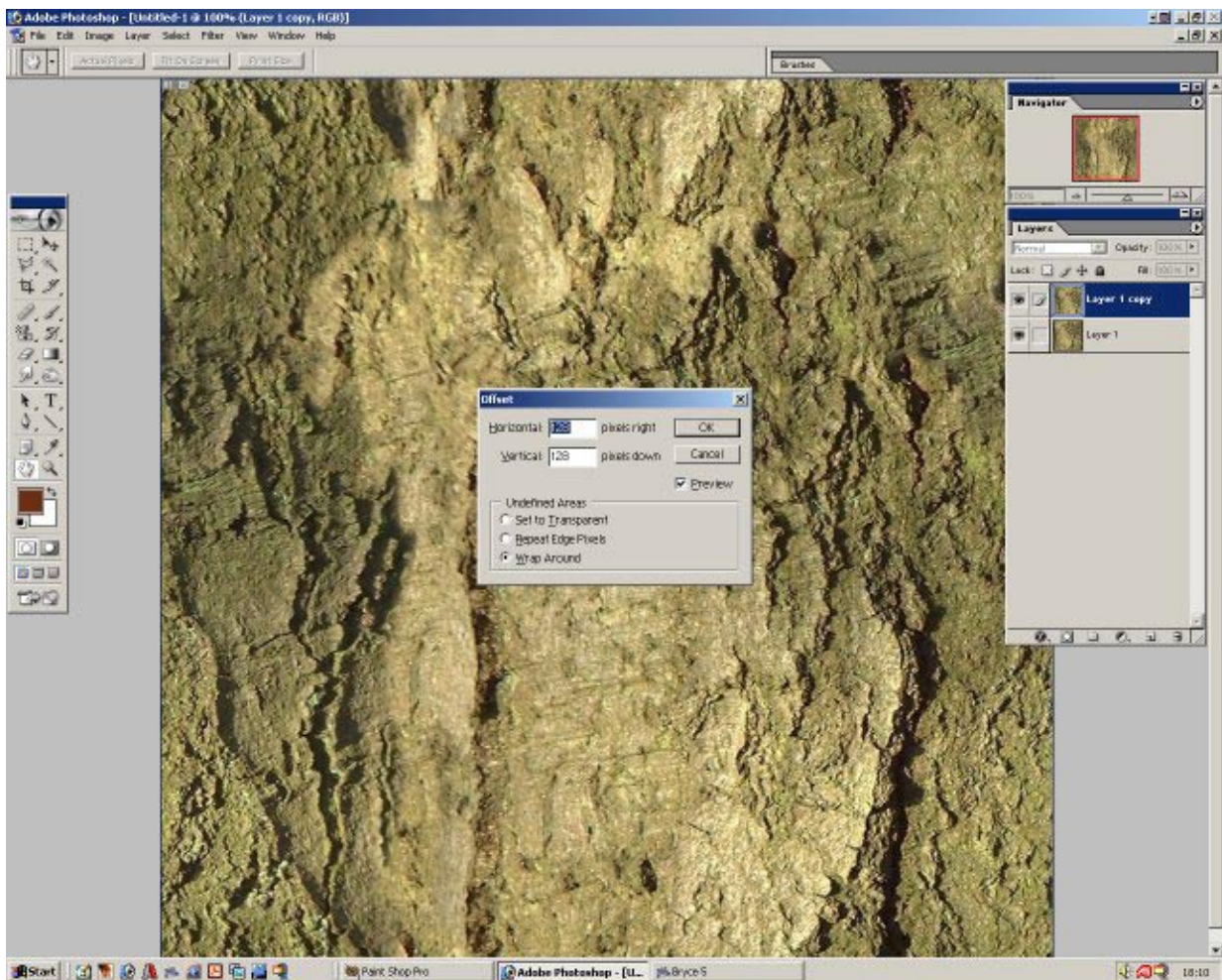
Now take your new object/shape back into the modelling window and carry on shaping. When your through with your model, export in the usual formats (.3ds/.obj). That's really all there is too it. Well that's how I use Amorphium for the tree shapes I create. I usually model several shapes like this and assemble the pieces in Bryce.



3D & 2D TREES

Texturing with Photoshop

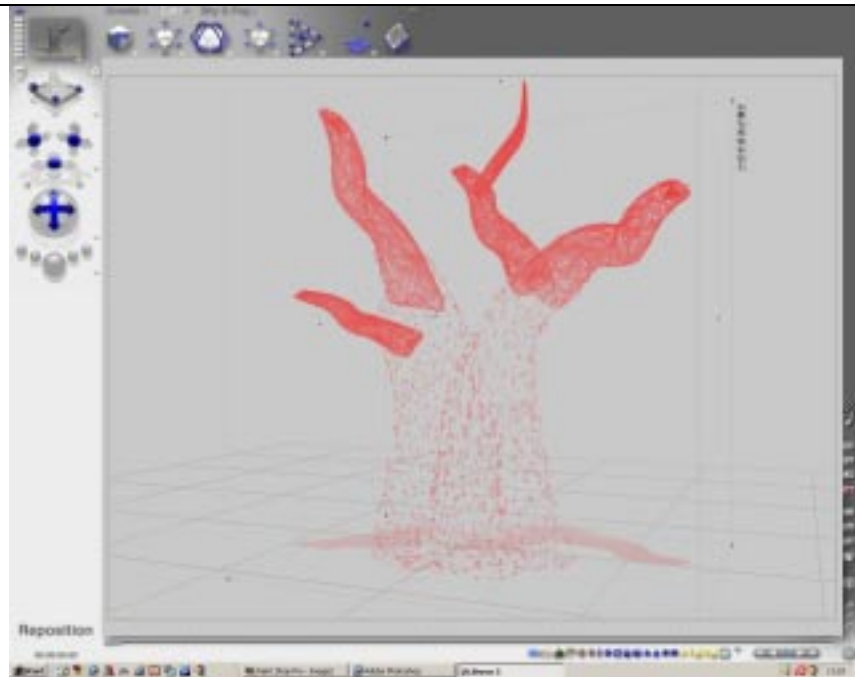
For all of my ground/tree textures I use tiled digital photos, which I have taken, or painted image textures. In Photoshop I crop the 1280x960 photo to a 960x960 square for convenience. Next I duplicate the background layer. With the duplicate layer highlighted I apply the offset filter set to 128x128. Next, with a soft eraser brush, erase the offset filter borders, carefully blending in the underlying layer. Be careful not to erase to close to the image edge, as this will affect the tiling integrity. Once your happy with the texture, flatten the image and save as a jpg, tiff, psd or bmp for Bryce. It is a very simple and effective process for making symmetrical tile textures.



3D & 2D TREES

Assembling and Texturing in Bryce

Import your objects into Bryce in the normal fashion. Assemble your objects and group. I added a few extra limbs, all made in the same way in Amorphium.



Now click on the small 'M' for your object group to open up the texture lab. Click in the A column in the diffuse row, now click on the picture button then the editor button to bring up the picture window. Here you can load your texture, once loaded on the left hand side, copy it and paste it in the adjacent window. This automatically creates an alpha map, which we can use as a bump map.



3D & 2D TREES

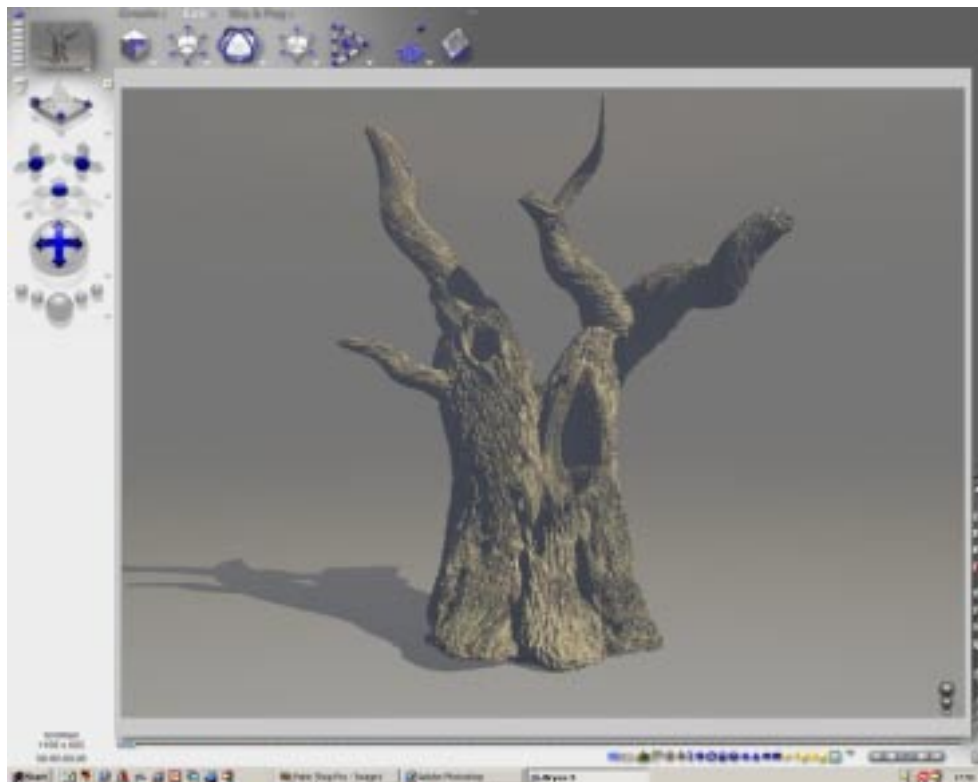
Exit this area to return to the texture editor. Now set up as indicated in the lab picture. For bark on trees, depending on the shapes etc, I use a cylindrical mapping mode, default works too, needs some trial an error here. The diffusion is set to 100, ambient to 0, specularity to 100. Select the A column and check the bump row, adjust bump to 30-50. Now check your texture rendered and make as many adjustments as necessary.

I haven't covered small branches and leaf canopies because I tend to use bits and pieces from other models. The basic 3d tree I build is exactly as illustrated.



A few tips I use in Bryce.

1. I always render with gamma correction off, this feature just tends to washout the render.
2. I don't use the ambient feature in the texture editor at all for solid objects. I find the ambient function doesn't give a true representation of reflected/ambient light, instead I use radials set very low in value on the opposite side of the main light source, sun or spots etc.
3. On close objects like tree trunks, ground and rocks I turn anti-aliasing off. While in the attribute menu of an object hold CTRL+SHIFT and click tick (ok). This can be fussy so make sure your not performing it on grouped objects as it wont work. This really helps bring out the textures otherwise the render can leave them very flat and lifeless.



3D & 2D TREES

2D Painting in Photoshop

The tutorial assumes a working knowledge of Photoshop, any painting package with layers and Wacom support should suffice.

Layer 1 is the plane old Bryce render. A simple scene just to get started painting on.



Layer 2: Distant tree shapes.

First colour pick the distant horizon hue and make it slightly darker in the colour editor. Starting with a small (1-2pix) soft brush roughly draw in some distant tree shapes. As you move closer, pick the darkest hue from the image that matches the distance you are working at. This keeps the colour balance as you move to the foreground. Draw in some larger trees until you have enough.



Layer 3: Distant tree leaves

Using either the foliage or leaf brush or something similar add some leaf canopies, same rules with colour picking. At this stage you can add finer branches etc if needed.



3D & 2D TREES

Layer 4: Foreground tree

With a nice dark hue and a largish brush (10pix or so) rough in some grisly looking tree shapes. Look terrible don't they ☺.



Layer 5: Small branches

Ok now with a smaller brush, 1-3 pix size, you can add some thin branches. Most of my branches are short line squiggles, keep the brush dynamics on fade so that they taper off. Mine look a bit rushed but that is how I work.



Layer 6: Basic shading

Ok the fun bits. The bark. I use a size 1 soft brush. First pick the brightest foreground hue, I used a sort of yellowy grass hue. Then with downward strokes, lots of them, start shading in the light on the right side of trunks. I do this almost like rough pencil shading, the bark texture forms naturally as you build up the light strokes. In this layer I haven't added the reflected light, should be done here really. Just use the same technique and pick the darker sky colour and add it to the left side of the main trunks and some smaller branches.



3D & 2D TREES

Layer 7: Leaves

Ok the leaves. Start with the dark trunk colour and add the canopy leaf shapes using a leaf brush like mine. Next add the brighter leaves. Working light over dark helps with depth and contrast. Try to bring some of the leaves across the trunks to give the tree more depth and to break up the flat shape.



Layer 8: extra detail

Here I have gone back and added more detail touches to the main trees.



Layer 9: foliage

Using the darkest tone and the foliage brush block in the large dark areas of foliage bushes. You can add some slightly lighter ones on an earlier layer to fill out background a little.



3D & 2D TREES

Layer 10: foliage detail

Foliage is fun and simple. With the same brush but a smaller size (38) starting on the right side, pick a brighter hue and dab the brush in small clumps leaving some areas dark, you should see it build up,, this hard to explain, but try to imagine the light just touching the tops of the bushes. Repeat with the left hand side but brighter greens, again leaving dark areas. I use this in almost all my pictures, the effect works simply because of the contrast between dark and light.



Layer 11: Grasses

Smallest brush possible starting with the brightest hue on the right side, just lots of simple upward strokes, some shaped and bent but again light over dark. Repeat with the brightest possible hue on the left side. I added a couple more trees here to fill it out, but you should get the idea.



Brushes:

Here are the brushes referenced throughout tutorial.

Brushes

 foliage

 leaves

 soft edge 1-10pix

3D & 2D TREES

These images are enlargements of the earlier layers to give better detail of what was done.



If you have any questions or comments on the tutorial, please contact me at andy@ans-graphics.co.uk

Thanks for viewing,,,,,, and keep on painting