

Painting Tree Shadows

Painting Tree Shadows is the second in the series of Jungle 3D tutorials. It compliments the *Painting Trees with Jungle 3D* tutorial, so be sure to read that one as well.

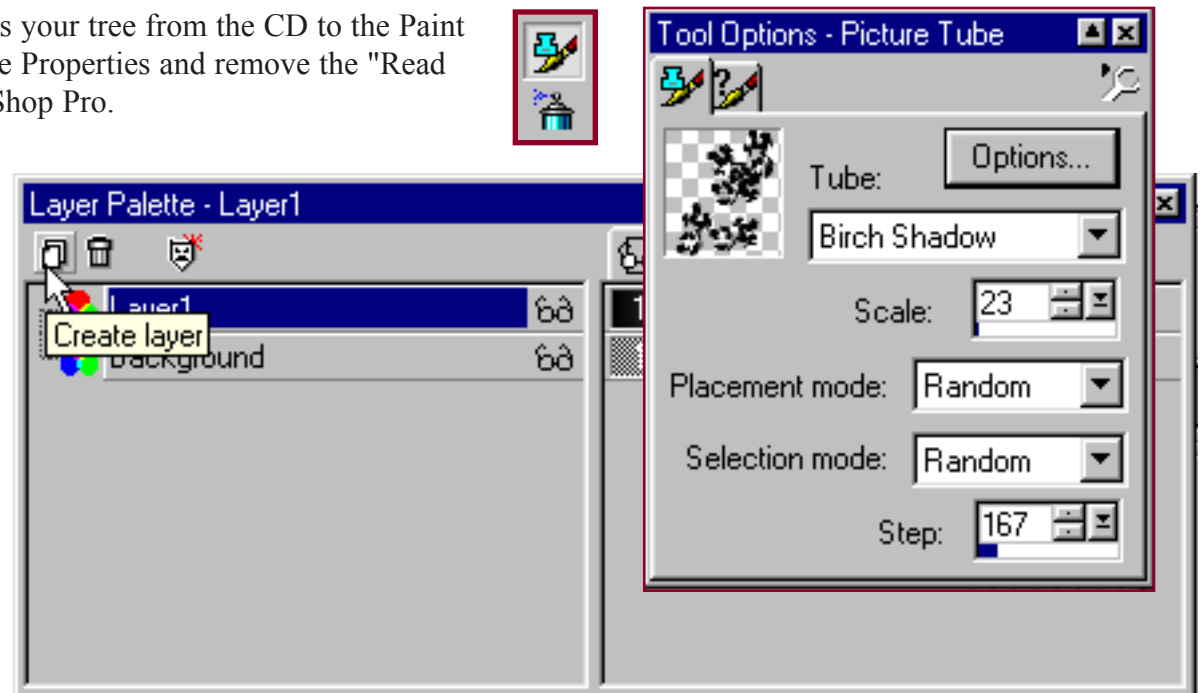
You can get a highly dimensional representation of a tree using Jungle 3D. The only problem is the shadow. Flat panel shadows can be a real scene killer. The only time you get a real looking shadow from a flat panel is when the light source is low on the horizon. Even then, the shadow won't look right if the light source is angled towards the edge of the panel. Overhead light sources cause similar problems because the tree image is mapped to a flat panel that's standing on end. The panel has no volume to speak of so it casts a very thin shadow.

The alternative is to turn off the panel's shadow and make your own shadow texture map. The theory works like this. You use the same principle you used for the tree. You paint the shadow the way it should look. If you're not sure what that is, go stand by the nearest tree. If the sun is high, you likely see a shadow that largely circular beneath the tree. If it's early morning or late afternoon, you'll see a shadow that's offset and elongated. We'll stick with overhead light sources for this tutorial.

The *Painting Trees with Jungle 3D* tutorial comes with a matching Shadow "tube" and "brush." You've seen how the brush is used to paint shadows on the tree. Well, the shadow tube lets you quickly paint a shadow texture map that actually matches the specie of your tree. These tubes let you quickly take your 2D tree into the 3rd dimension, or at least fool the eye into thinking so.

Here's how to do it. Drag the Shadows tube that matches your tree from the CD to the Paint Shop Pro Tubes folder on your hard drive. Check the file Properties and remove the "Read Only" setting if the little box is checked. Launch Paint Shop Pro.

- 1) Open a New file at 512 x 512 pixels.
- 2) Select the Picture Tube brush and choose the Birch Shadow tube on the Tool Options - Picture Tube palette.
- 3) Scale the tube size down to 23%.
- 4) Increase the Step Size to around 140.
- 5) Open the Layer Palette using the View > Toolbars menu and create a new layer.

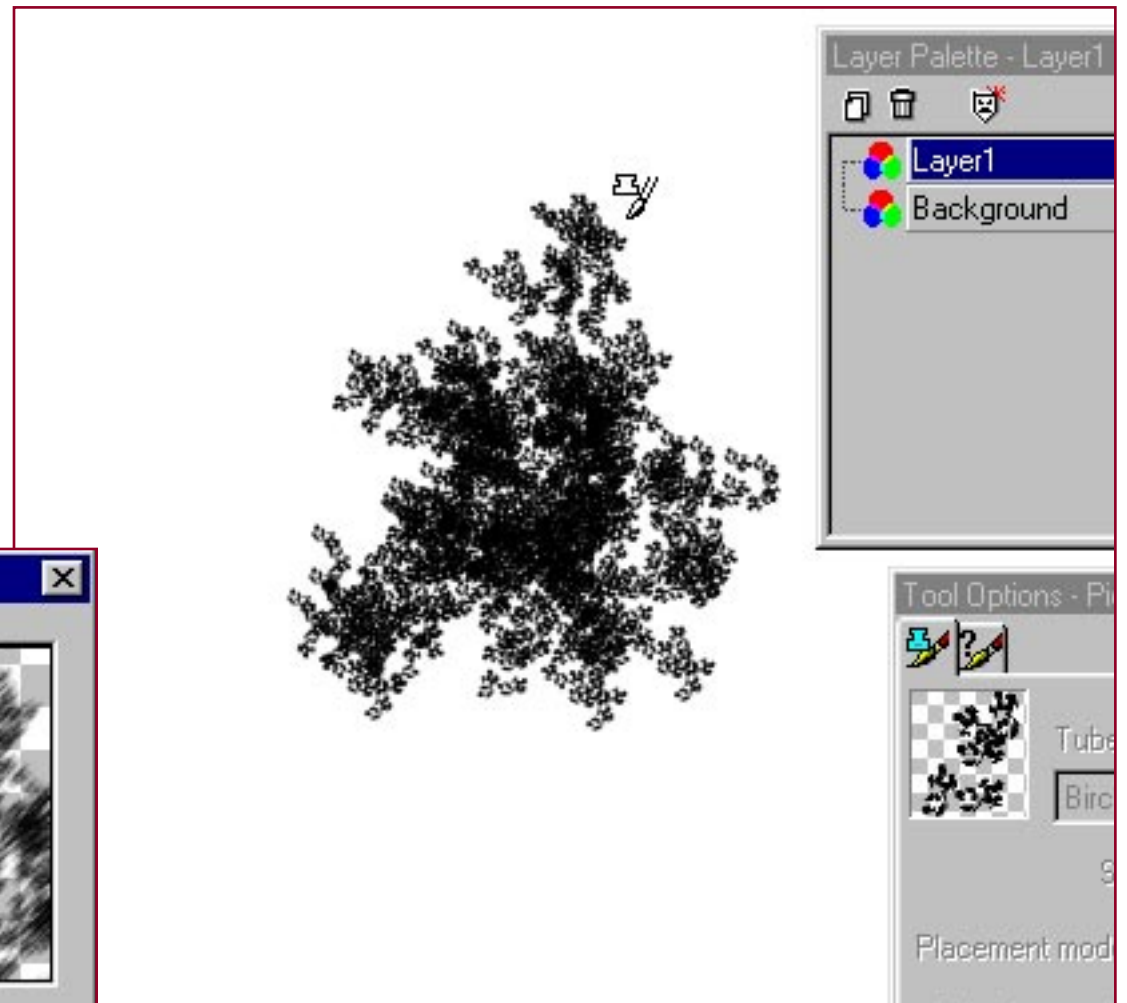
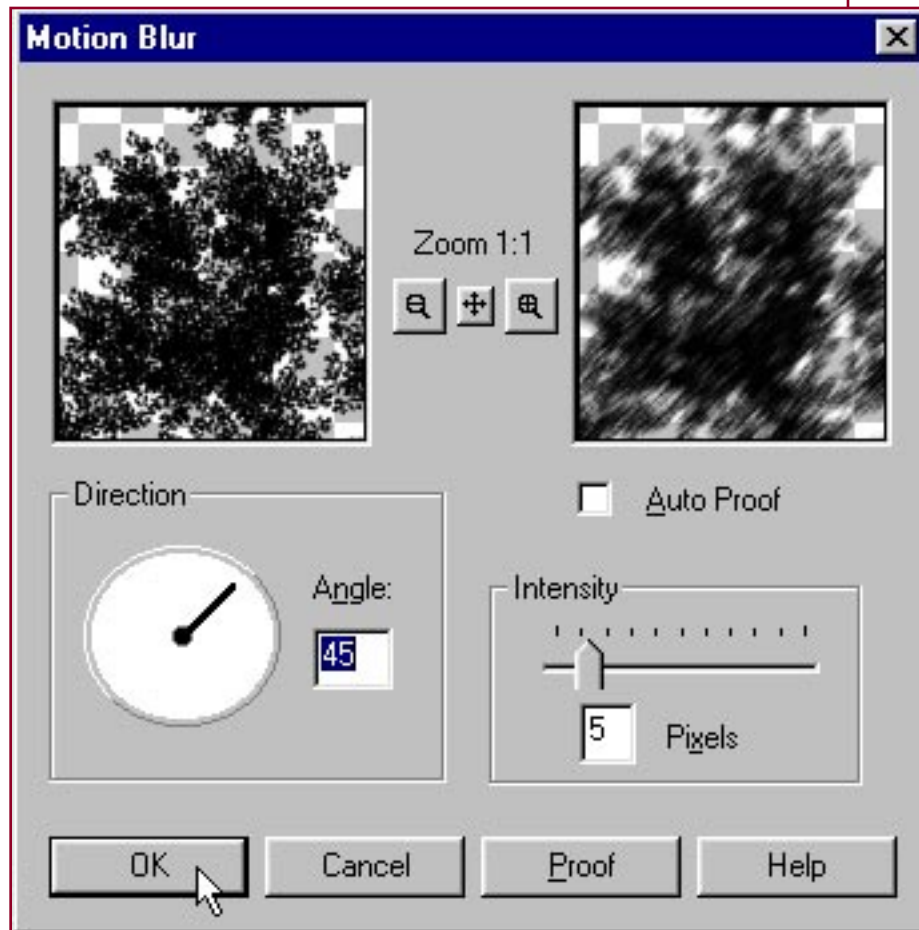


- 6) Paint the shadow as it would look if you looking down from above. Try using brief randomized strokes.

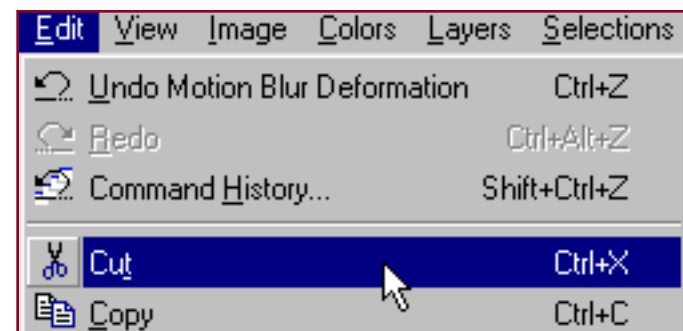
Trees seldom grow perfect circles so you want a somewhat irregular shape. Similarly, leaves grow in different concentrations. As a result, the density of shadow will vary too.

If you don't like the result, create a new layer and paint another. This one took me 6 attempts, but the go quick.

- 7) When you're done painting, select a blur filter.



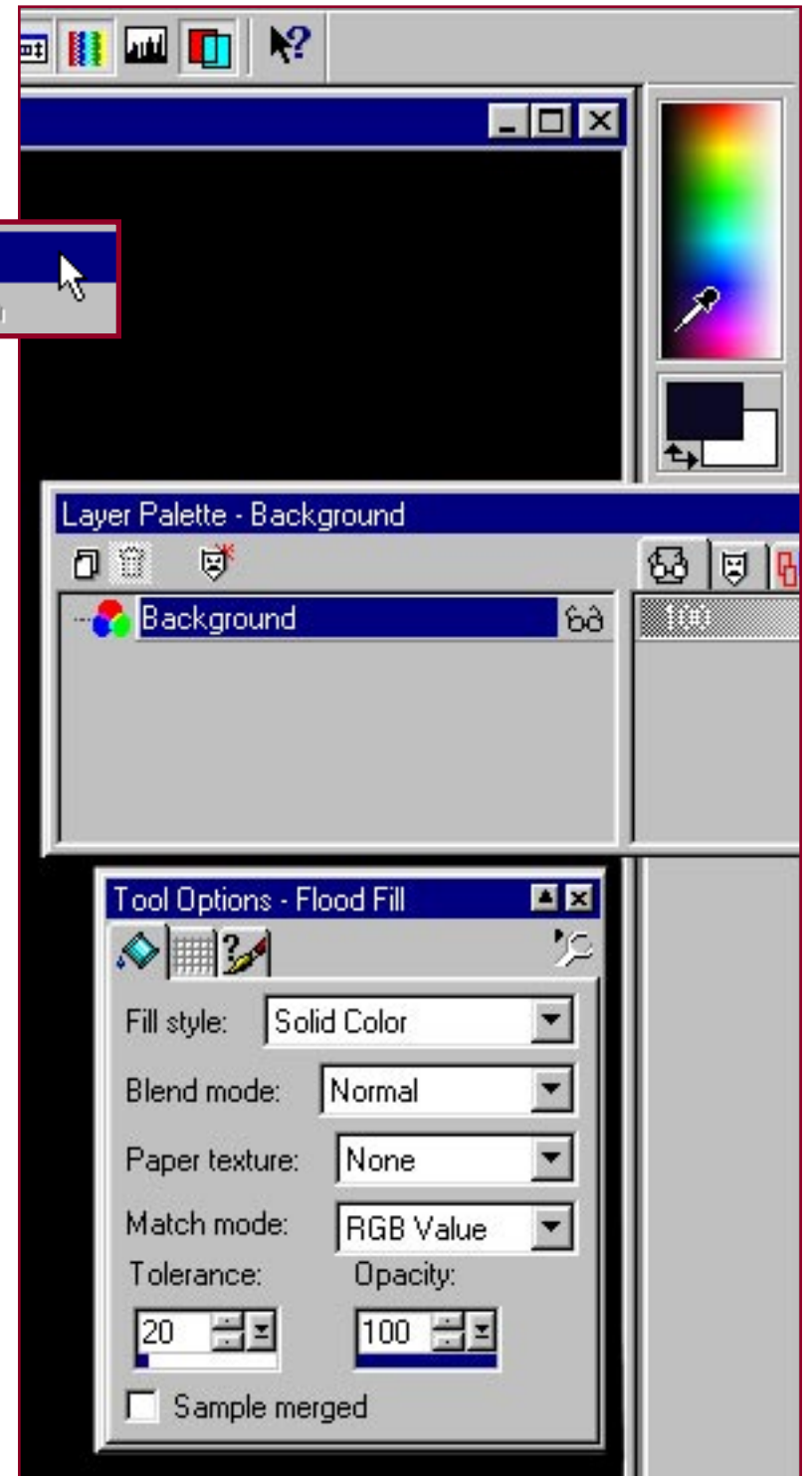
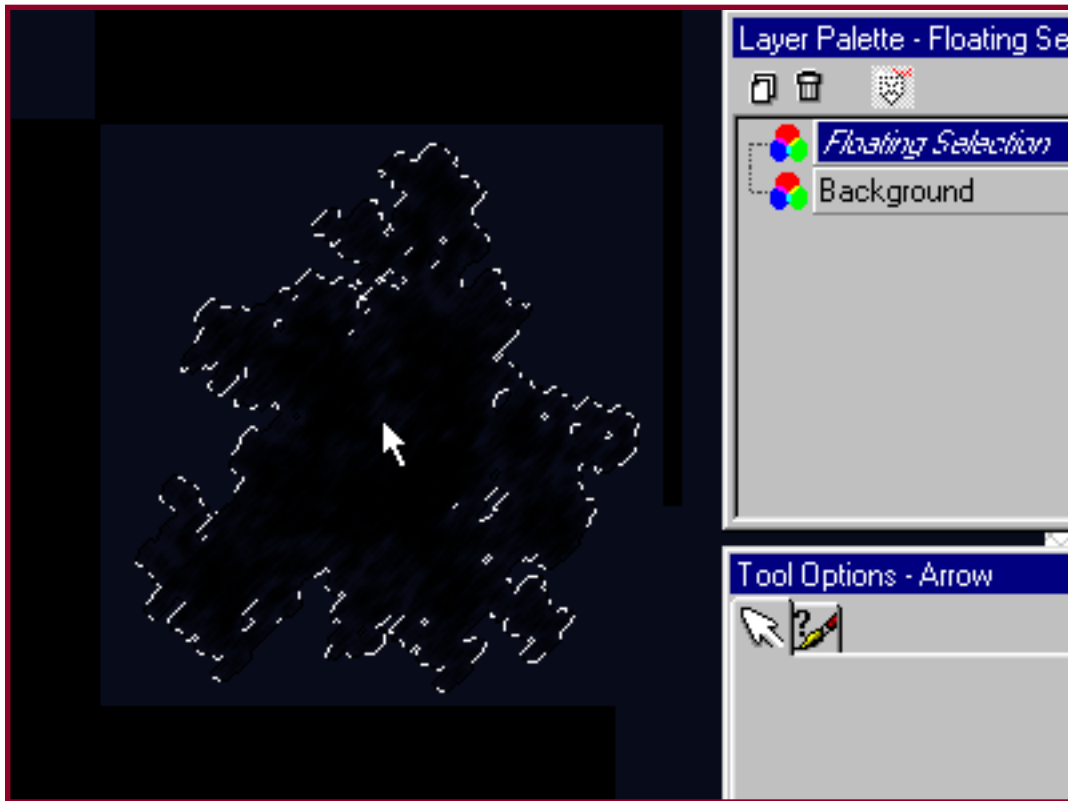
- 8) Once you've blurred the shadow, select Cut from the Edit menu (Ctrl + X).



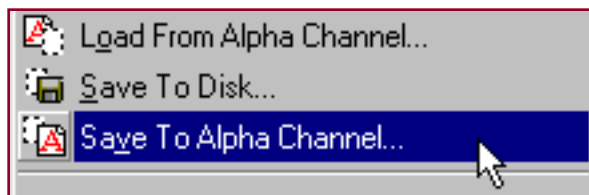
9) After you “cut” the Layer, change the selected color to black and Fill the background using the Paint Bucket tool.

10) Now select Paste: As New Selection from the Edit menu (Cntrl + E). The selection will appear attached to the cursor.

11) Use the cursor to center the shadow on the background. Click once to release it.



12) Pull down the Selections menu and choose Save To Alpha Channel.

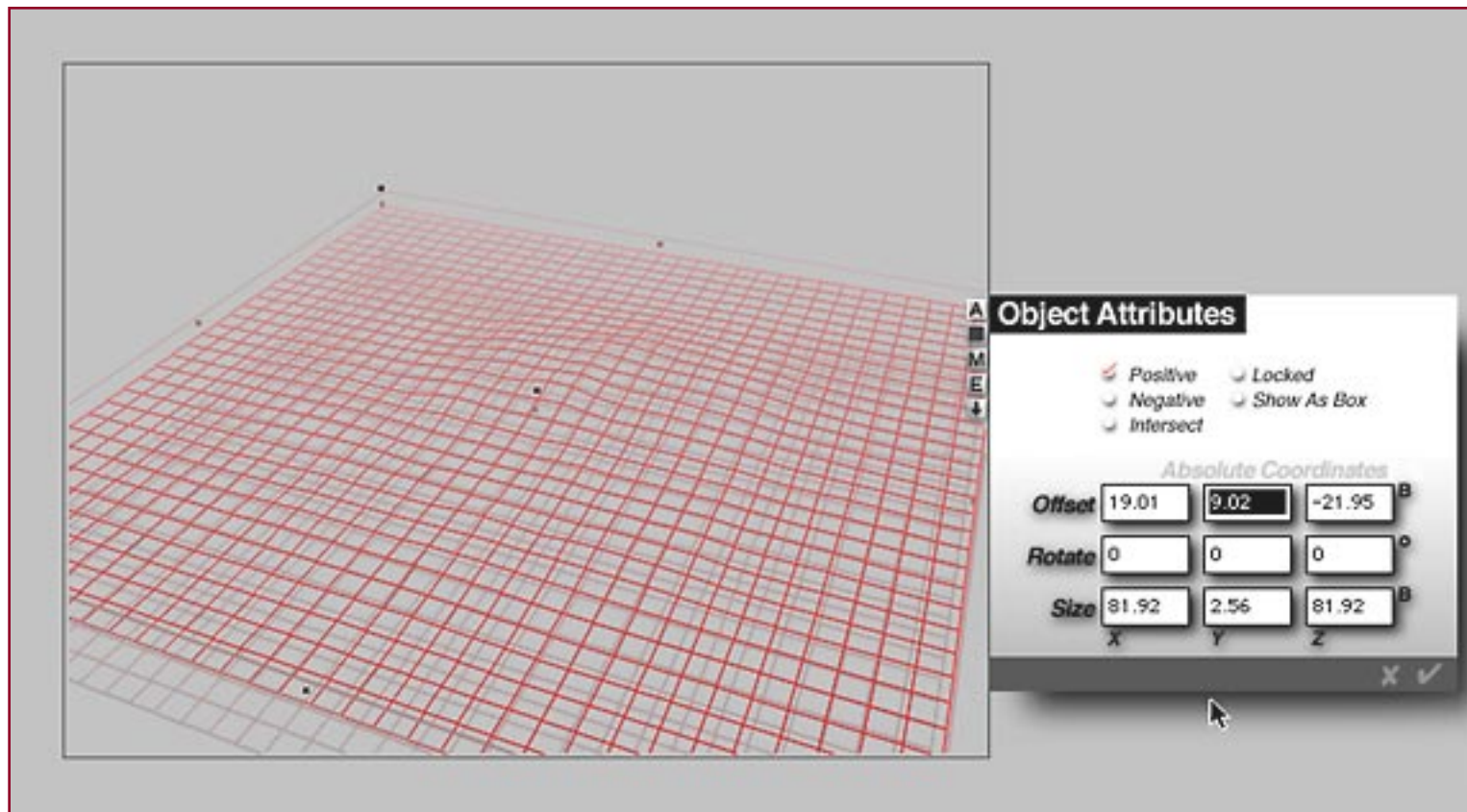


13) You're done. Save the file as a "tif" or "psd" file and launch Bryce or the 3D application of your choice.

14) If you're using Bryce, create an Infinite: Ground or Terrain model (if you don't already have a scene created).

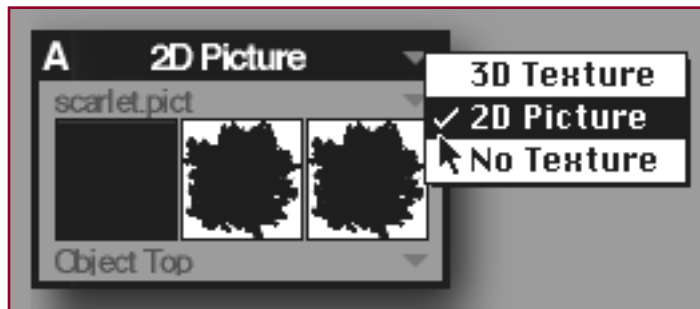
15) Copy the terrain model and then Paste it to create a duplicate of the original. You'll map the tree shadow onto the copy.

16) Select Object Attributes from the Objects pull-down menu and add 1/100th to the Y Offset number. This raises the copy just slightly above the original.

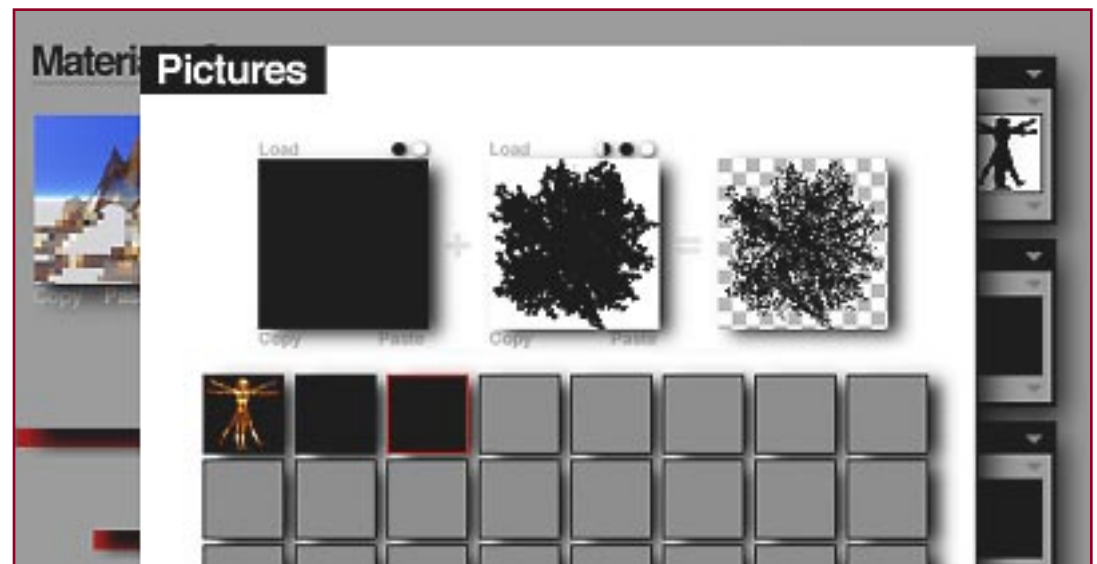
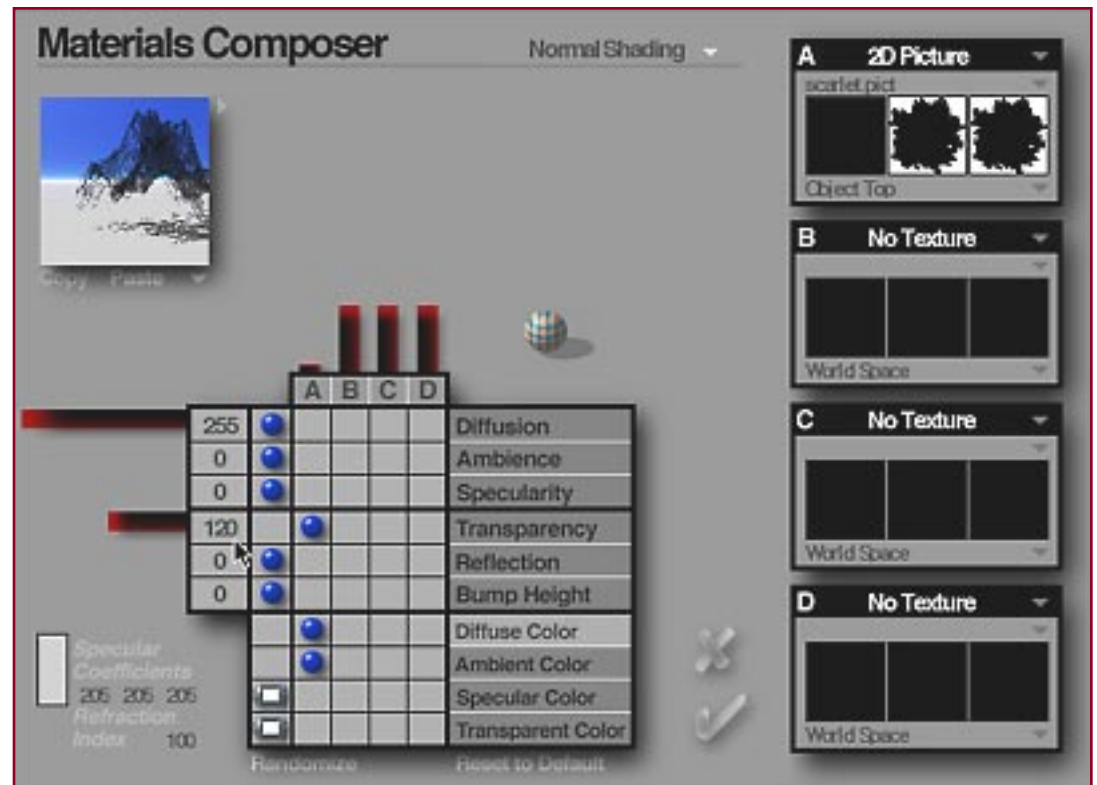


17) Okay, you now have two terrains. One is just slightly higher than the other. The bottom one is for the ground and the top one is for the shadow.

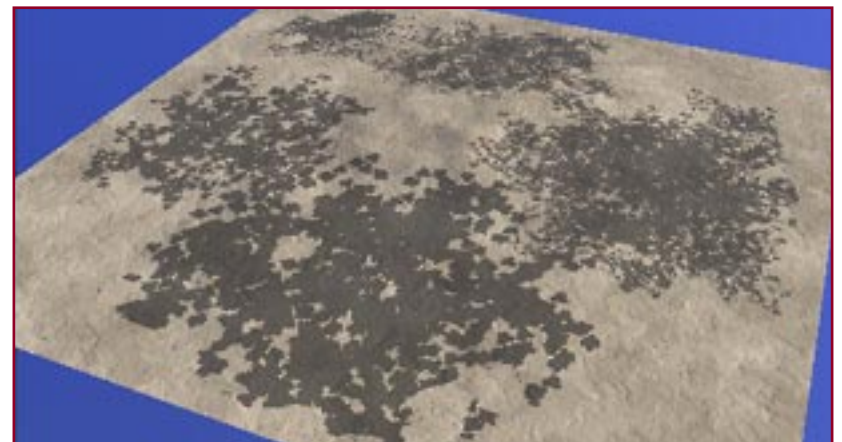
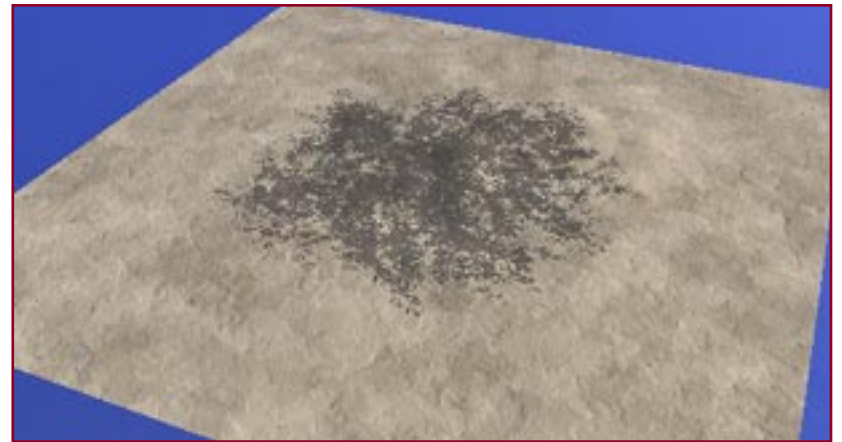
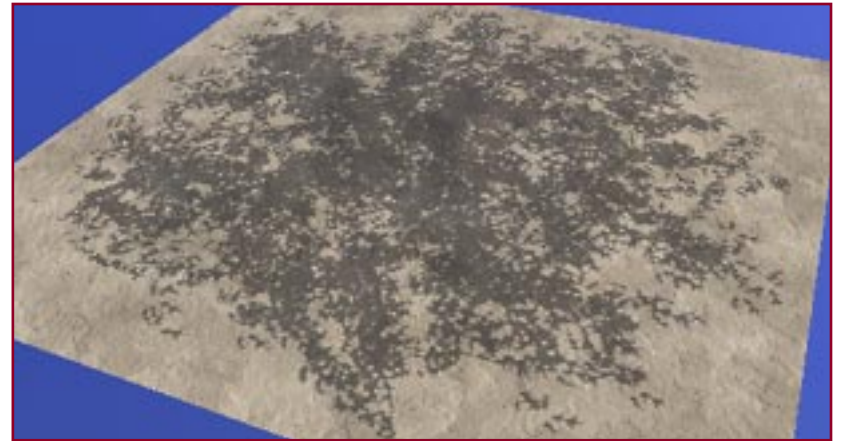
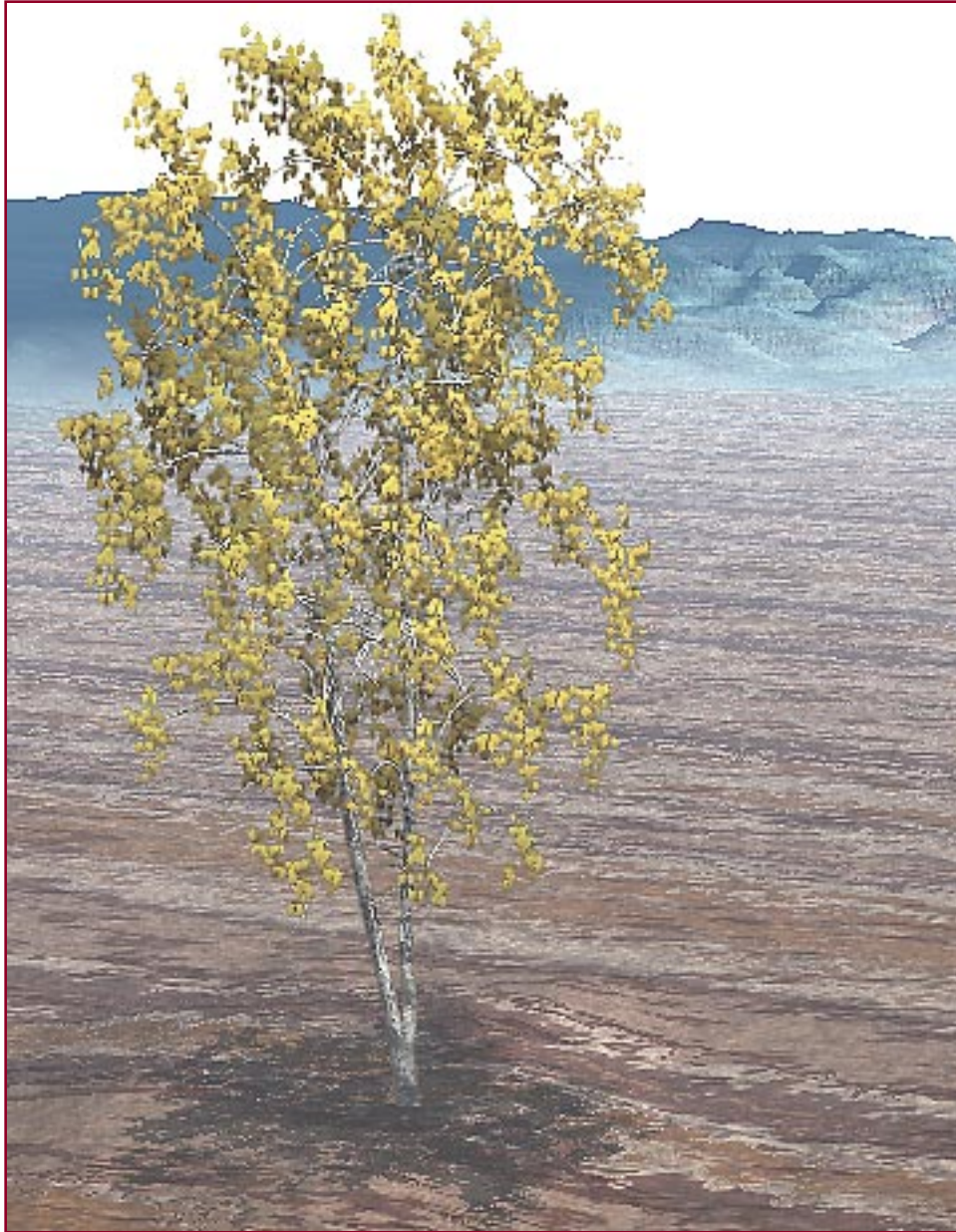
- 18) Choose the Edit Material command from the Objects pull-down menu. This opens the Materials Composer where you'll make the texture mapping settings.



- 19) Select "2D Picture" from the top of box A. This opens the Pictures window (see bottom right).
- 20) Click on one of the gray squares next to the little man, then select the shadow file. This loads the shadow as a texture map.
- 21) At the bottom of box A, select Object Top from the pull-down menu. This setting makes the image apply once, as it appears in the painting.
- 22) Now move the blue Transparency, Diffuse Color and Ambient Color icons into column A.
- 23) Shadows are semi-transparent, so click on the number column in the Transparency row. A number near 120 will make the black shadow semi-transparent and more realistic.
- 24) If you want to make the shadow image smaller when it maps on the terrain, click on the "A" at the top of the column and enter a number. The larger the number, the smaller the shadow will be.



25) Here are three examples. The top image has an "A" value of 0. The image below it has a setting of 6. You can even paint more than one tree shadow in an image as shown at the bottom. Five different leaf brushes were used to create a single shadow map.





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