# Using displacement maps to make a 2d image 3d

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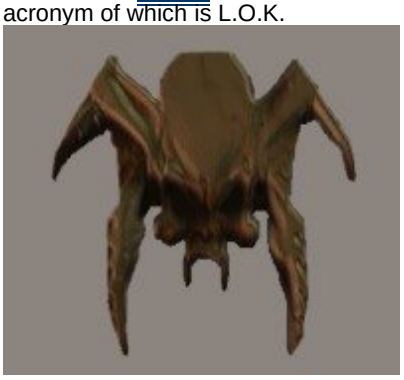
Tools Needed

*** Paint Program**

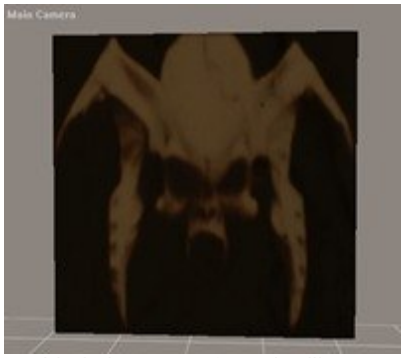
*** Poser**

**Introduction**

This tutorial will show you how to make a 2D object, mapped onto a two-sided plane appear 3D using Displacement maps. Use this technique for simple props, that you don't really need modeled, or that you cannot model. For this example, I will be using my project which involves the hilt of a sword that belongs to a certain vampire from a certain game series, the acronym of which is L.O.K.

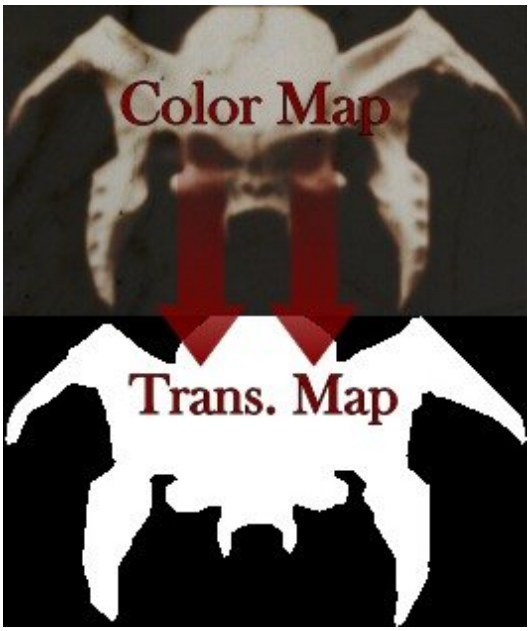


## **Step 1 -** Mapping the plane



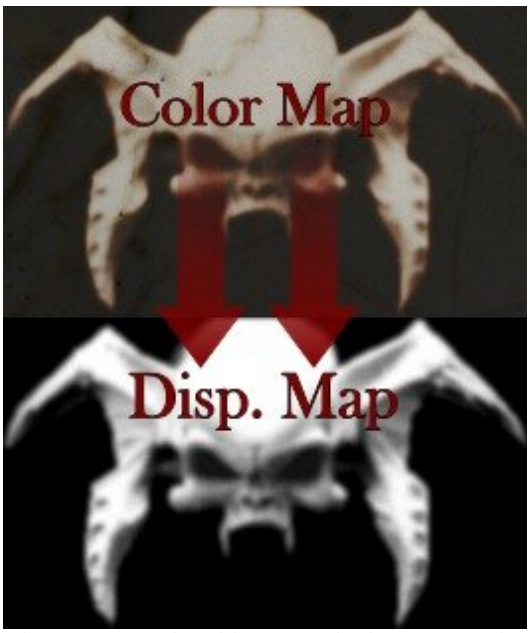
Mapping a plane is quite easy. Load the two-sided plane prop from the library, and go to the materials room. Select the image you wish to texture it with and change any other settings you would like. We will be using the transparency and bump options later. If the image appears skewn after it is mapped onto the plane, resize the plane until the image appears to have its correct proportions.

## **Step 2 -** The transparency map




Depending on whether your object is rectangular/square or not, you will need a transparency map to rid the object of any unnecesary area around it. Open the image with which you textured the plane in a paint program. Using a lasso selection tool, cut out the area of the image you wish to show on the plane. Make the part where the object is white, and anything surrounding that black. The transparency map will act like a cookie cutter, and only the part of the image represented by white will be seen once the transparency map is applied to the plane.

## **Step 3 -** The displacement map

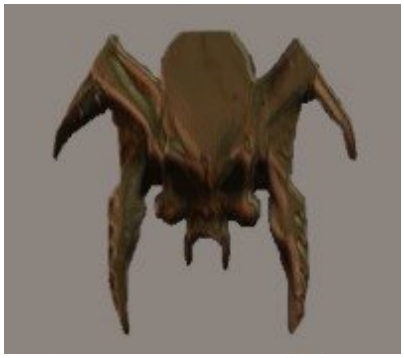



This is the most difficult part of the project. You may be able to use the image to make the displacement map itself. For now, load the image, make it black and white, and use the lasso selection tool similarly to the way you used it when making the transparency map. Make the area surrounding the object black. Now look at what you have left. Does the object have shadows where is it recessed and highlights where it bulges or is highest? If so, you can use the image as a displacement map. If not, you will have to paint it like a heightmap with black as the lowest area, and white as the highest. Those of you with images that have the afore-mentioned properties, will also have to do a little painting. Make sure that the areas in between high and low points are well blended to ensure gradual ascent and remove any excess noise to avoid a sloppy, bumpy result. Bur it to soften edges and help with the blending.

## **Step 4 -** Setting the "amount" for the disp. map.

This is an important part of using displacement maps, because it tells the program just how extreme the displacement will be. You will probably be setting the height higher than you are used to setting it for bump maps or traditional displacement maps. You will want to experiment, but the setting I used for this effect was: 0.066667 ft. Only you can discover the perfect settings to make your displacement map work perfectly, so don't take any of the integers proffered here as an absolute.

## **Step 5 -** Rendering



The first render will either show you the fruits of your efforts, or more likely, a mess that needs to be tweaked and experimented with.

## **Step 6 -** Experimentation

Try not to get frustrated with it, but have a bit of fun with the inevitable experimentation. Try blurring the map more if your results look too abrupt, or try fading parts of it back to black to make it more subtle in particular areas. You can also try putting in some extra details, like skin texture or lines in the face (such details should probably be extremely dim, or darkly colored, to avoid overly evident marks, depending on how high the height setting is set).