

# Advanced

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## Creating Realistic Skin and Hair

### Introduction

This tutorial will take you through the process of creating and applying textures for skin and hair on a 3 dimensional head.

### Requirements

You will need to have created a basic human head, as described in the first tutorial of this series ( Creating Human Features ).

A paint program that has the ability to work using layers will also be needed.

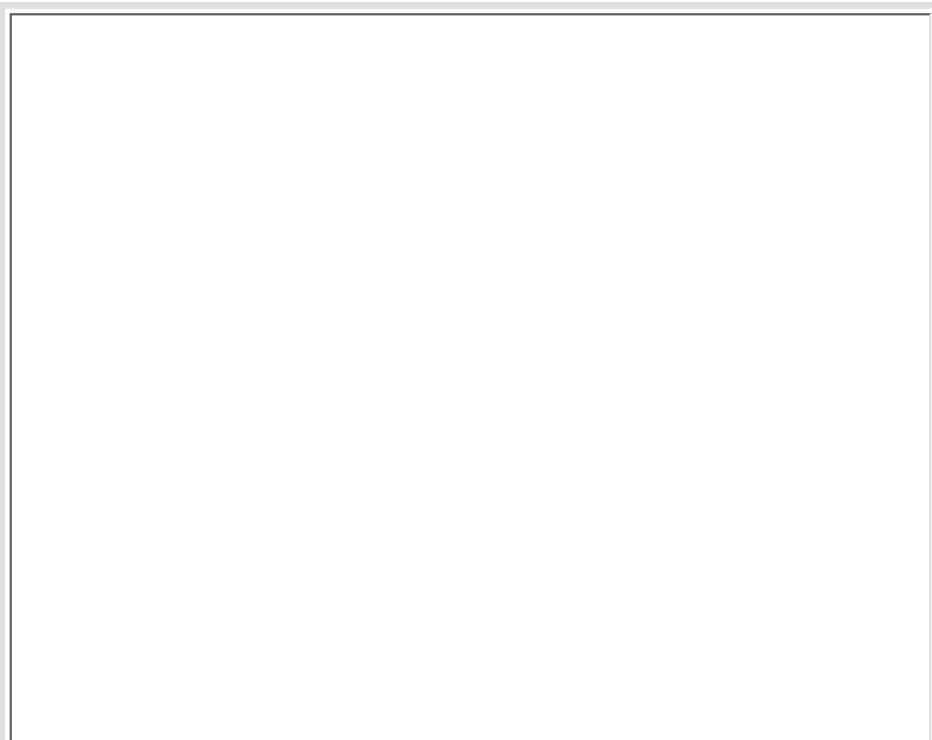
### Getting Started

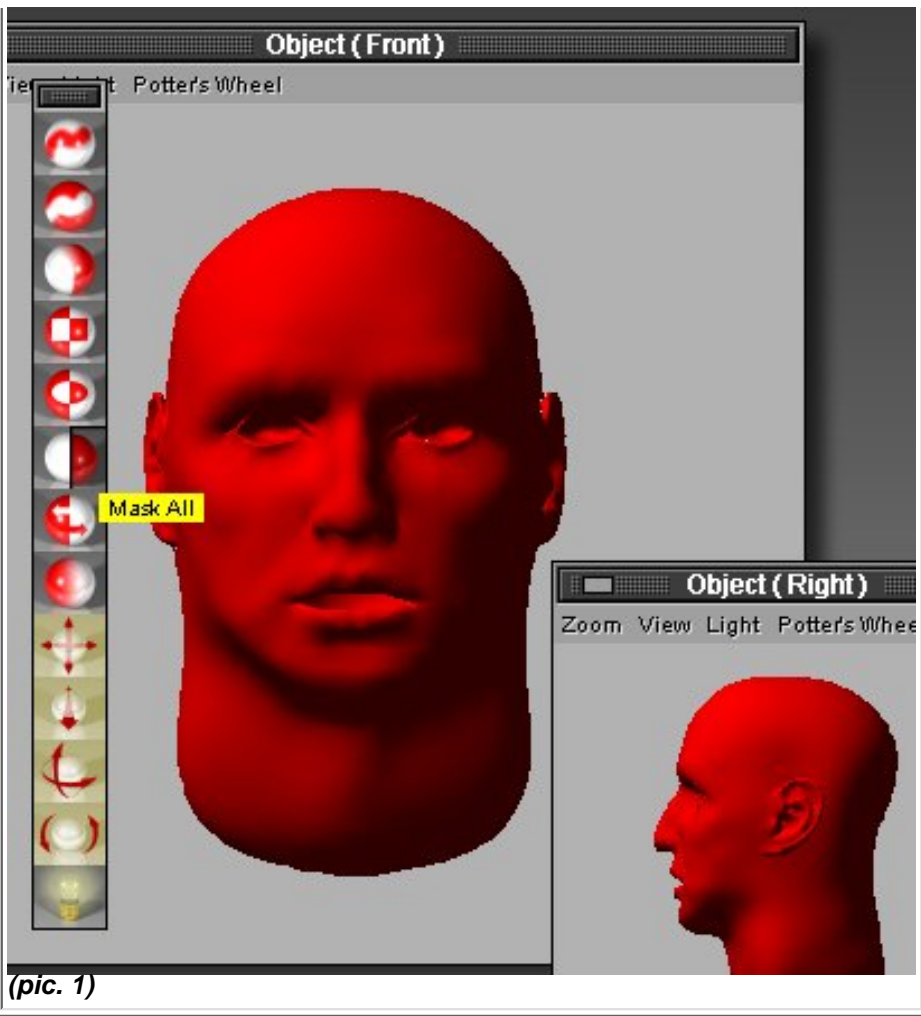
Start Amorphium Pro and open your existing human head project.

You're going to create a basic under surface for the hair to give the impression of a dense hair structure beneath the surface hair, which you'll then copy and create from this basic extrusion.

### Apply Mask

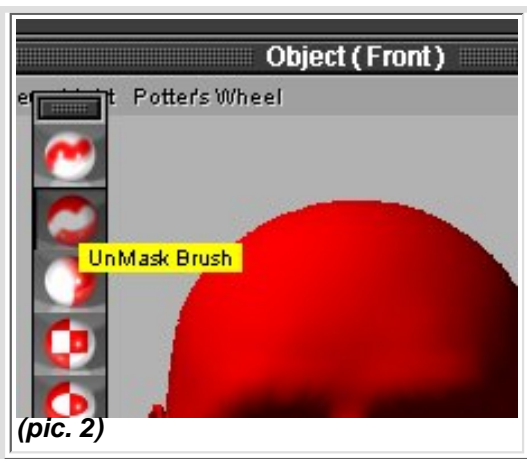
Go into Mask, select the Mask All tool and apply it to the Head. (*pic. 1*)



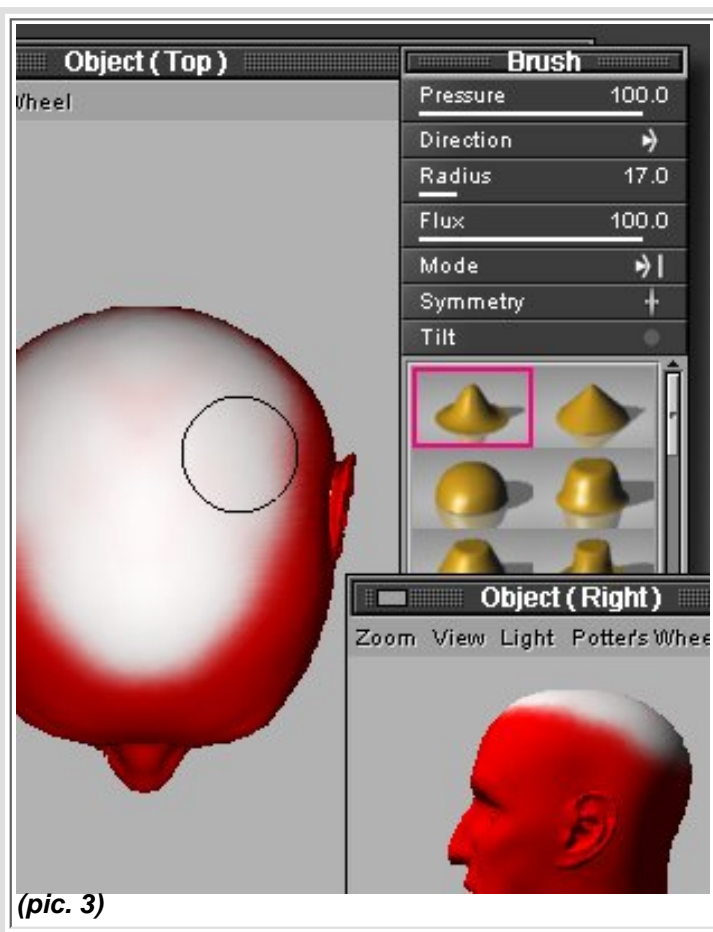


(pic. 1)

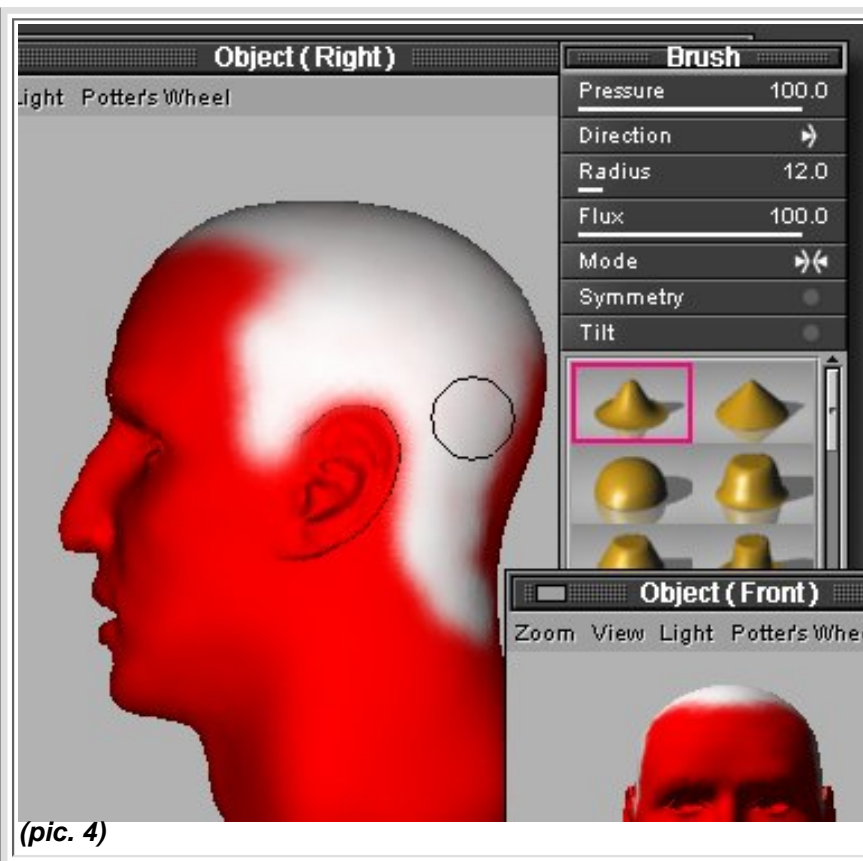
Select the UnMask Brush and create an unmasked area for the hair. Remember to change the symmetry of the brush to suit whichever view is being used. (pic. 2/3/4)



(pic. 2)



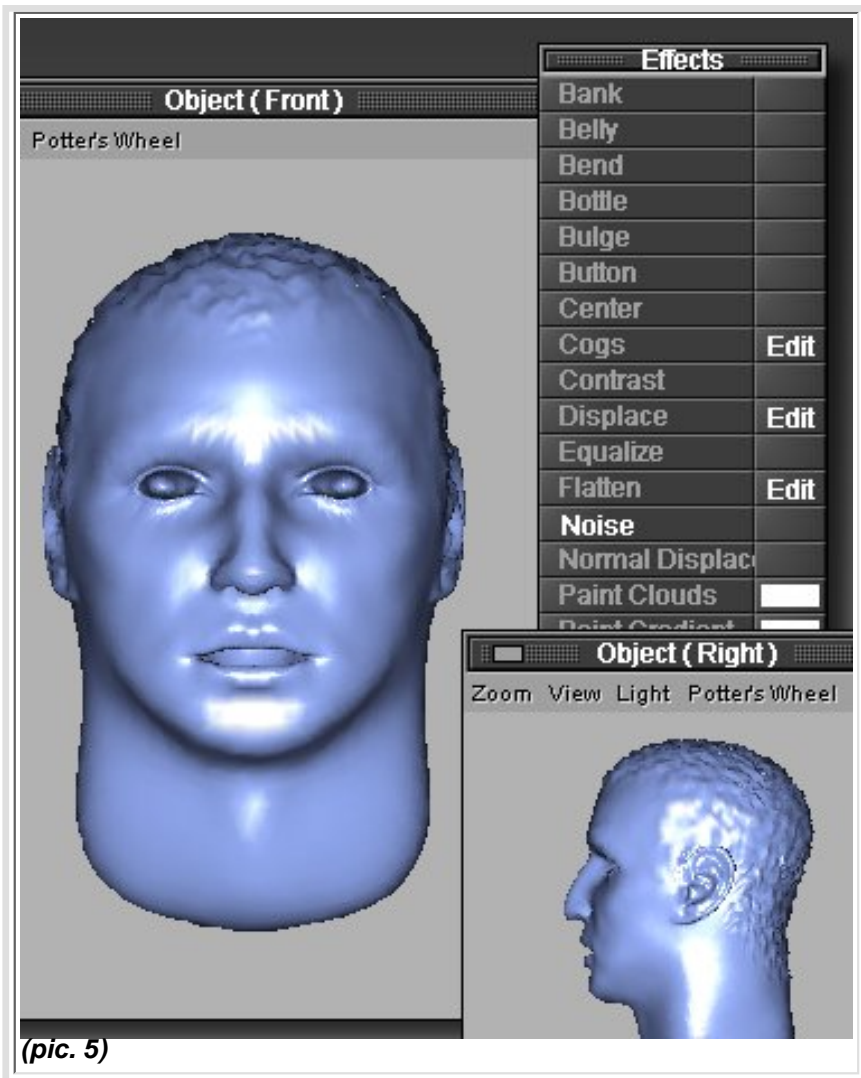
(pic. 3)



(pic. 4)

#### Apply Noise In FX

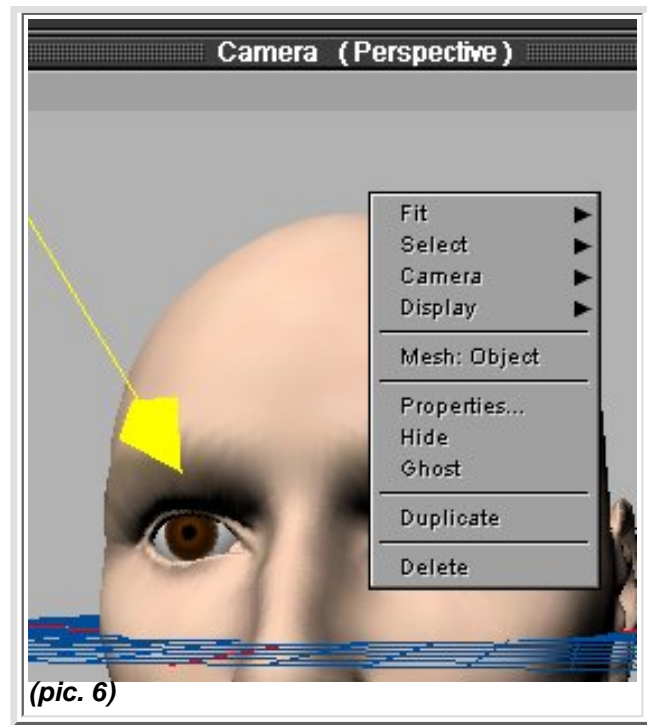
In FX select the noise feature. This will create an uneven surface for the underlying hair. Click and drag out to a value of about 4. (pic. 5)



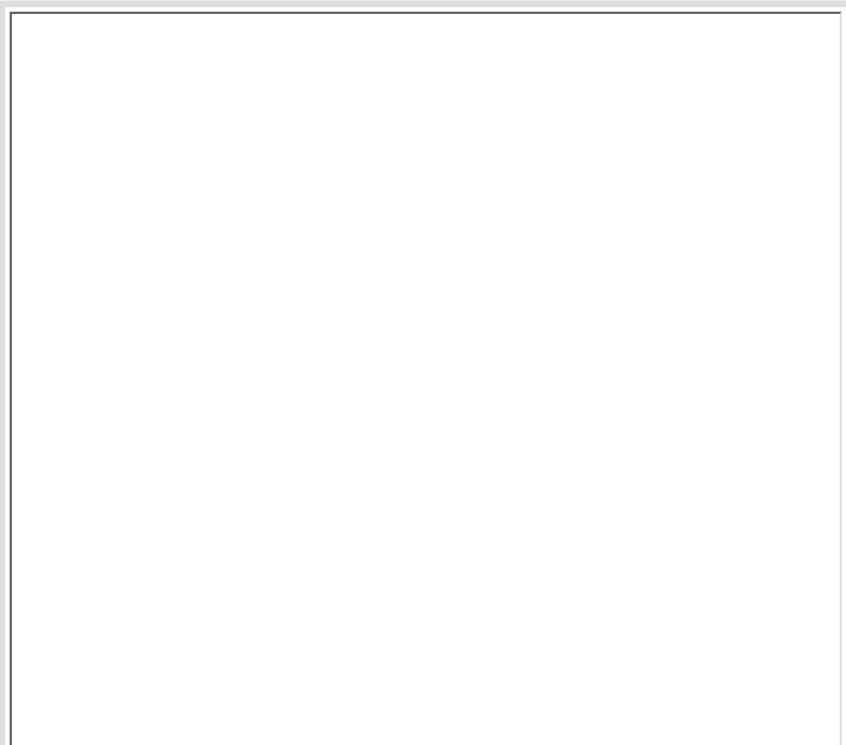
With the under surface for the hair complete you can copy the Head object and use the copy to create an outer surface for the hair.

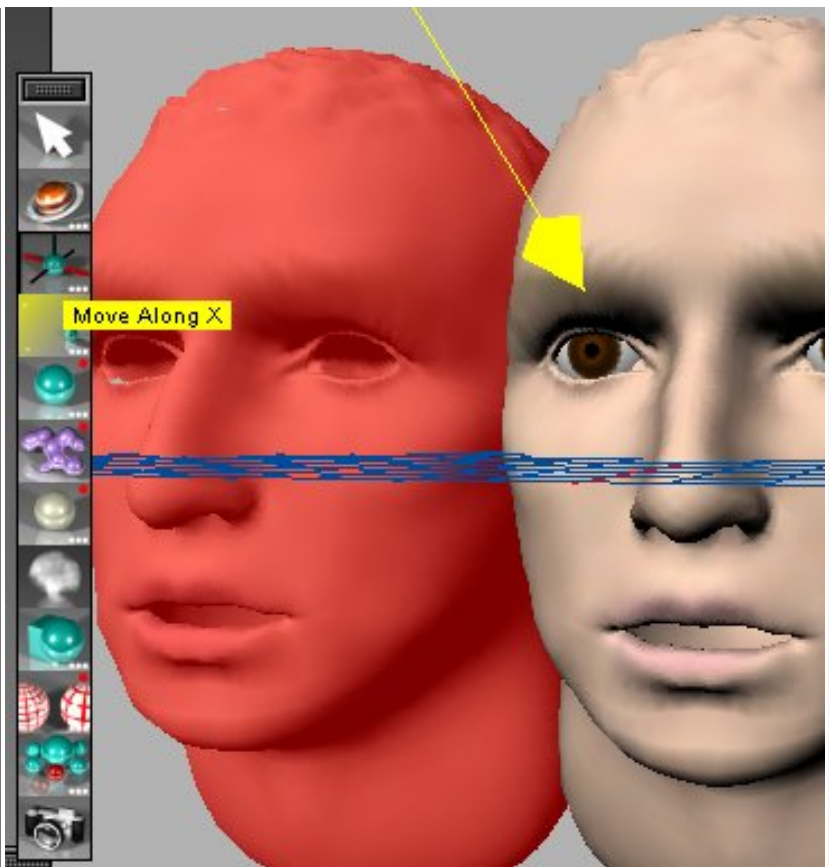
### Duplicate

Return to composer, right click on the head and select Duplicate. (pic. 6)

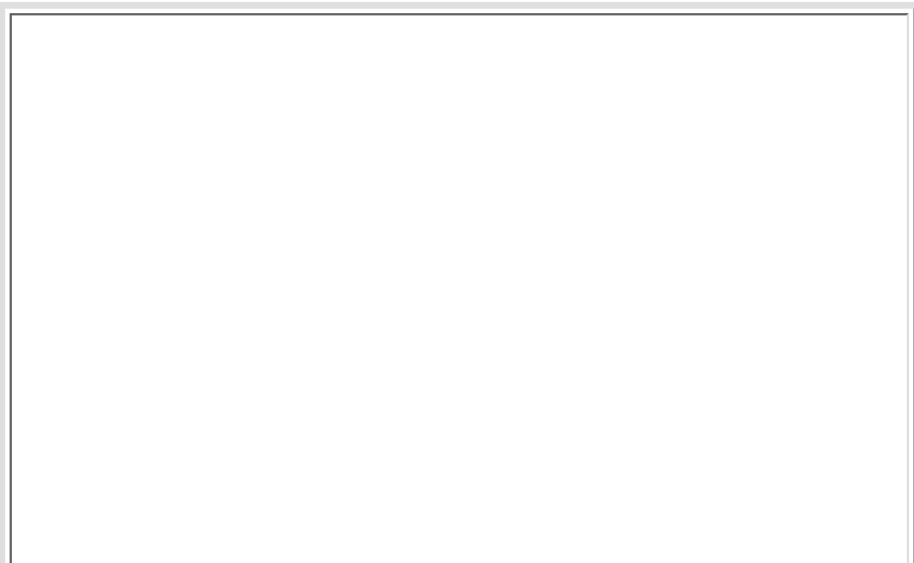


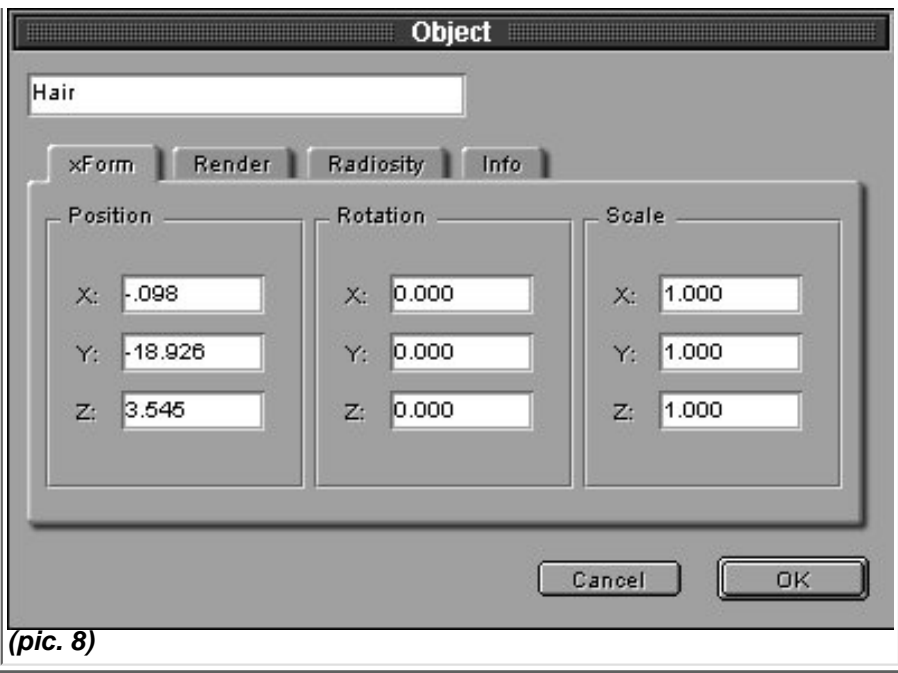
Select the Move Along X tool. Click on and drag the visible head object to the side so you can view your changes to it. (pic. 7)





To avoid confusion lets change the name of the copy. Right click on the copy, select Properties and change the name to Hair. **(pic. 8)**



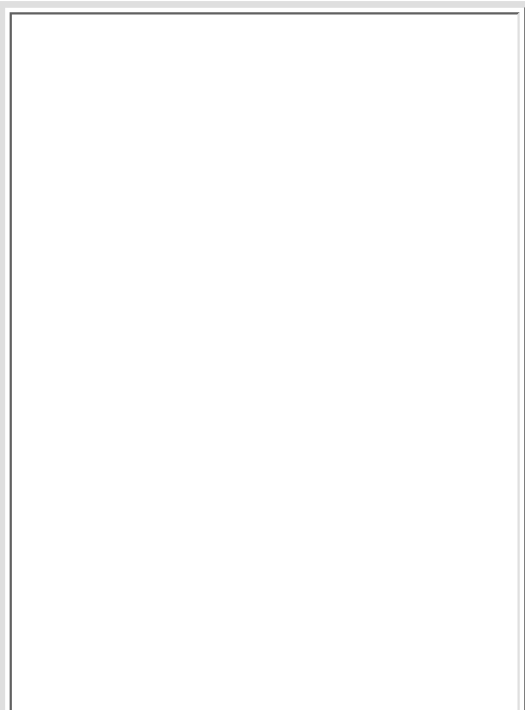


(pic. 8)

The only part of the Hair object you need is the uneven and unmasked area you created in FX. Lets remove all the unwanted area's below the hair.

### Reverse Mask

Return to Mask. Choose the Hair object and select the Invert Mask tool. Apply the effect to the Hair. (pic. 9)





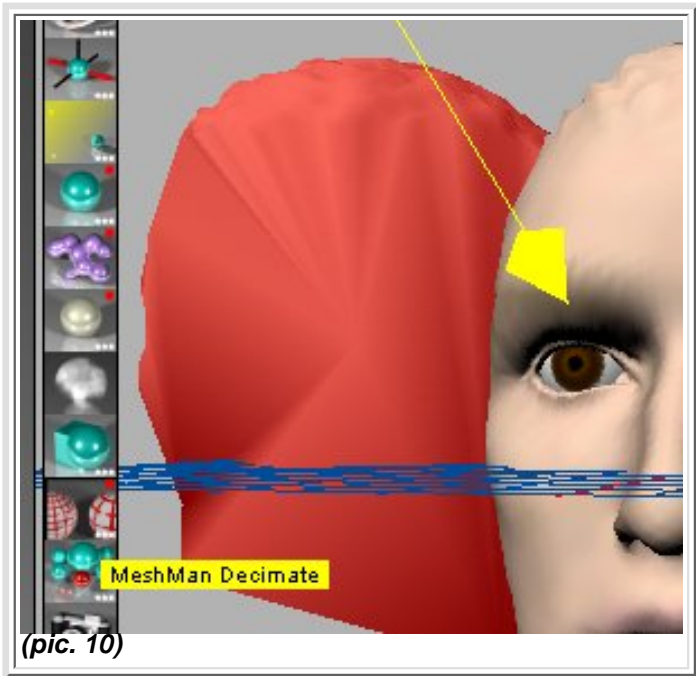
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## Creating Realistic Skin and Hair

### MeshMan Decimate

Return to Composer, select the MeshMan Decimate tool and apply it approximately 5 or 6 times to the Hair object. Wait for the object to turn back from red in-between applications. **(pic. 10)**



This will drastically remove the complex structure of what was a human head.

### Smooth

Go into FX and this time select and apply the Smooth tool to take away any uneven surfaces left behind from the head. **(pic. 11)**



(pic. 11)



(pic. 12)

With the Scale tool selected click in an empty area of the workspace, drag out to your right to increase the dimensions of the hair just above the underlying hair.  
(pic. 13)



You will now have a perfectly fitting hair piece for your head!

### Creating A Depth Scan

Amorphium Pro has the ability to produce Depth Scans of an object or objects together. A Depth Scan is just as it says, an image showing the extrusions of an object, lighter represents the outermost area's and darker the innermost recesses.

Amorphium Pro can produce Depth Scans in a number of ways.

Planar Depth Scan produces a flat straight ahead image from whichever camera view you choose.

Cylindric Depth Scan creates an image from the camera view chosen which wraps around to the back of the object from left and right.

Spheric Depth Scan is similar to Cylindric, the only difference being that the image wraps around on all sides from the view chosen.

Either the Spheric or Cylindric Depth Scan will produce excellent results on your 3D head.

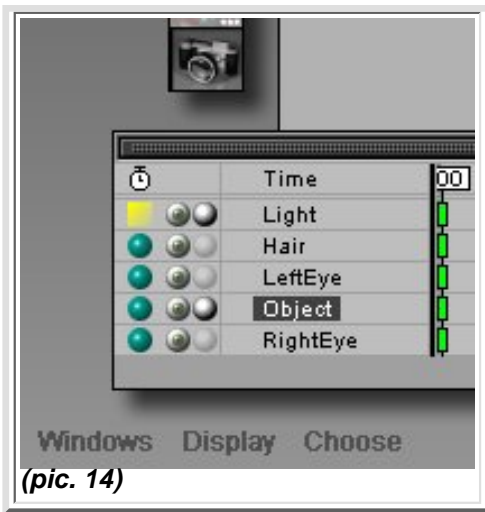
For the purpose of this tutorial I'll use the Cylindric Depth Scan as it's a little easier to work with when judging where to apply textures in your paint program.

The dimensions of the Depth Scan are important when it comes to detail. The higher the resolution of the Depth Scan the more detail you can include when adding skin texture and hairs.

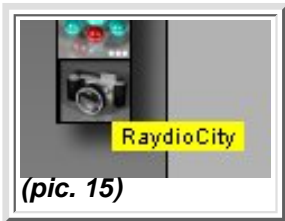
You could produce two Depth Scans, one for the Hair object and one for the Head, but I'll show you how to produce the Hair Materials from a layer produced in the Head bump map.

To produce a Depth Scan representing only the Head object you need to turn off the rendering options for the other objects in your World.

On the Project tool bar at the bottom of your screen click on the third sphere for the Hair and Eye objects. The spheres will appear ghosted when turned off. (pic. 14)



Select the RaydioCity tool and click in the workspace to apply it. **(pic. 15)**



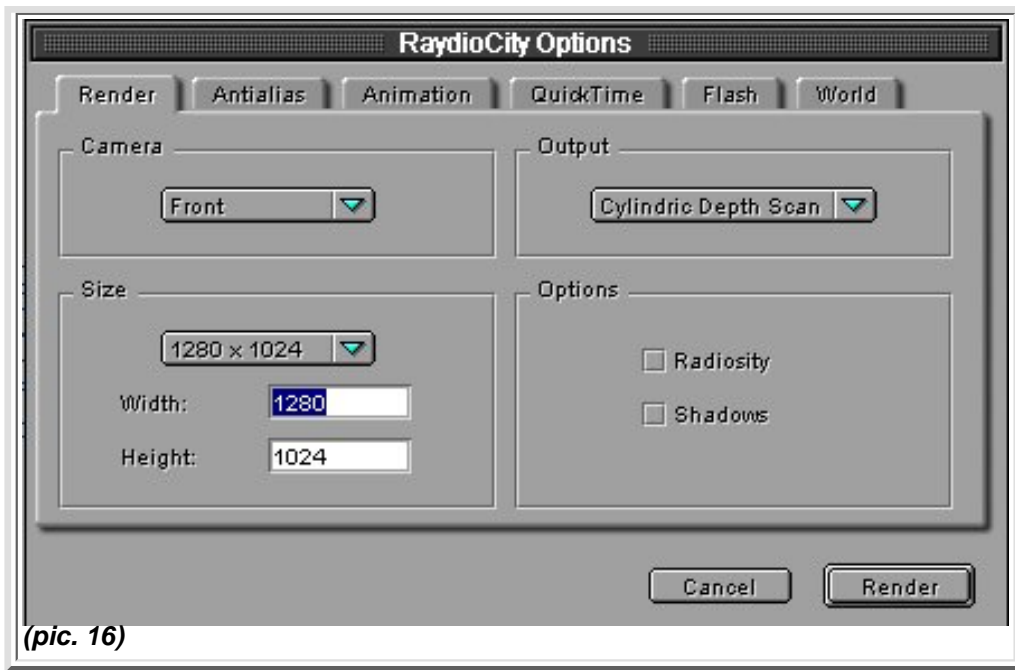
Choose Front for Camera.

Output Cylindric Depth Scan.

Size 1280 x 1024

Turn off Radiosity and Shadows

Click on Render and once the rendering is complete save the image as DepthScan.bmp. **(pic. 16)**



(pic. 16)

The saved Depth Scan is to be used as a background image, a template from which you can create accurately placed skin textures, wrinkles and hairs.

With the Depth Scan saved, you can turn the rendering options back on for the other objects in your world, save your human head file and close Amorphium Pro.

Open your preferred Paint software and load the Depth Scan image.

### Using Paint Software

Rather than give a blow by blow account of Color and Bump map creation, I'm going to run through the concepts and give examples of what you should be aiming for.

There are many different paint packages available, with differing tools, effects and plug-ins which you might use. The only stipulation is that you must have the ability to work using layers overlaid on your original Depth Scan produced in Amorphium Pro.

A grey scale image is all you will require for your Bump map. Lighter extrudes forward and darker back.

Apply a rough texture onto the background Depth Scan. Every paint package will have different tools which can produce that effect, either an all over noise effect or a brush tool that can be applied with a rough texture.

Keep the applied roughness reasonably dark, as the hair needs to stand out furthest, applied on a separate layer as white lines. (pic. 17)



*(pic. 17)*

