

underwater habitation pods

Strata StudioPro

~ Adam Watkins

The amphibious beings known as the Gungans live in underwater cities hidden in the deep lakes of the planet Naboo. Here they can breathe either air or water with their “compound lungs”. The city shown in the movie (the city where Jar Jar Binks is from) is called Otoh Gunga. It is this city and the ethereal habitation pods that caught my attention as an interesting 3D project. The beauty being in the possibility of using extensive textures to convey geometry.



Strata's StudioPro lends itself excellently to this sort of treatment. With its easy to use and intuitive texture treatment, we can easily and powerfully place textures with transparency maps to create very complex looking geometry while maintaining a very low polygon count.

Let's begin by taking a look at the final render ([Image 1](#)) as well as a close up detail of one of the pods ([Image 2](#)). You'll notice that the entire city is made of copies of one pod (in this case I actually used StudioPro's instancing features – but we'll talk about that later).

To begin with, use the Sphere creation tool to create two spheres, one slightly larger than the other ([Image 3](#)). The idea here is to

create one sphere that will become the amber globe and another that will eventually become the talon like designs that curl up from the bottom and down from the top to engulf the shape.

Now that the shapes are created, let's jump out of StudioPro for a moment and begin to create the maps that will become the texture of the talons, called Utanodes.



Image 1: Final Render of Gungan Pod.

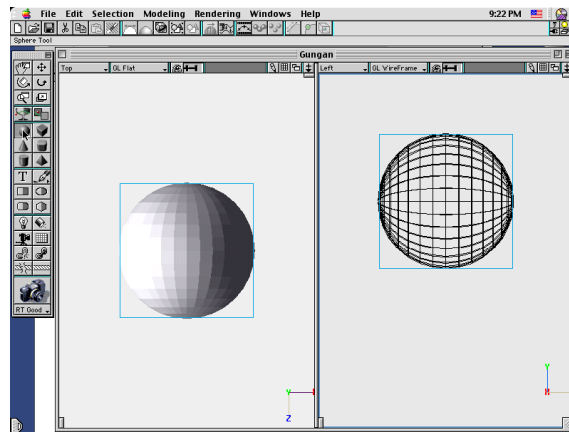


Image 3: Dual Sphere Creation.



Image 2: Detail of Finished Pod.

In Illustrator, create paths that approximate the design shown in [Image 4](#). I won't go into how to create the shape as it is beyond the scope of this article, but you may also consider creating the path in Photoshop if you are more familiar with it. Or you can import the image contained in this magazine and use Photoshop to isolate the shape and paste it into a new file.

Regardless of how you create or obtain the shape, we'll use Photoshop to duplicate and prepare the Utanode shape for an appropriate set of texture maps. [Image 5](#) shows the imported EPS image rasterized. Flatten the image so that you are left with a white background that will be useful in creating transparency maps.

Because we will want this Utanode to only cover about seventy to eighty percent of the sphere, we need to add some space to the top of the image. [Image 6](#) shows the adjusted image altered with Image>Canvas Size making

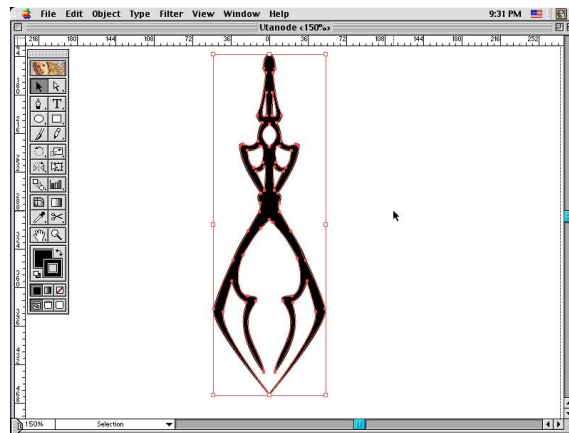


Image 4: Illustrator Path.

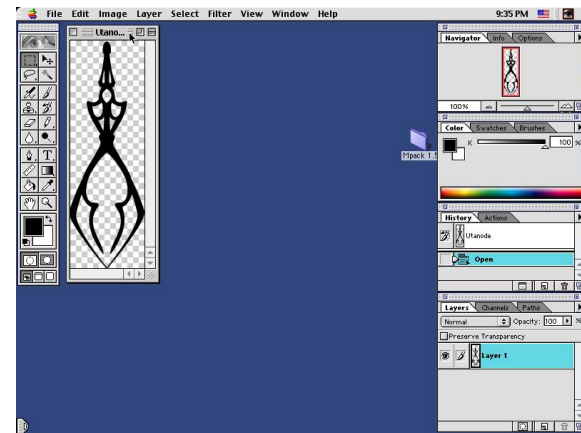


Image 5: Rasterized EPS.

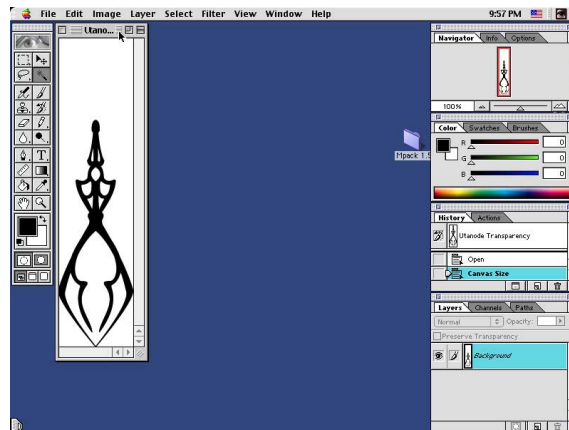


Image 6: Adjusted Image.

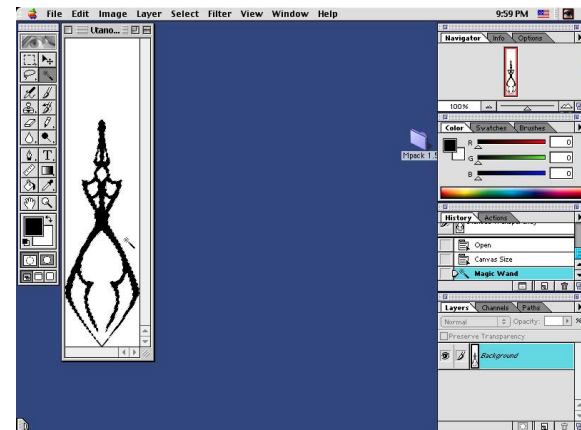


Image 7: Magic Wand Tool Selection.

sure that the original image stays at the bottom-center. Invert the file so you have a black background with a white Utanode shape and save the file as “Utanode Trans” for use as the transparency map. Now invert back to a black Utanode on a white background and select the black pixels of the image with the Magic Wand tool (Image 7), and copy this section into a new layer (Image 8). Now with this new layer selected, go to the pull-down menus Layer> Effects> Bevel and Emboss (Image 9). Within that dialogue box, experiment with the settings until you begin to get a more three-dimensional look to the Utanode. I used the settings shown in Image 10, but use what works for you.

Now that you have a good look, flatten the image again, and save it as “Utanode Color” to be used as the color map in our texture.

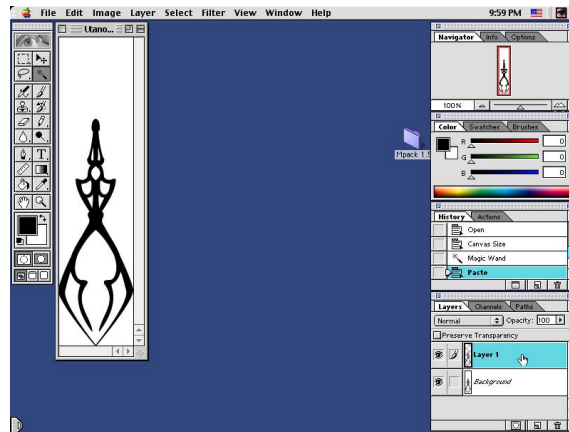


Image 8: Copy into New Layer.

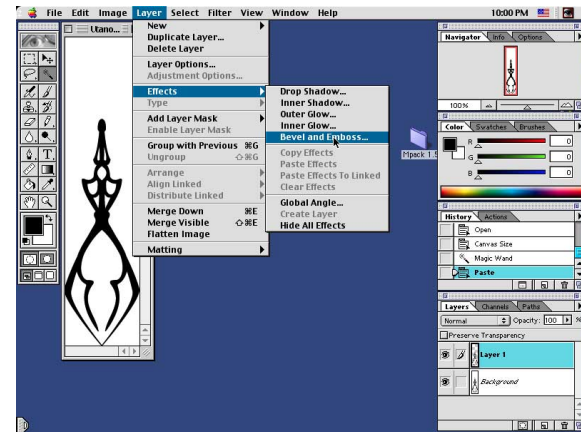


Image 9: Embossed Shape.

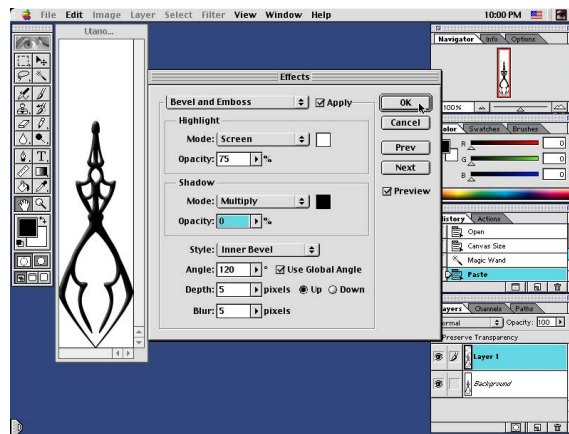


Image 10: Example Settings.

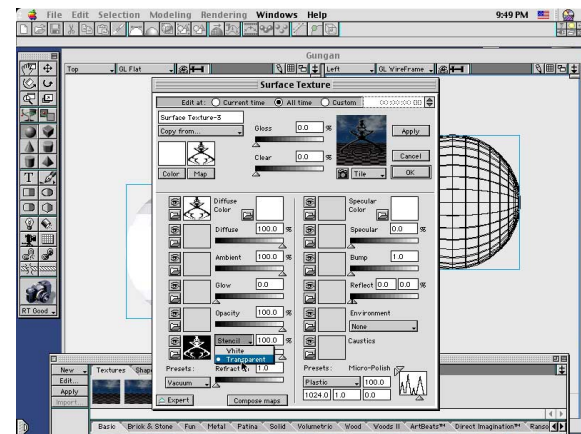


Image 11: Transparent Mode.

Now back to StudioPro. In the resource palette, create a new texture and place the “Utanode Color” map in the diffusion window and the “Utanode Trans” file into the stencil window making sure to set the mode to Transparent (Image 11). Place this newly created texture on the outside sphere. The result will look really weird (Image 12), but have no fear... we'll fix it in a moment.

Bring up the Object Palette which will display the characteristics assigned to any specific object; in this case our Utanode sphere. Click on the Texture tab, and expand the palette into expert mode by clicking on the small blue arrow at the bottom left hand corner of the palette. Here you can change the mapping

to one more appropriate to this project. Since we want the texture to wrap around a sphere, use Spherical mapping and adjust the size of the X-axis to be 10%. This tells StudioPro that we wish to repeat the texture ten times around the objects, along the texture's x-axis. The result thus far can be seen in Image 13.

Now the problem is the placement of the texture – it's sideways. One way to correct this is to simply grab the sphere and rotate it into place, but since this tutorial focuses on StudioPro's texturing ability, let us fix it in that context.

One of the buttons in the Object Palette is Position. Click on this button, and you will

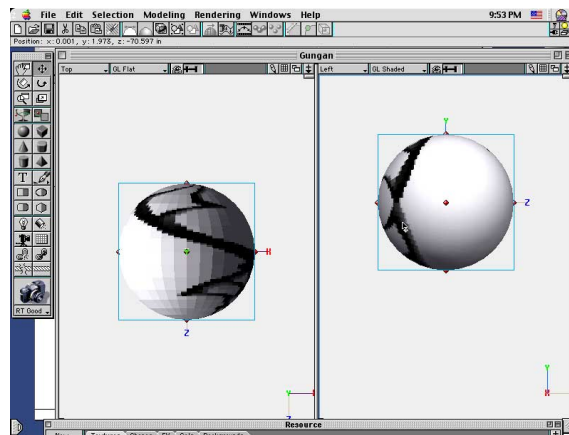


Image 12: Weird Initial Results.

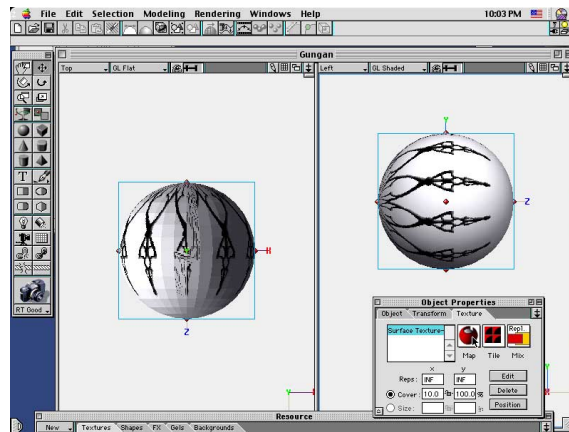


Image 13: Results thus far.

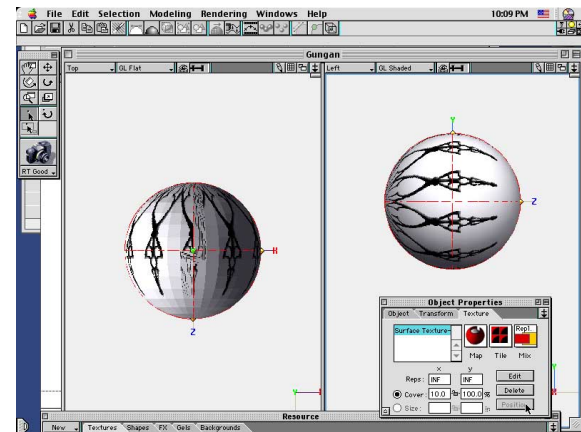


Image 14: Edit Mode.

be placed within an edit mode similar to [Image 14](#). The tool palette and the object display are altered to allow you to reposition or rotate the texture selected. Use the Texture Rotation Tool from within the tool palette to rotate the texture into place ([Image 15](#)). Exit the Texture Edit mode by clicking the End Reshape/Edit button at the top of the screen. You should now have your Utanodes in place.

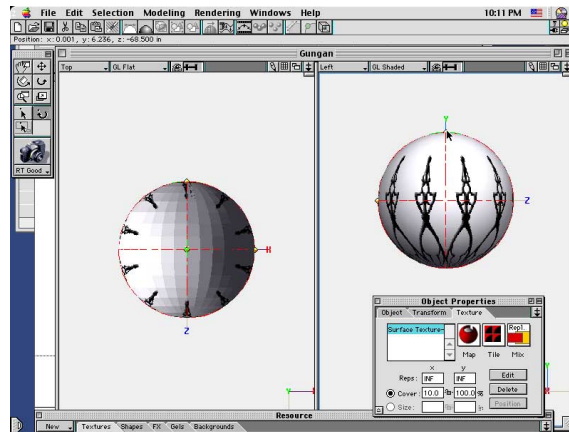


Image 15: Rotated Texture.

jective, but I have listed the settings I used in [Image 17](#). [Image 18](#) shows the rendered view of what we have produced so far through a roughly placed camera.

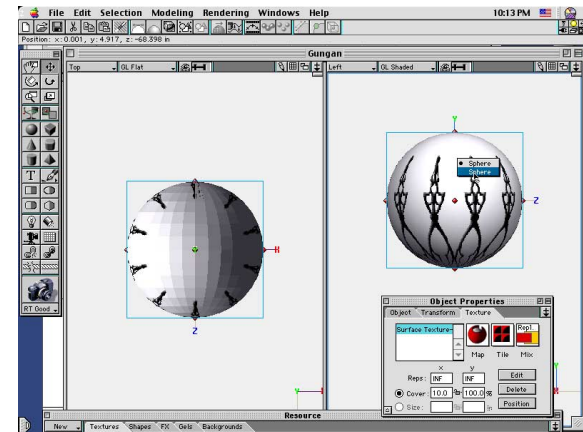


Image 16: Choosing Inner Sphere.

Select the inner sphere, by Ctrl-clicking anywhere on the extant sphere and choosing the inner sphere ([Image 16](#)). Apply StudioPro's default glass texture and then open its dialogue box for alteration. Again, the settings here are largely sub-

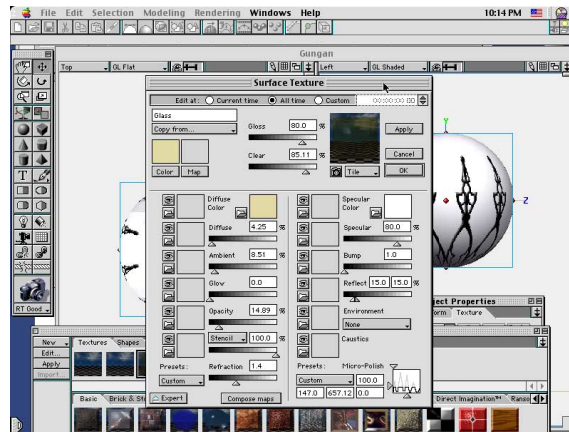


Image 17: Example Settings.

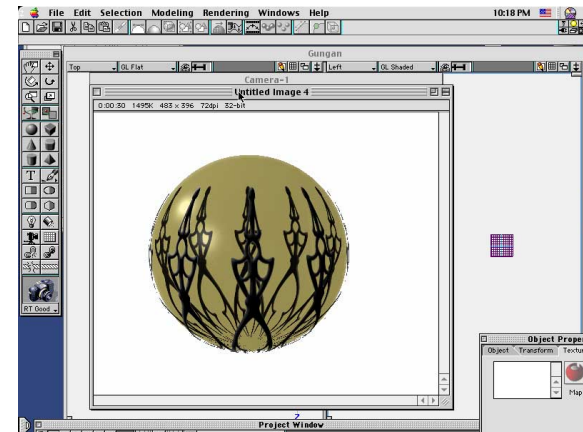


Image 18: Rendered View of Progress.

Next we'll create the talon like object that sits atop the sphere. These short spiky shapes are called Kernodes. Like the Utanodes created earlier, we'll create the shape within Adobe Illustrator. However, for this texture, we'll create the entire texture shape within Illustrator so we don't have to worry about any sort of tiling.

Image 19 shows one spike of the Kernode duplicated and rotated into position within Illustrator. Now we do need Photoshop to make the adjustments necessary to turn this drawn shape into the different color and transparency maps needed. Follow the steps outlined above for the Utanodes to create a "Kernode Color" and a "Kernode Transparency" file.

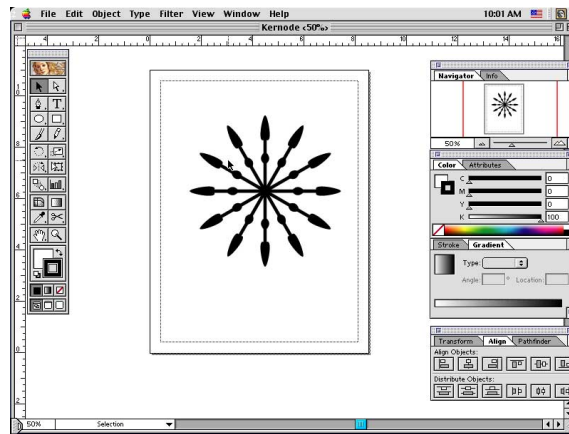


Image 19: Duplicated Spike.

Within StudioPro, make a new texture as outlined above and place the "Kernode Color" file in the Diffusion Map, and the "Kernode Transparency" file in the Stencil map (making sure to select Transparency under the Stencil pull down).

Now, we need to create a shape to apply the texture to. One way to do this would be to create yet another sphere, however, as you create layers of spheres, it becomes increasingly difficult to keep track of them all if you want to adjust the texture. So for the Kernodes, I've created a lathed bezier path that sits atop the spheres like a cap.

Create a path with the Bezier Pen tool that covers the top of the sphere (**Image 20**).

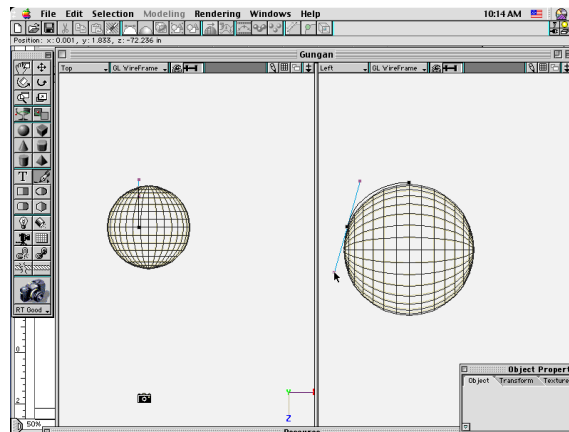


Image 20: Bezier Pen Tool Path.

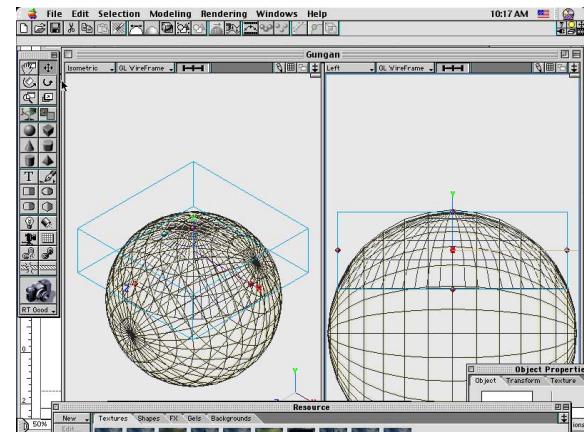


Image 21: Lathed Shape.

Then, after adjusting it into place so that it sits in the middle of the top of the extant spheres, use the lathe tool to create an object like [Image 21](#).

[age 23](#)). [Image 24](#) shows a quick rendering of what we have thus far.

To apply the texture to this shape, I found it helpful to first raise it a bit from the surface of the sphere to better see the effects of the texture, and then applied and rotated the texture to the object using the decal mapping ([Image 22](#)). Once the shape is textured correctly, position it down so it fits tightly over the spheres. You'll notice that there is an additional spike that sits on top of the Kernode. To create this, create an outline with the bezier pen tool, and lathe it ([Im-](#)

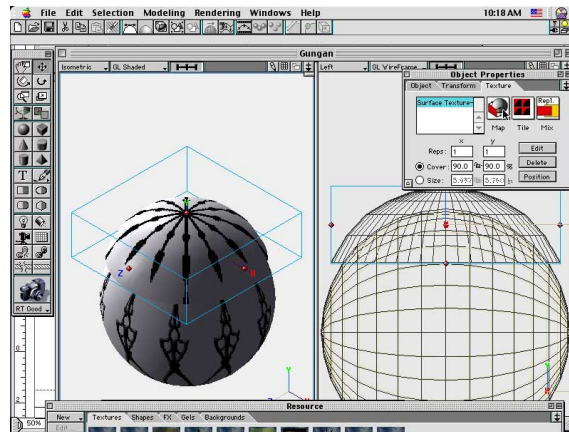


Image 22: Decal Mapping.

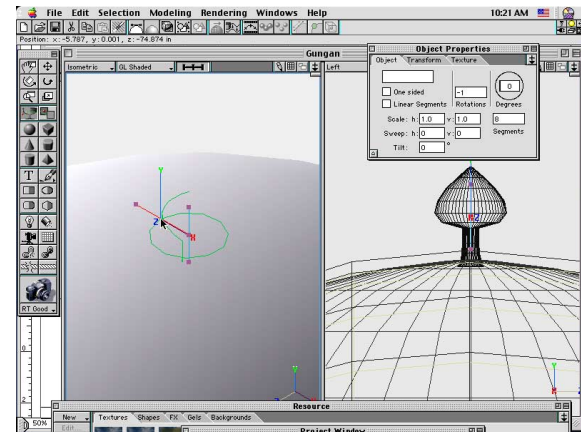


Image 23: Lathed Outline.

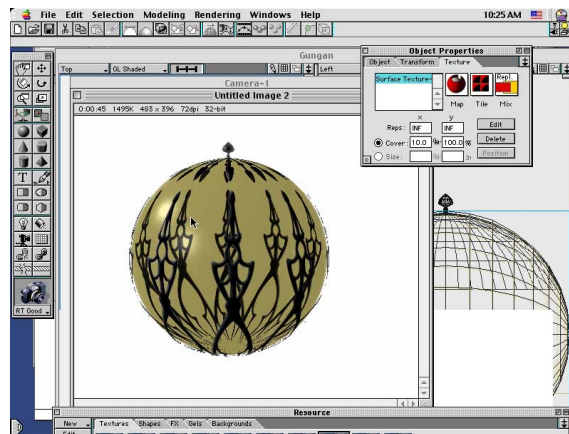


Image 24: Rendered View of Progress.

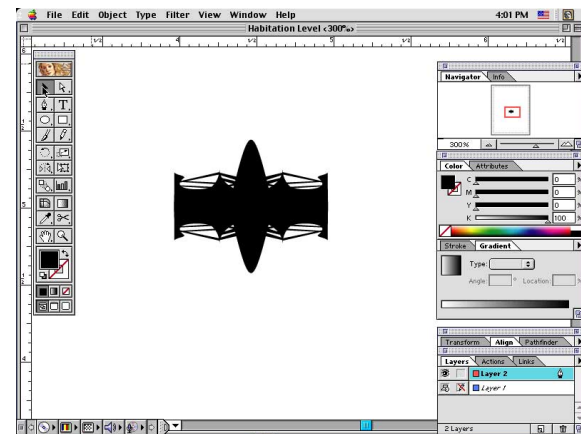


Image 25: Illustrator Path.

This same method of texture creation in Illustrator followed by application is continued in [Image 25](#). However, this time, let's create a bump map instead of simply letting Photoshop assign the highlights as we did on the Utanode and Kernode. [Image 26](#) shows the image created in Illustrator imported into Photoshop. When importing a vector based image from Illustrator, Photoshop automatically compresses it down to the smallest possible space that still contains all of the Illustrator document. For what we're about to do here, that's just a bit too close. So before we go any further, alter the canvas size to be a little larger in the y-axis direction (Image>Canvas Size...). Because we want this map to be able to tile along the vertical axis, make sure not to increase the canvas size along that axis within Photoshop.

Once we have some breathing space, flatten the image and save it as "Habitation Color". Inverse the entire image and save it as "Habitation Transparency" for use later as a transparency map. Once this is accomplished, we want to begin to create a

bump map that establishes the innermost part of the image as the highest bump. To do this, first inverse the image back to the main shape appearing black, and select the black pixels with the Magic Wand tool. Then, go to Select>Inverse (to select all the pixels that are currently unselected). Now, go to Select>Feather... and enter 5 in the dialogue box that appears. This makes the selection smaller and softer. If we then take this feathered selection and go to Edit>Fill and fill it with White, the resultant image should appear like [Image 27](#). Now save this file as "Habitation Bump" and go back to StudioPro.

Now create a new texture and import all of the maps you just made. In the case of the bump map, make sure that you click the Inverse button in the image import dialogue box to make sure that the actual shape turns out white as

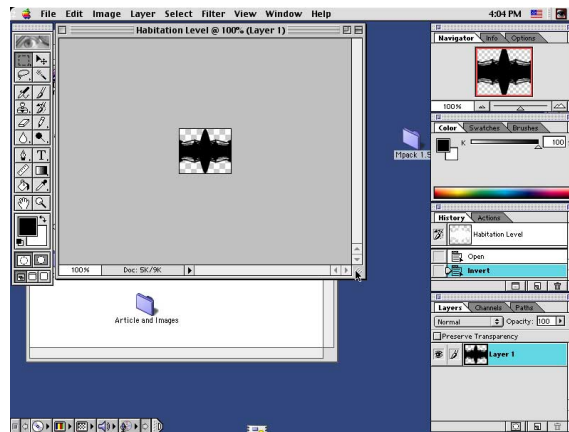


Image 26: Imported Illustrator Path in Photoshop.

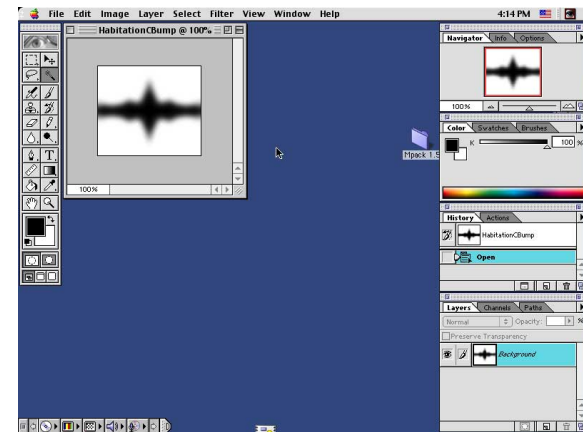


Image 27: Filled Transparency.

StudioPro interprets whiter pixels as higher up and blacker pixels as receding. The texture dialogue box should look something like [Image 28](#).

With this texture created, we need to create a globe on which to place it. Create another globe about the same size as the Utanode globe and make sure it's appropriately aligned. Place the new Habitation texture on the sphere with a spherical mapping and adjust the map (including the x and y Cover field to read 5 and 10 respectively) so that it appears similar to the rendering shown in [Image 29](#). Now that we have the pretty ring around the habitation level, we need to create the actual

plane that the Gungan can walk on. To do this, we'll work with the ever powerful, but sometimes unreliable boolean modeling.

The idea here is to create a flat plane that's about the thickness we want for the floor of the pod. Then, cut the sections of it that would stick out the edges of the sphere. To do this, we'll create a sphere that's about the size of the pod, or a little smaller ([Image 30](#)). Then create a thin cube that is the desired thickness and place it in the appropriate location in relation to the sphere ([Image 31](#)). We want to also align it into position so it approximates the location of our already placed texture that adorns the outside ring

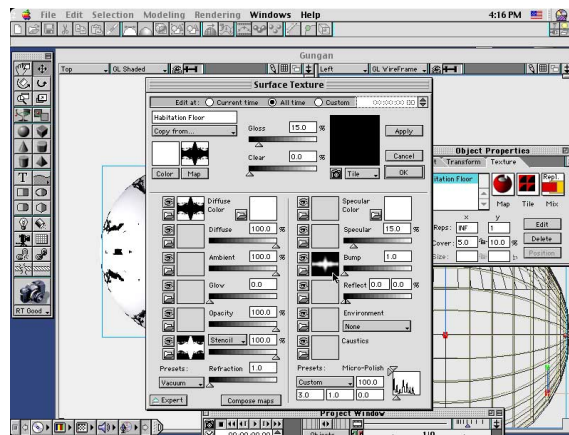


Image 28: Example Texture Box.

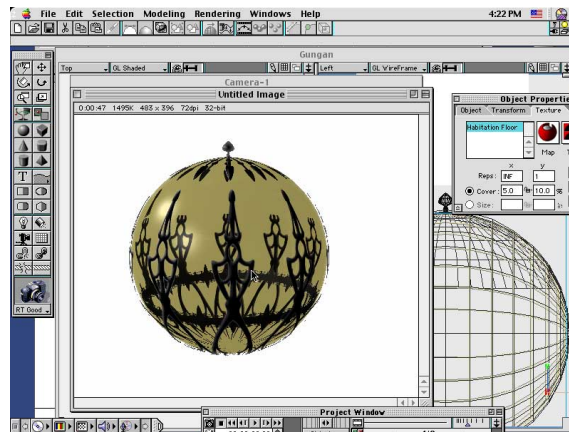


Image 29: Progress Rendering.

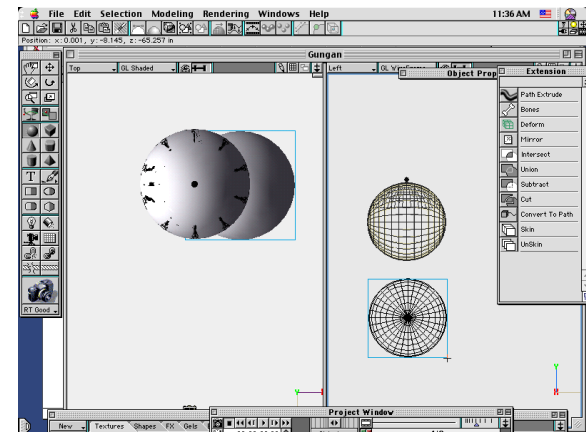


Image 30: Created Sphere.

of the habitation level. This is also important since the shape of this habitation level will have a curvature to match the sphere it's contained within. If the floor is misplaced then the curvature will be wrong and will be ill fitting. To make sure the cube that will become our floor is positioned correctly, make a small render (as shown in [Image 31](#)) to compare.

Once the elements are organized so that the flattened cube extrudes out all sides of the sphere, and that it is positioned in a location that will allow the final shape to be about the right curvature for its place within the sphere, open the Extensions Palette and select the Intersect tool. With this tool selected, click on the cube and drag

to the sphere ([Image 32](#)). The result (shown in [Image 33](#)) is a rounded platform that tapers toward the bottom. Texture this object with some sort of black texture, and move it into place within the sphere. Now duplicate the process

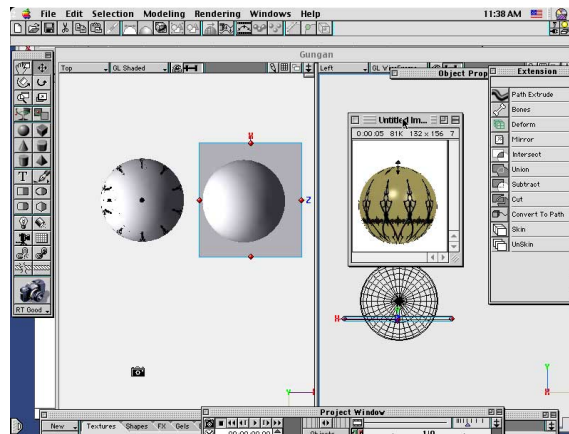


Image 31: Appropriate Placement.

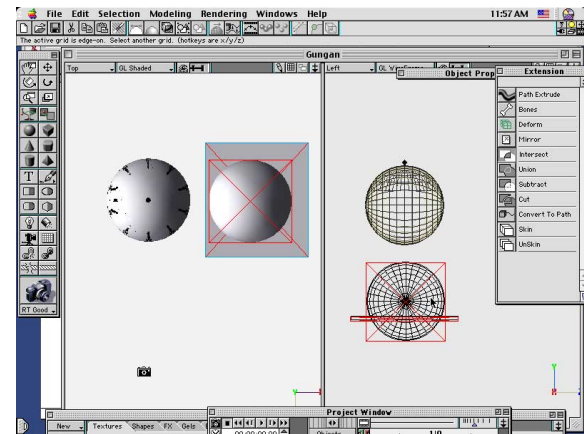


Image 32: Intersect Boolean Function.

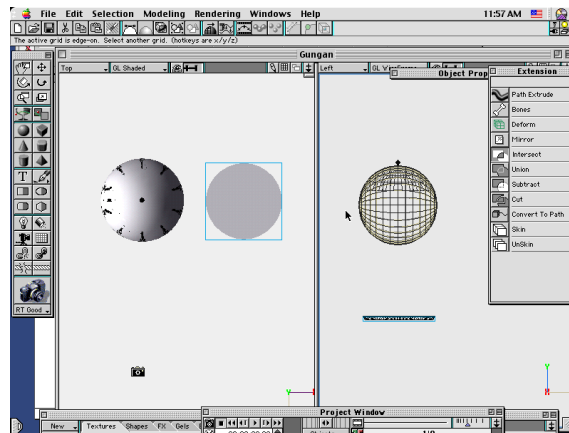


Image 33: Result of Intersect.

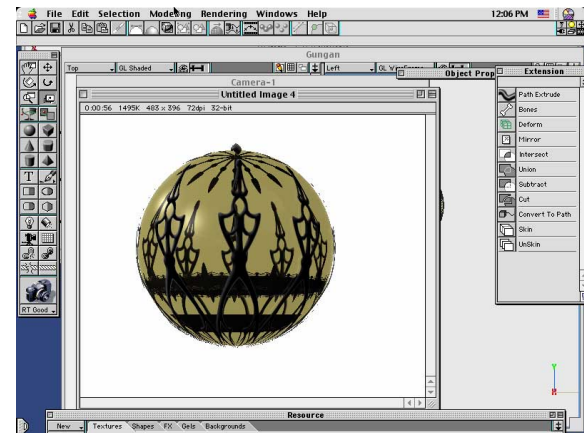


Image 34: Dual Floors.

and create another truncated plane underneath the first. The result is shown in [Image 34](#).

Now let's begin to build down, to create the pointed shapes below the pod. The spheres and the entire area below the pod are technically "Hydrostatic Field Generators", but let's call them HFGs. There are several ways to construct these forms; some more elegant than others. Perhaps not the most elegant way, but an effective form is to model all the shapes with combinations of Lathes and Extrusions. Let's start with lathes.

The Lathe Tool is built around the idea of a

traditional wooden lathe. Except with a wooden lathe, the process is subtractive. The block of wood spins around quickly and the craftsman uses blades of different sizes and shapes to remove from the entire circumference of the block, a shape. In StudioPro, you first build the two dimensional profile you would like the rounded piece to have and additively rotate the profile to build a three-dimensional shape. This makes for great chess pieces, vases and glasses.

To build the top part of the spike, first create a profile with the Bezier Pen Tool ([Image 35](#)). To use the lathe tool, position your profile in a place that it can be easily seen from

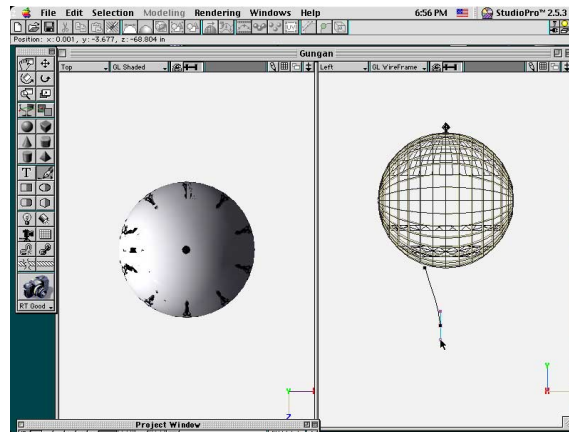


Image 35: Bezier Pen Tool Creation.

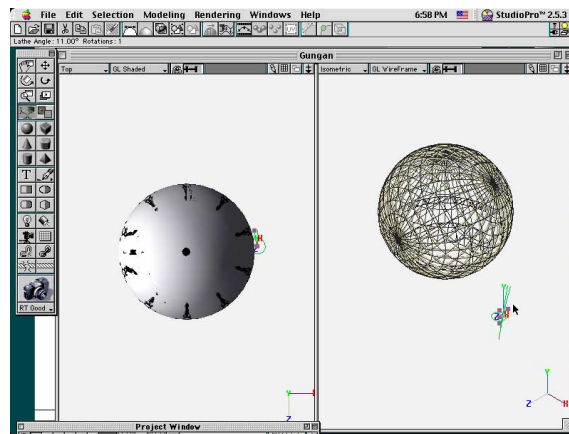


Image 36: Lathed Shape.

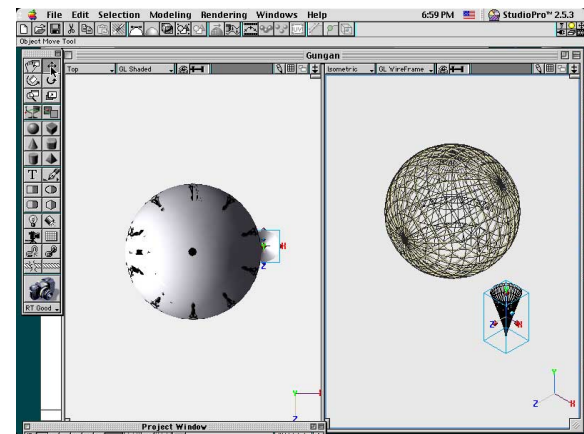


Image 37: Finished Shape.

an isometric view. After which, with the Lathe Tool selected, grab an outside handle and drag around until you complete a circle (Image 36). When you choose any other tool, you'll be left with a three-dimensional shape (Image 37). Position this shape appropriately under the sphere and repeat the step to create a smaller end of the spike further down (Image 38). Repeat the step one more time to create a shape shown in Image 39.

Now let's play with the Extrude options. The idea behind the extrude is to create a two-dimensional shape which you can suddenly give depth to. This is a perfect tool for the kind of pierced tracery that makes up the remainder of the more delicate parts of the HFG.

The key to using the extrude tool is to remember to use the Filled Bezier Pen Tool. If you use the regular Bezier Pen Tool, you get a hollowed 3D object, a straw rather than a rod.

To begin with, I created three separate shapes with the Filled Bezier Pen Tool shown in Image 40. Then using the Extrude Tool, I grabbed the red dot that appears in the middle of the paths, and dragged it out to the depth I wanted (Image 41). Next I created another filled path and extruded it as well to make up the rounded part of the shape below (Image 42). Once all of these extruded shapes have been made satisfactorily, I then grouped them together and copied the

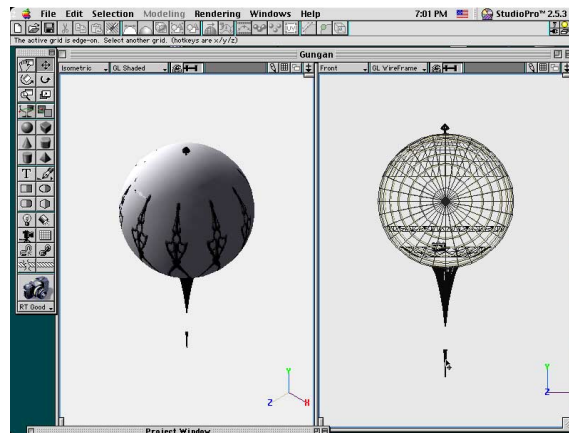


Image 38: Second Spike.

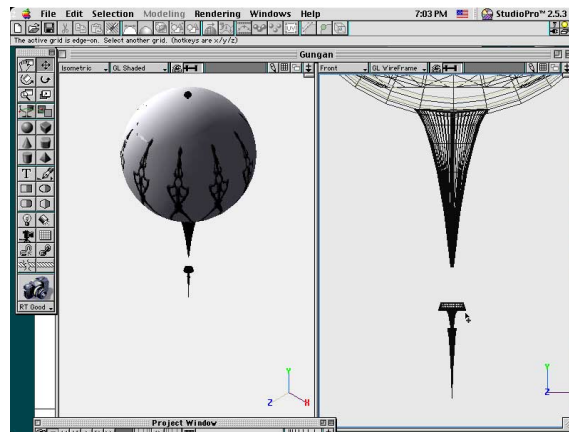


Image 39: One more Spike.

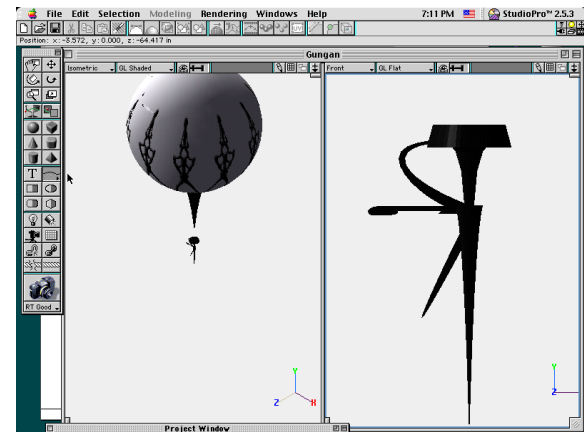


Image 40: Filled Bezier Tool.

shapes four times and rotated them into place 90-degrees from one another (Image 43). These parts of the HFG are all black to create a simple black texture or color and apply it to all of what we have created thus far.

The only thing left to complete on the HFGs are the four round spheres. Since all of the spheres are identical, let's create one, texture it completely and then duplicate it into position. So, create a sphere that's approximately the right size visually, and then let's escape to Photoshop for some texture work.

First, create a blank document 8x5 inches. Although the final texture will be scaled

down considerably, I like to work big enough to see some semblance of detail. Once the document is created fill the entire space with the dark green color in Image 44. Next

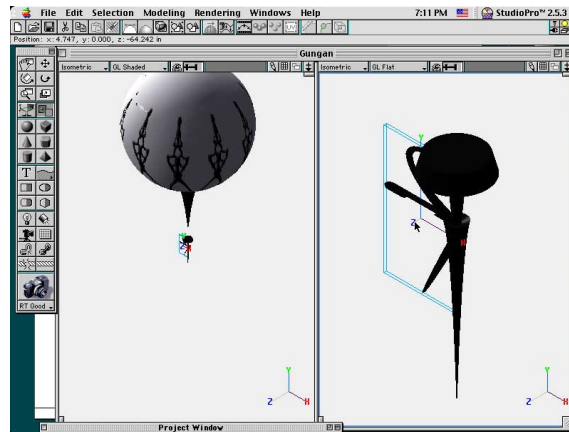


Image 41: Extruded Path.

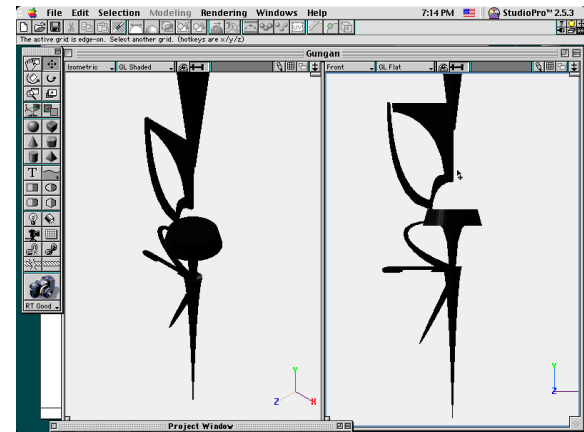


Image 42: Completed Bottom Shape.

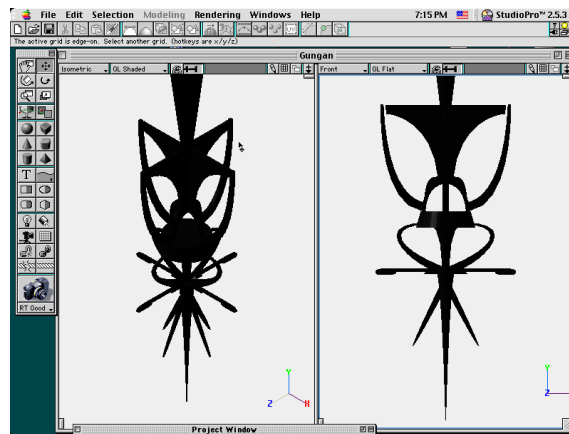


Image 43: Rotated Positions.

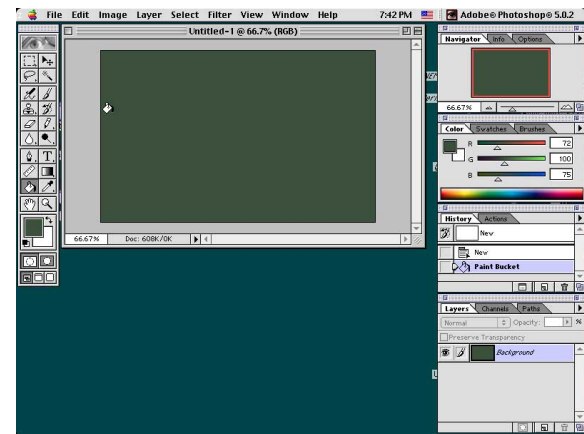


Image 44: Filled Dark Green.

create a series of feathered blocks and a circle that eventually will be lights (Image 45). Then save the file as a “pict” named “HFG Color”. Now using this same file, covert it to grayscale and increase the contrast so that it looks something like Image 46. Save this file as “HFG Glow” to be used later as a glow map (make sure it’s a “.pict”) each of the lighter areas will be more illuminated than the surrounding mass.

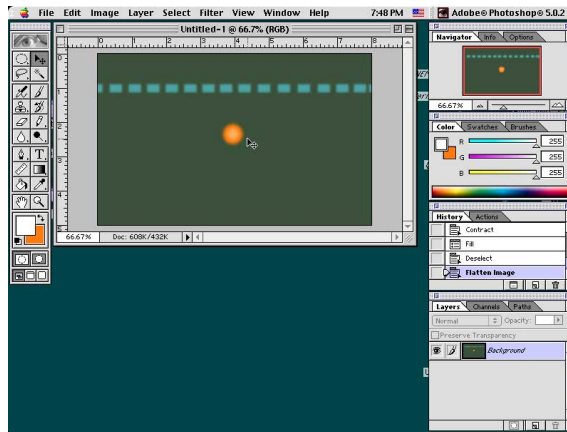


Image 45: Feathered Bumps.

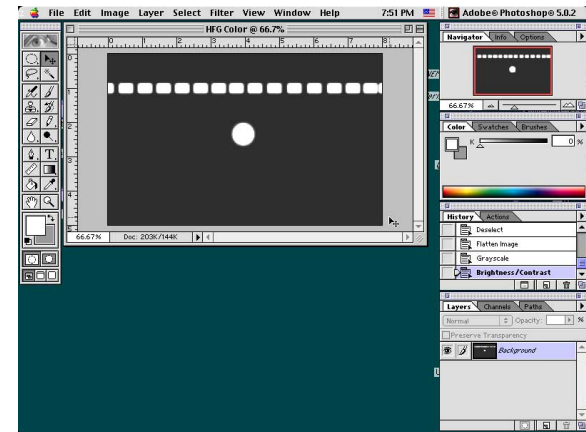


Image 46: Gray-scale Glow Map.

Now invert the entire image (Image 47). This file is to become the bump map, and we want to make the lights look slightly in-set (the darker the pixel on the bump map, the more recessed it appears). Here in the bump

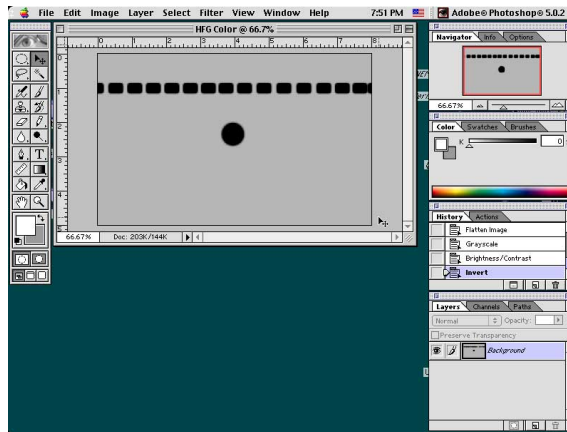


Image 47: Inverted Bump.

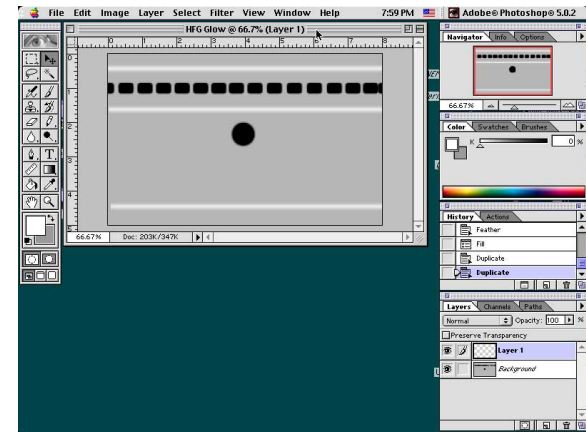


Image 48: Feathered Lines for Bump.

Object Properties palette) so that it looks something like [Image 52](#). Once you are satisfied with the texture placement, make four duplicates of the sphere, and rotate them

The screenshot displays the Adobe Photoshop 5.0.2 interface. The main window shows a canvas with a ruler at the top and a row of black squares. A 'New Brush' dialog box is open in the center, with the following settings: Diameter: 35 pixels, Hardness: 0%, Spacing: 150% (checked), Angle: -90°, and Roundness: 32%. The 'OK' button is highlighted. On the right side, the 'Navigator' panel shows a thumbnail of the canvas. Below it, the 'Layers' panel shows a single layer named 'Layer 2'. The 'History' panel shows a list of actions: 'New Layer', 'Duplicate', 'Duplicate', and 'Duplicate'.

The screenshot displays the Adobe Photoshop 5.0.2 interface. The main canvas shows a document titled "66.67%". A black circle is centered on a light gray background. A dashed line runs horizontally across the top of the canvas. The interface includes a top menu bar with options: File, Edit, Image, Layer, Select, Filter, View, Window, and Help. On the left is a toolbar with various drawing and editing tools. On the right, several panels are visible: the Navigator panel at the top right shows a thumbnail of the document with a red rectangle indicating the current view; the Layers panel below it shows a single layer named "66.67%"; the History panel shows a list of actions including "Move" and "Flatten Image"; and the Properties panel at the bottom right shows settings for the selected layer, including "Normal" fill and "50" opacity.

The screenshot displays the Autodesk Maya 2008 software interface. The main viewport shows a 3D scene with a sphere on a grid plane. The sphere is dark green with a blue and yellow band around its equator. The grid plane is blue and white. The background is a light blue sky with white clouds. The interface includes a top menu bar with options like File, Edit, Selection, Modeling, Rendering, Windows, and Help. Below the menu bar is a toolbar with various icons for creating and editing objects. On the left side, there is a 'Create' menu with options like Polygon, NURBS, Lattice, and others. On the right side, there is an 'Object Properties' panel showing the 'Surface' tab. The 'Surface' tab displays the 'Surface Texture' property, which is set to 'None'. The 'Object Properties' panel also shows the 'Color' and 'Size' properties. The 'Color' property is set to 'None' and the 'Size' property is set to '100.00'.

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so the glowing orange globe is facing outward (Image 53).

Great. Now onto the last structure element: the Utanode Assembly Brace (UAB). To create these, we'll use the extrude function again. First create with the Filled Bezier Pen Tool, the shapes shown in Image 54. If you're really tough and adept at the Filled Bezier Pen Tool, you may be able to create this collection of shapes as one, but for those less adept (like me) I break the shapes down into several smaller ones. This takes some practice and some editing after the initial shapes are drawn, so be pa-

tient. Once they are drawn use the extrude process listed above to extrude these shapes out so that they have thickness, and group them together. You may want to add some touches like simple cylinders added to the joints of the shapes to appear as pegs. Once the shape has been extruded and grouped, make duplicates and rotate them into position to match the Utanodes already placed (Image 55).

Whew! That's the basic structure of the entire pod. The rendering shown in Image 56 shows what we've done so far. We're almost there... hang on.

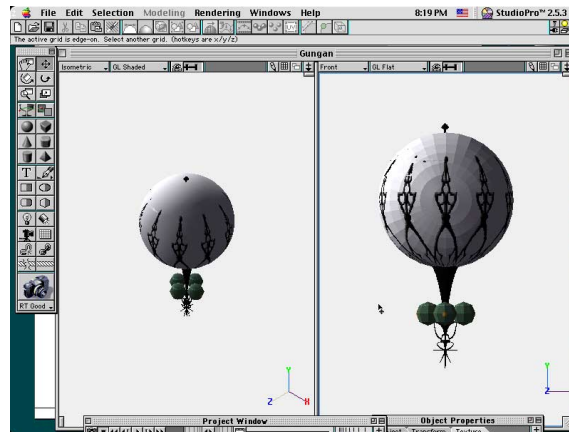


Image 53: Adjusted Positioning.

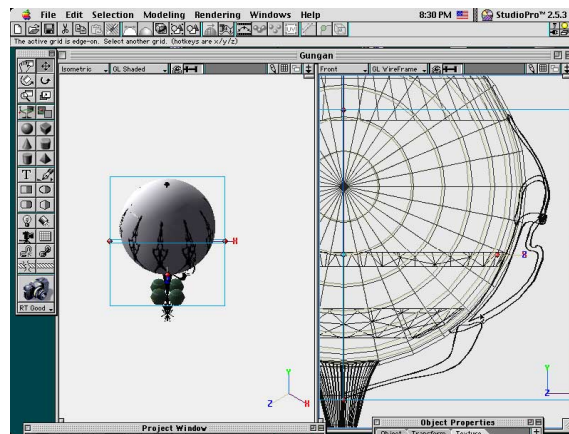


Image 54: Filled Shapes.

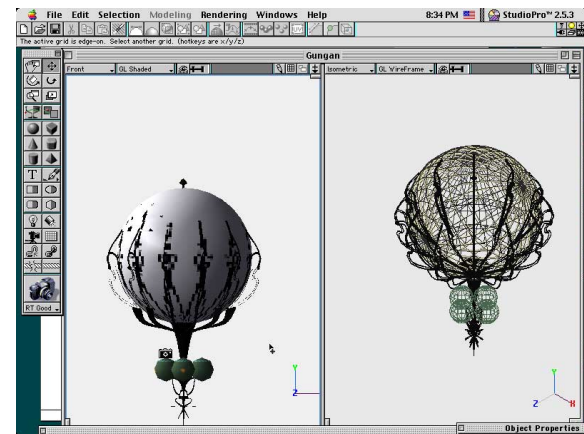


Image 55: Duplicated Shapes Aligned.

To put some finishing touches on the pod, create a few random spheres that will serve as Atmospheric Purifiers within the pod. Don't add too many, as the polygon count is already beginning to increase fairly dramatically. Add a high glow yellow texture to the purifiers, and then place a point light or two just above the Habitation floor and another just above the lower floor ([Image 57](#)). And now the pod is done ([Image 58](#)).

digital space. What this does is allow for an extremely complex image that has a polygon count much lower than appears.

To use instancing, first take the entire pod (including the lights) and group it together. Name the group Gungan Pod and then open up the Resource Palette. Click on the Shapes tab and click on New... Now click on the Include Current Shape box and name this shape to whatever you wish ([Image 59](#)).

Now, instead of duplicating the pod, simply drag the icon that now appears in the Resource palette up to your model and another

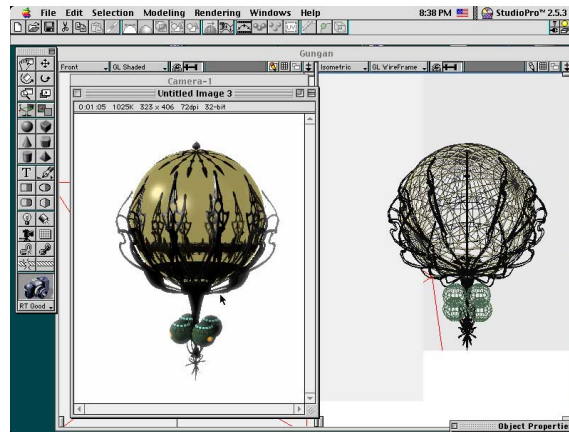


Image 56: Rendered View of Progress.

On to the city. To create the city shown in [Image 1](#), we need to make use of Strata StudioPro's powerful instancing functions. Instancing is a memory saving device that allows you to make "virtual" copies of a model within your

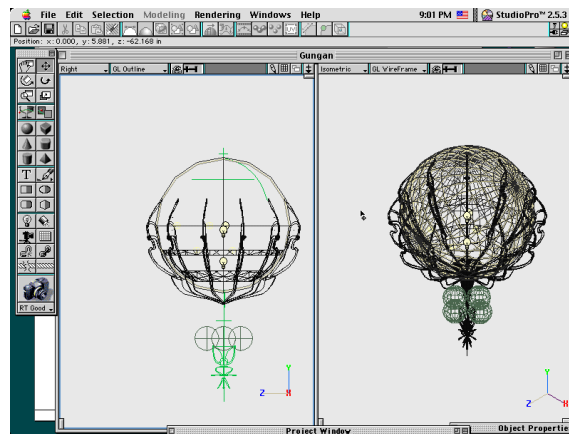


Image 57: Placed Point Lights.

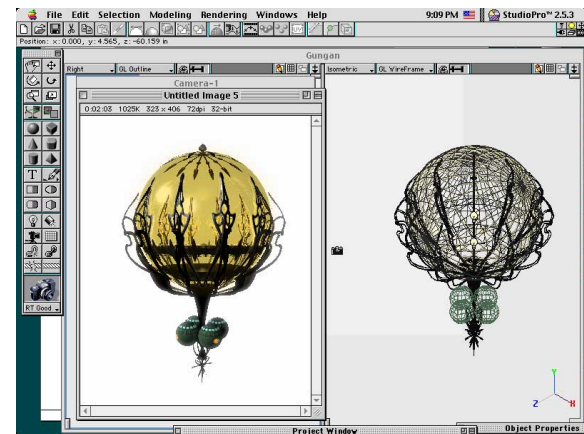


Image 58: Completed Pod.

pod will appear, but your total polygon count will not increase. In this case, we want to make groups of pods, so place five instances of the Gungan pod around the original, and scale them down so they match [Image 60](#).

Now group this group of instances together and repeat the instancing process. In essence, we're creating an instance of instances ([Image 61](#)). Now the remainder of the scene is made up of simply placing this group of instances to create a large city ([Image 62](#)). [Image 63](#) is a preliminary rendering of the groups of pods that have been instanced to create a large city.

To get the final render ([Image 1](#)), I used a blue background to give the appearance of water and then used a blue ambience setting, as

well as a couple of blue global lights to add to the “blue” feel. By checking the Field Depth box in the Object Properties Palette of your camera, you can get the hyper realistic focus effects shown in [Image 62](#).

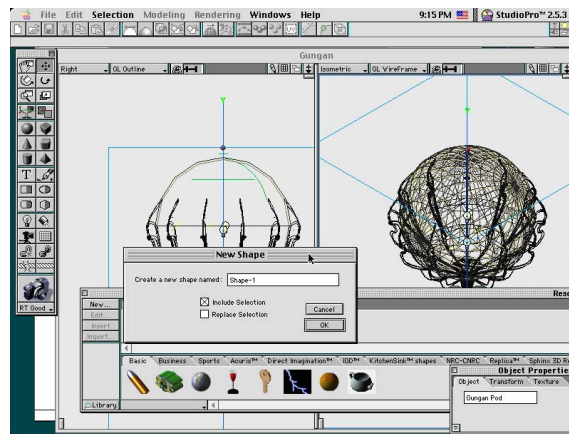


Image 59: Instancing Creation.

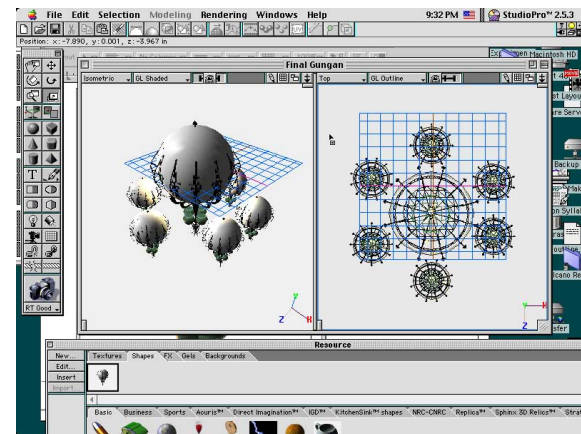


Image 60: Positioned Instances.

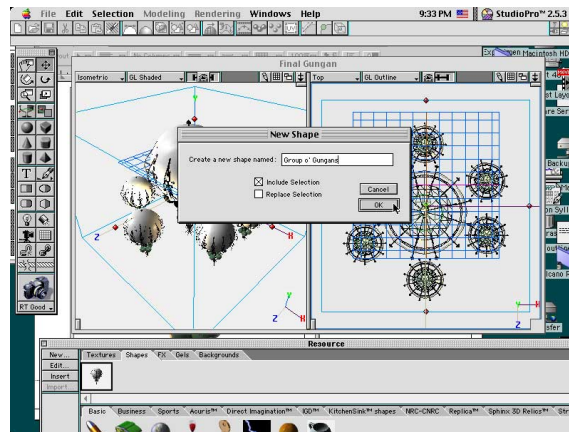


Image 61: Instances of Instances.

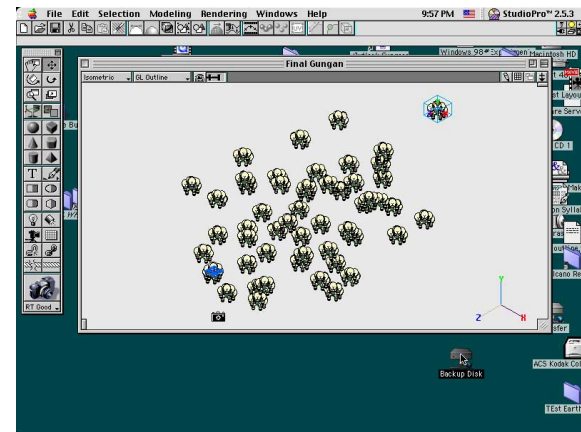


Image 62: Duplicated Instances for City.

Biography

Born in Western Samoa, Adam has traveled extensively and loves to do so. He loves the art and culture of South Eastern Asia and finds great aesthetic value there. After his escapades, Adam settled down to pursue an education in Theatre Set and Lighting Design. After completing an undergraduate degree in theatre set and lighting design, Adam is deep in the throws of a graduate degree at Utah State University in the Graphic Design program. Part of the newly formed Digital Arts emphasis, he is using 3D heavily to investigate the physics of movement in animation. His programs of choice are Strata StudioPro (v2.5), Electric Image and Cinema 4D, although he's a strong advocate of "content over tool". You can reach him at: AWATKINS@cc.usu.edu.

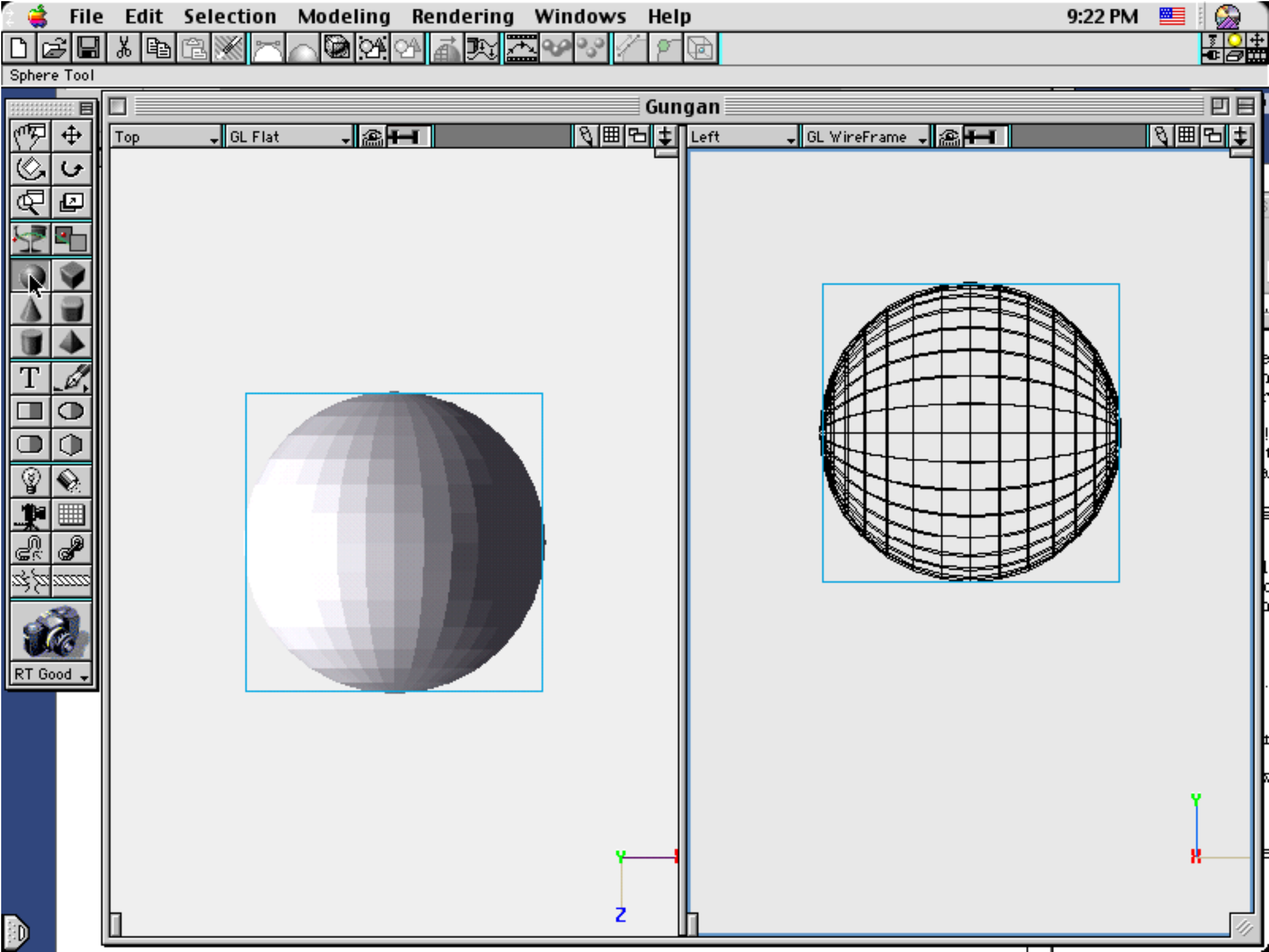


Image 63: Preliminary Rendering of City.



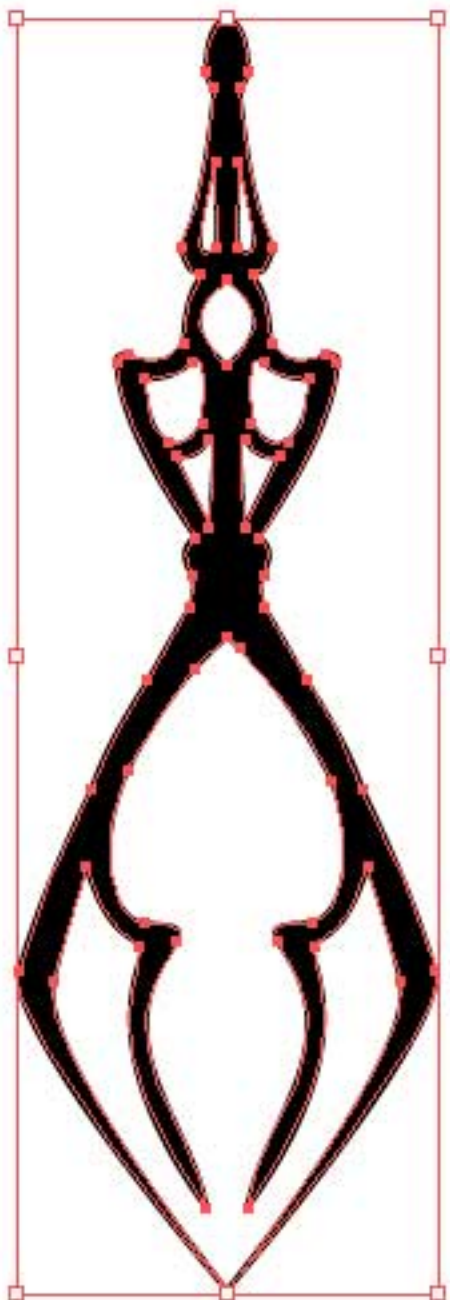
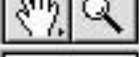
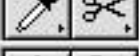
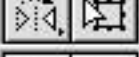
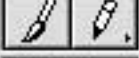
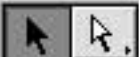


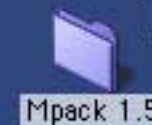
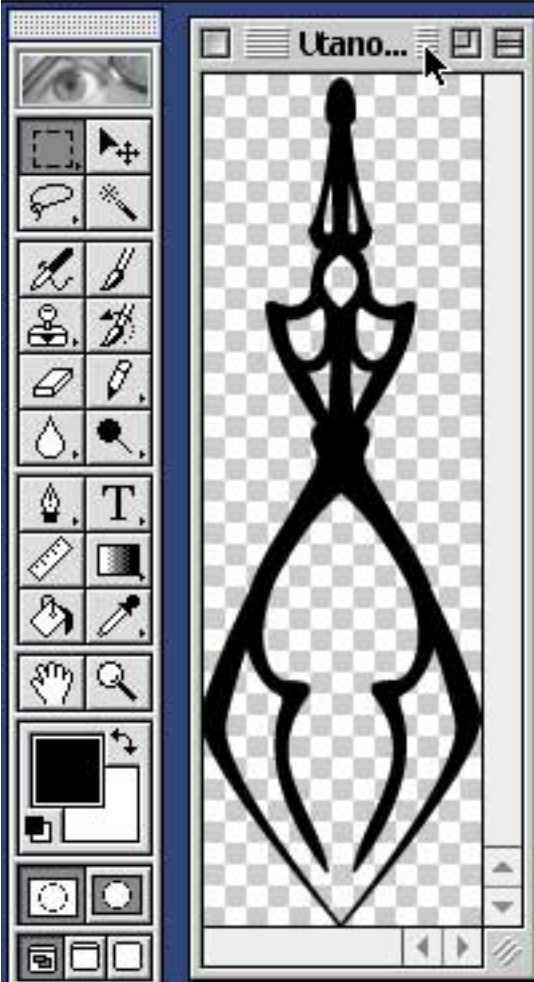


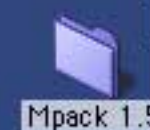
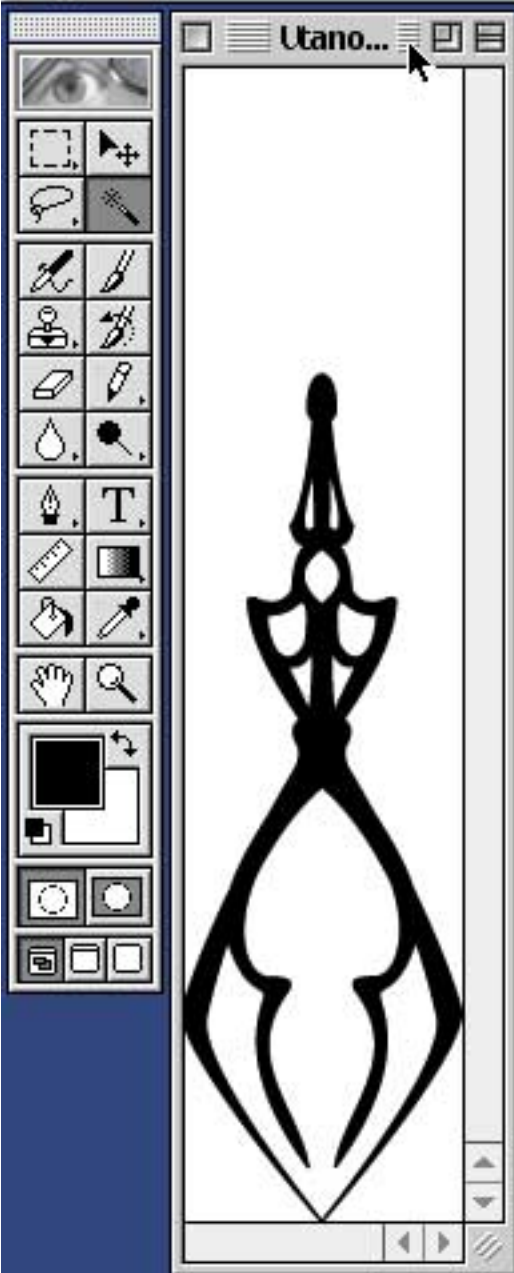


Utahnode <150%>

216 180 144 108 72 36 0 36 72 108 144 180 216 252







Navigator Info Options

100%

Color Swatches Brushes

Color selection panel showing RGB sliders (R: 0, G: 0, B: 0) and a color bar.

History Actions

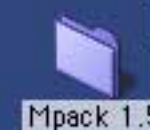
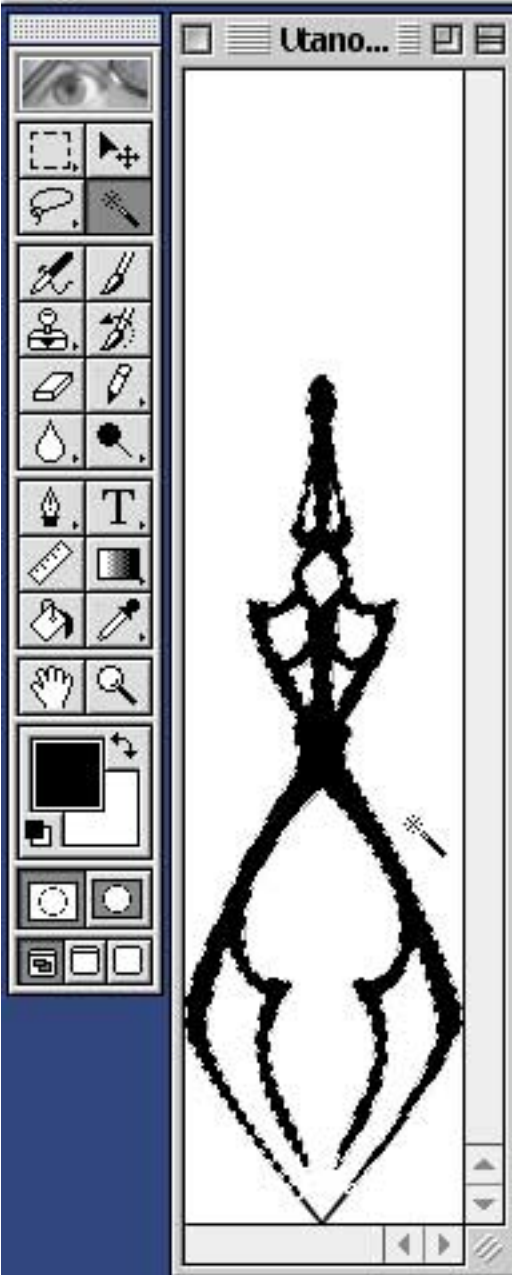
- Utano Transparency
- Open
- Canvas Size

Layers Channels Paths

Normal Opacity: 100%

Preserve Transparency

Background



Navigator Info Options

100%

Color Swatches Brushes

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G 0
B 0

History Actions

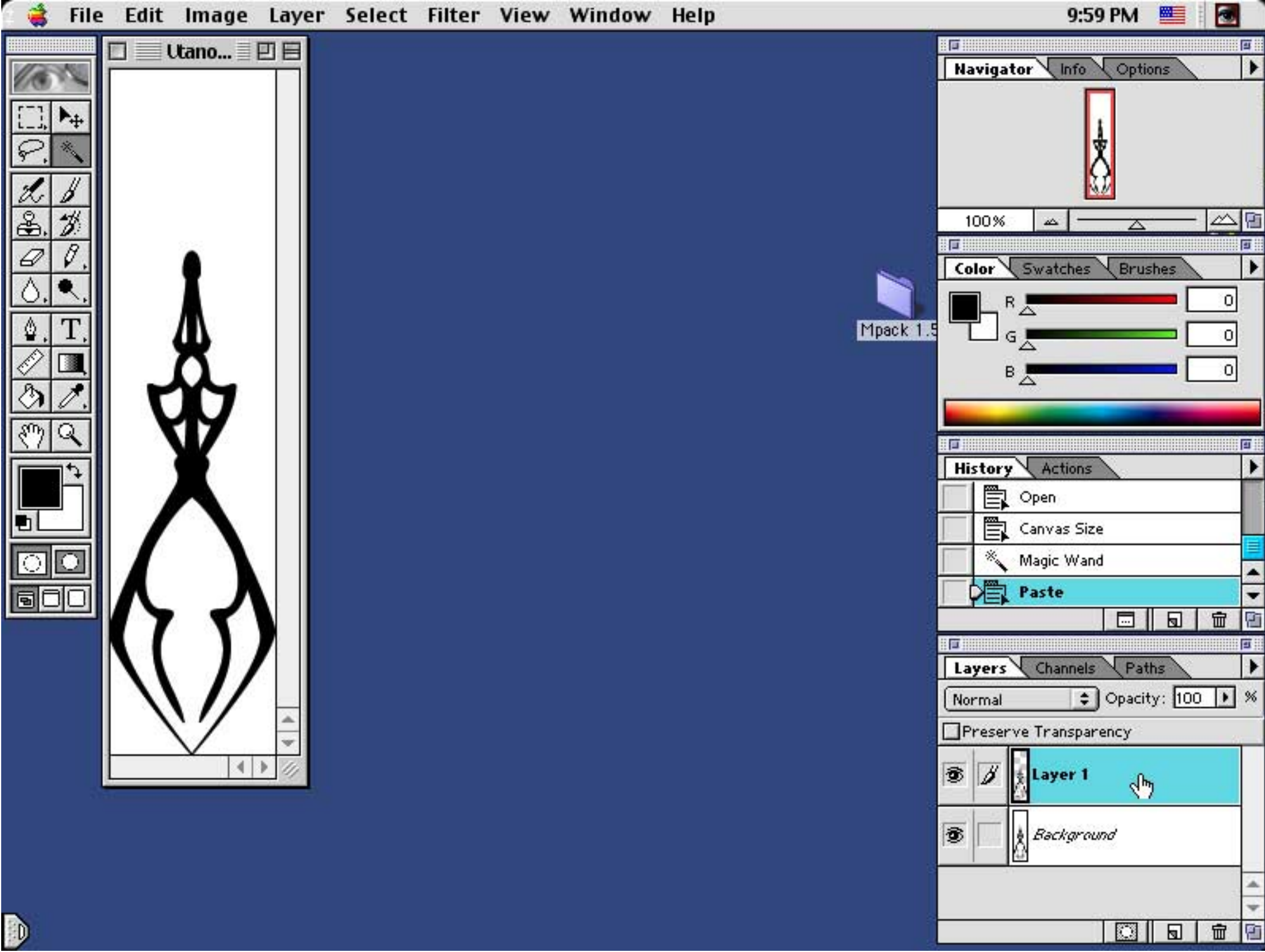
Open
Canvas Size
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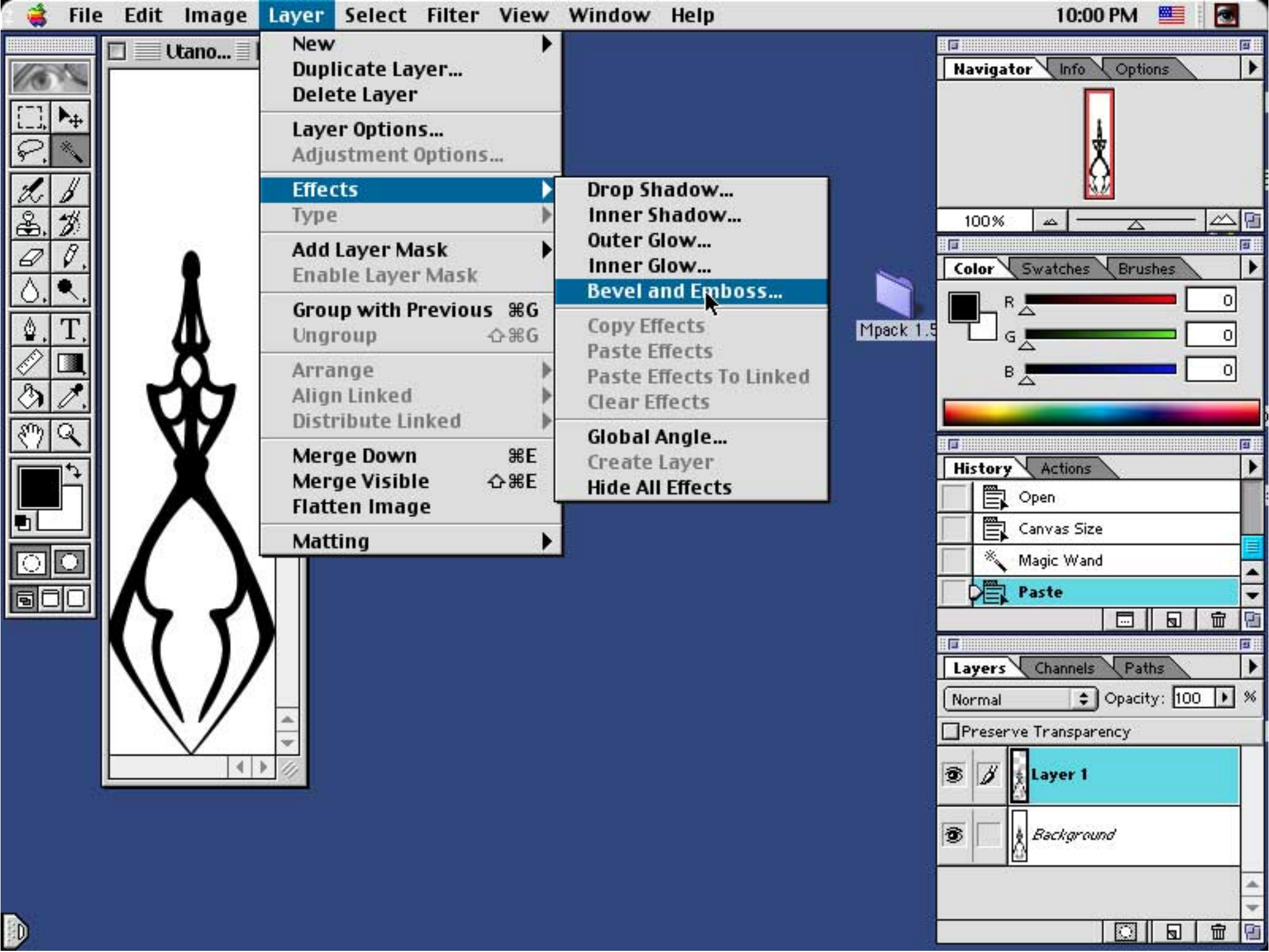
Layers Channels Paths

Normal Opacity: %

Preserve Transparency

Background







Utano...



Effects

Bevel and Emboss ▾

☒ Apply

OK

Cancel

Prev

Next

☒ Preview

Highlight

Mode: Screen ▾

Opacity: 75 ▾ %

Shadow

Mode: Multiply ▾

Opacity: 0 ▾ %

Style: Inner Bevel ▾

Angle: 120 ▾ ° ☒ Use Global AngleDepth: 5 ▾ pixels ☒ Up ☐ Down

Blur: 5 ▾ pixels

Navigator

Info

Options



100%

Color

Swatches

Brushes

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B		0

History

Actions

- Open
- Canvas Size
- Magic Wand
- Paste

Layers

Channels

Paths

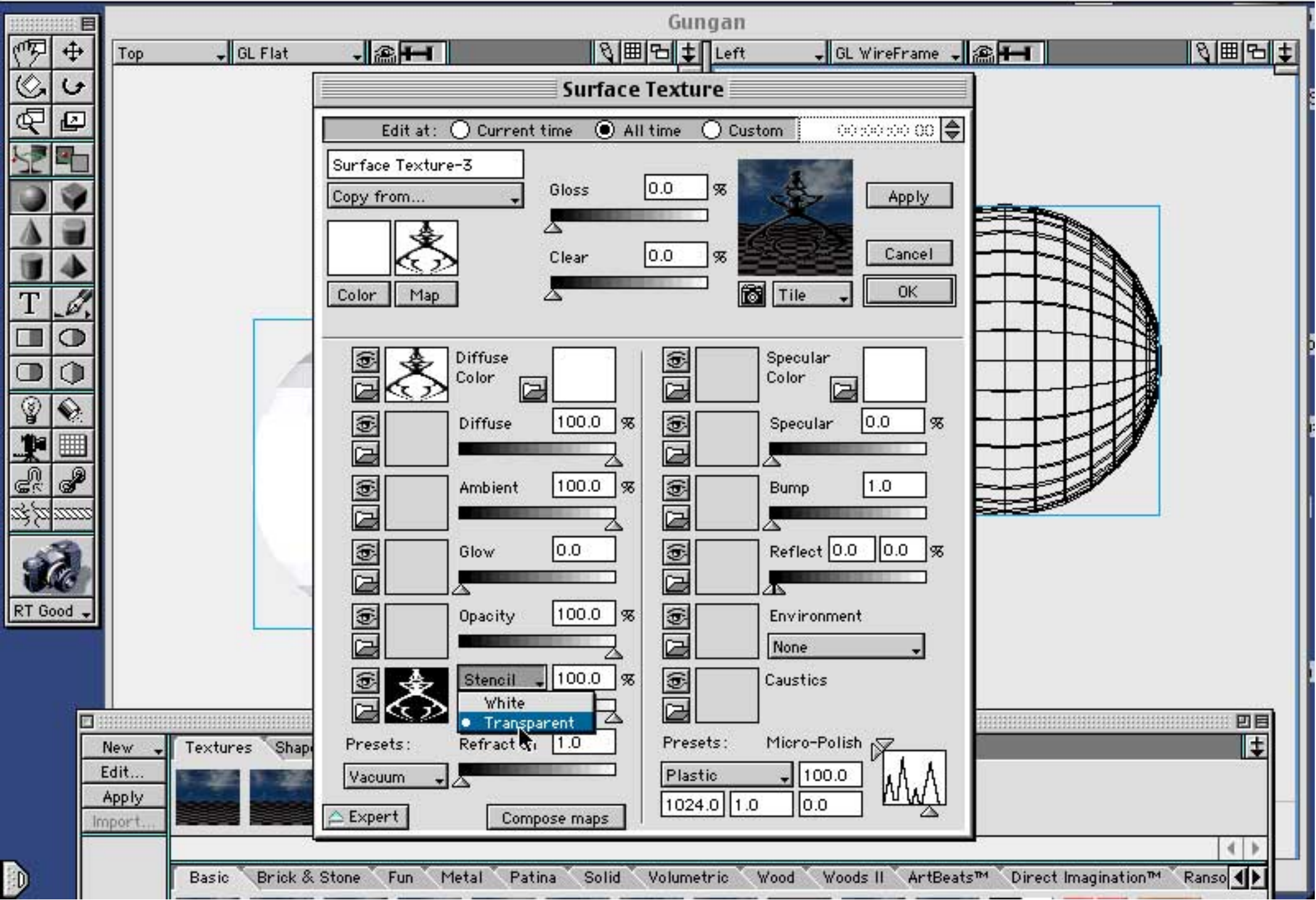
normal	▾	Opacity: 100 ▾ %
Preserve Transparency		

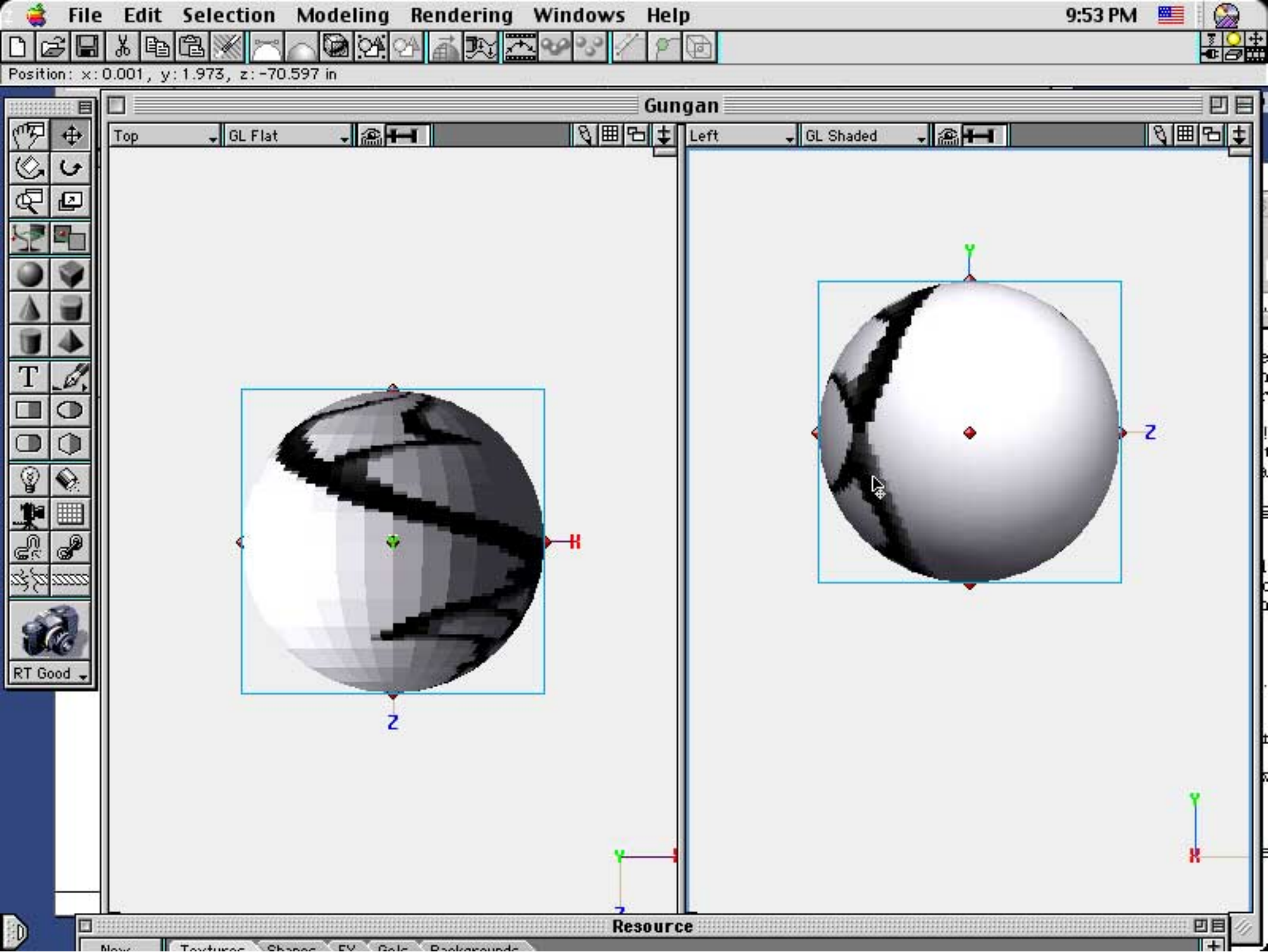


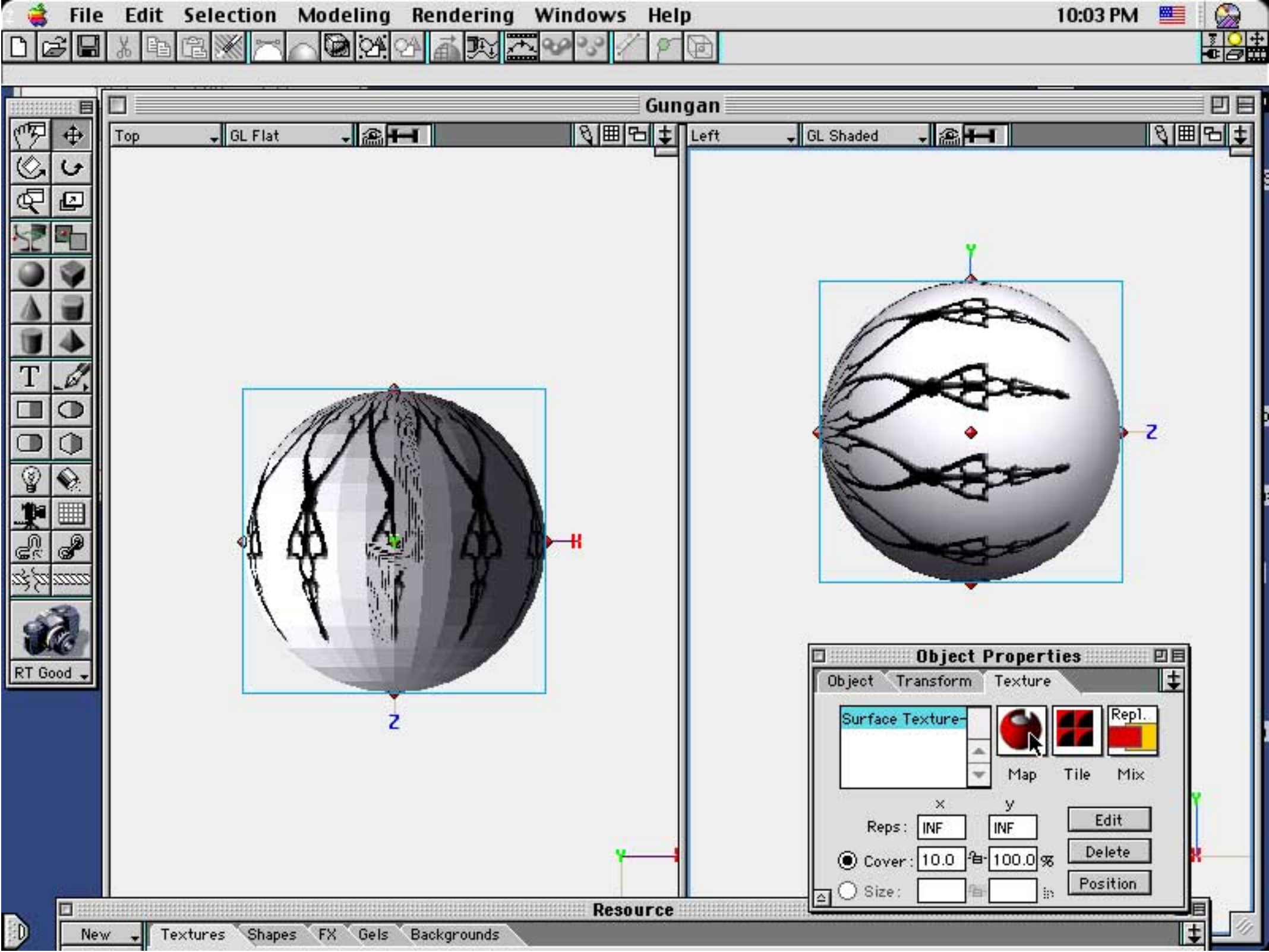
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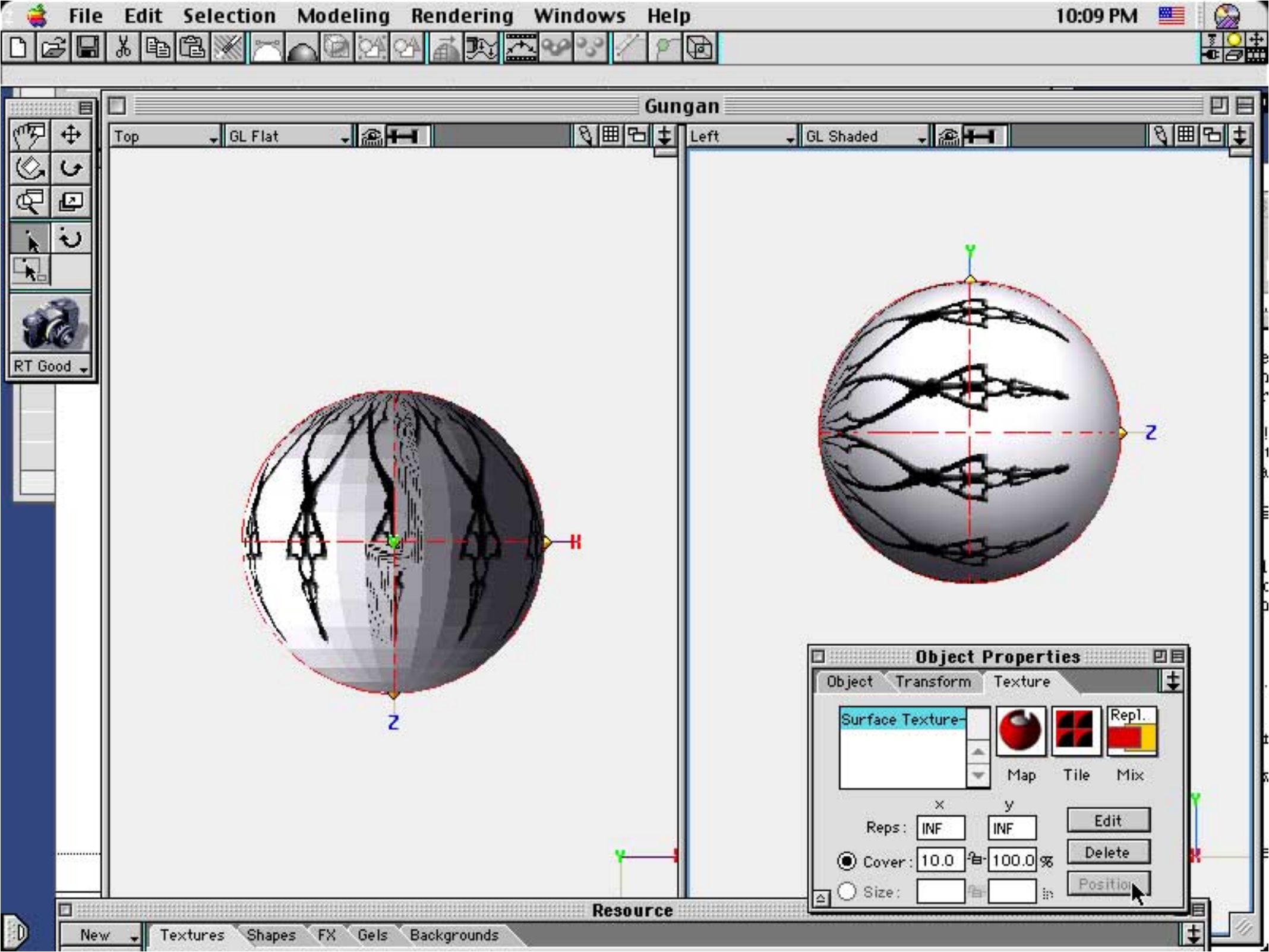


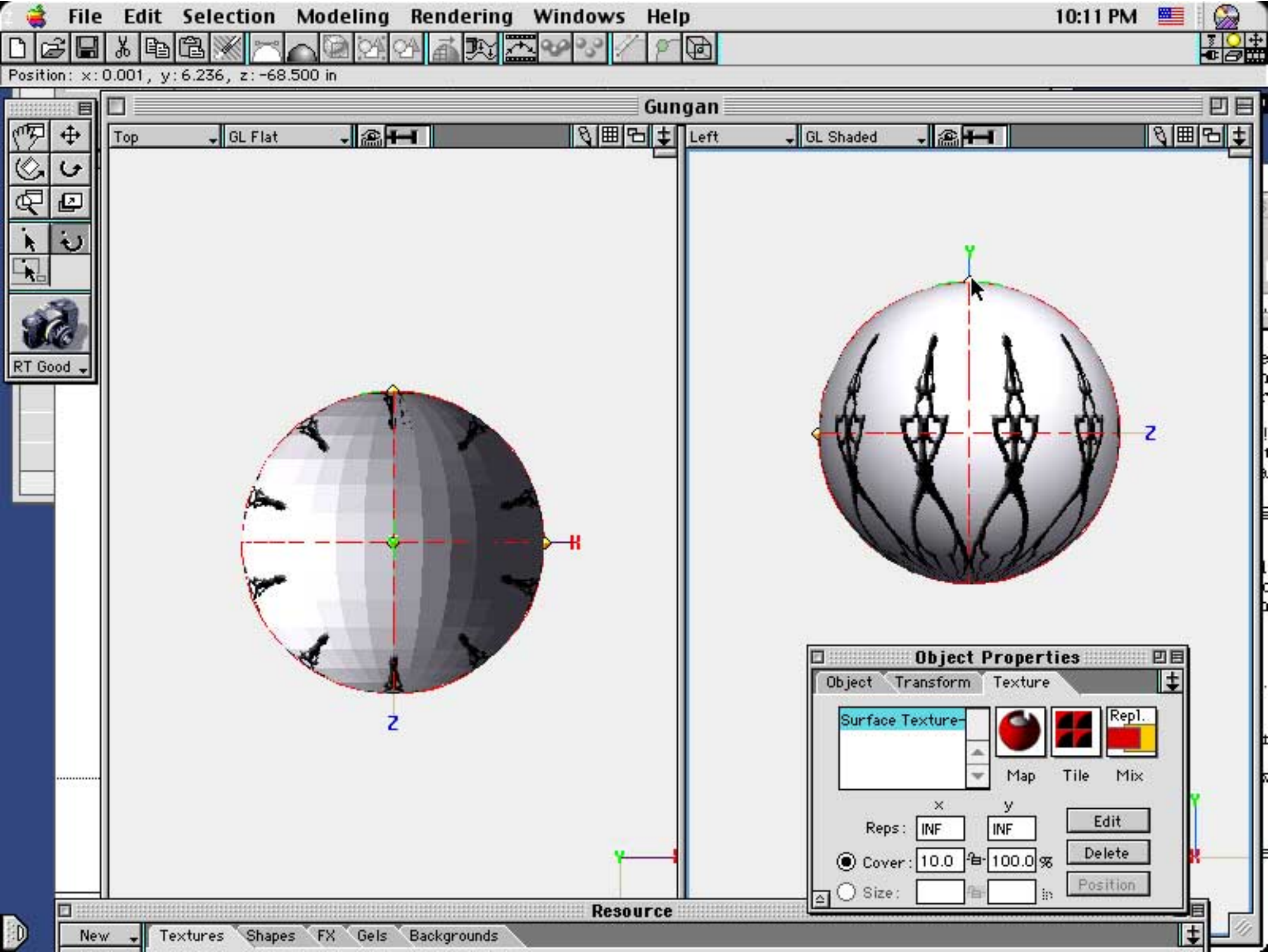
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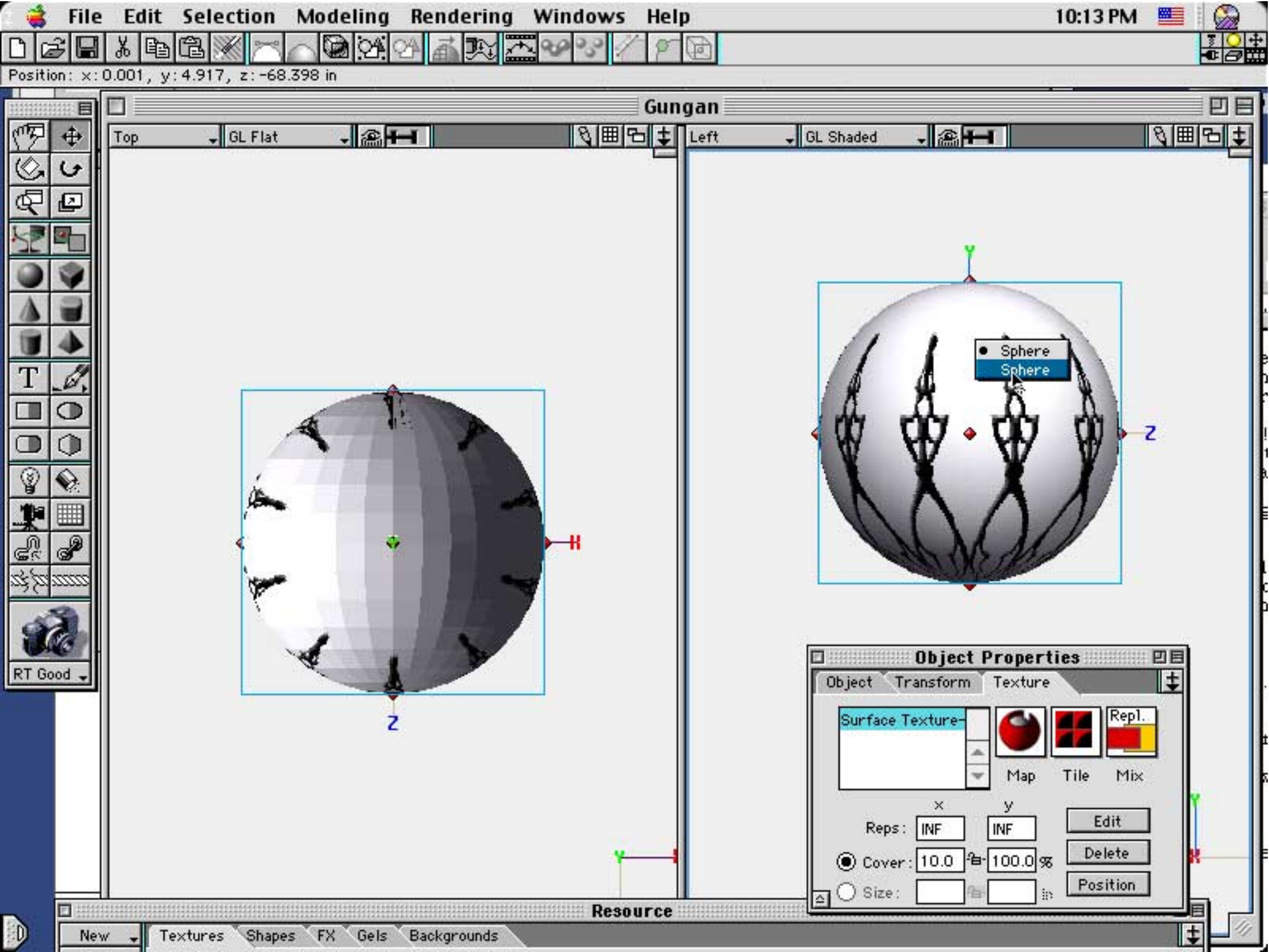












TopGL FlatLeftGL Shaded

Surface Texture

Edit at: ☐ Current time ☒ All time ☐ Custom 00:00:00:00

Glass

Copy from...

Color

Map

Gloss80.0%

Clear85.11%

Tile

Apply

Cancel

OK

Diffuse Color

Diffuse4.25%

Ambient8.51%

Glow0.0

Opacity14.89%

Stencil100.0%

Refracti...1.4

Specular Color

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Bump1.0

Reflect15.015.0%

EnvironmentNone

Caustics

Micro-Polish

Custom100.0

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Presets: Custom

Compose maps

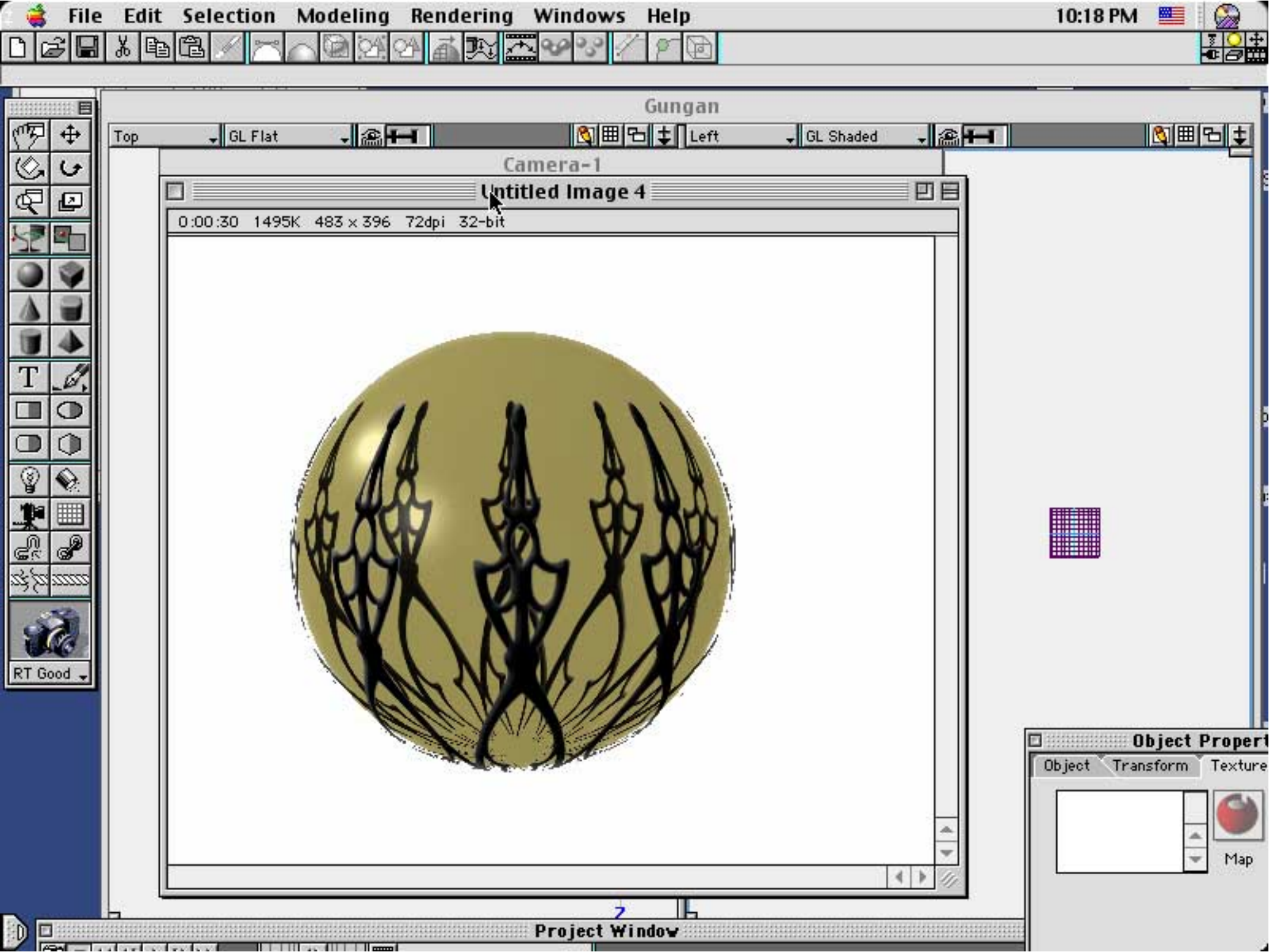
Object Properties

Texture

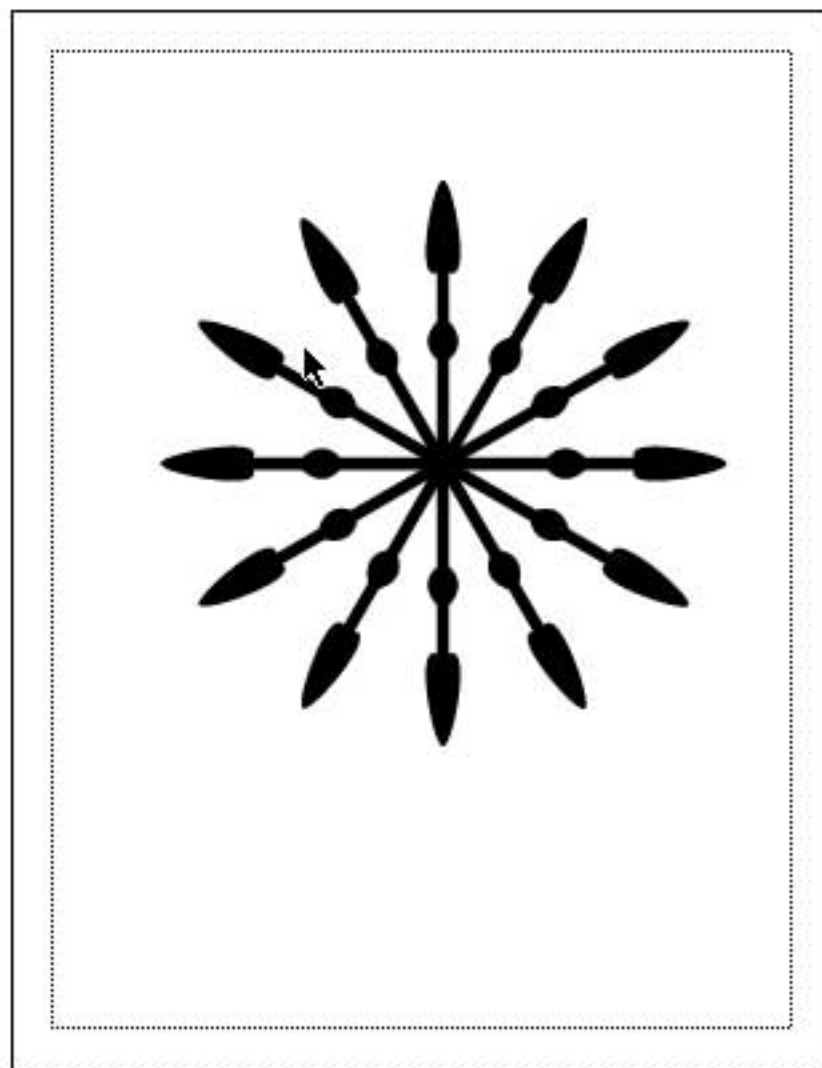
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Pathfinder

Align Objects:

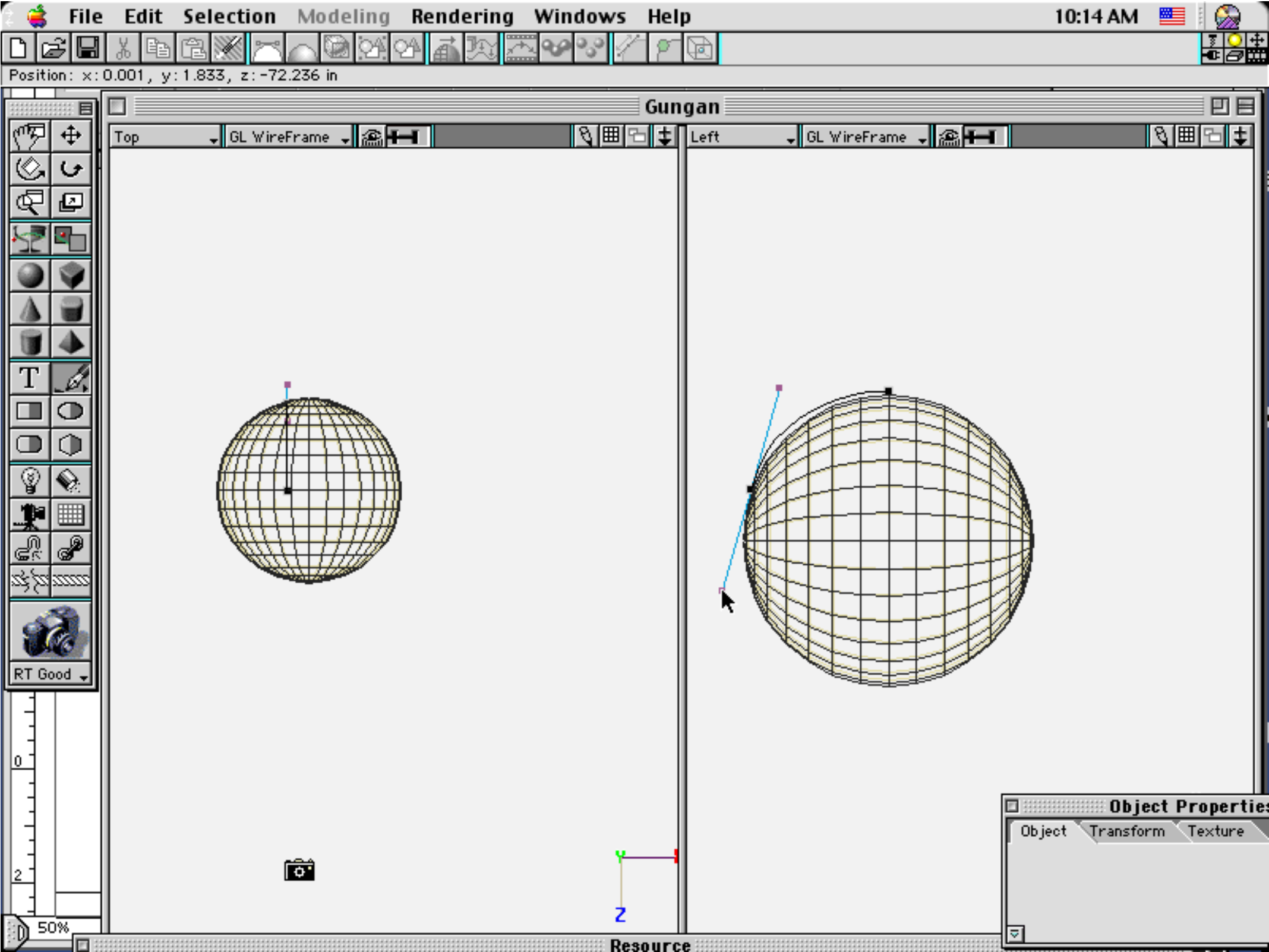


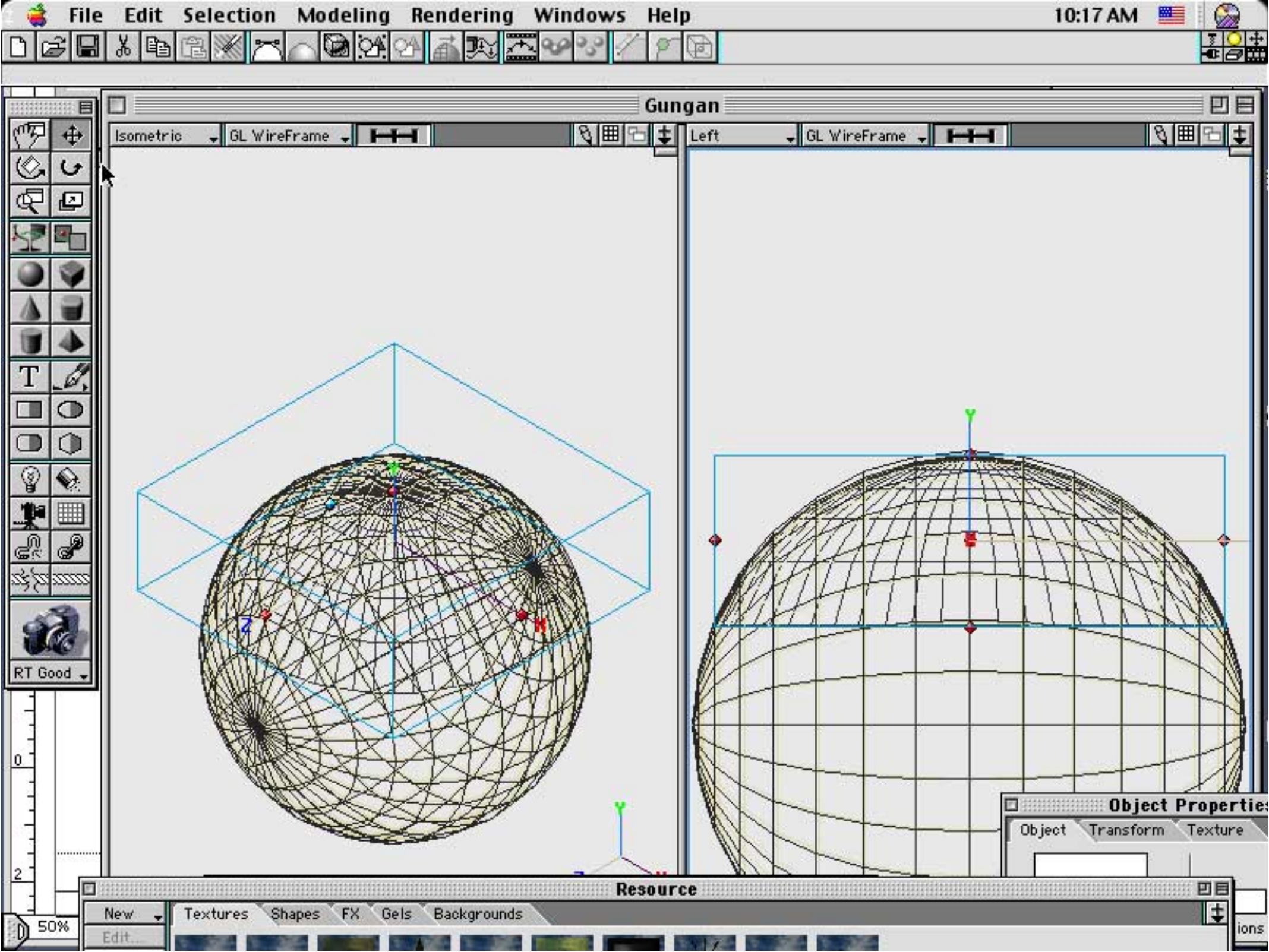
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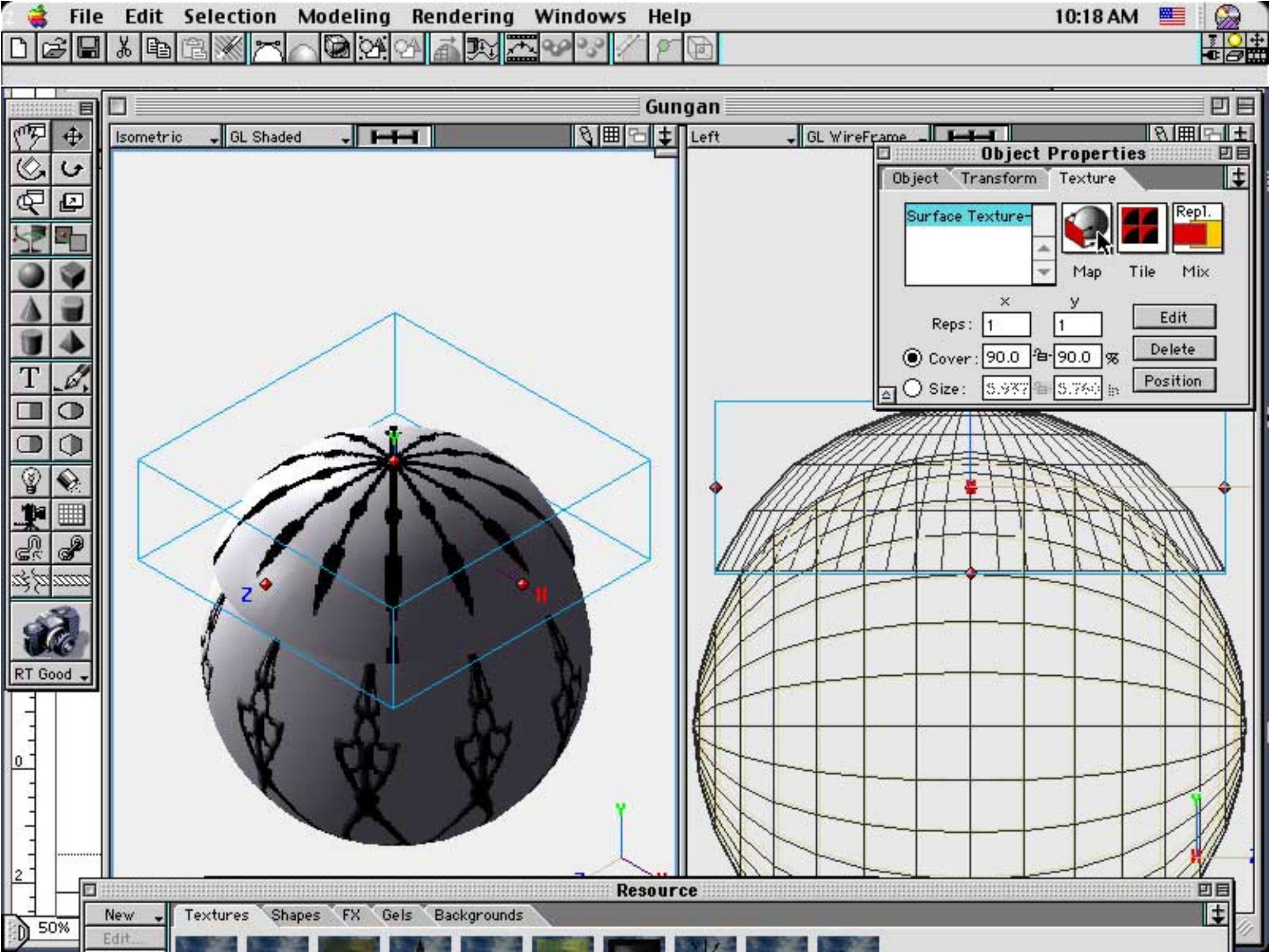


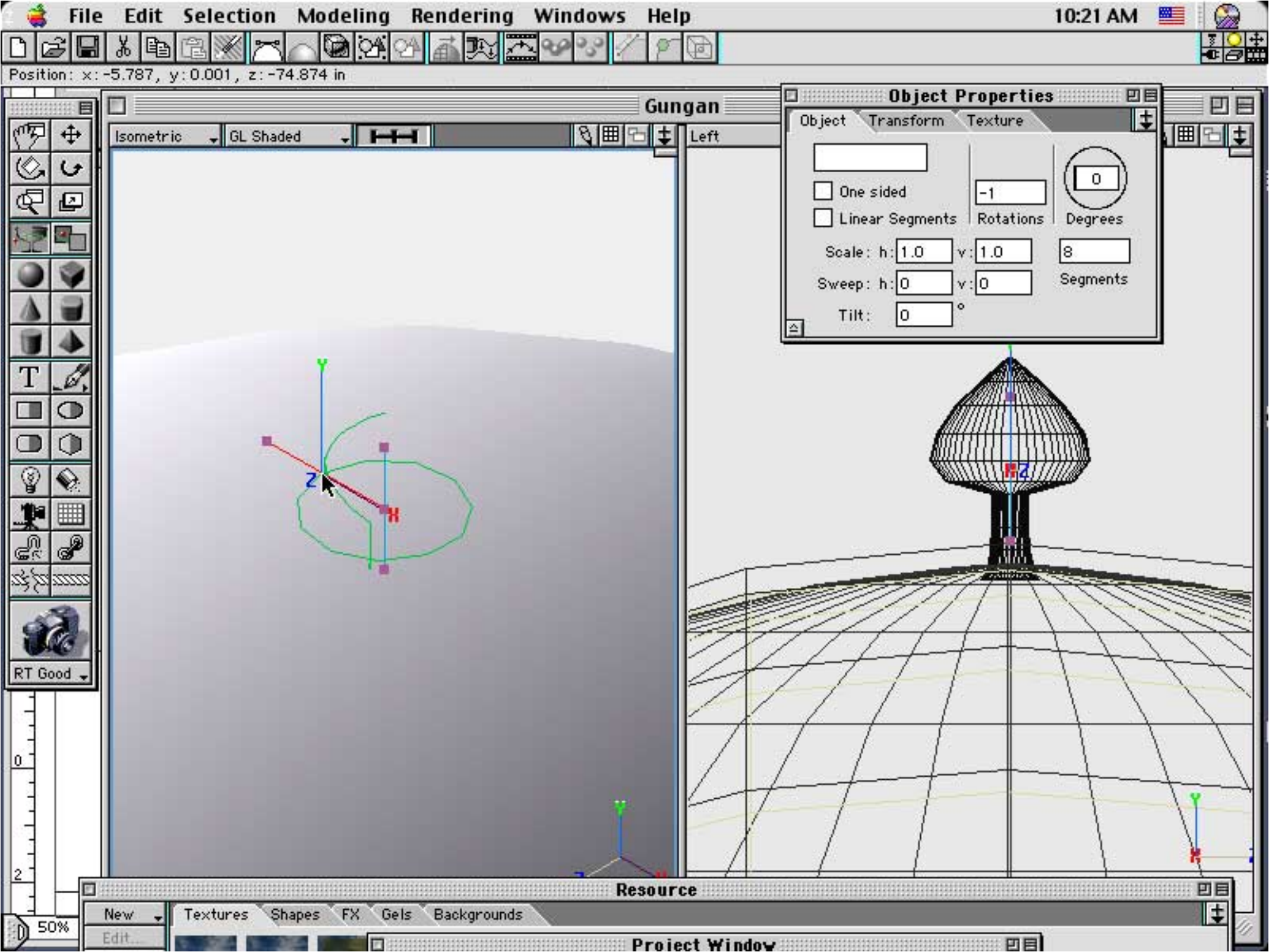
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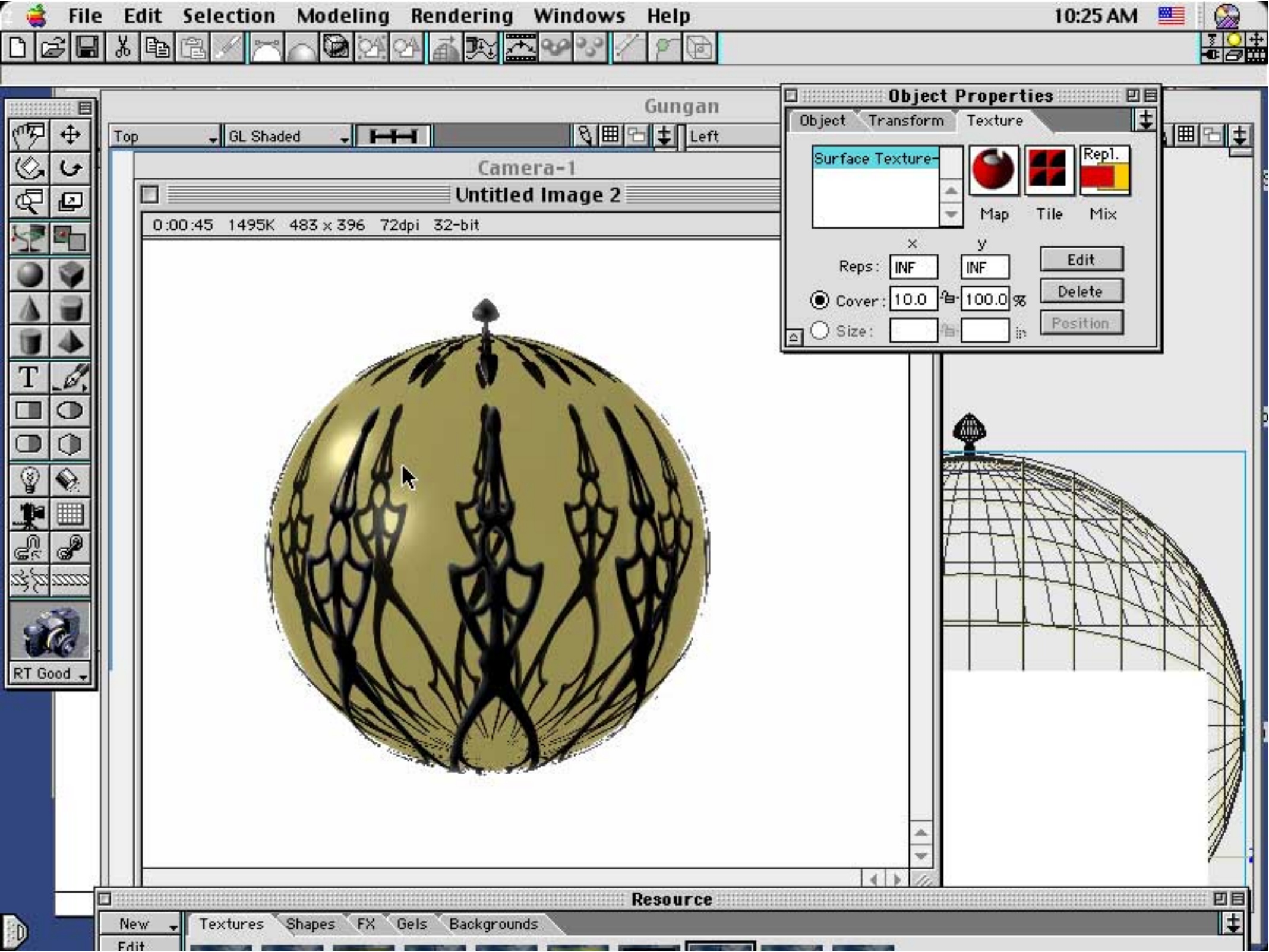
Selection



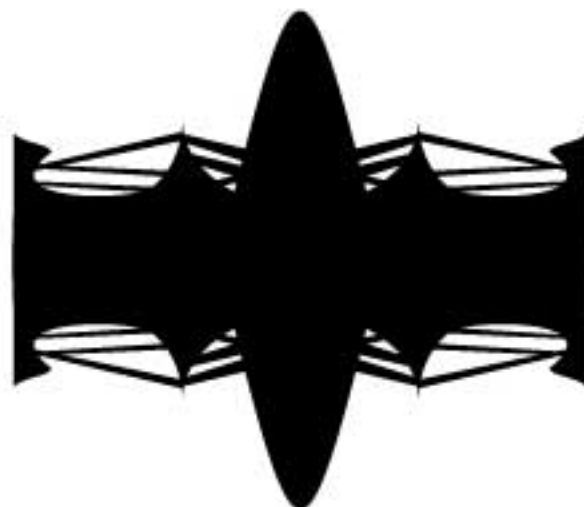








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Navigator

Info



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Stroke

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Transform

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Pathfinder

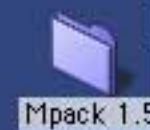
Layers

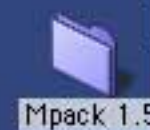
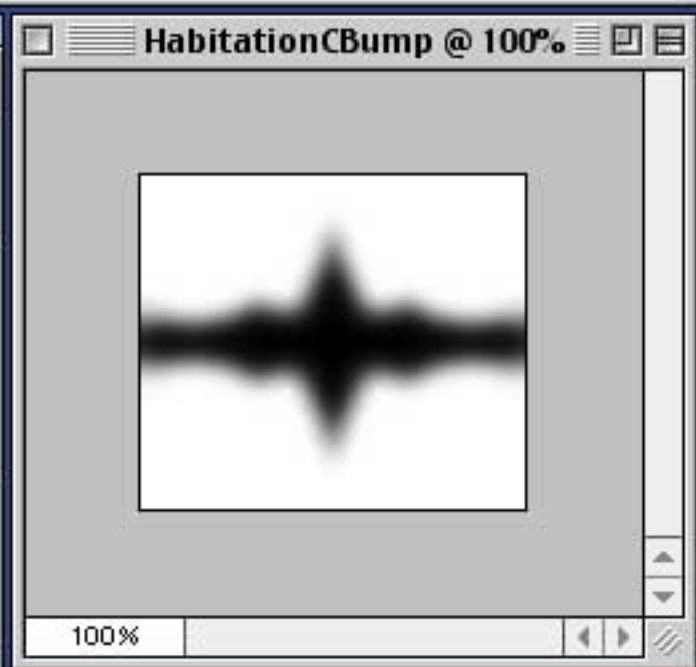
Actions

Links

☒	☐	Layer 2	
☒	☒	Layer 1	

2 Layers

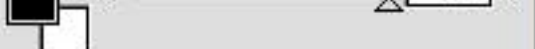




Navigator Info Options

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Color Swatches Brushes

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History Actions

  HabitationCBump

 **Open**

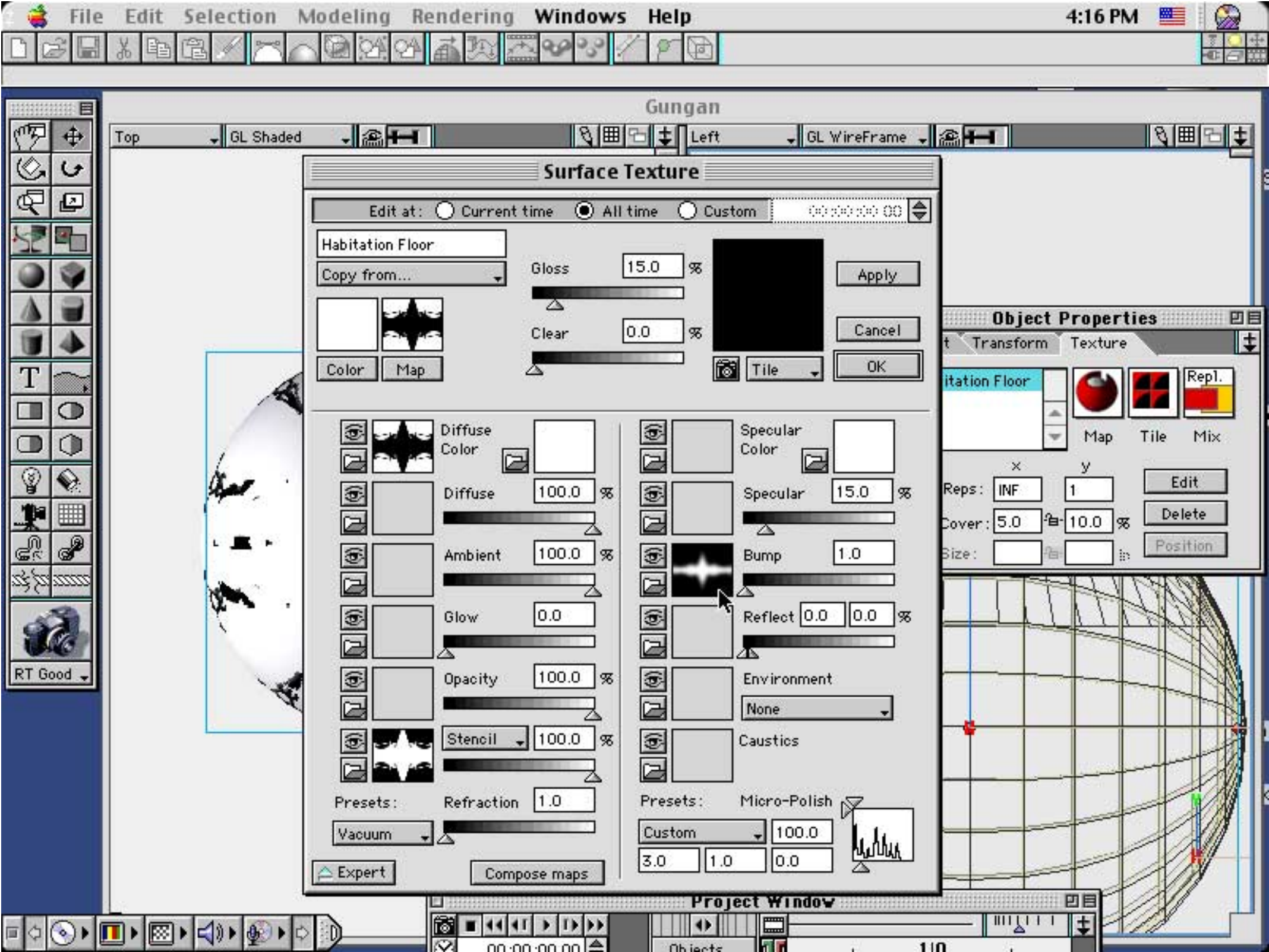
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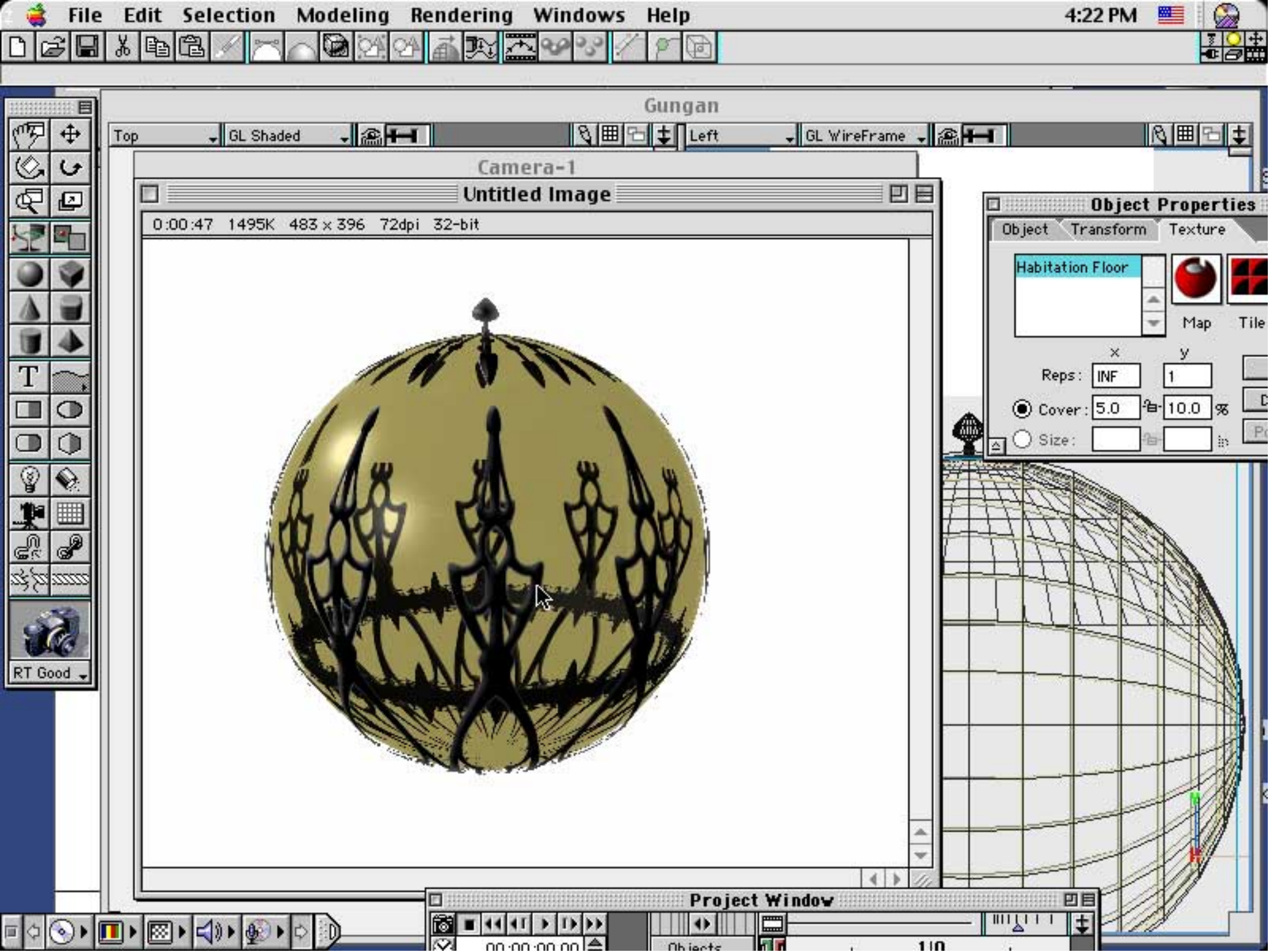
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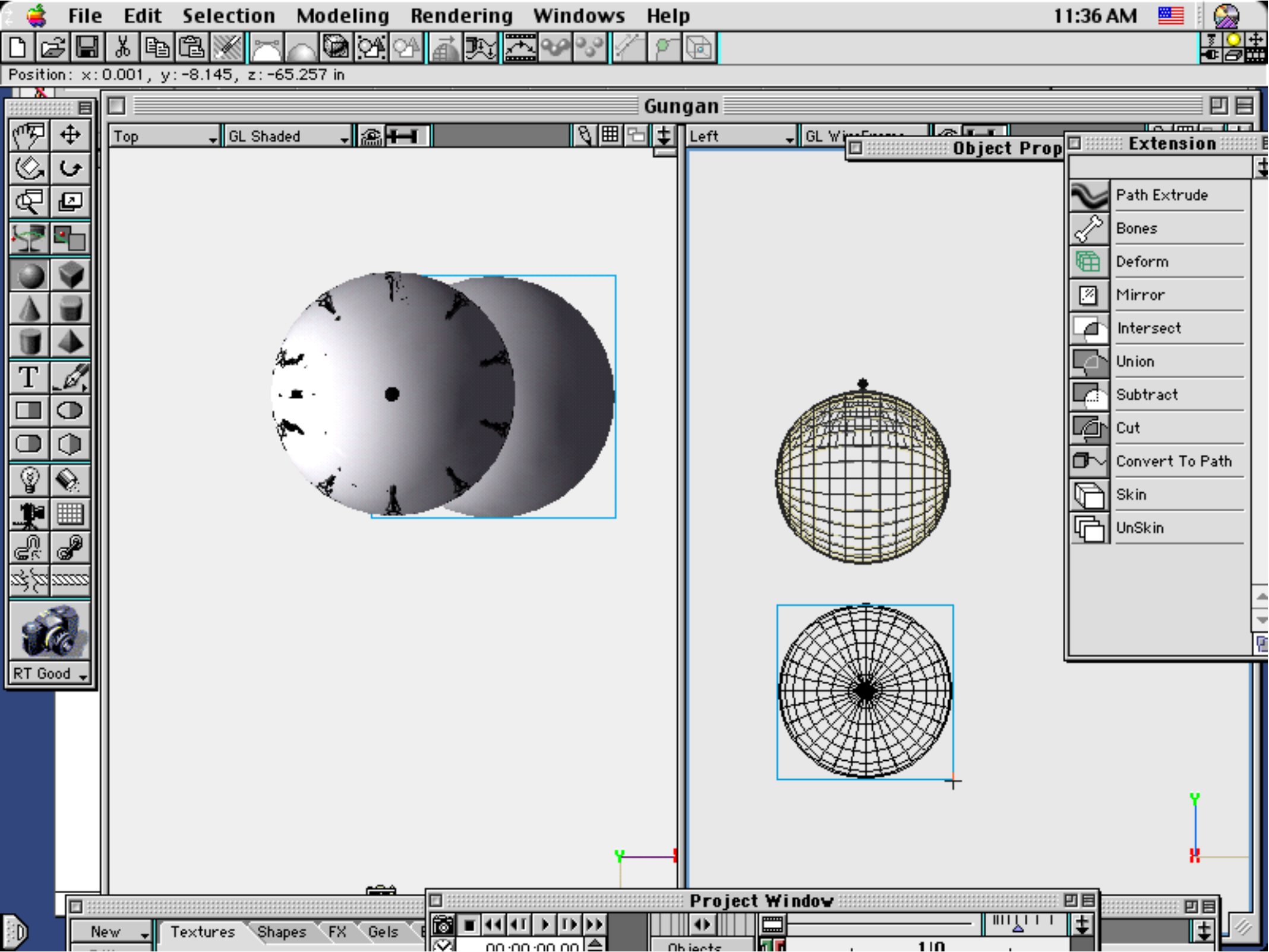
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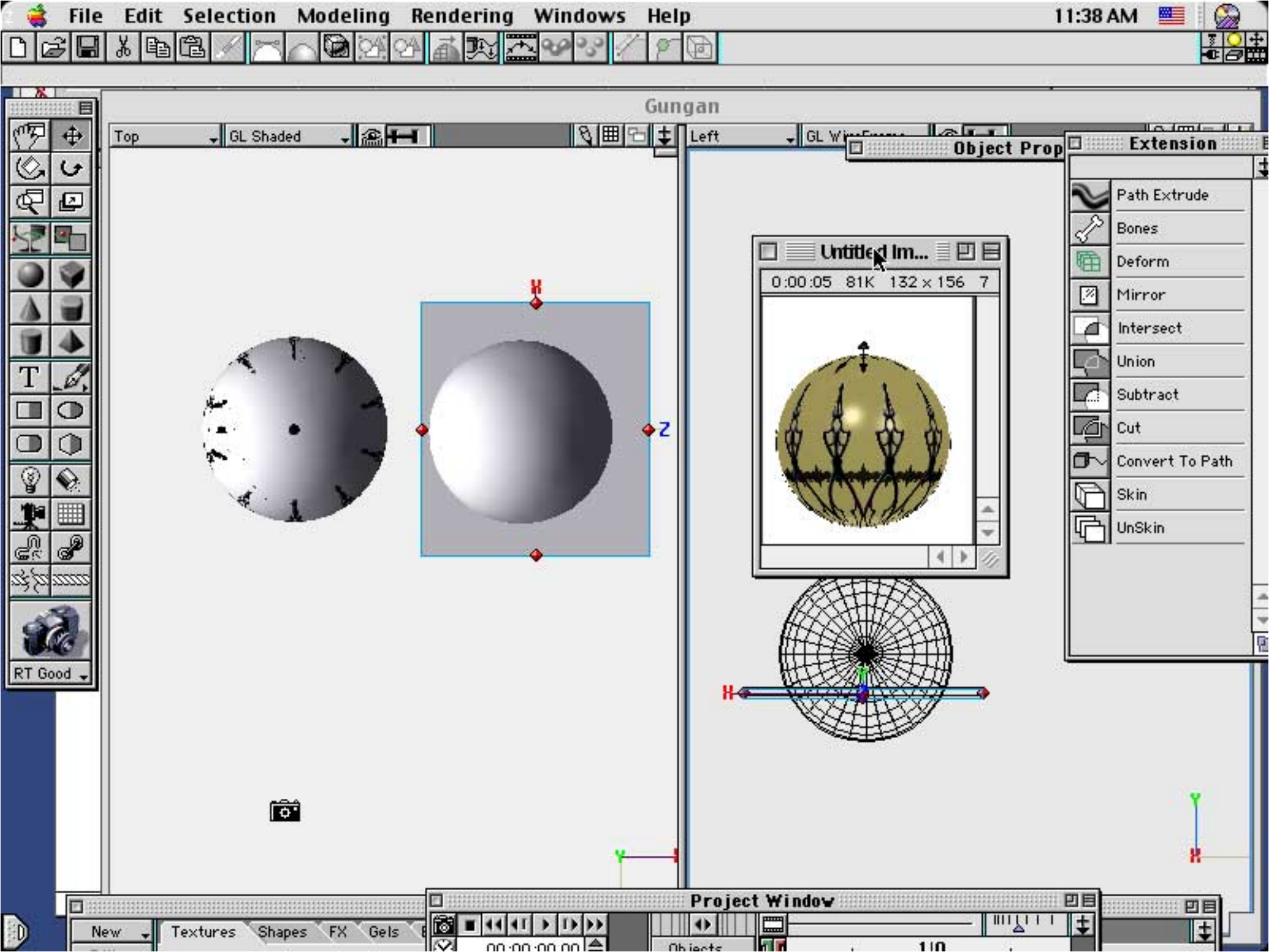
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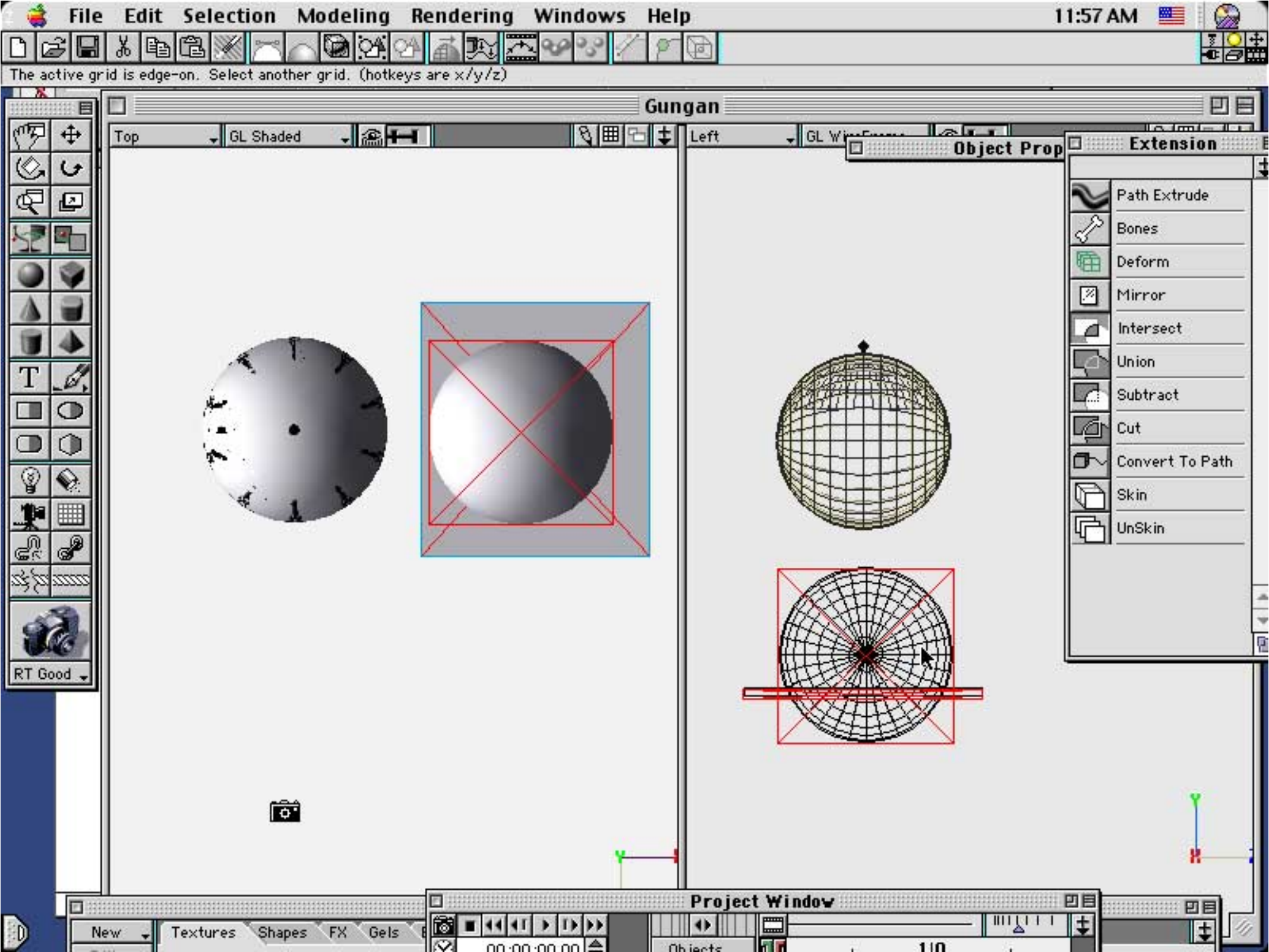


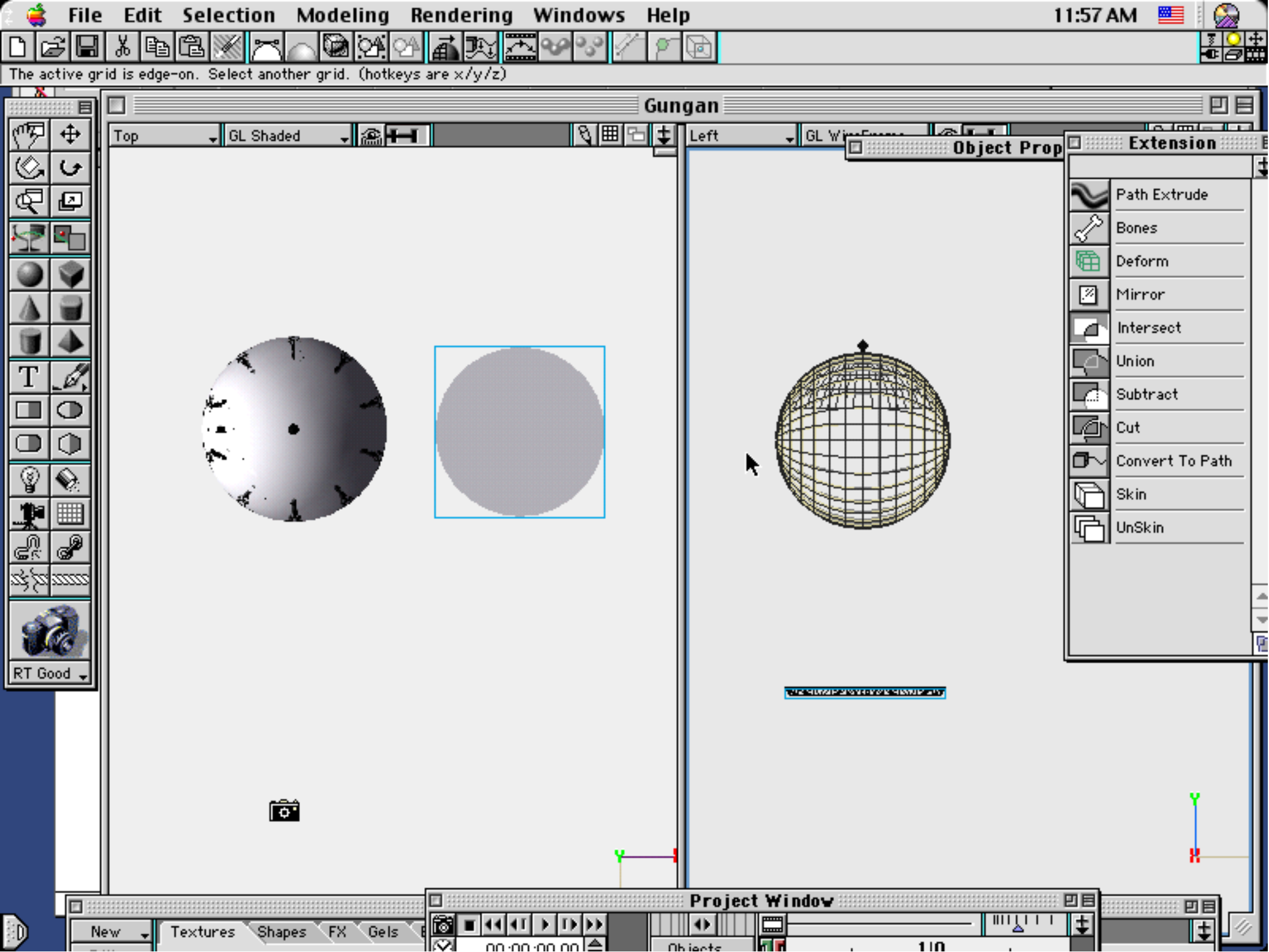


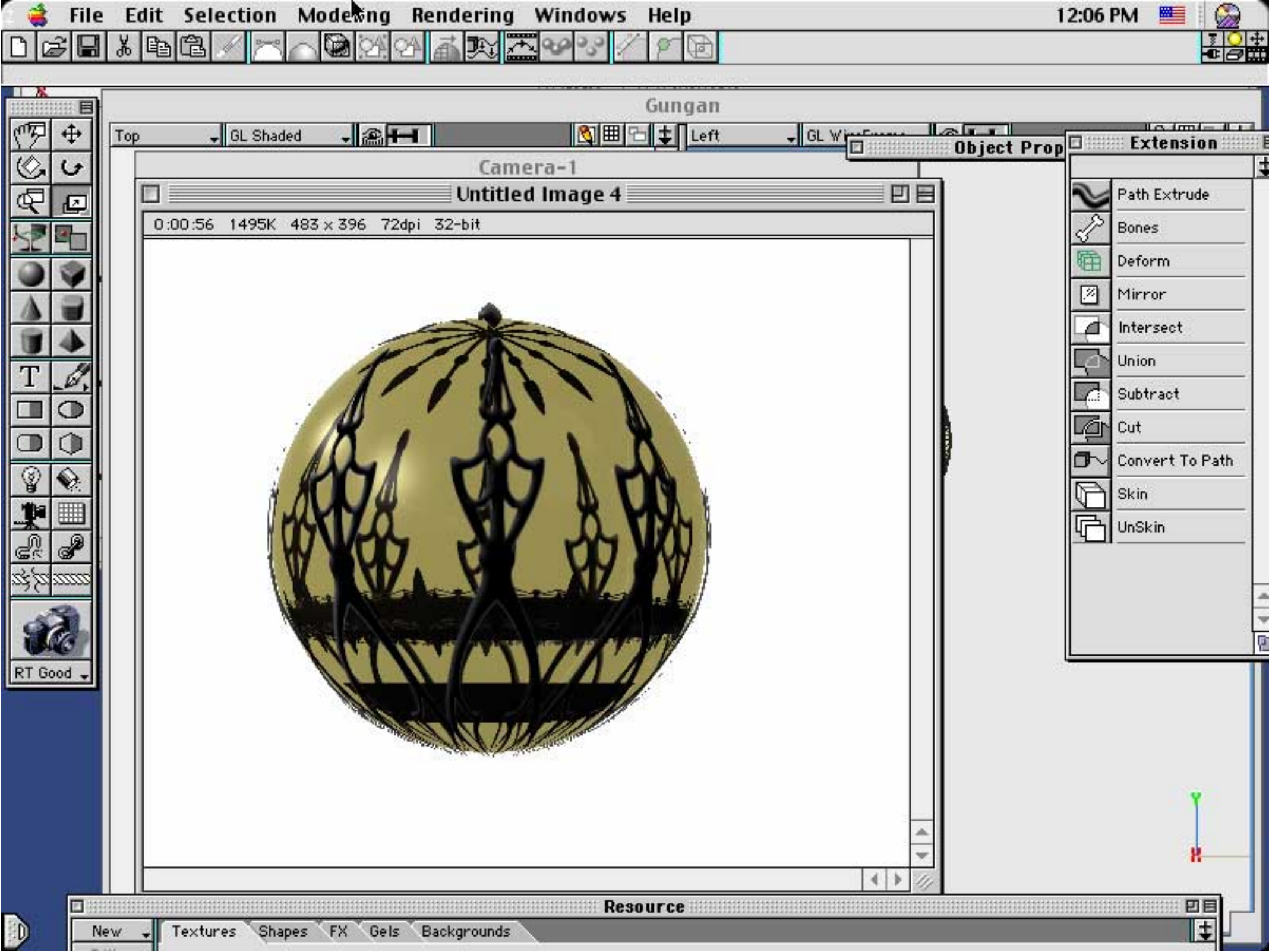


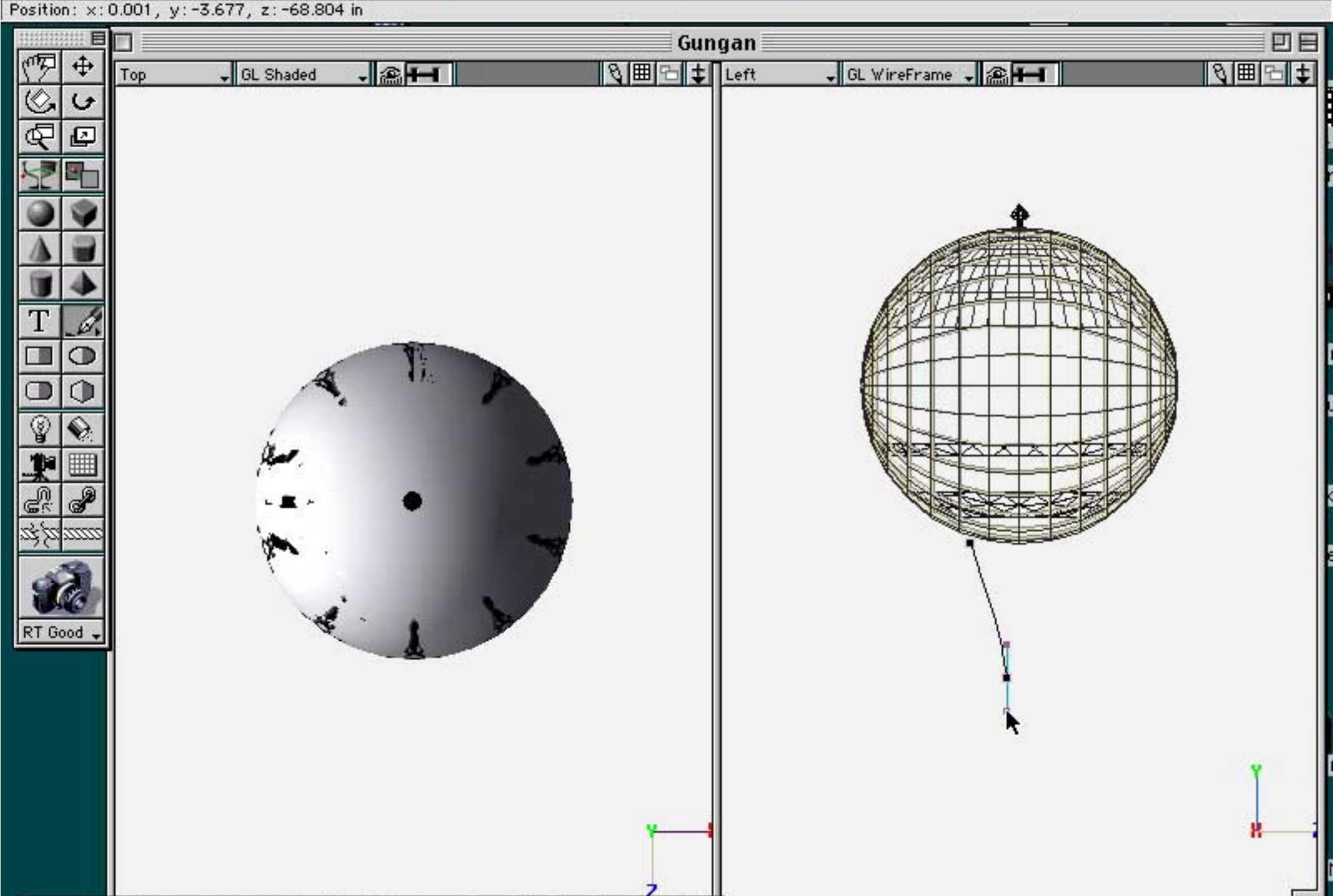






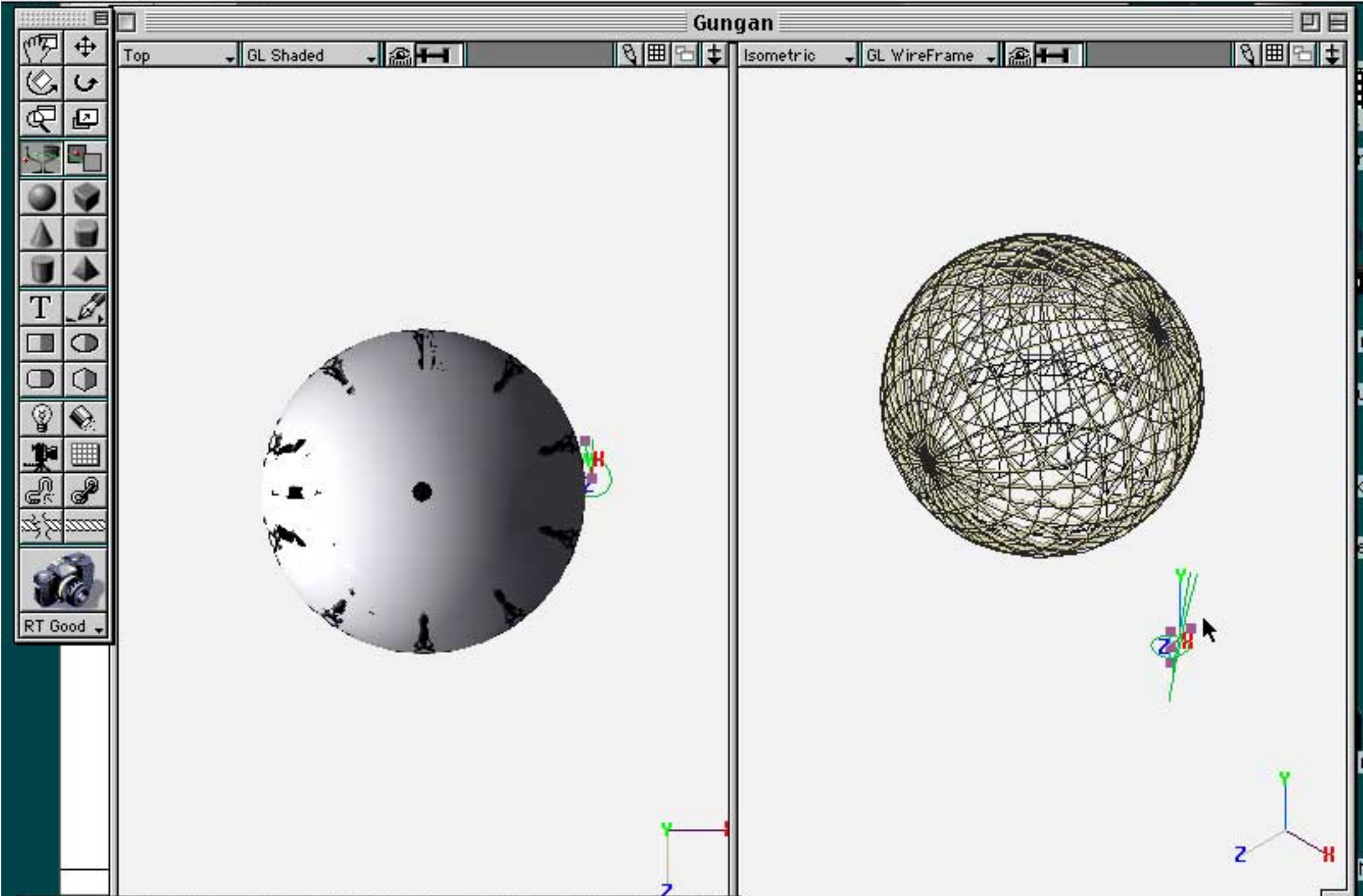






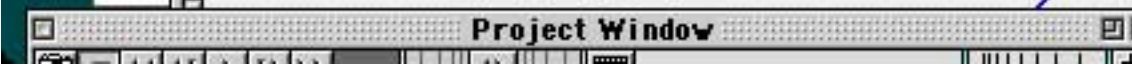
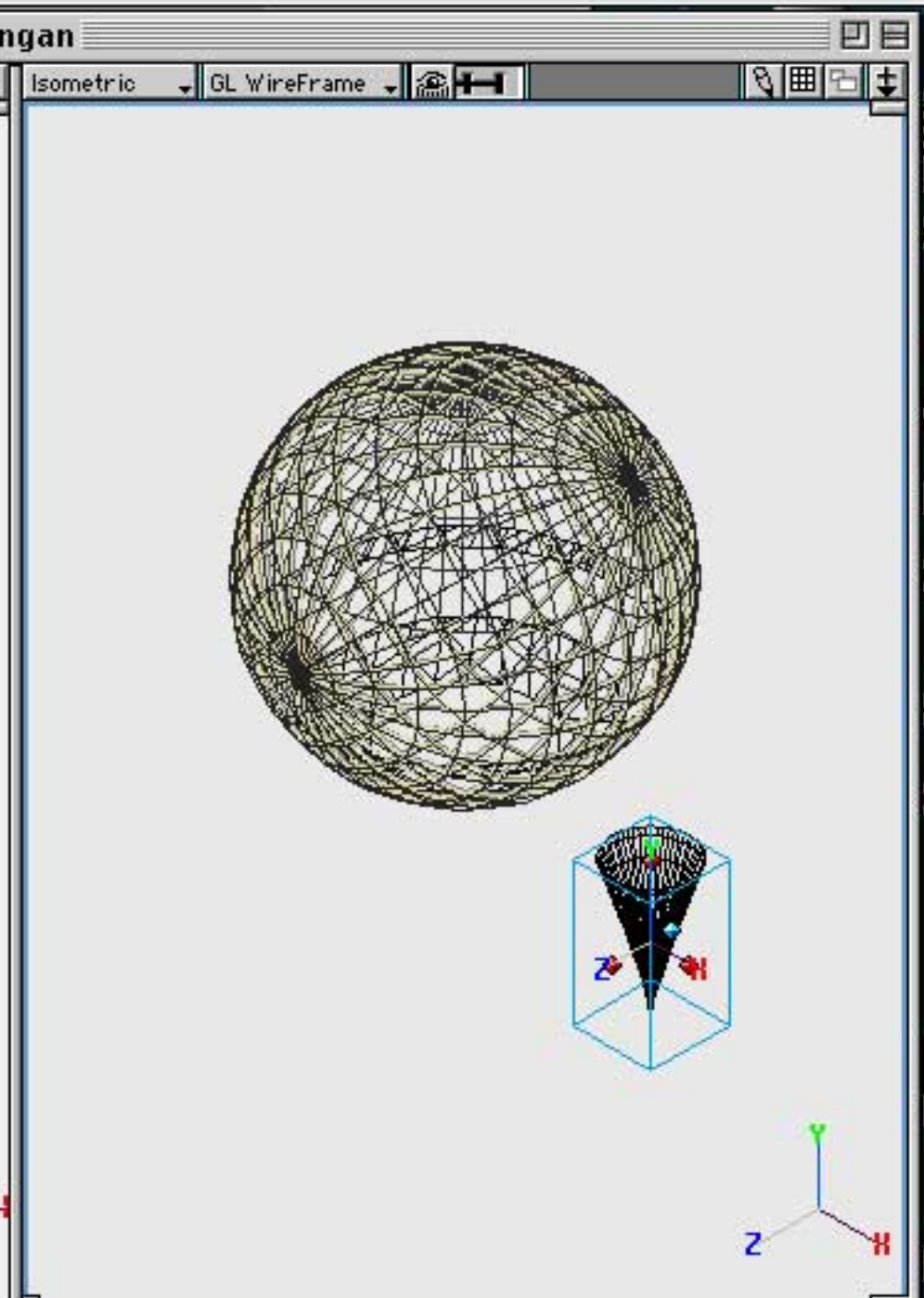
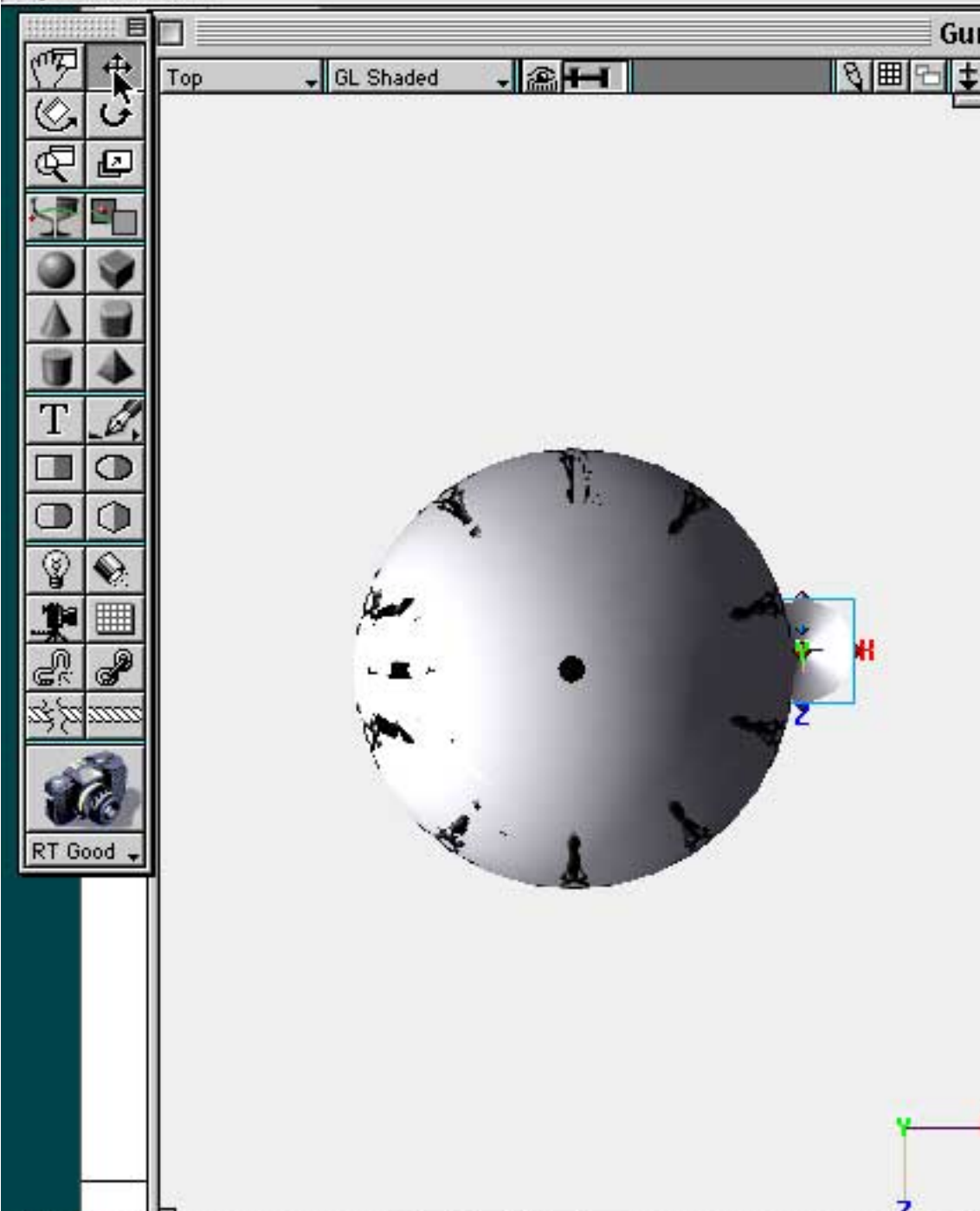


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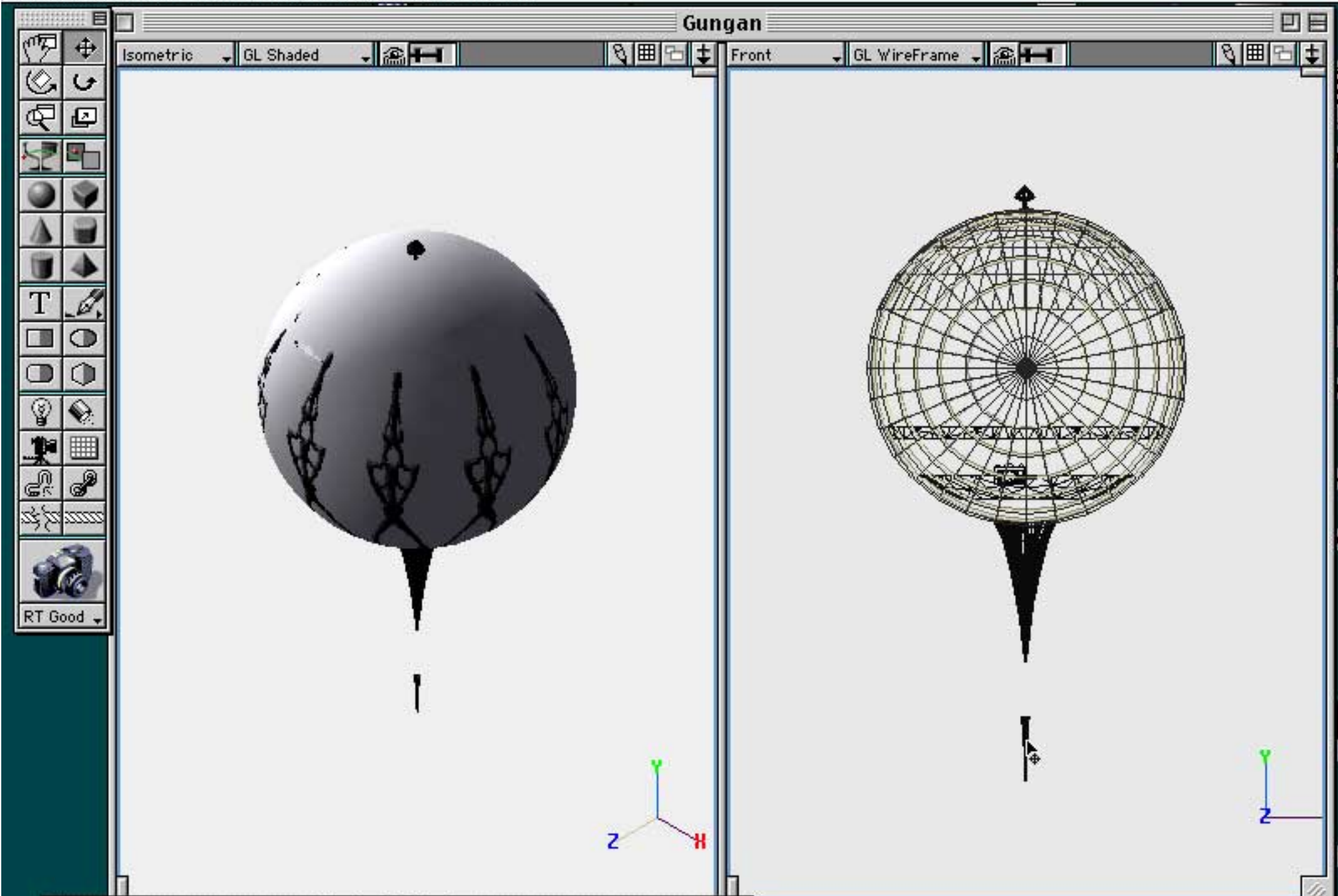


Object Move Tool





The active grid is edge-on. Select another grid. (hotkeys are x/y/z)



Gungan

Isometric

GL Shaded

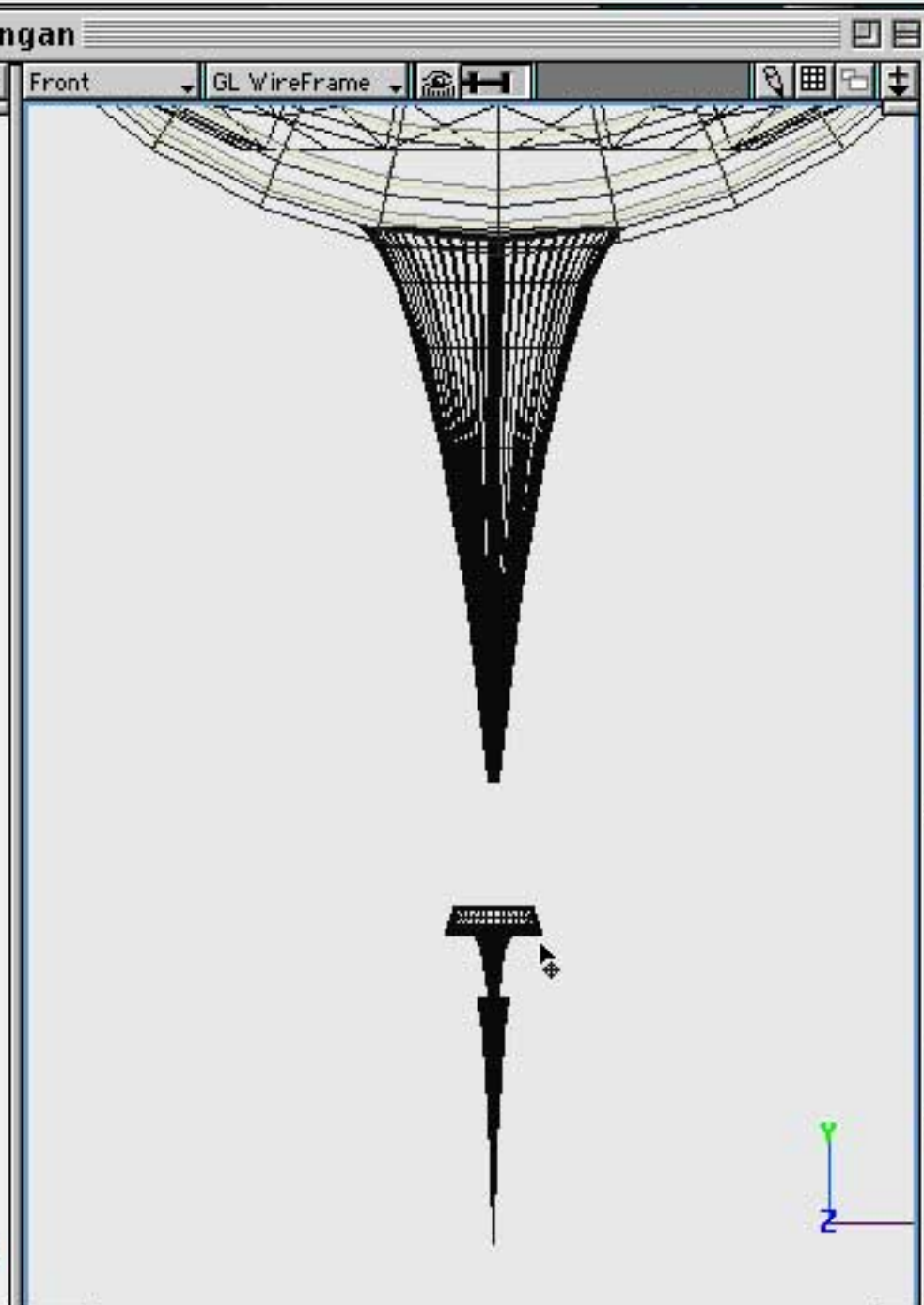
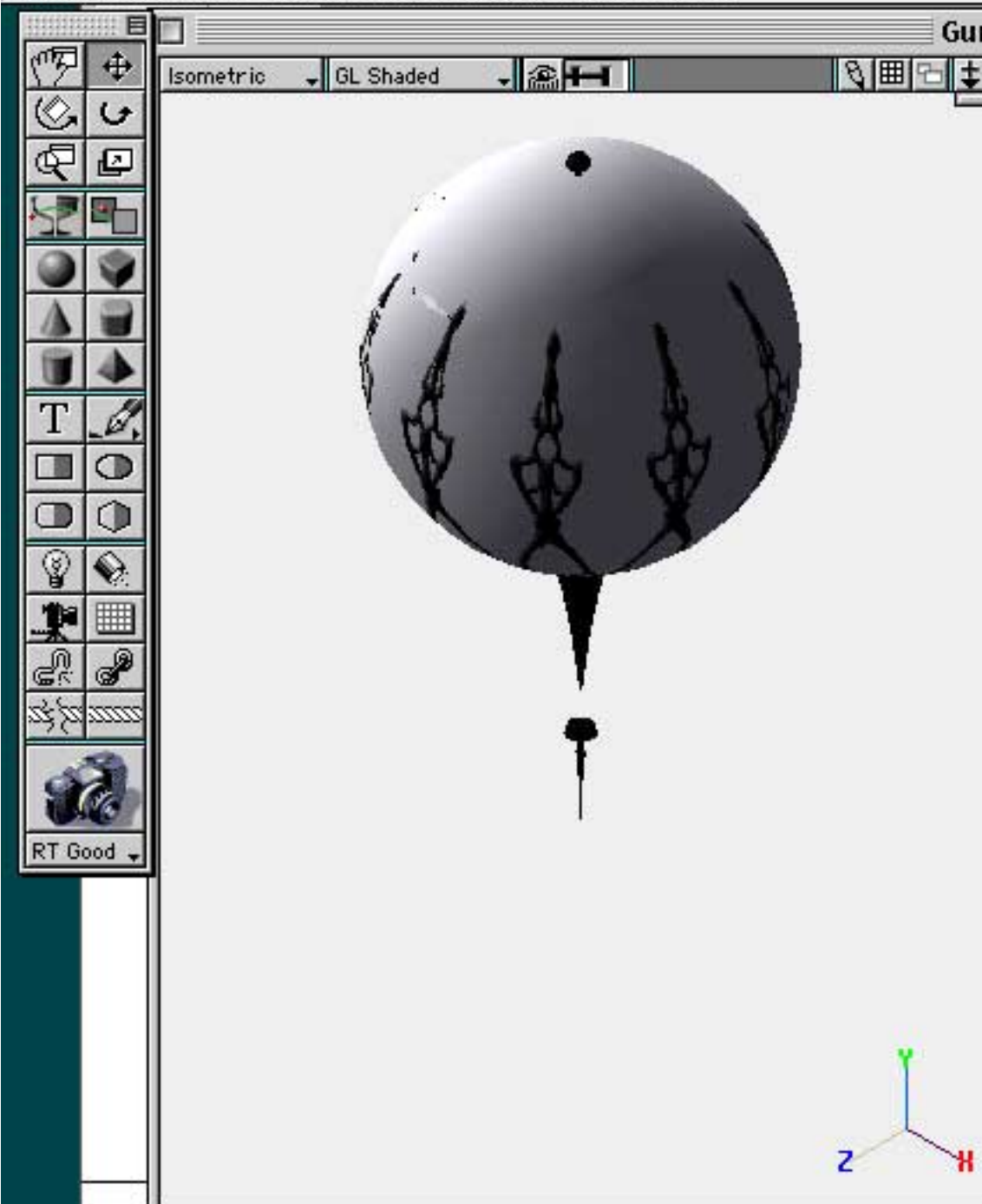
Front

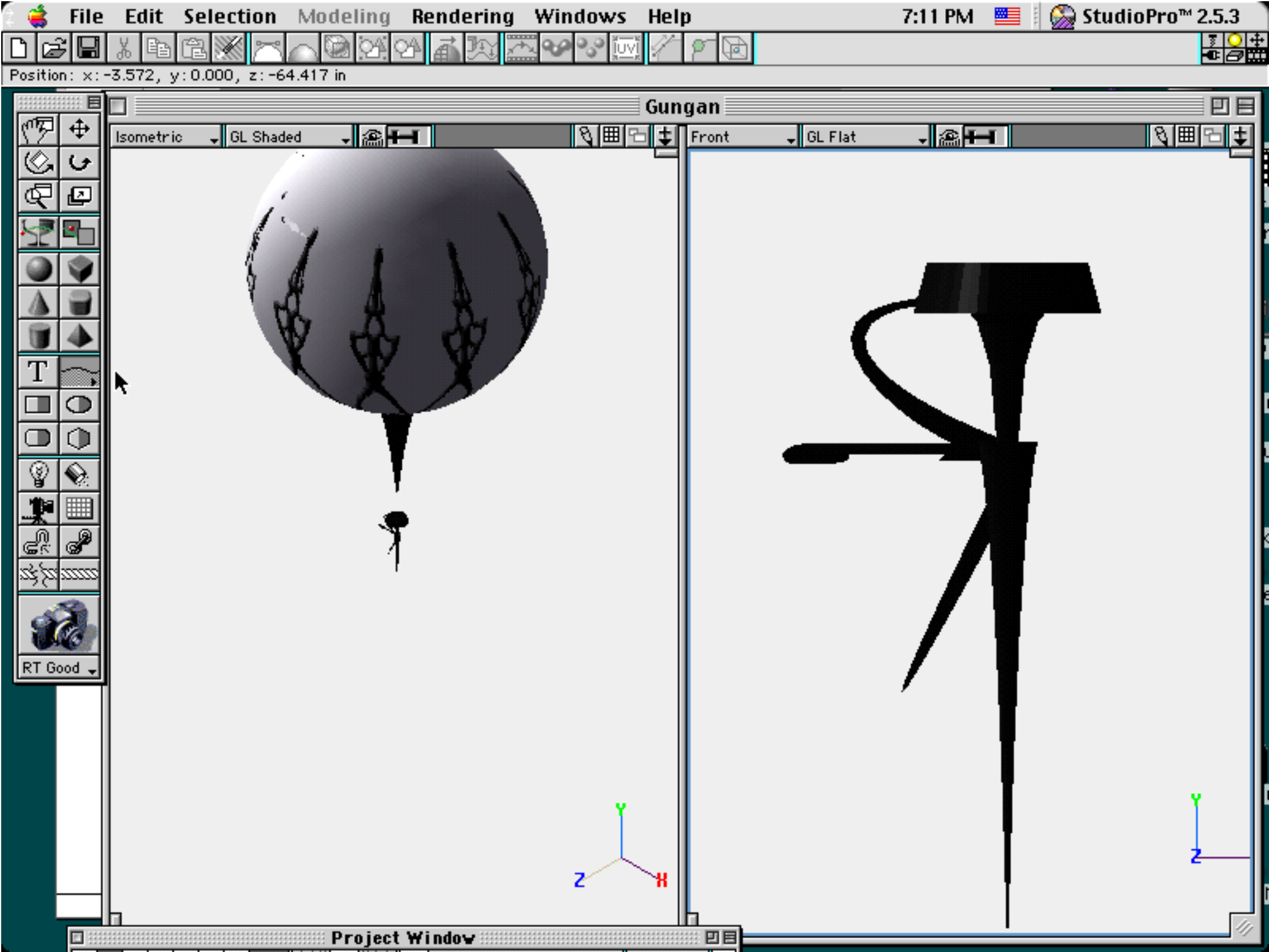
GL WireFrame

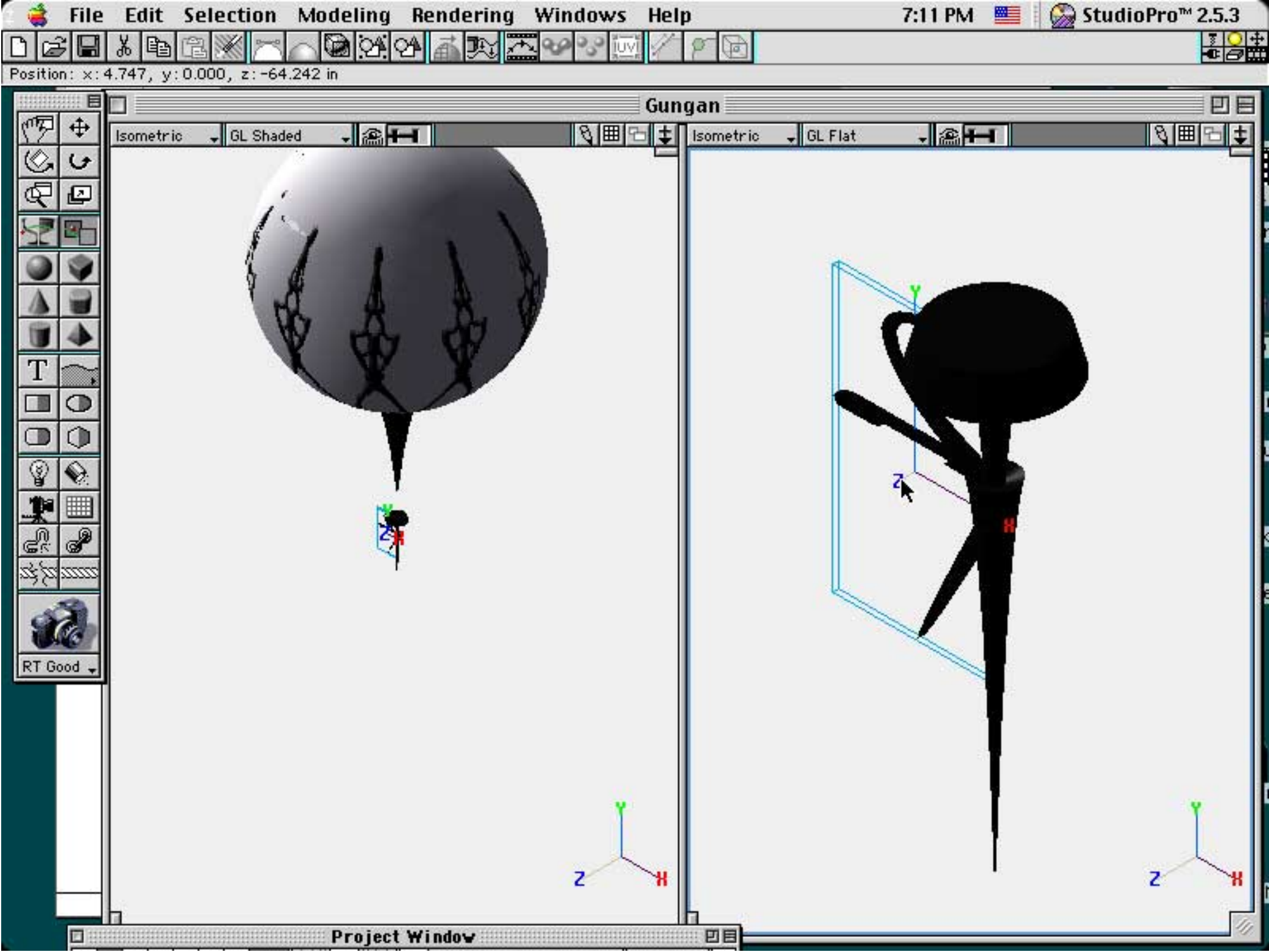
Project Window

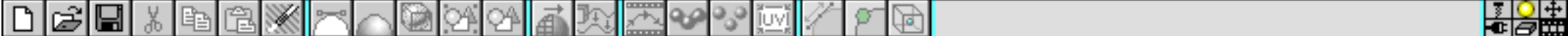


The active grid is edge-on. Select another grid. (hotkeys are x/y/z)

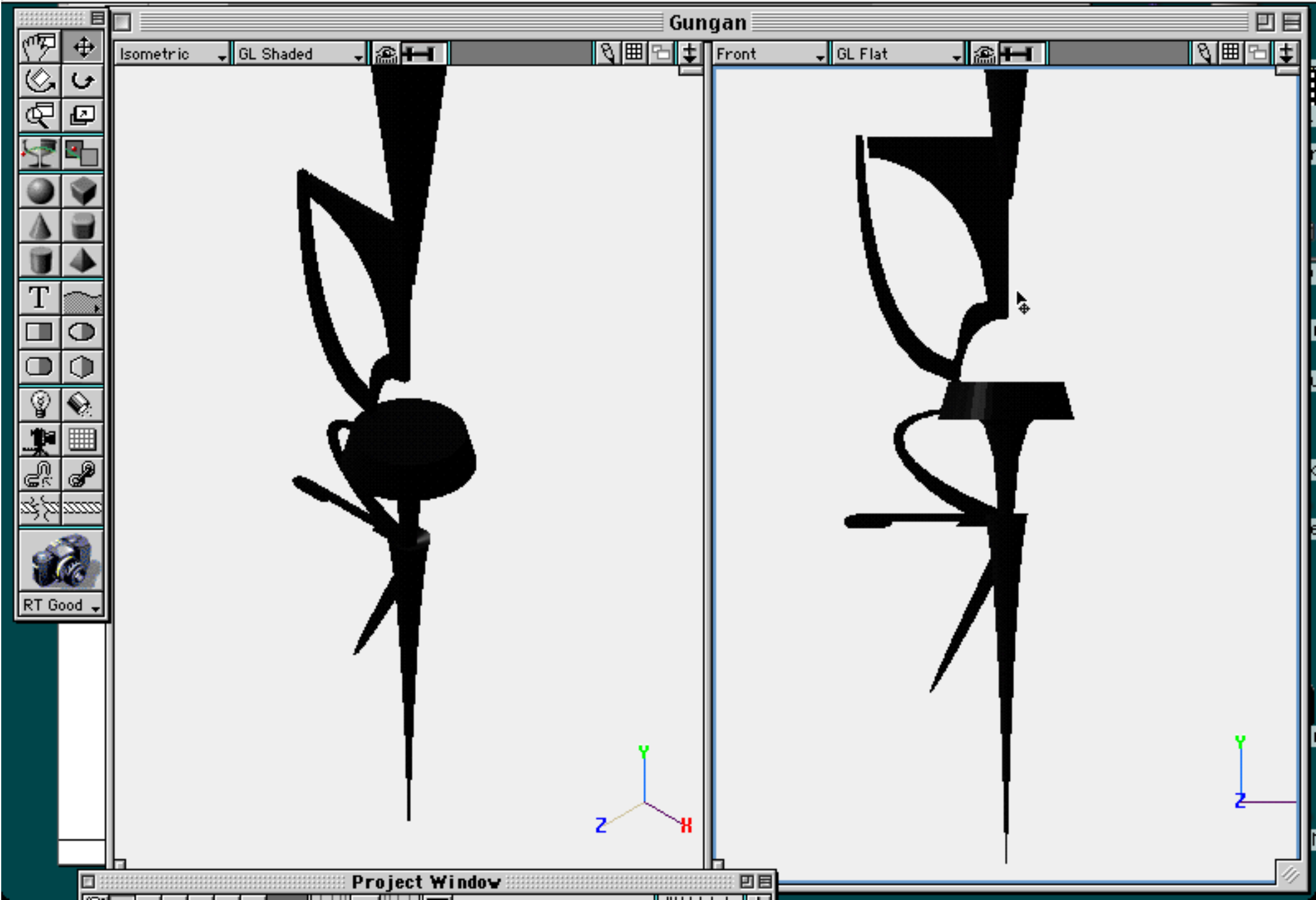


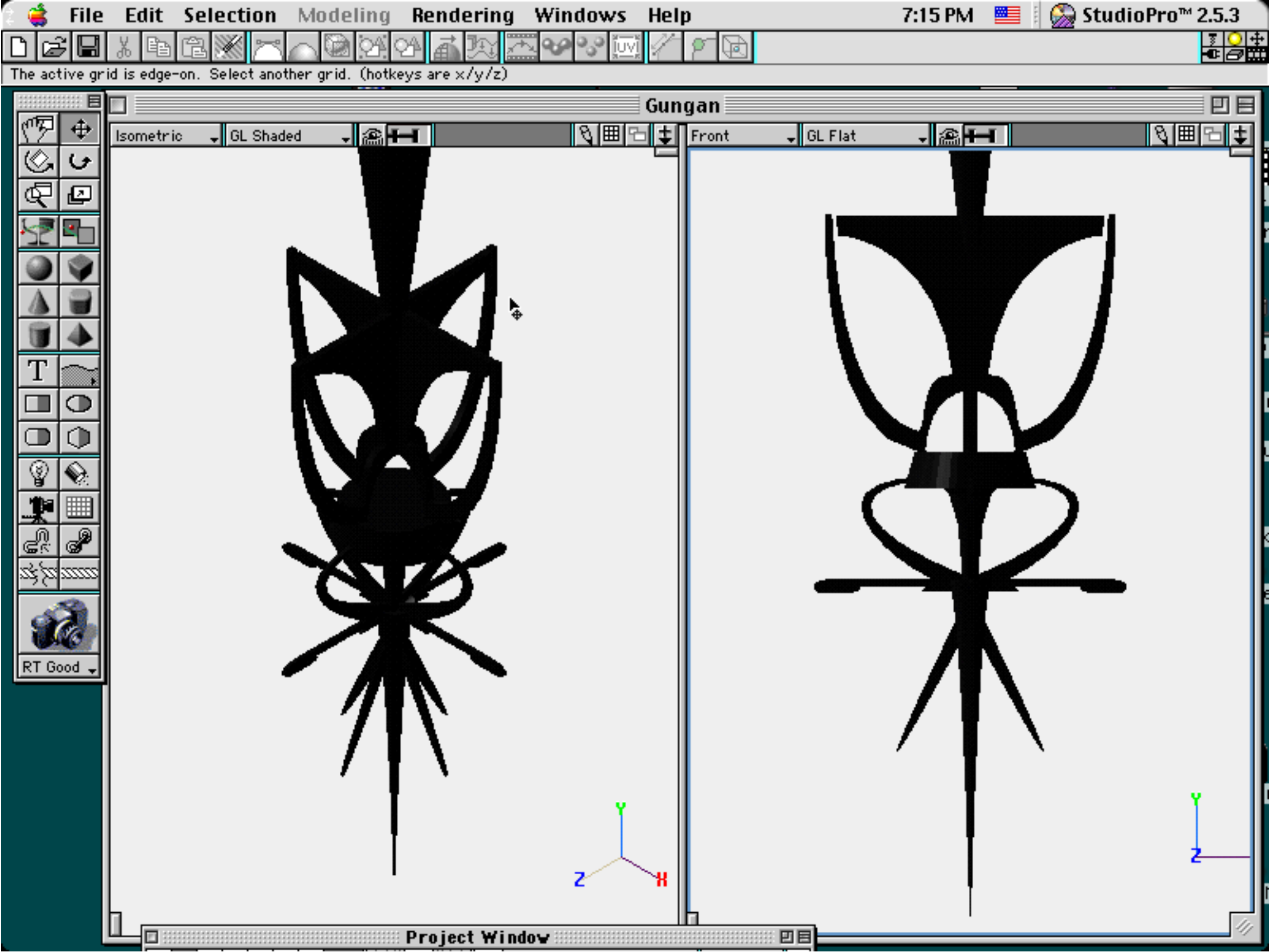


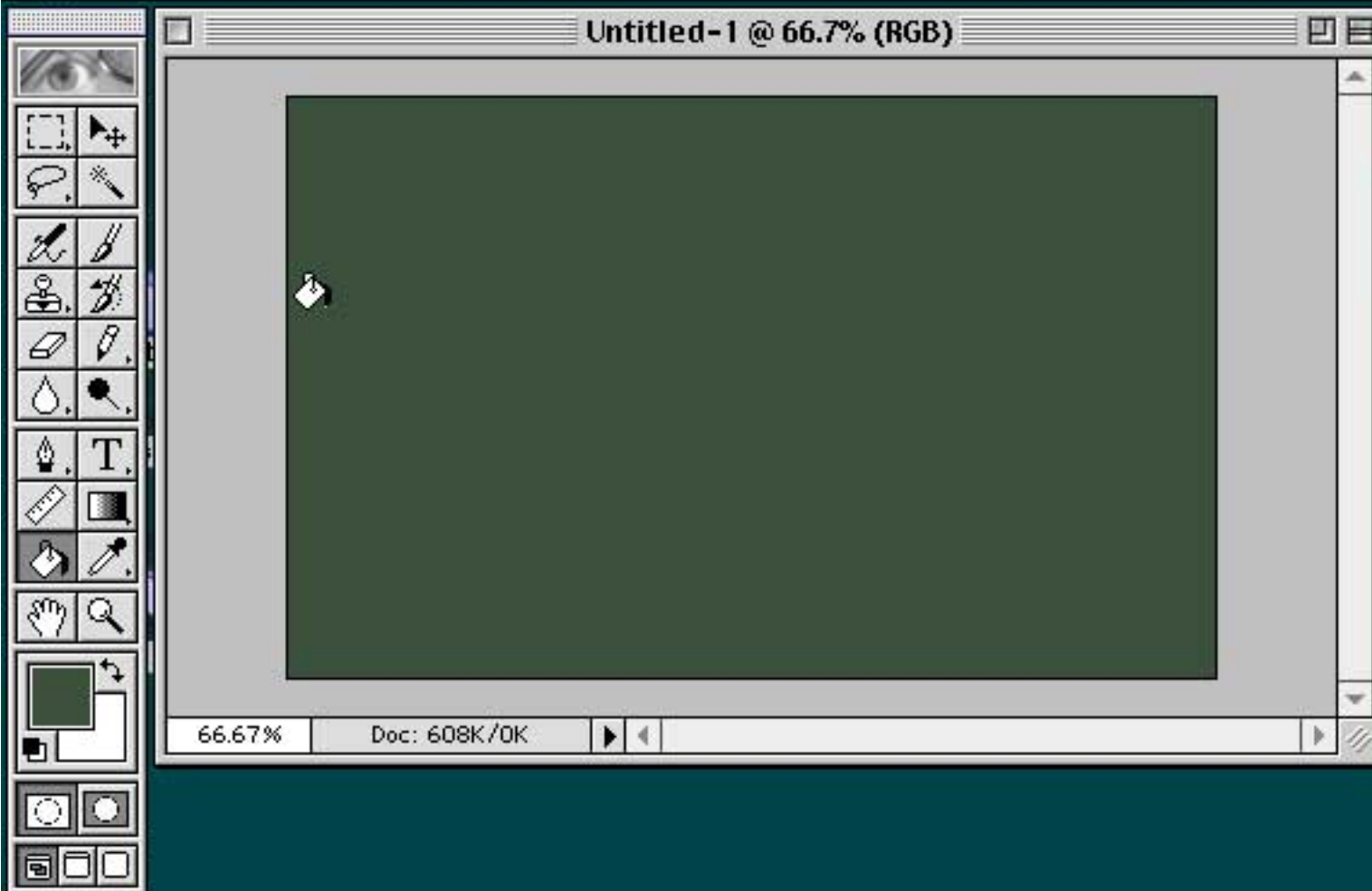


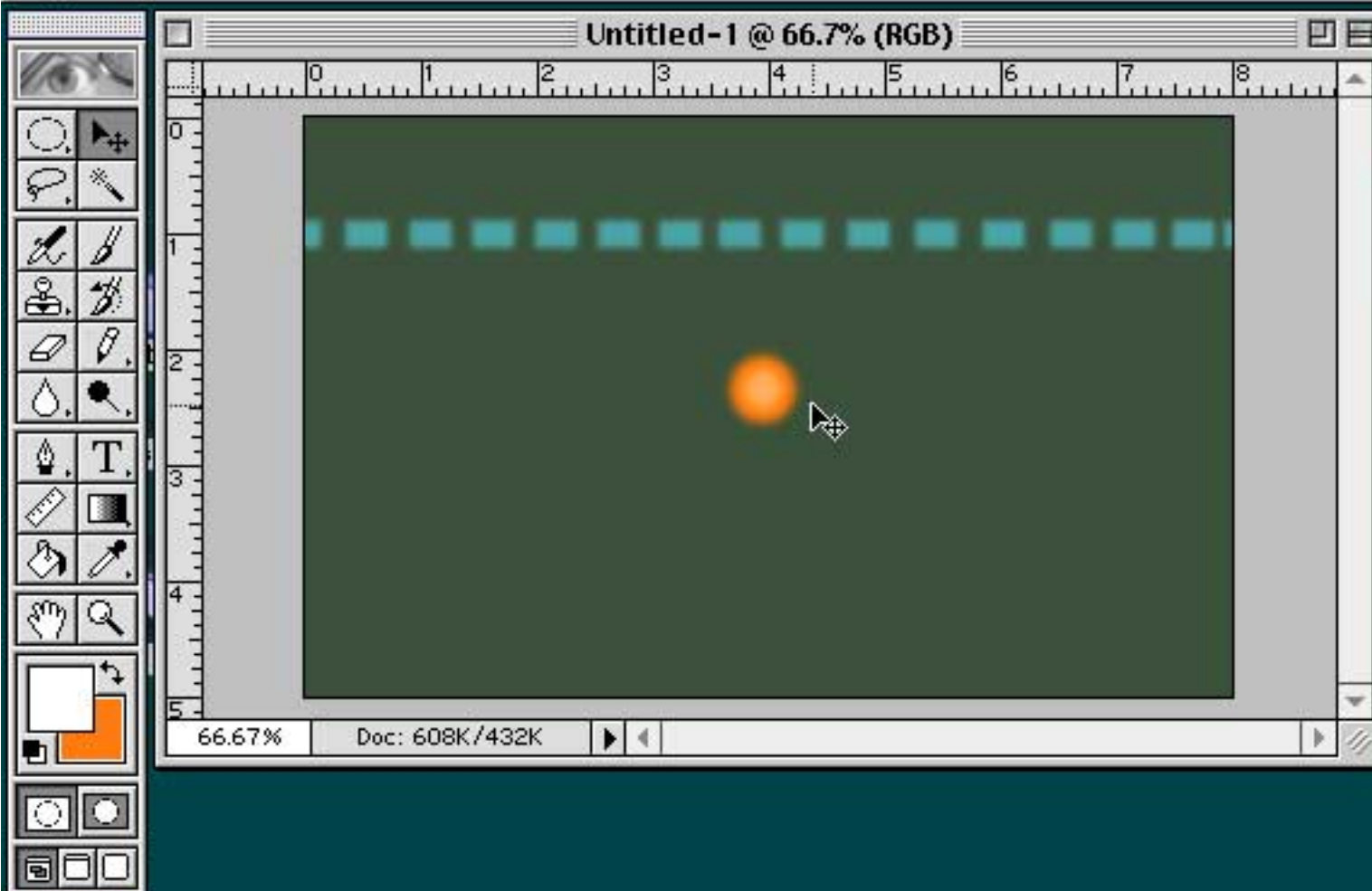


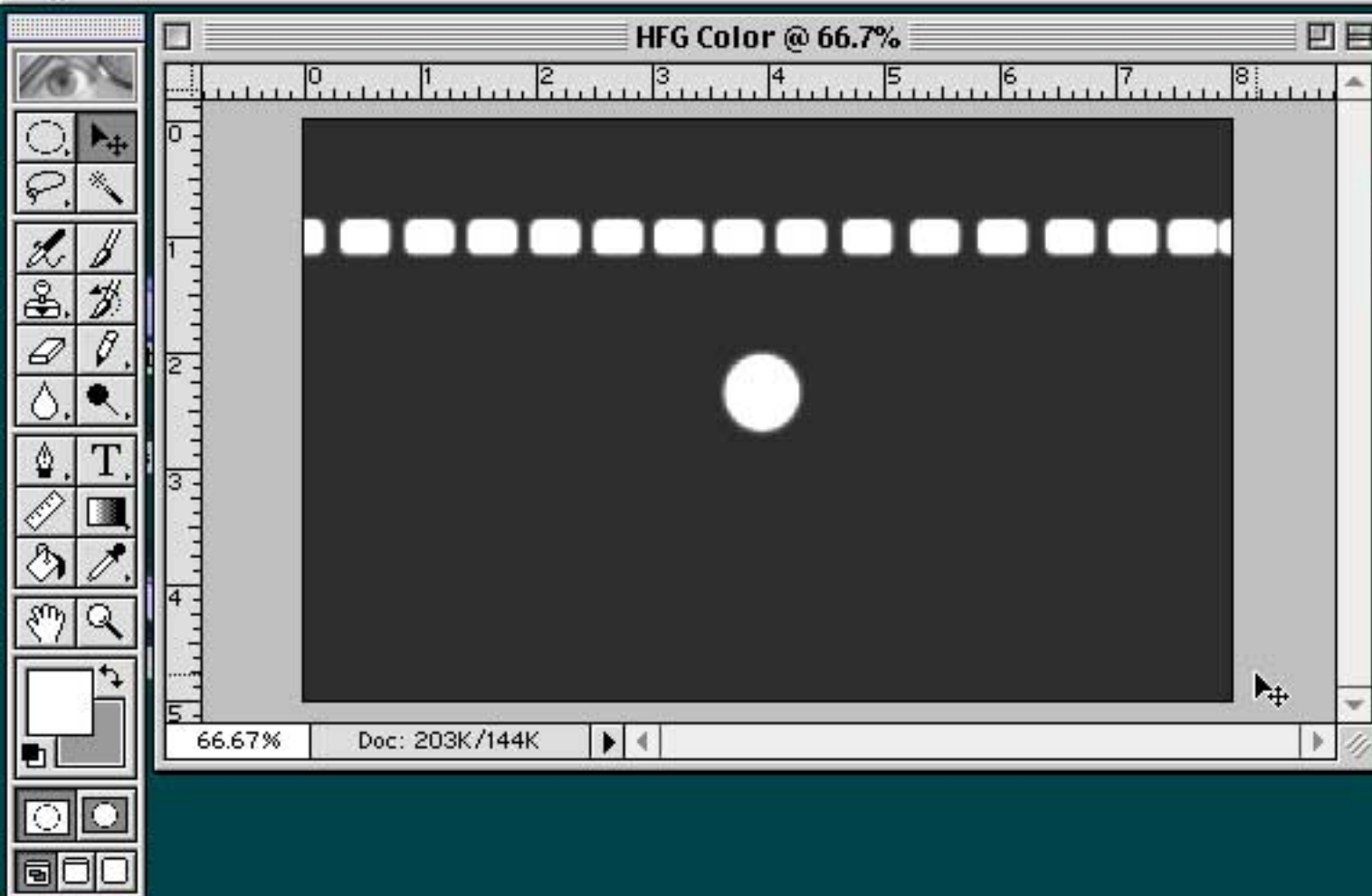
The active grid is edge-on. Select another grid. (hotkeys are x/y/z)

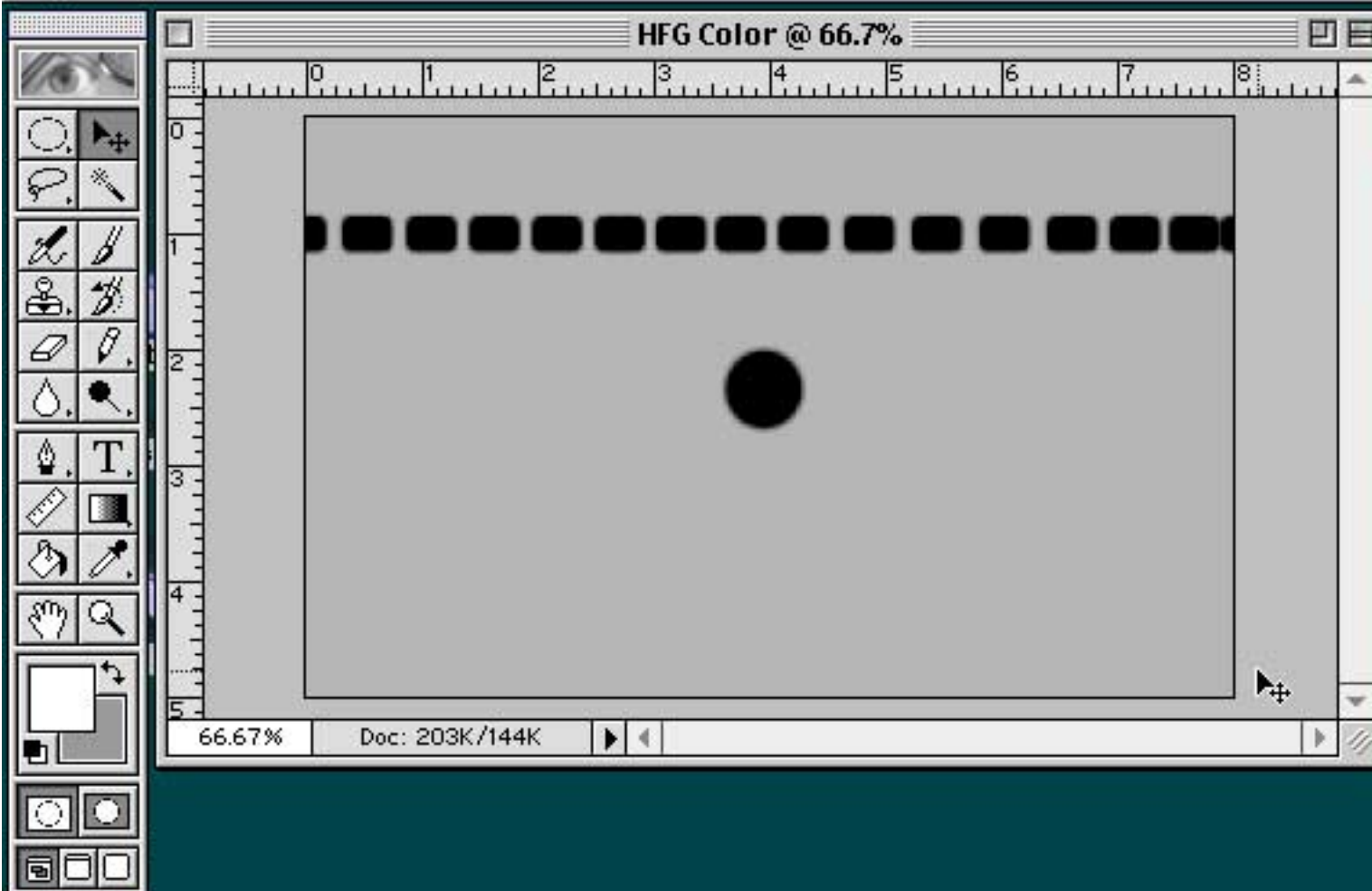




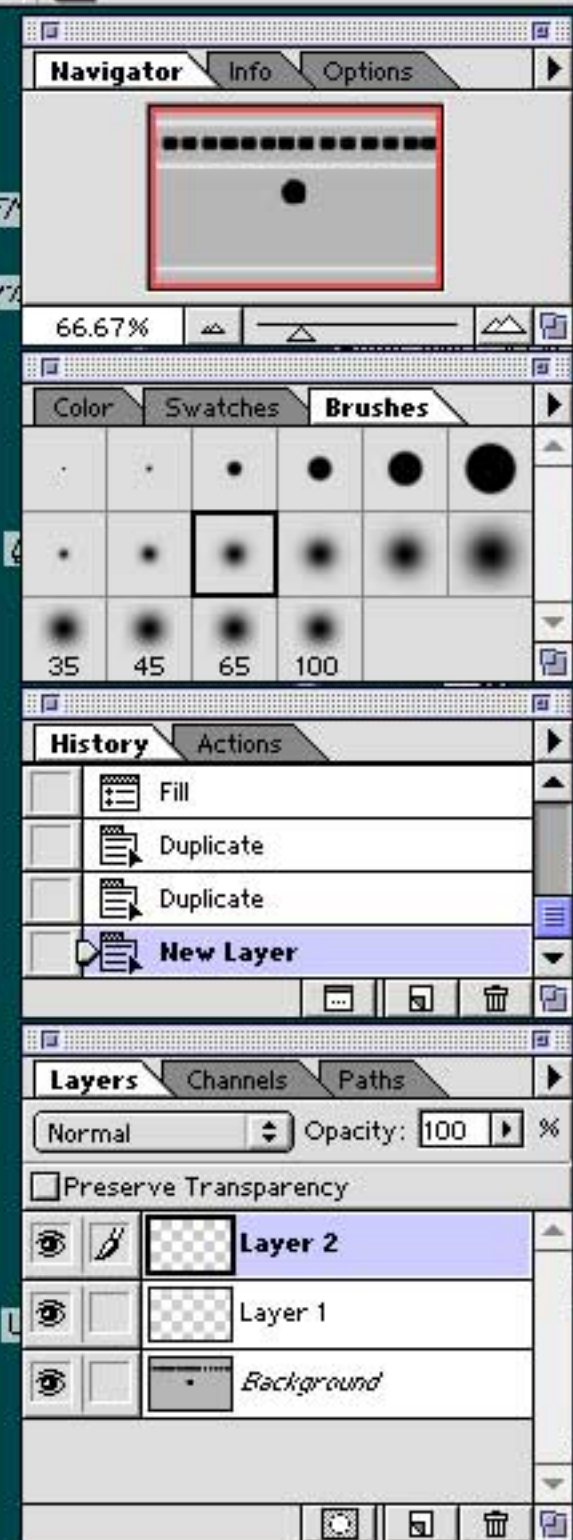
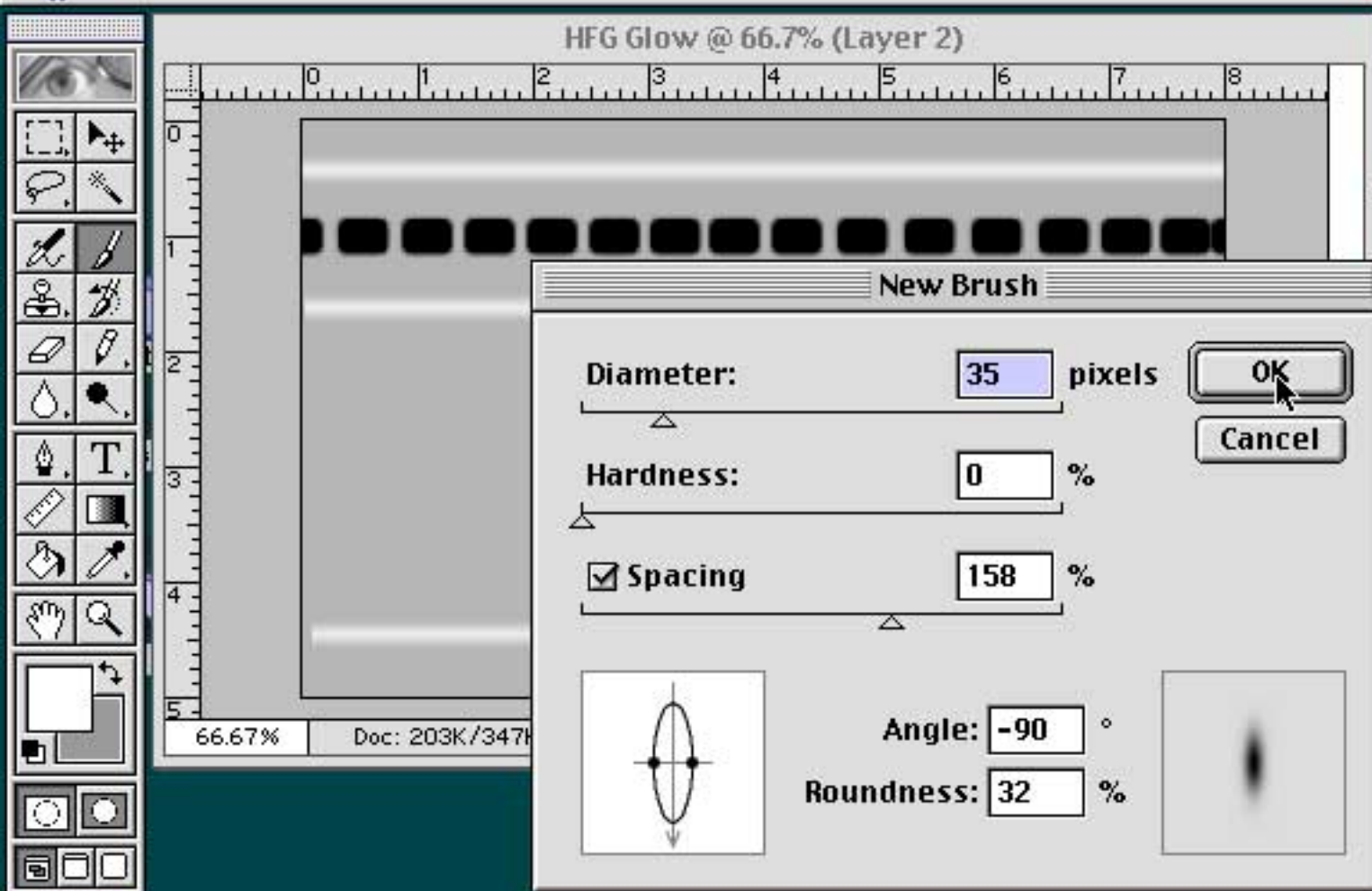


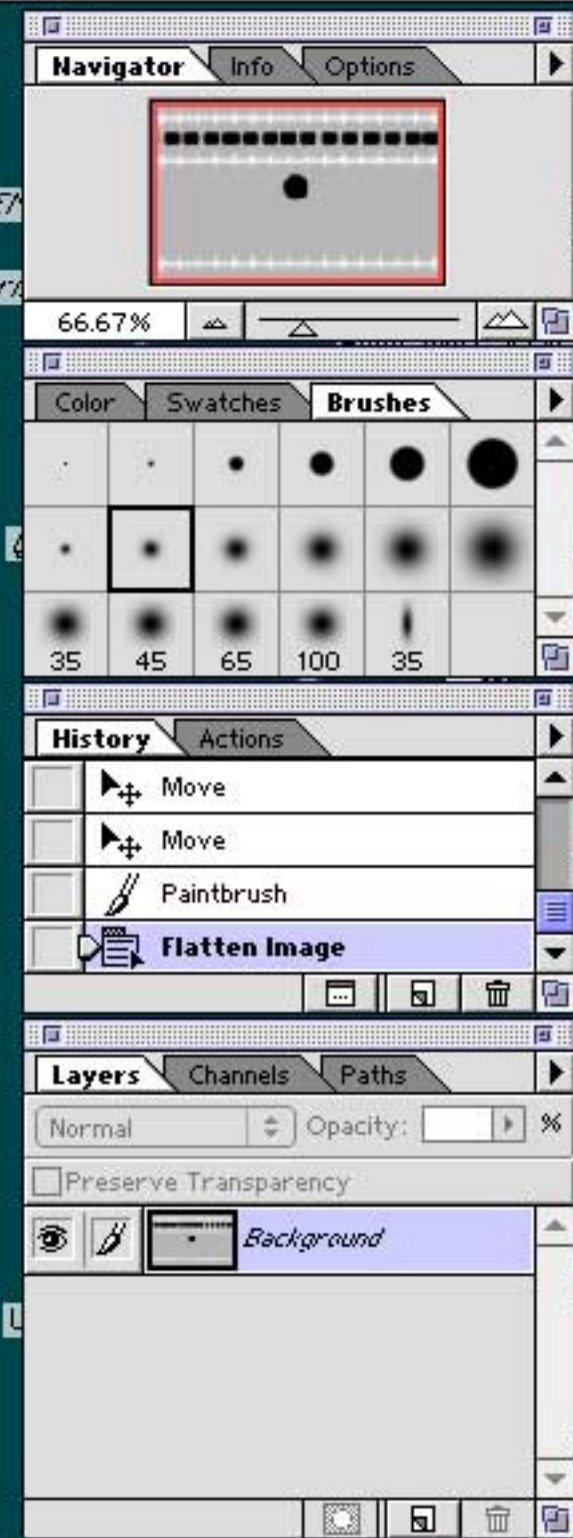
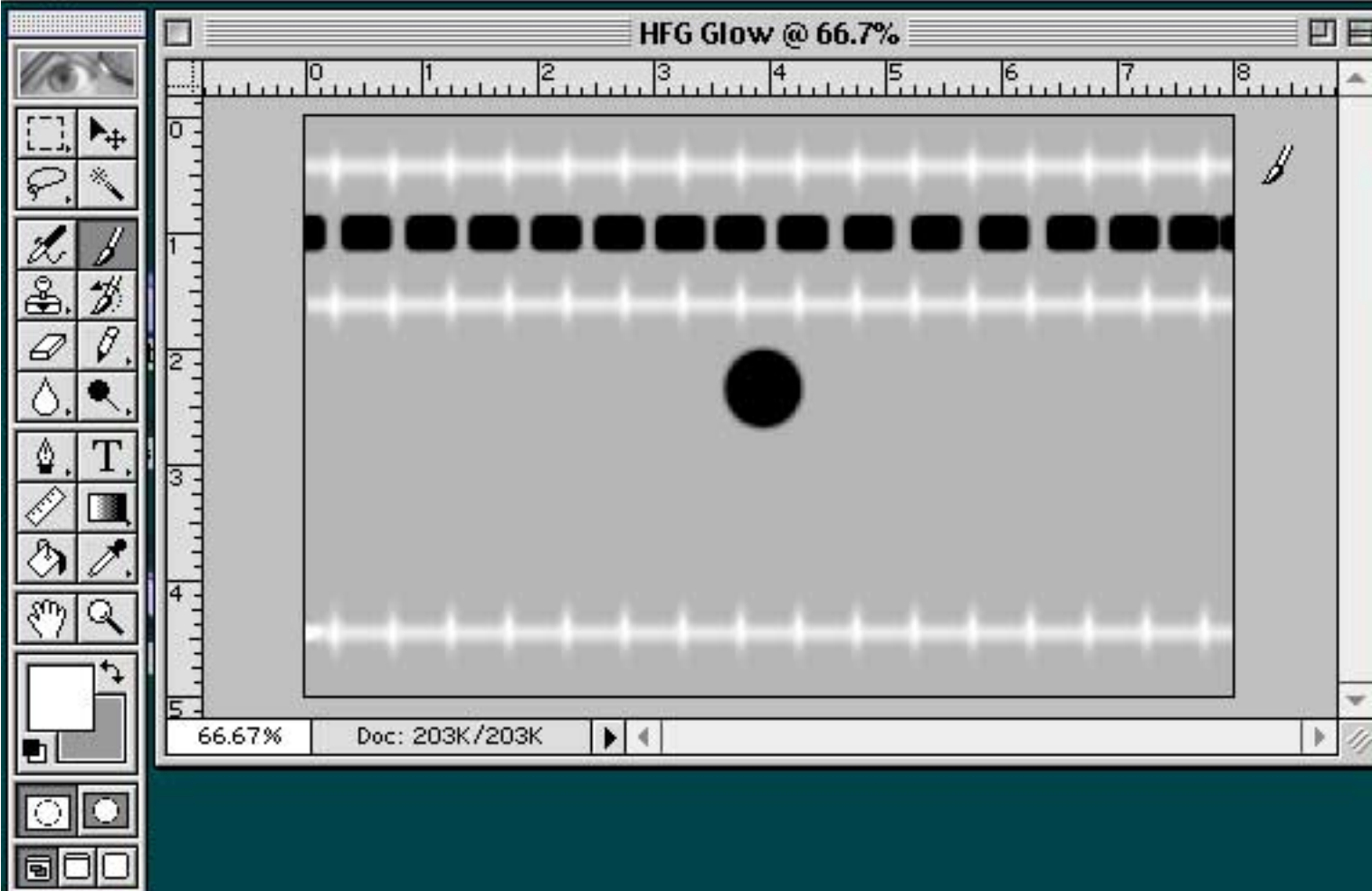


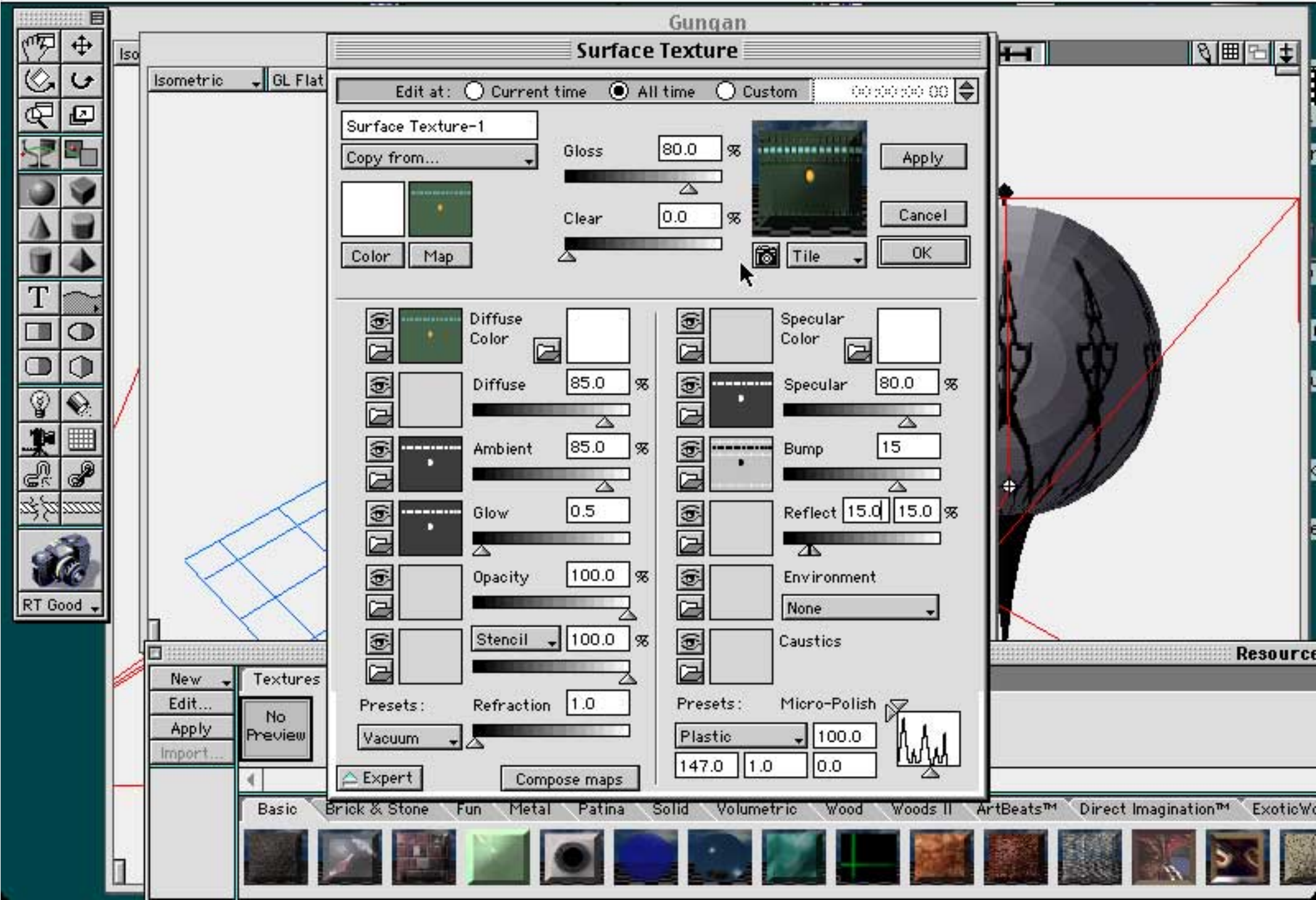






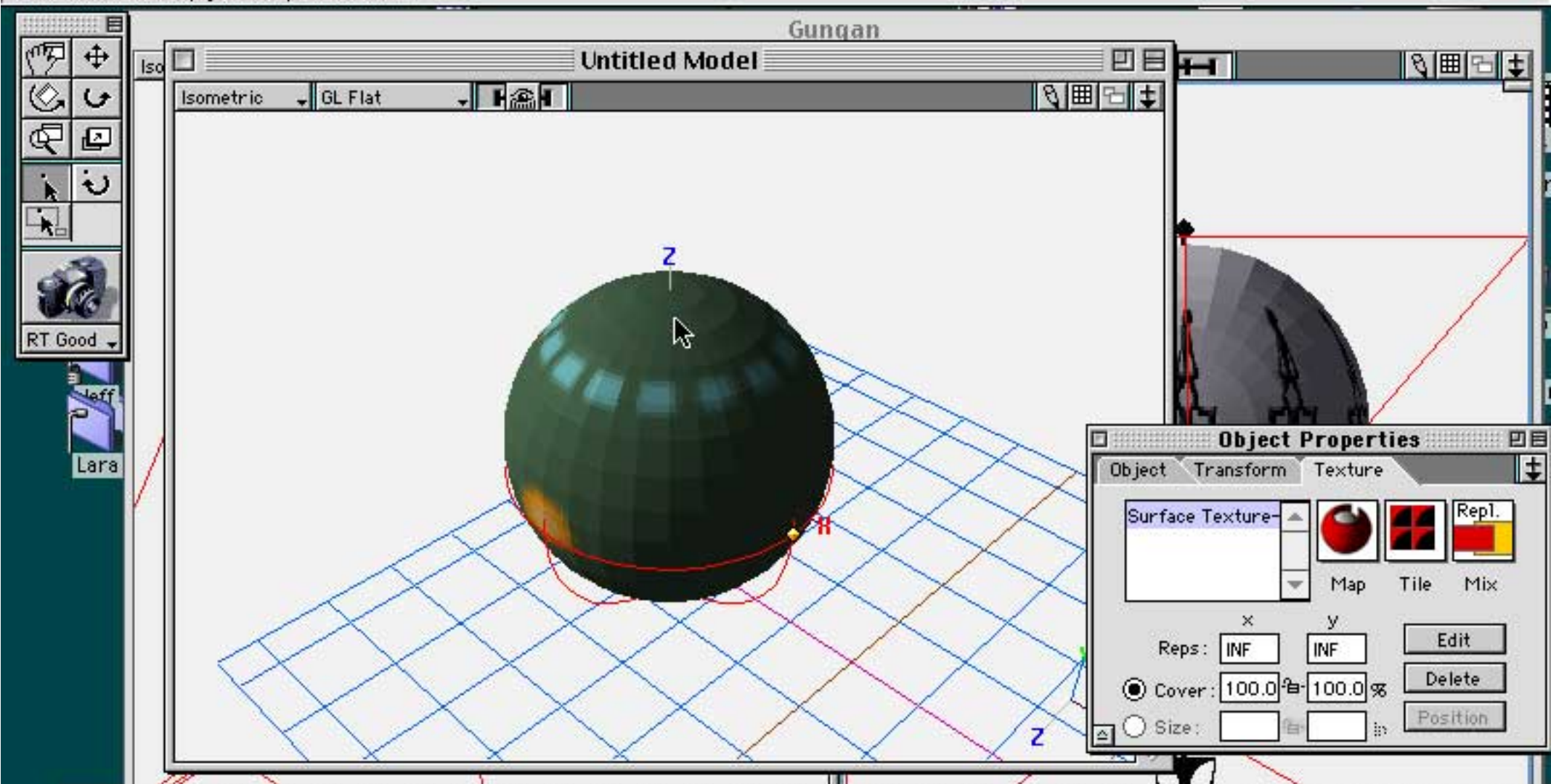








Position: x: -8.425, y: 0.000, z: -5.230 in



Object Properties

Object Transform Texture

Surface Texture

Map Tile Mix

Reps: x INF y INF

Cover: 100.0 100.0 %

Size: [] []

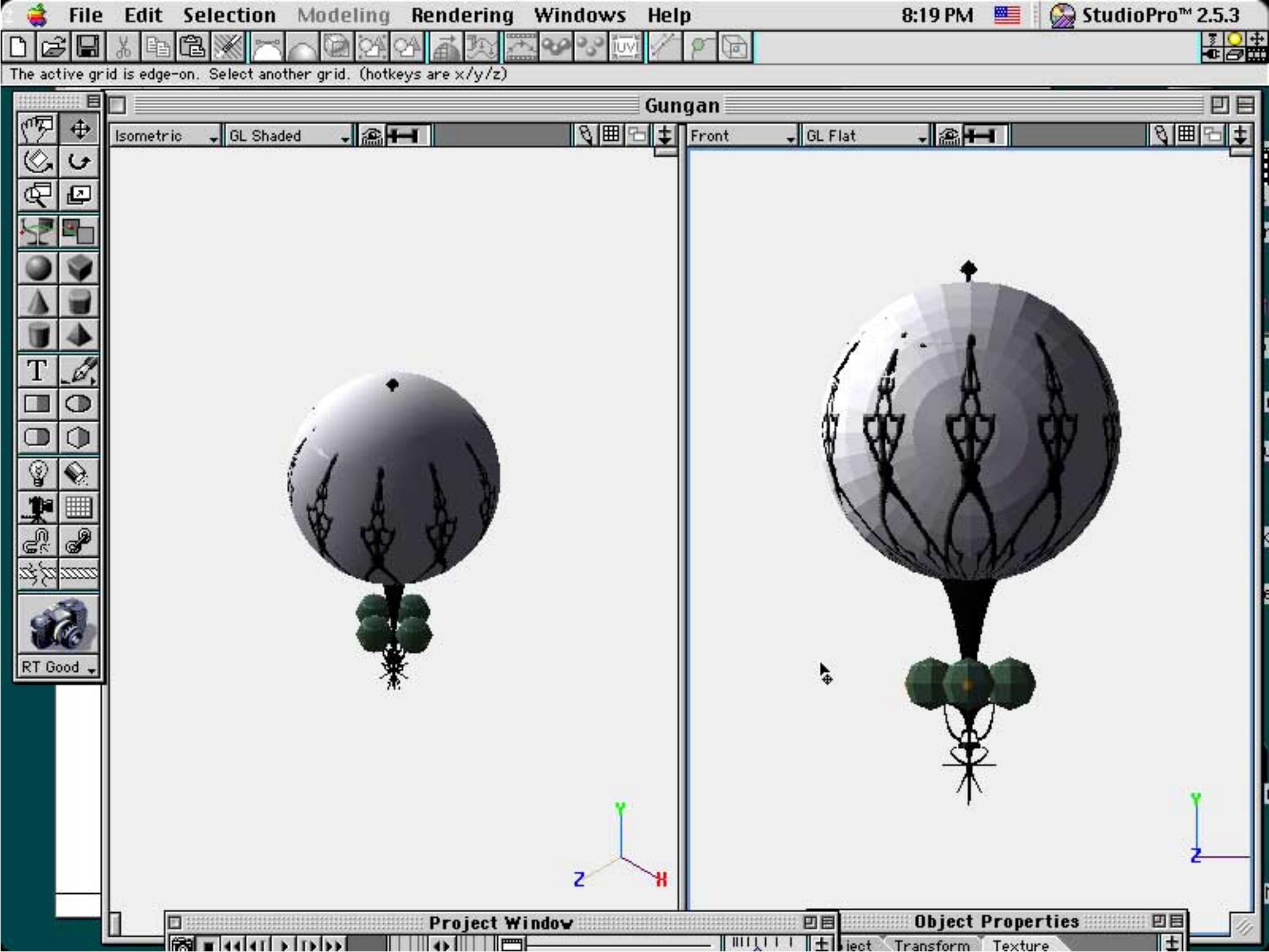
Edit Delete Position

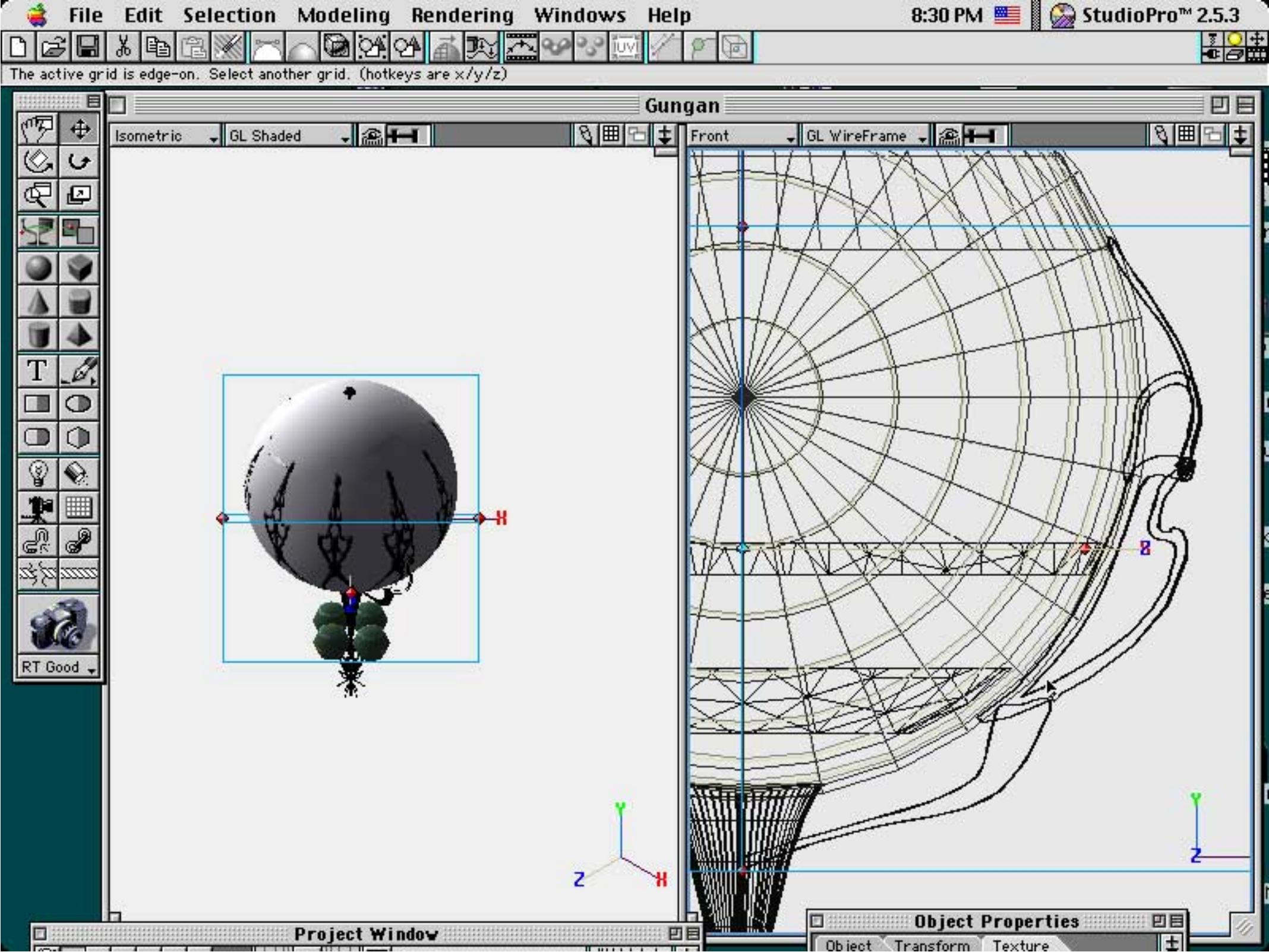
Resource

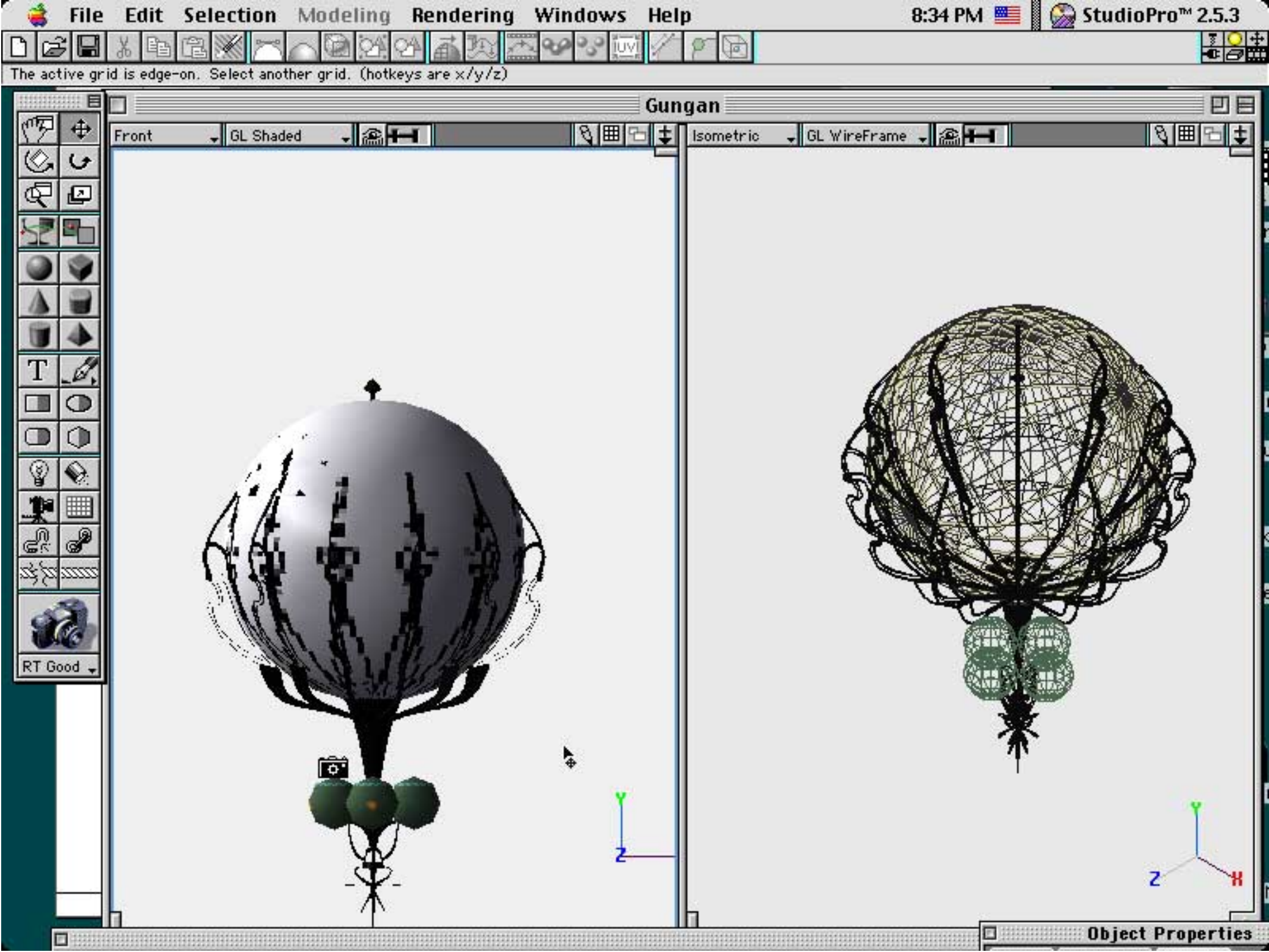
New Edit... Apply Import...

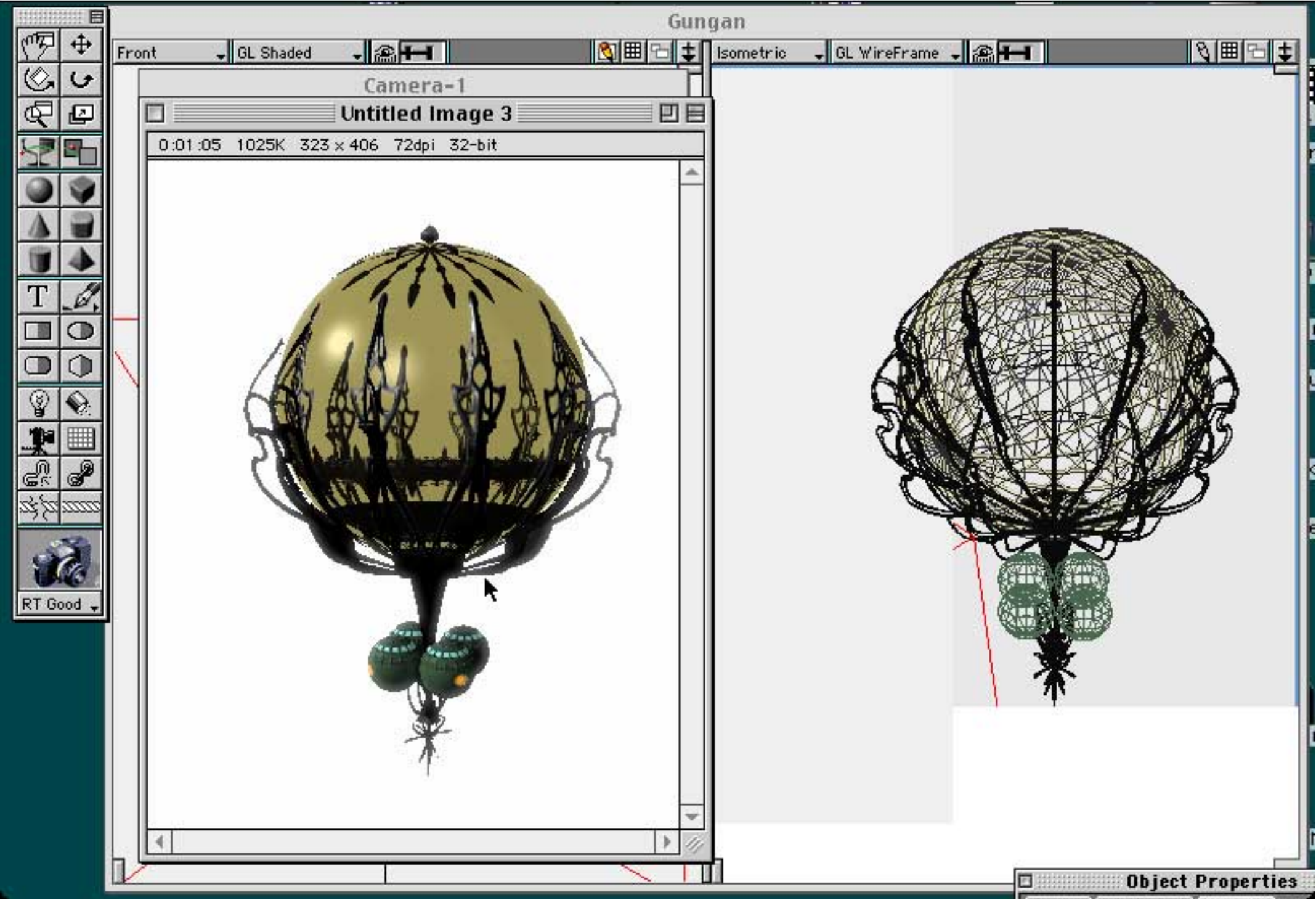
Textures Shapes FX Gels Backgrounds

Basic Brick & Stone Fun Metal Patina Solid Volumetric Wood Woods II ArtBeats™ Direct Imagination™ ExoticWoods™ Kai











Position: x: 0.000, y: 5.881, z: -62.168 in

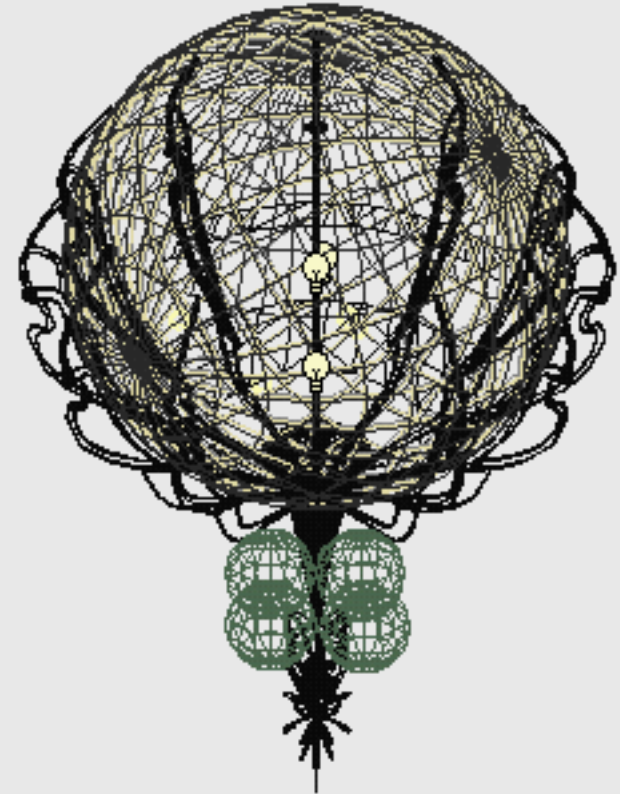
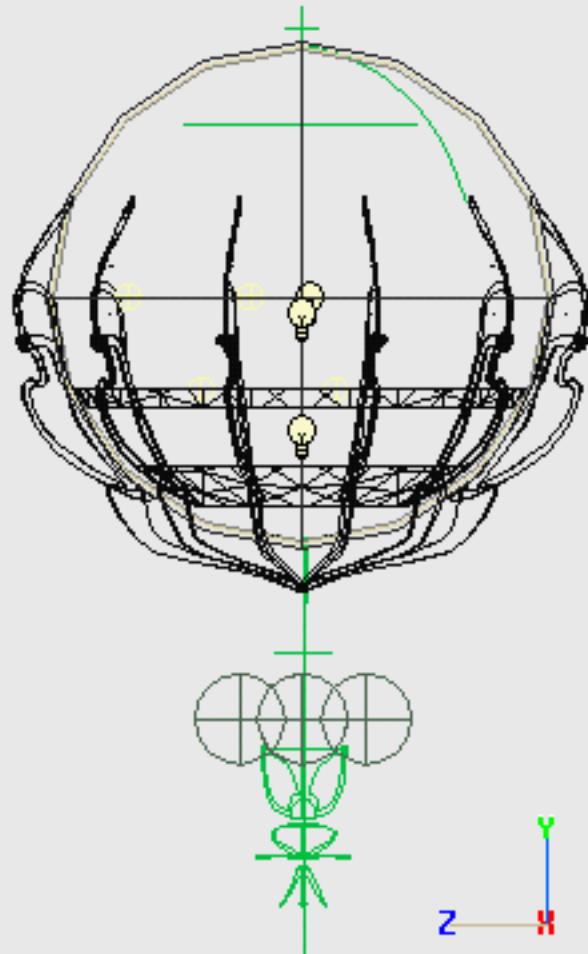
Gungan

Right

GL Outline

Isometric

GL WireFrame

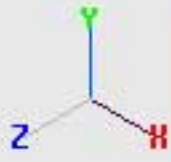
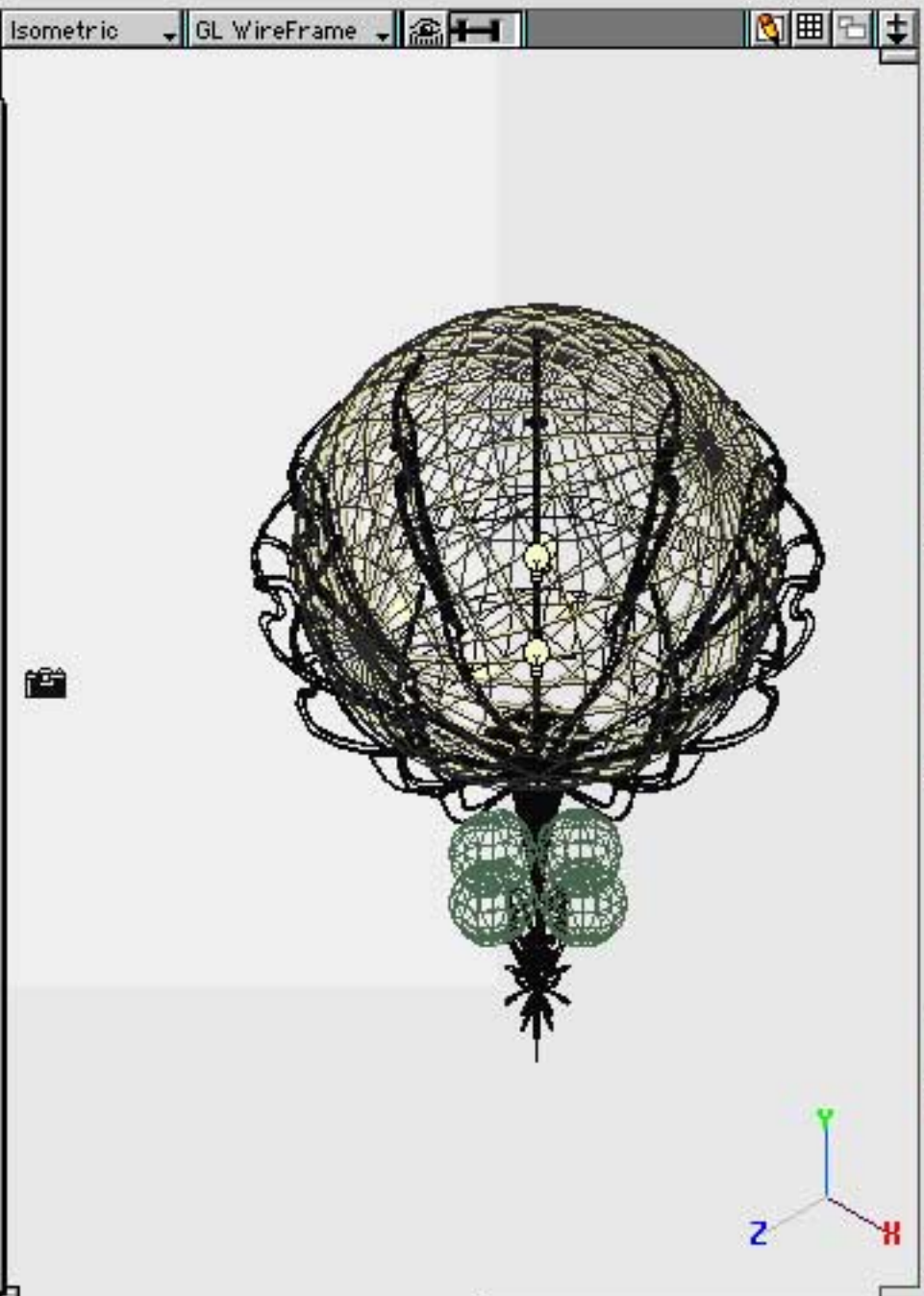
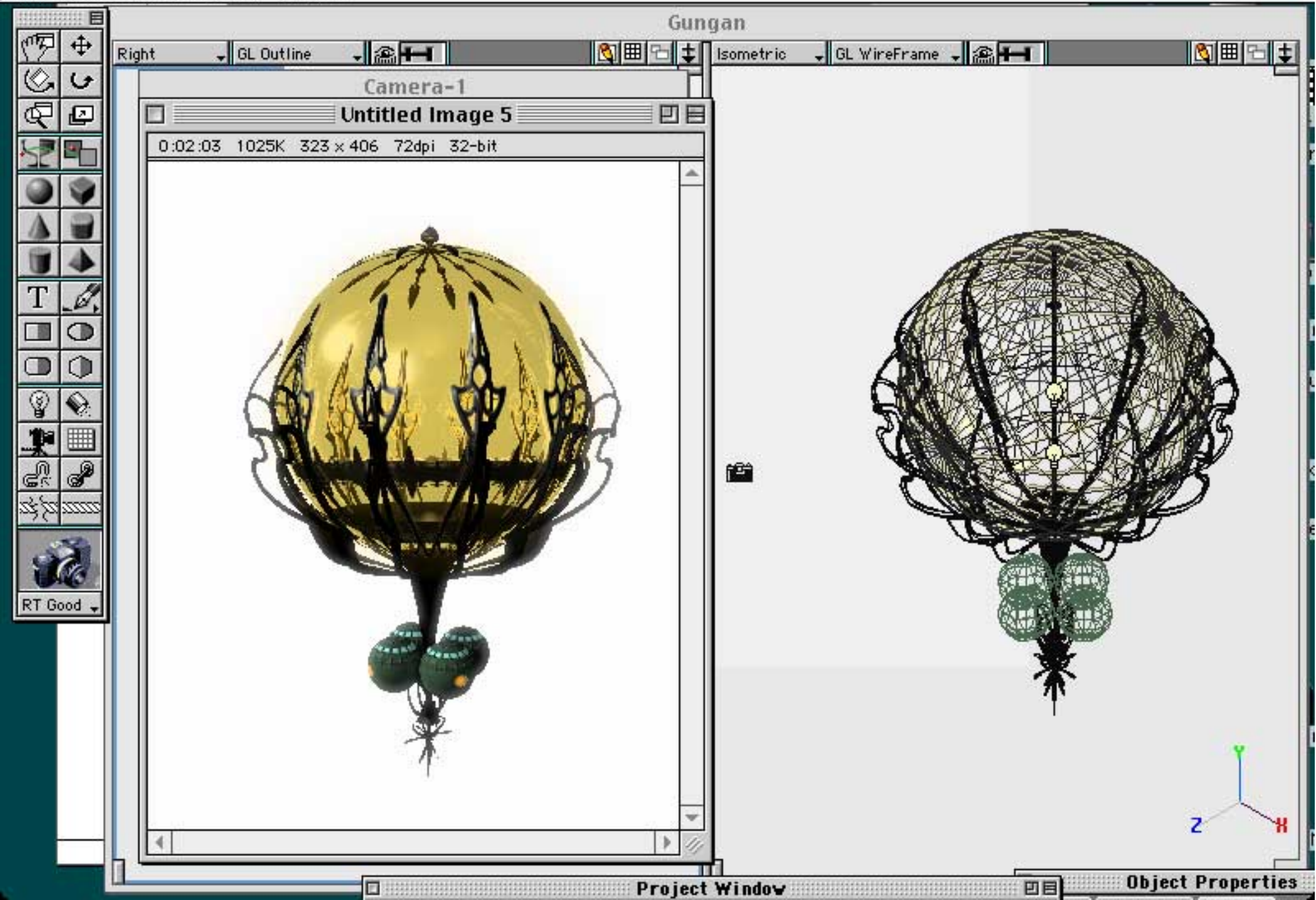


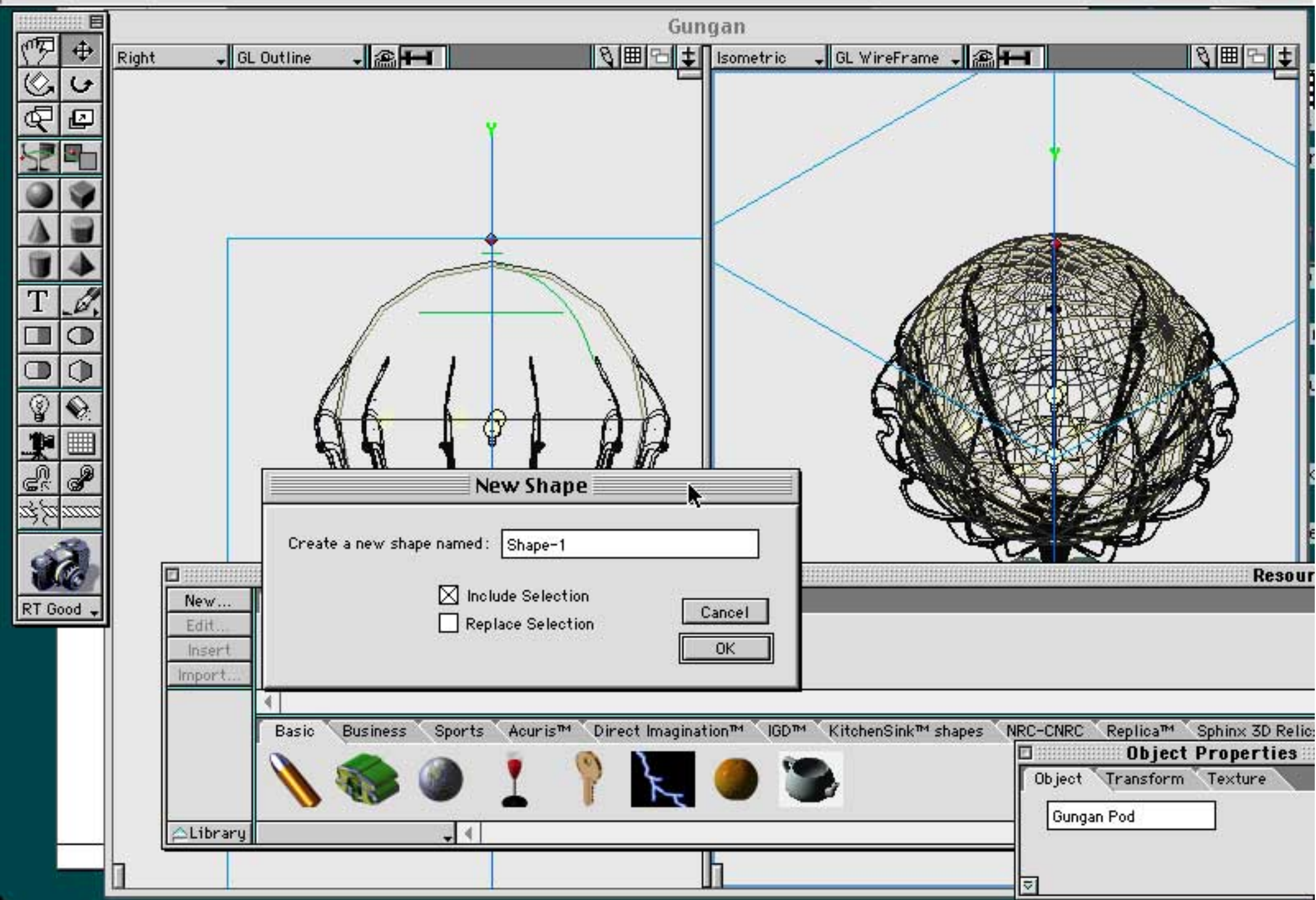
Project Window

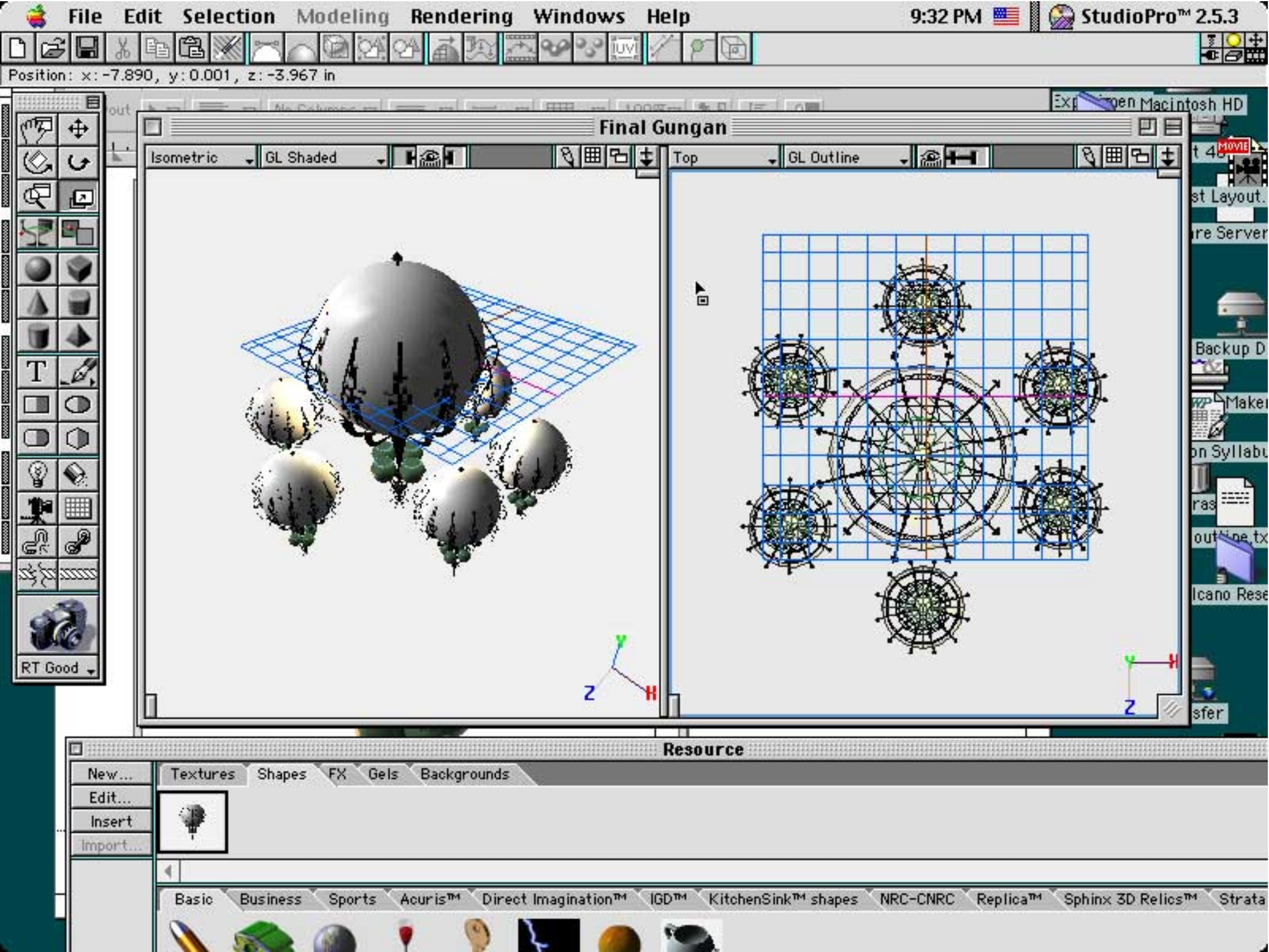
Object Properties

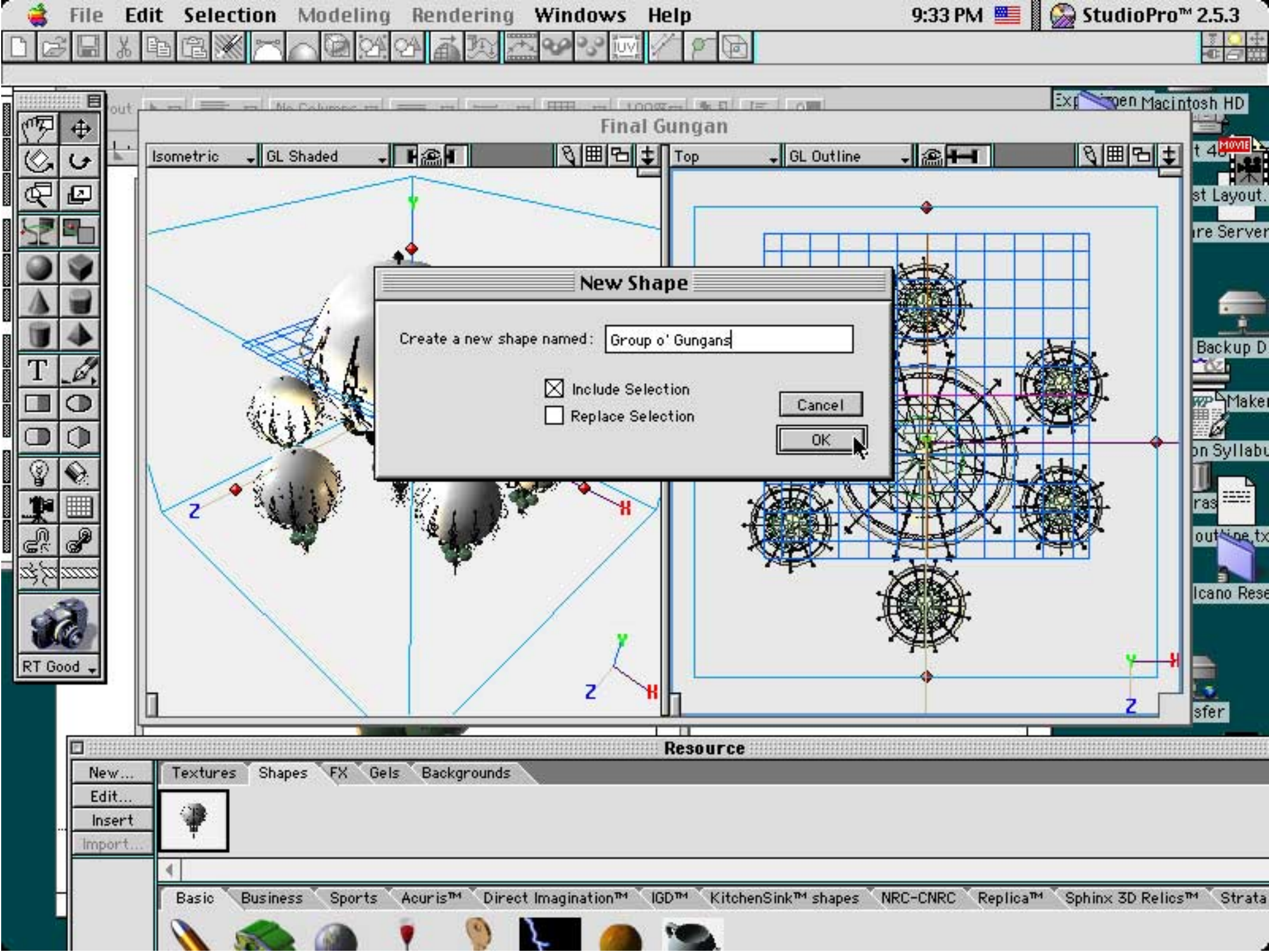


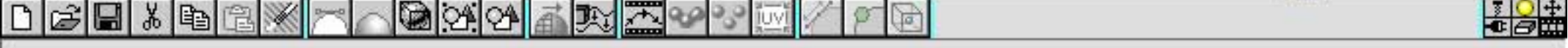
Position: x: 0.000, y: 4.565, z: -60.159 in











Backup Disk

ACS Kodak Color

Test Earth

