

# Fractal Art with XenoDream

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## The Lords of the Sunless Sea

Looking for something different to use in your art work? XenoDream is an intuitive program for generating fractal images. You can build the entire image in XenoDream, or you can incorporate the image into other applications, as was done here with Bryce 5.

# What are Fractals?

Fractal geometry is a branch of mathematics using simple repeating formulas to generate patterns that repeat at all scales throughout an image. As you zoom in on the image, you can see that the shape of the small details are based on the larger shapes that preceded them.

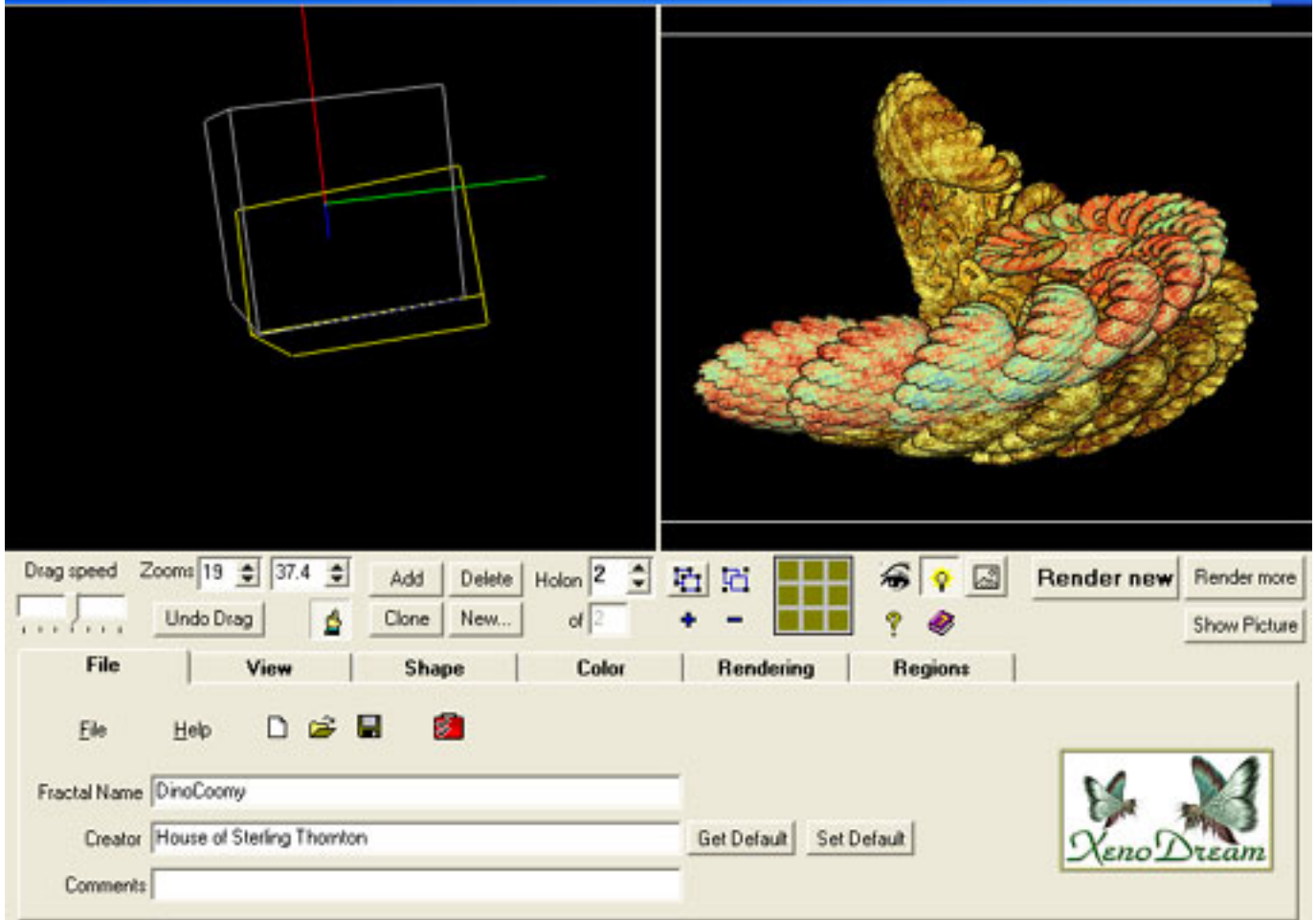
## What You Can Do With XenoDream

XenoDream allows the user to generate fractal art without ever getting near an equation. You work with building blocks called "Holons". It is the interaction between these Holons that builds up your image. You can either build up your image from scratch, or you can use one of the files in XenoDream's library as a starting point for your own work. Once you have rendered the fractal, you can apply a wide variety of 3D lighting presets to make the finished image. The latest version of XenoDream allows the user to export the rendered fractal as a depth map which can be used to generate a 3D terrain in applications such as Bryce or Vue d'Esprit. You can also apply depth and 3D lighting to imported 2D images.

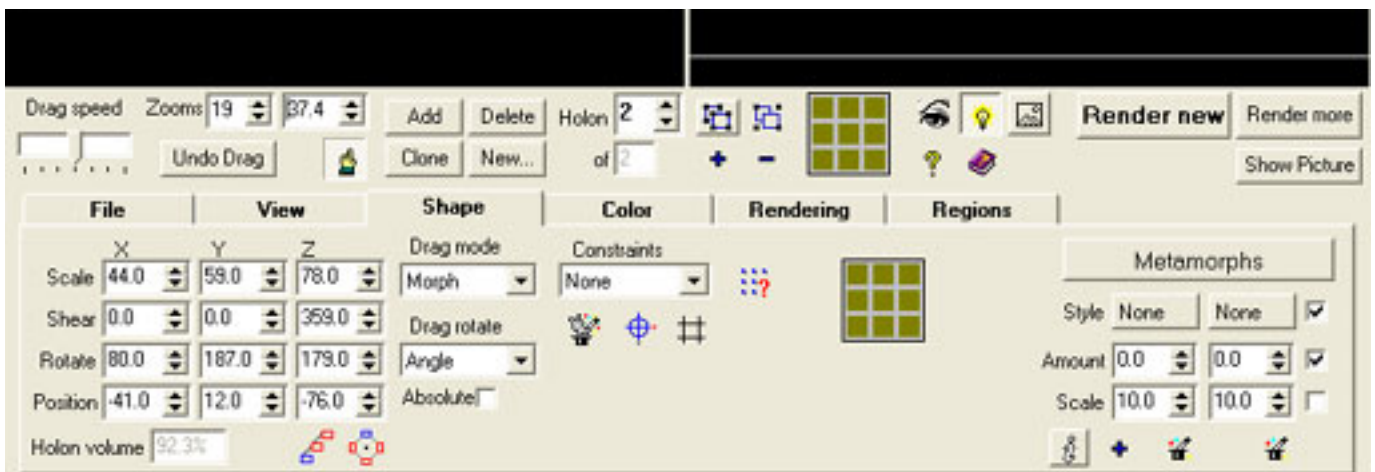
## Building With Holons

To build and shape a fractal, you need to manipulate Holons. This is done by changing the position, rotation, shape, or size of one or more of the Holons. To demonstrate the process, we'll start with one of the sample fractals supplied with XenoDream and modify it into something completely different.

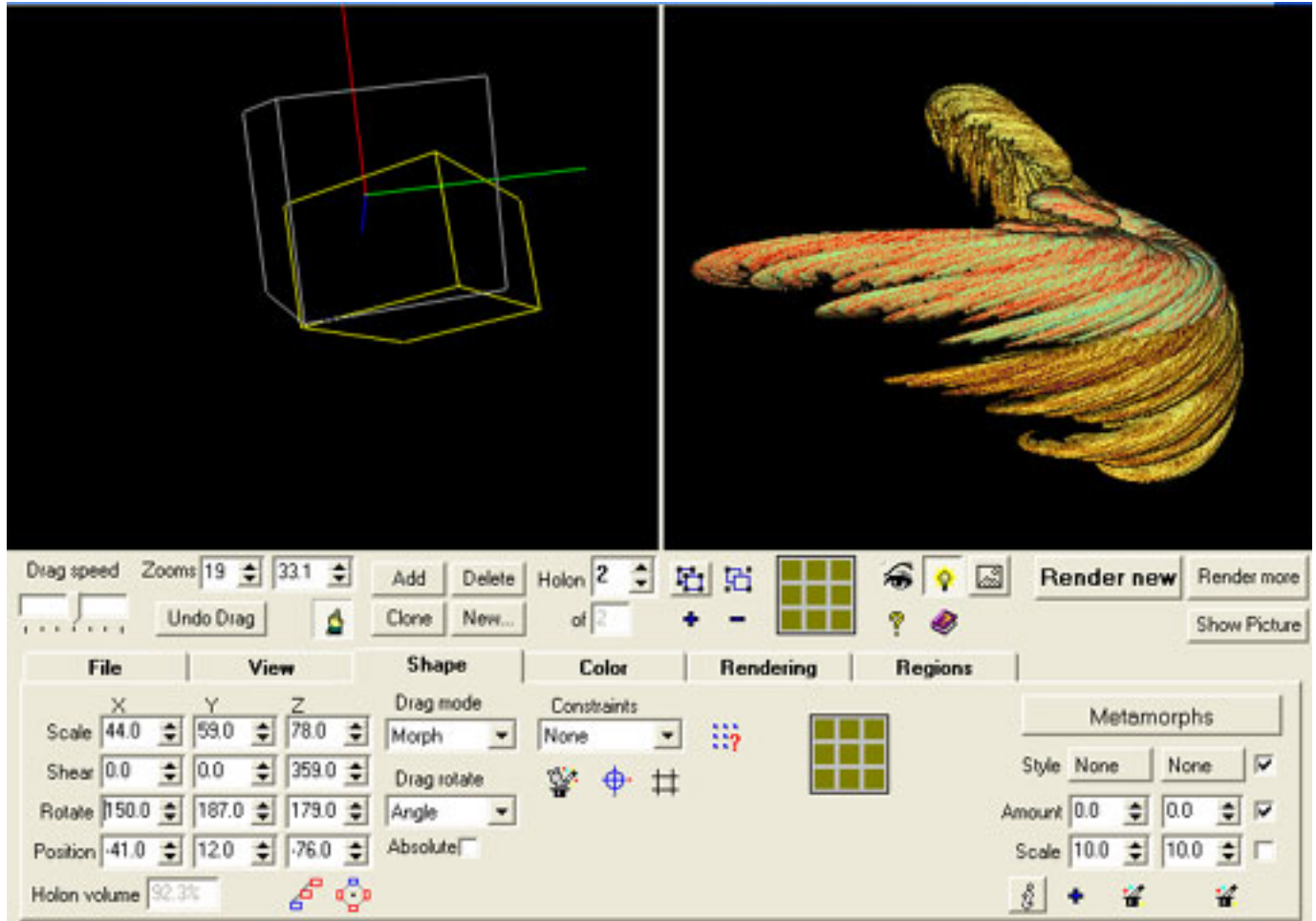
Start up XenoDream, click on File>Open and select the fractal called "DinoCoomy" in the folder XenoDream\Data\Organic. You should see something like the image below.



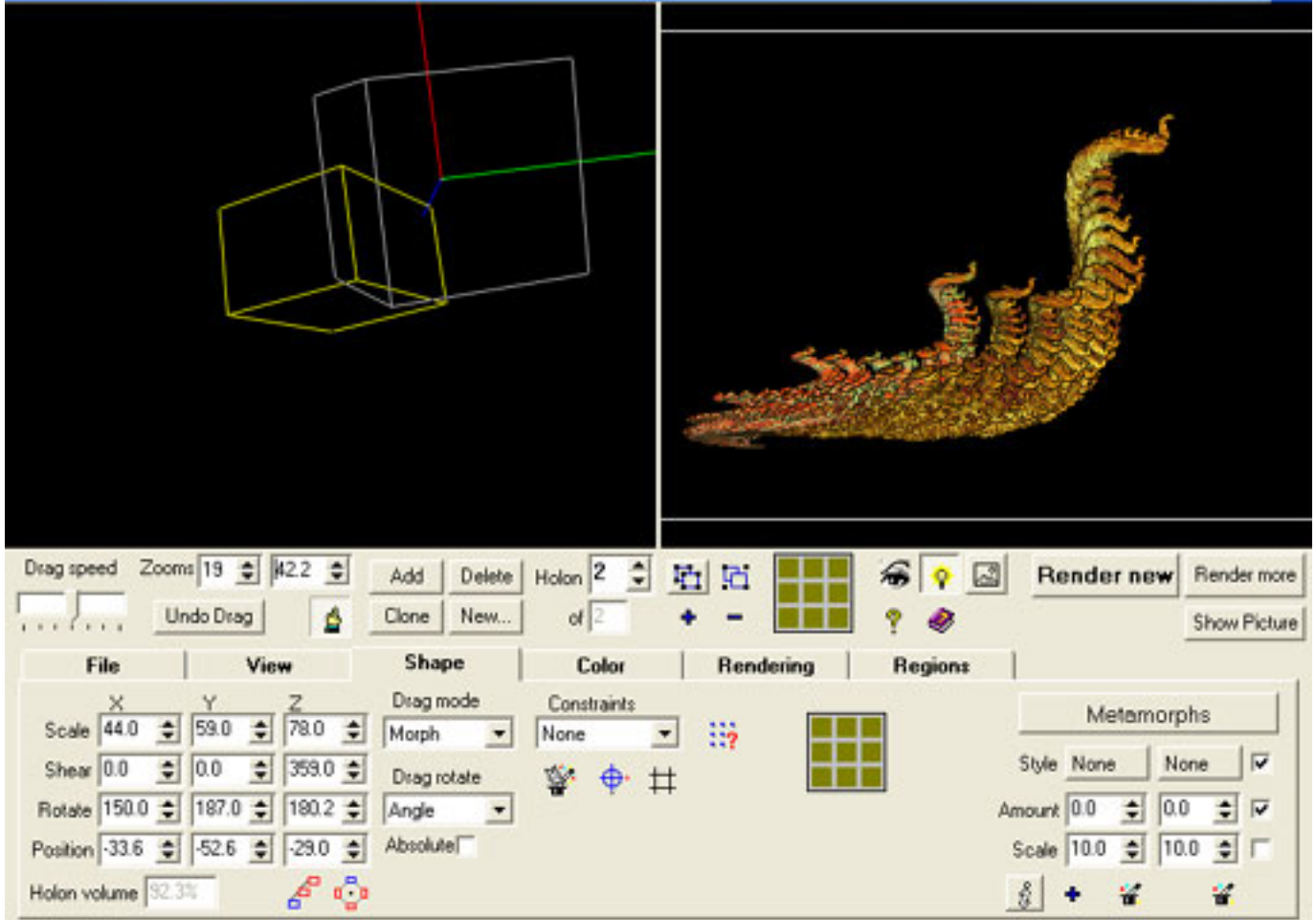
The Holon window is on the left and the Preview window is on the right. This fractal is made up of 2 Holons and the second Holon (in yellow) is selected. Click on the "Shape" tab and the control panel will change as shown below.



You can alter the shape of the fractal by modifying the Holons used to generate it. In the image below, the second Holon was rotated on the X-axis. I used the numeric entry, but you can also adjust the Holon directly by dragging it with your mouse.

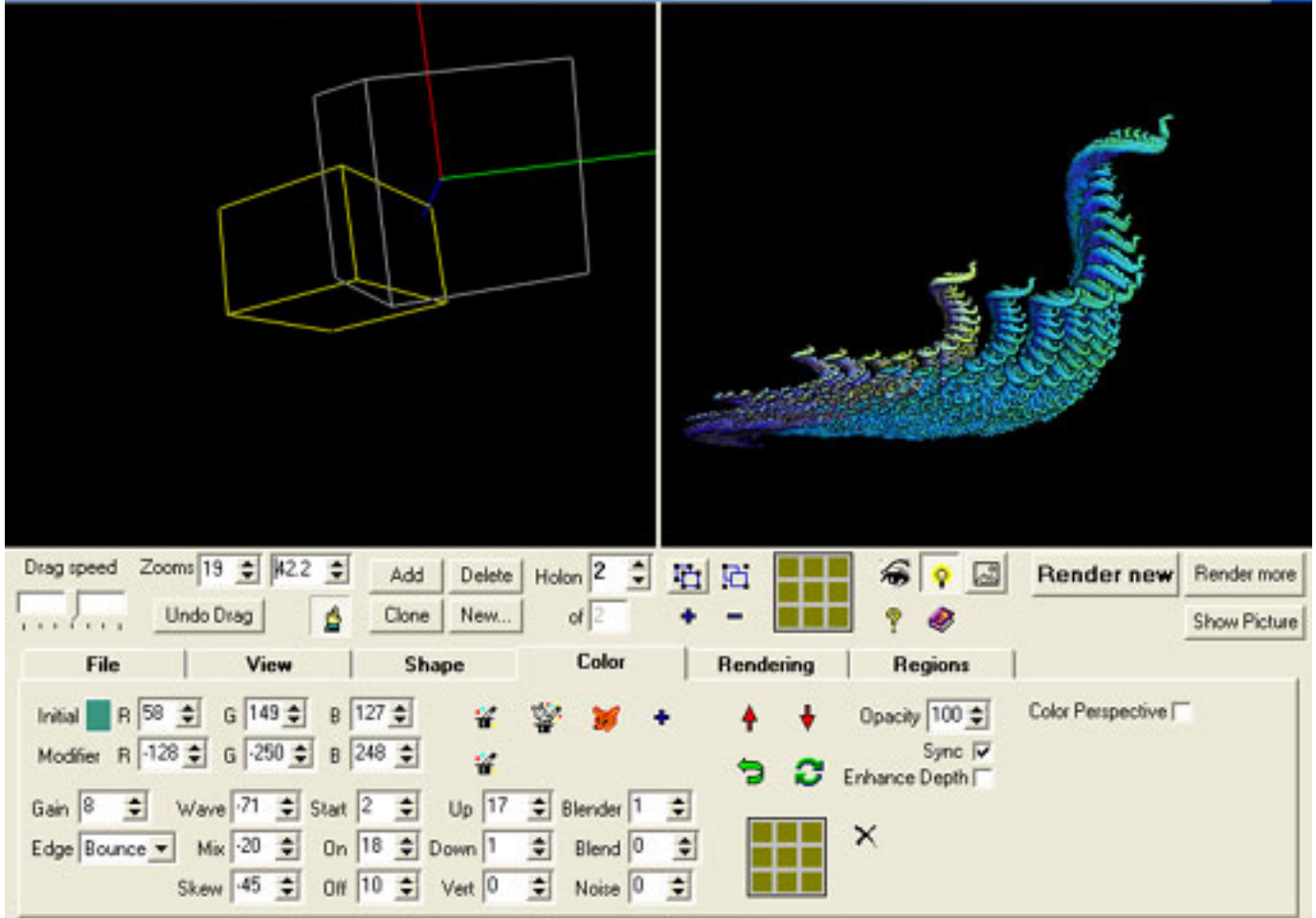


Further adjustment of the second Holon's rotation and position produces the image below.



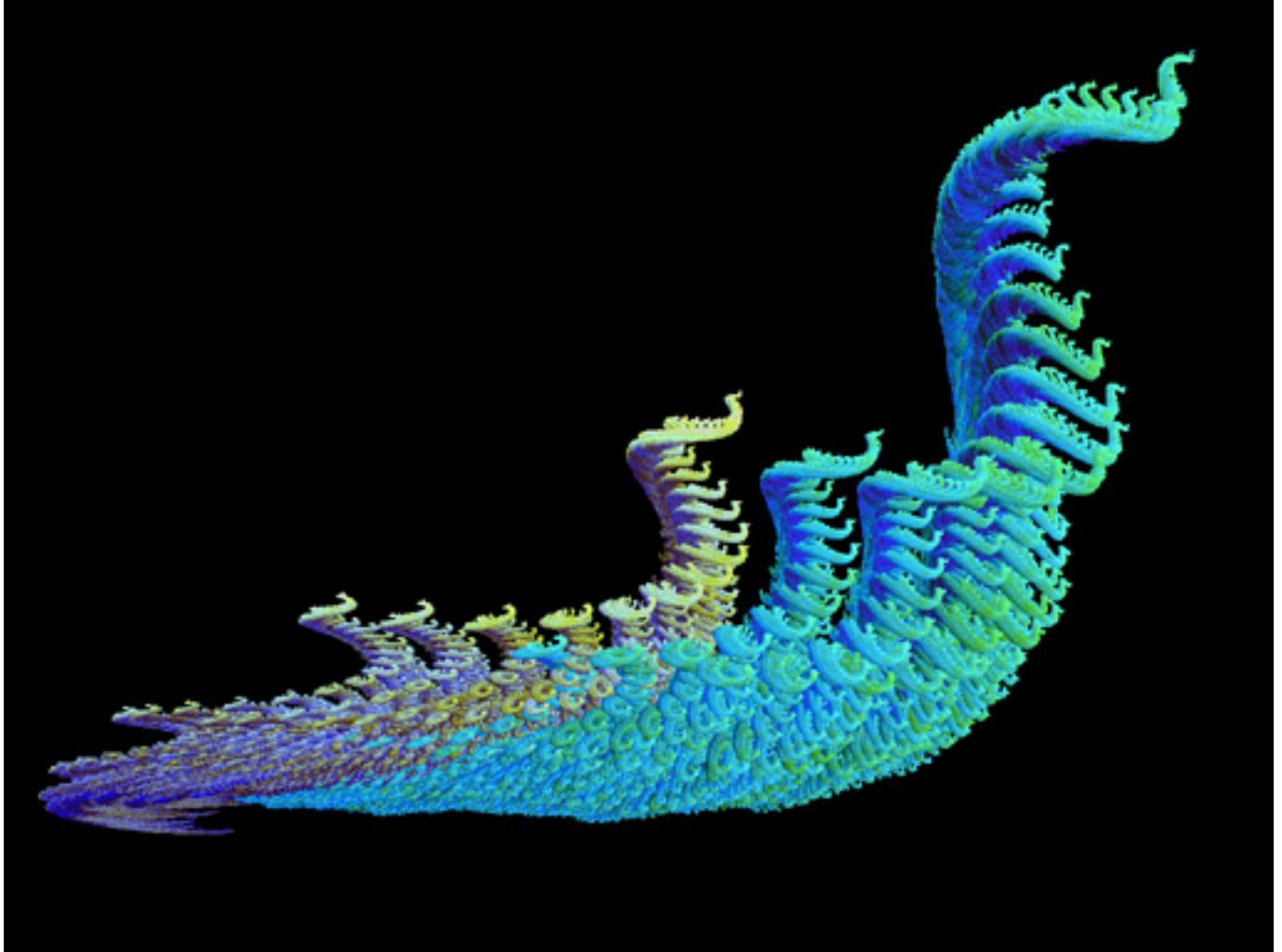
## Adjusting Fractal Colors

When you're satisfied with the shape of your fractal, click the color tab to access the color controls. You can manually enter color values, or you can click the magic wand to randomize colors and stop when you get something you like.



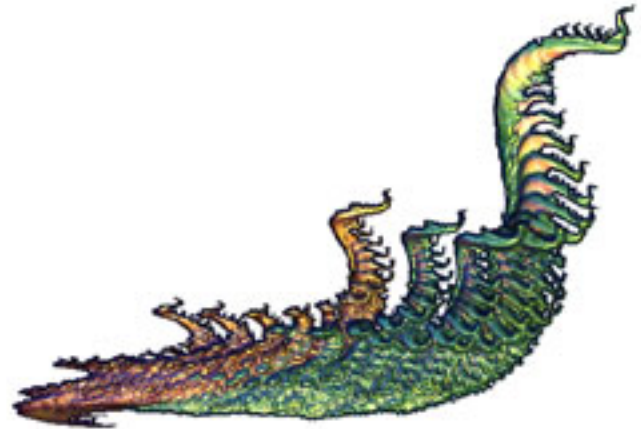
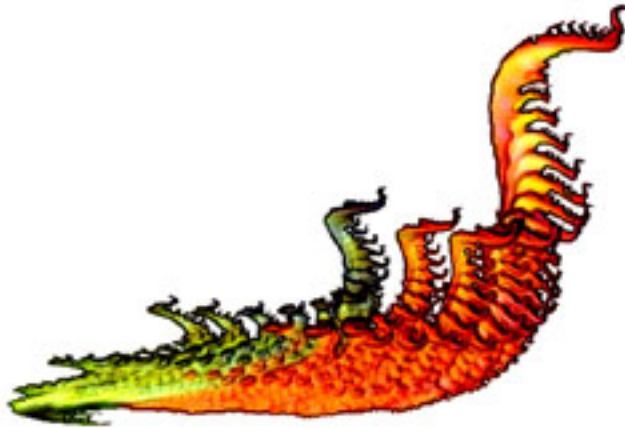
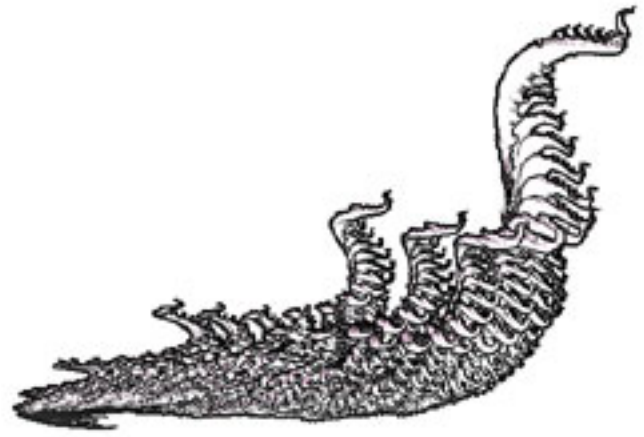
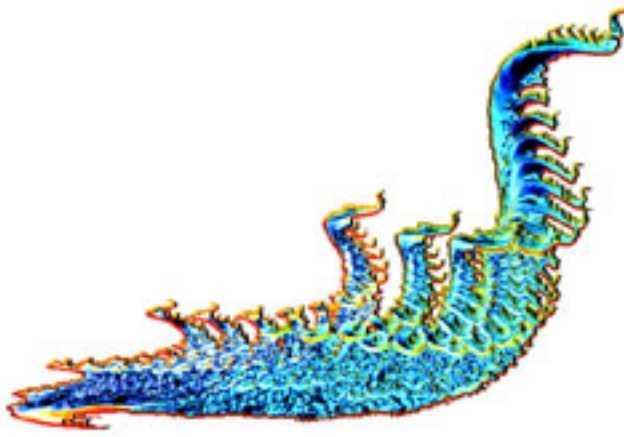
## Rendering Your Fractal

Click the "Render New" button to start building the fractal. You'll see a number counting down as detail increases. When you're satisfied with the level of detail, click the stop button (it looks like a stop sign) and save the picture. The finished render is shown below.



## Lighting The Image

If you want to further enhance your fractal, you can add illumination. From the rendering window, click the lighting button and you'll be able to choose between 372 lighting presets. Shown below, clockwise from top left are Airbrush, Art Pen, Art Renoir, and Art Watercolor lighting.



## The Rest of the Picture

The image at the top of this tutorial, "The Lords of the Sunless Sea", was created using the finished render as a Pict object in Bryce. The alpha channel for the Pict object was produced using Photoshop. The sea mounts are terrains with a wet mud texture applied and the water effect was produced by intensifying the haze and giving it a dark blue-green color.



## Related Links

<http://www.xenodream.com/>

<http://groups.yahoo.com/group/xenodreamers/>

<http://www.fractalus.com/info/>

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