

Apophysis

The Basics

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Apophysis – The Basics

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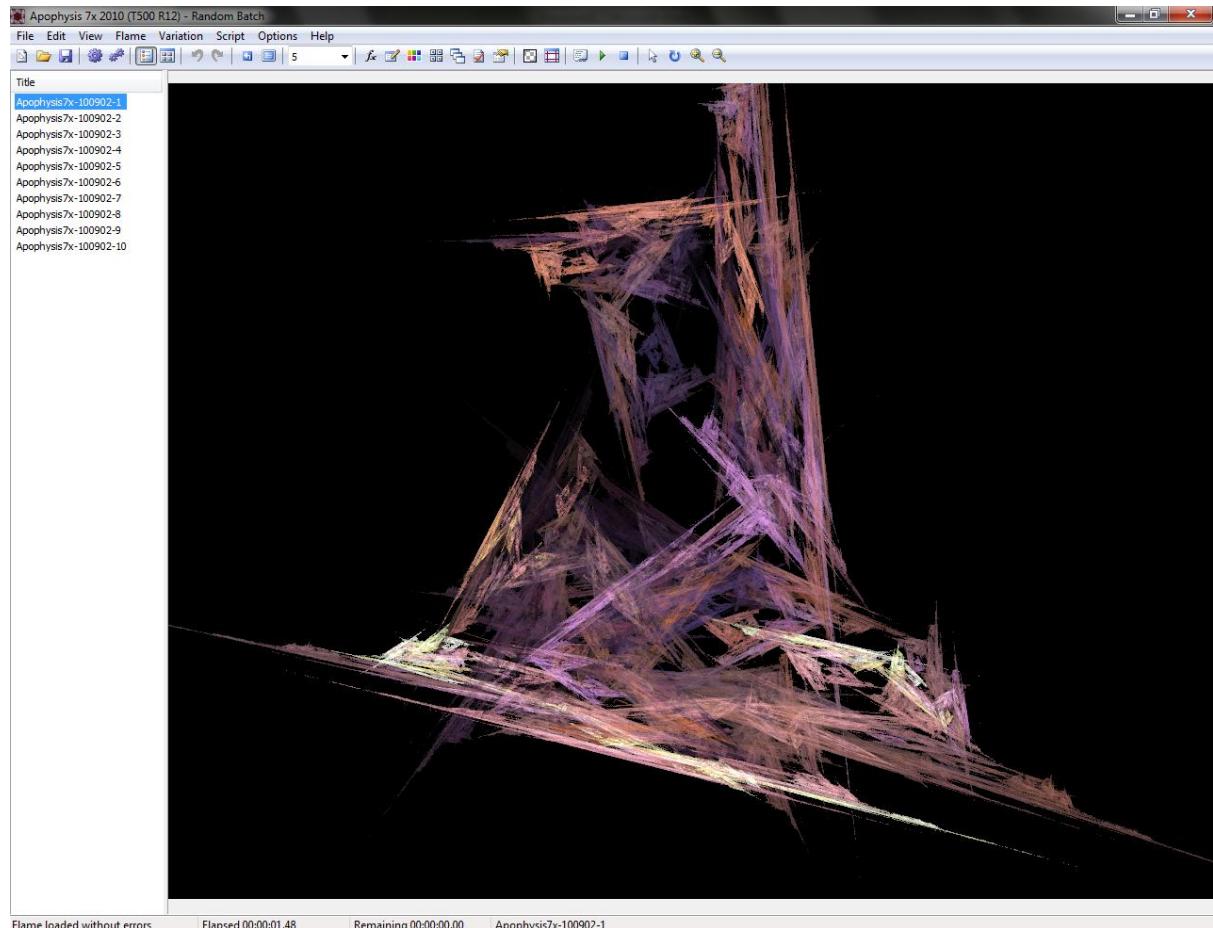
Note:

This tutorial is written for the windows version of Apophysis. When I talk about shortcuts, I am assuming that the mac equivalent of ctrl is command. I don't know as I don't have a mac, so I can't test ApoMac for myself.

Any hyperlinks you see (blue underlined text) will take you somewhere else in this document, rather than to a website, unless stated.

What everything does

Here is the programme you're going to be working with – Apophysis 7x.



When you open the programme, it loads up a different flame (a fractal) each time, so don't be worried if it looked different to last time.

Along the left hand side, you have a few premade flames for you to load up. These tend to be a bit of a mess, like the one in the screenshot above, but there's nothing stopping you from playing with it.

In the centre you have the main display which shows you your fractal at the desired quality (explained later). It will display the fractal at the largest possible resolution, without putting the programme over the edges of the screen.

Toolbar:

Along the top you have the toolbar, which hosts the following functions...

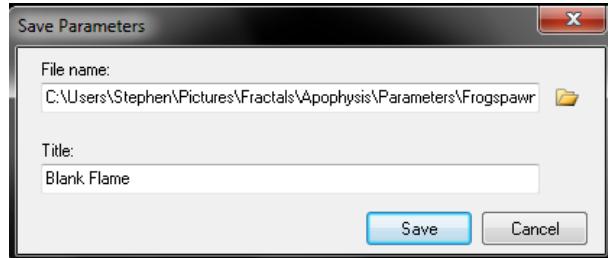
 New flame (ctrl + N). Gives you a little box giving you the option of making a new flame. In newer versions of Apohysis 7x you can choose a premade flame as well.



Open flame (ctrl + O). Opens a flame through the standard way of opening other things. Fractal files are “.flame”s if you wanted to know.



Save (ctrl + S). Very useful... When you press it, you get this dialog box:



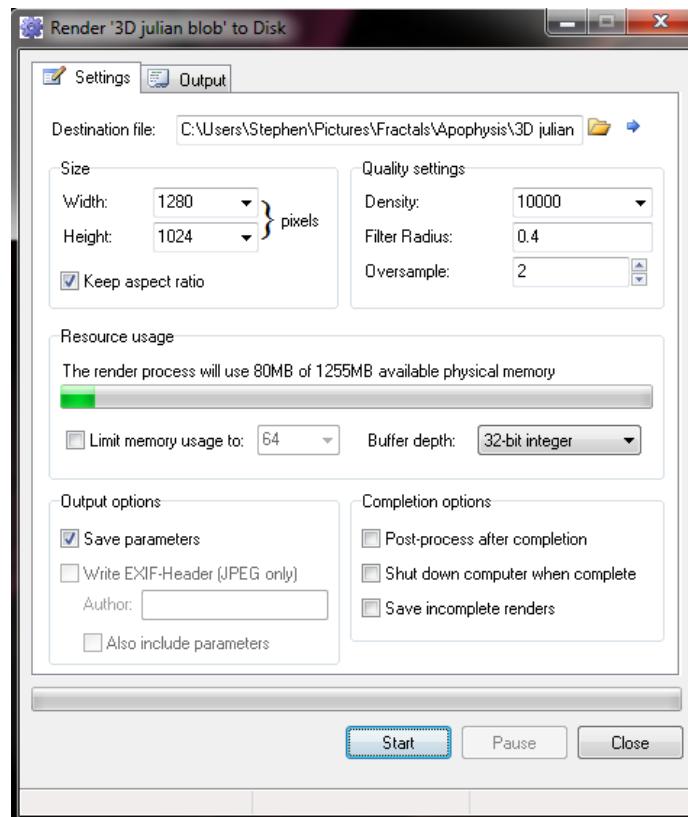
File name – This is where you want it saved and the name of the file all in one. What you can see in the screenshot is the directory

“C:\Users\Stephen\Pictures\Fractals\Apophysis\Parameters\Frogspawn.flame”. The bit after the very last “\\” is the file name. That’s what you will see when going through your folders.

Title – this is what will appear on the left of the main screen.

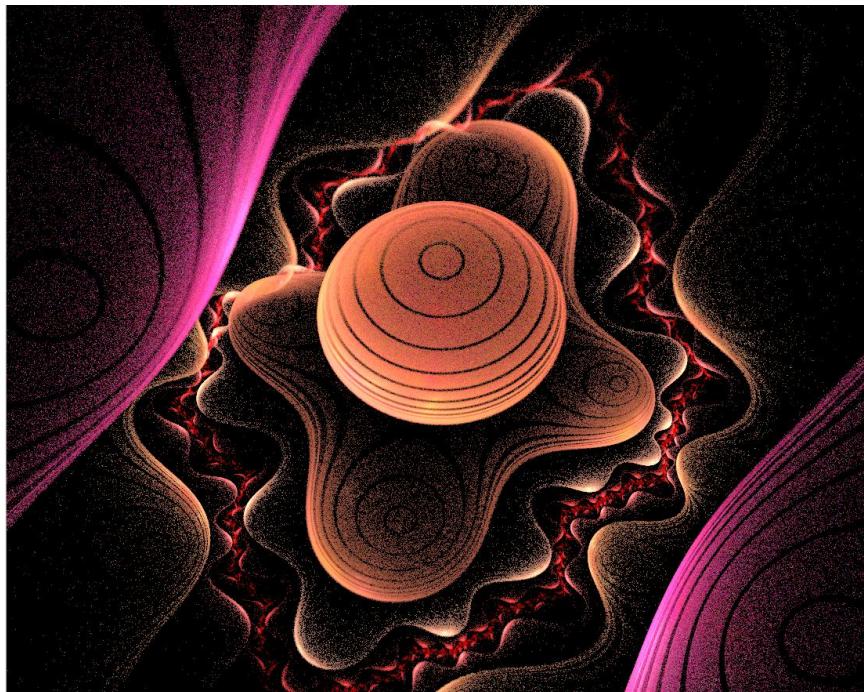


Render (ctrl + R). This is how you save your picture as a picture file. Usually saved as a .png so the background is transparent. When you click it you get the following window:

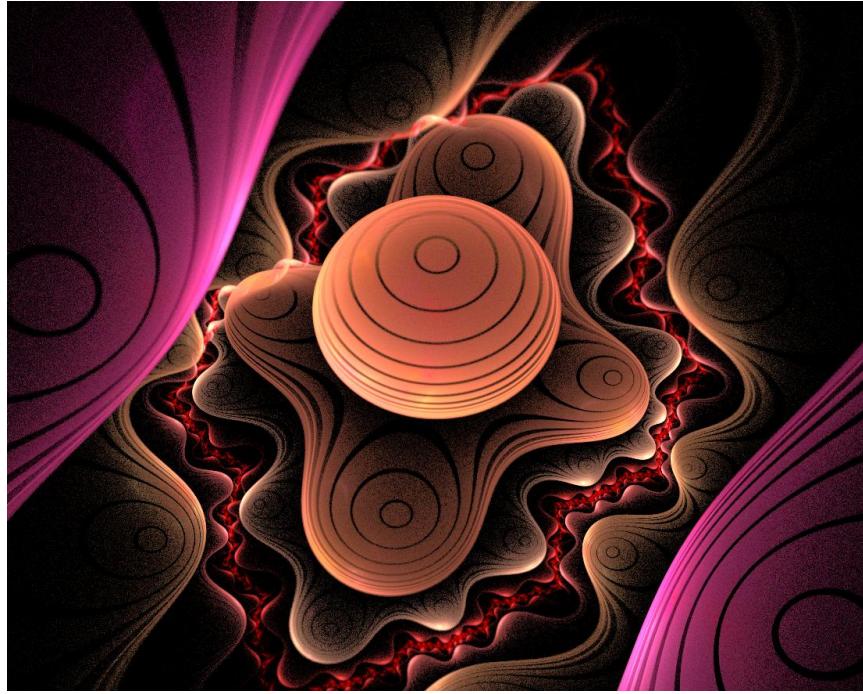


Size – this is the resolution of your picture. This is usually set in the image size window so it may already be what you want. “Keep aspect ratio” will make sure dimensions are scaled properly. Standard computer screens are usually at 4:3 ratio and widescreens at 16:9.

Quality settings – this is where you choose how nice your fractal will look. Density is your overall quality. My standard render setting is at 10000, but you may wish to choose others. Something at quality 5 will look really grainy:



Whereas something at quality 100...



As you can see, it is a lot smoother. Working out this much detail is quite demanding on your computer – quality 5 took a few seconds to render, and quality 100 took just over a minute. Quality 10000 usually takes my computer anywhere between 1h and 1h 30m. The size of the image will matter too, as it will just mean more detail to work out.

I'm going to talk about **Over-sampling** first, rather than **Filter Radius**. Over-sampling by a factor of 2 will make Apophysis render a 100 px square image at 200 px and then shrink it down. This is a way of gaining detail. If you look at a low quality image full screen, then look at the same image at a quarter of its size, it will look much better.

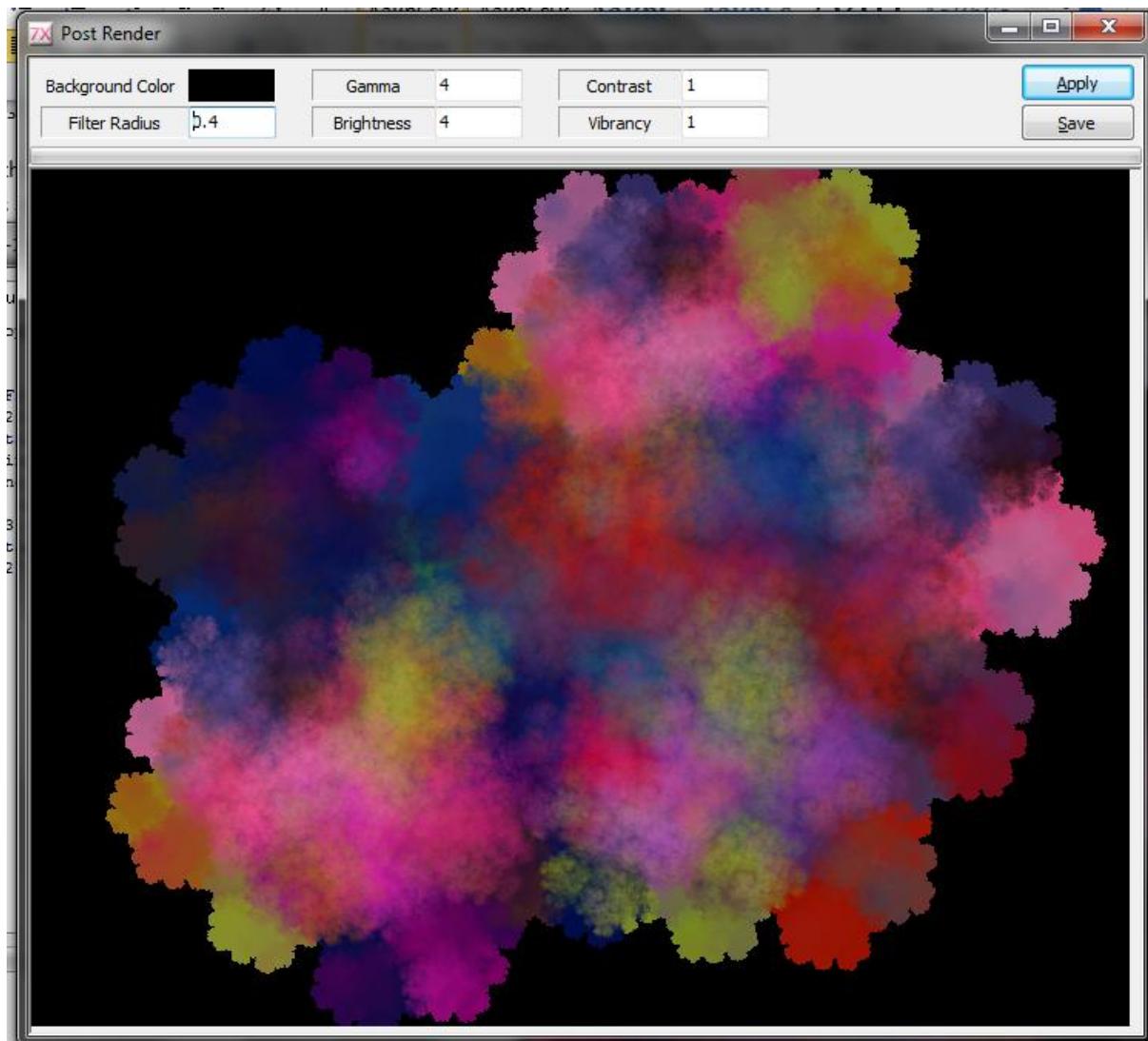
Filter Radius is how much blurring goes on when the image is shrunk. It does what is called “Anti-aliasing” which goes over an image and blurs it, getting rid of any jagged lines.

Resource Usage – this is how much of the computer’s memory will be taken up when it is rendering. I just leave it as it is and it works fine.

Output Options – Save parameters can be useful as it saves a copy of your flame (the .flame file) in the same place as where your rendered image will end up. **Write EXIF-Header (JPEG only)** allows you to add an “author” tag and even the parameters to the .jpg image. I personally don’t use this, but you can try it out if you want.

If you’re wondering what the parameters are, open your .flame file with a text editor (like Notepad). You will see a ton of code. Those are the parameters. I don’t understand them, but you can create a fractal purely from parameters (I think).

Completion Options – This gives you a window like this:



Background Color – Puts a solid colour background in.

Gamma – Adjusts the brightness of the midtones.

Contrast – Makes the difference between light and dark more, or less, apparent.

Filter Radius – Already mentioned.

Brightness - Adjusts how bright the image is.

Vibrancy – How vibrant the colours are.

Personally I don't use post-render but it may be useful if you don't have a copy of something like Photoshop.

Shutdown computer when render is complete can be useful, however it didn't always work when I tried it.

Save incomplete render may also be useful, but I have never used it.



Render all – I don't know how this works, and I don't think it does...



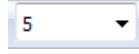
These buttons change how the list on the left is displayed. The left button is as a list, the right one gives a thumbnail for each image.



Undo (ctrl + Z) and redo (ctrl + Y). Both are rather useful.



Reset Camera (F12) resets the camera (camera controls later) and Fullscreen (F3) makes the programme go full screen. Press Esc to go back to the normal view.



This sets the quality of the flame on the main screen. Typically what I keep it at is 5 for general changes, and 100 for a final check before rendering.



Editor (F4). This is possibly the most important button in this programme, as it lets you design your fractal! Here is what you will see when you click it. [To the editor!](#)



Adjustments (F5). This is another important button, it's where you control the camera and choose the initial colours for the flame. [To the adjustments!](#)



Gradient. This is a direct link to the gradients tab within the adjustments menu.



Mutation (F7). This will give you a window that will give you a choice of 8 random variations. I tend not to use mutation as it tends to make the flame fairly messy.



Image size. This is another direct link to a tab within the adjustments window.



Errors. This is to do with scripting. It will run a check through your script for errors.



Options. Shall take you to the options window for the program.



Show transparency. This will remove the background colour, so you will see what it will look like in its raw .png form.



Show guides. This is fairly useful if you want something to be fairly exact. It will show halfway guides, third guides, and some other guide that I'm not sure about.



These controls are about scripting. The first is edit script, then you have play and pause. Scripts can be used for quite a few things. Mainly used as an animation tool, it can also be used to make preset flames. I have no clue about scripting...



Drag tool. This will let you control the fractals X and Y position (see camera controls in Adjustments) from the main screen. Just click and drag.

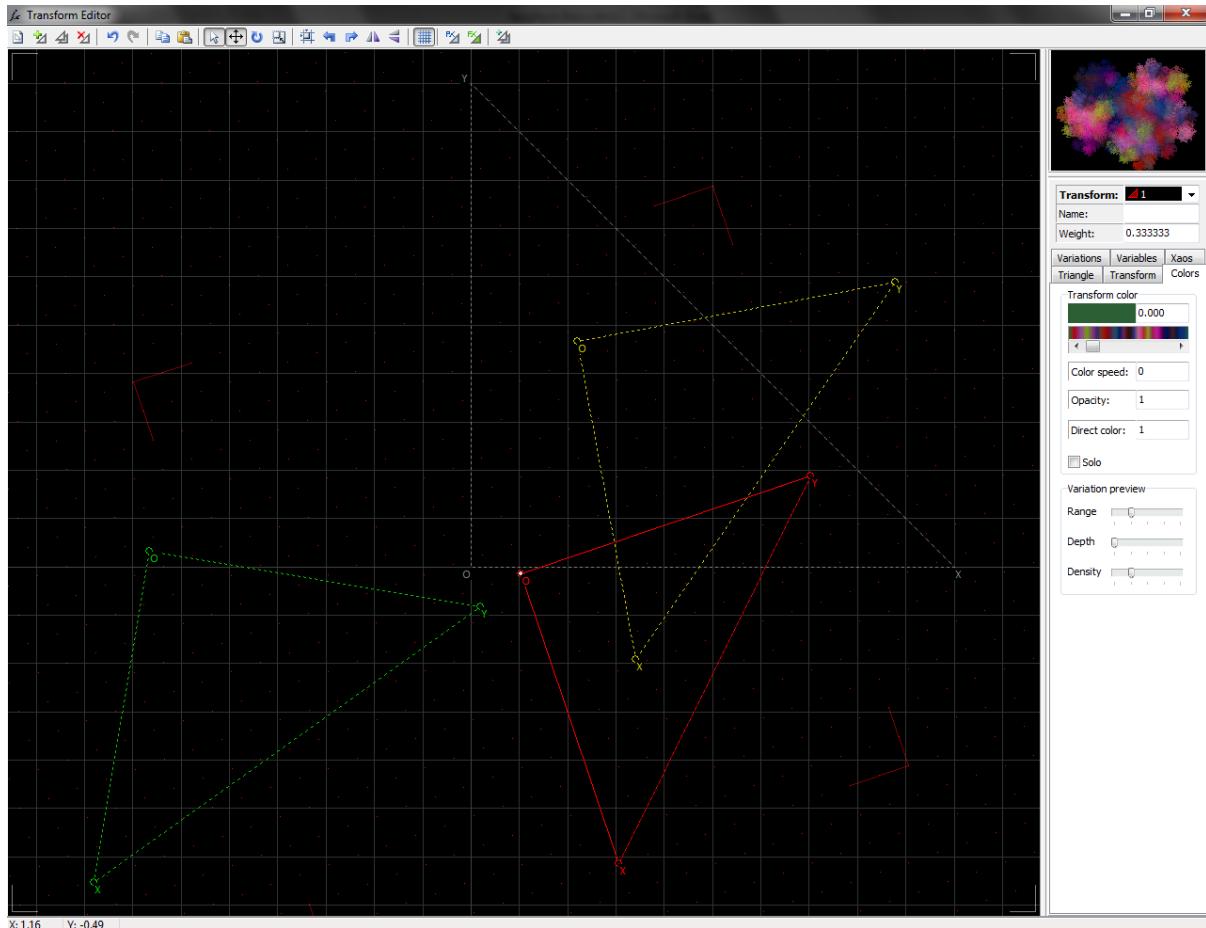


Rotate tool. Lets you rotate the flame from the main screen. Just click and drag.



Zoom. Lets you zoom in and out from the main screen. Again, click and drag. Remember that zooming in will drastically increase the render time.

The Editor



Right, I'll go along the buttons at the top then through the tabs down the right.

New flame. Exactly the same as in the main screen. Press this and any triangles you see will disappear and a single red one will be in the centre of the screen, and a white dot will be in the thumbnail in the top right.

New transform. These are the red, yellow and green triangles you see in the screenshot above. You make the fractal by shifting these about, distorting them and adding variations to them. Each transform has a specific colour. First is red, second is yellow, third is green, fourth is cyan, fifth is blue. There are a lot more, but it's unlikely you'll use them.

Duplicate transform. This will copy the current transform, along with its co-ordinates, weight, variations and other properties.

Remove transform (Del). Removes the current transform.

Undo (ctrl + Z) and redo (ctrl + Y).



Copy and paste co-ordinates. These will copy the co-ordinates of the current transform, and paste previously copied co-ordinates on to the current transform.



Default mode. This will let you select transforms, rotate them, drag them around and distort them. It does everything the next few tools does.



Move mode. Lets you move the transform. You can press the arrow keys instead. They will move 0.1 (there is no unit of movement in the program). Holding down shift will move it 1 and holding down ctrl will move it 0.01.



Rotate transform.



Scale transform. Lets you change the size of it.



World pivot mode. This will let you rotate the current transform around a specified point. The default point is (0, 0), or the transform's "O" co-ordinate. I don't fully understand how to work it, so if you can get it working, yay!



These are standard editing buttons. The first is rotate the transform 90° anti-clockwise. Next is rotate transform 90° clockwise. Then it's flip transform horizontally. Then flip vertically.



Show variation preview. This will enable/disable (enabled by default) the coloured dots around the triangle. When you add variations to the transform, the dots will shift into a shape, or distort.



Toggle post-transform and final transform. A post transform is another triangle that you can edit but it only affects the flame after the variations have been applied, rather than distorting the flame, then applies the variations. Final transform will distort the entire fractal, rather than little parts of it.



Add linked transform. This is just like a standard transform, only it's "linked" to your previous transform through something called Xaos.

Right, now the menu down the side:

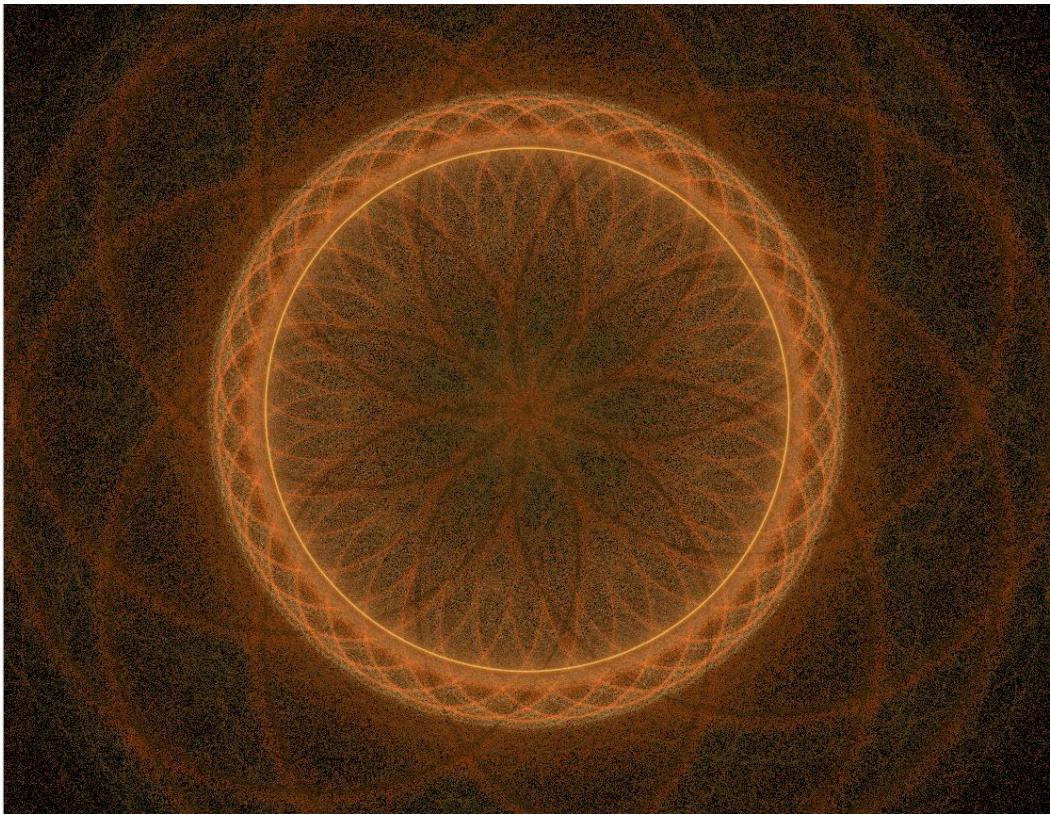
Transform:	1	▼
Name:		
Weight:	0.333333	

Transform: 1 is your current transform. It will be automatically selected in the editing pane. If you click on another transform, the colour of the triangle and the number will change to the correct transform.

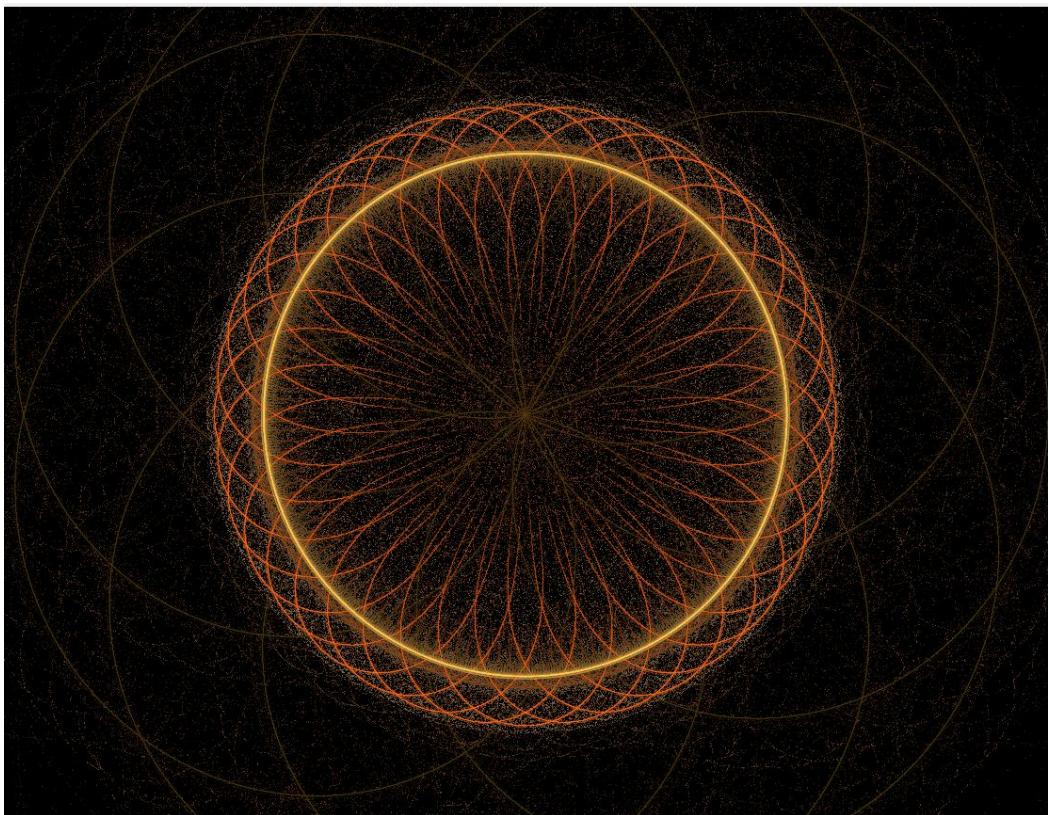
Name lets you specify a name for the transform. This doesn't have an effect on the flame.

Weight determines how much the current transform sticks out.

Example of the weights at their default value (which is 0.5):

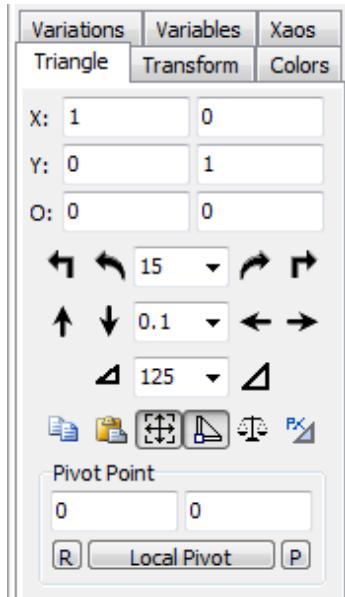


And now one with transform 2's weight set to 5:



Right, the tabs:

Triangle



From the top left, to the bottom right:

Point X's x co-ordinate, then y co-ordinate.

Point Y's x co-ordinate, then y co-ordinate.

Point O's x co-ordinate, then y co-ordinate.

Rotate 90° anti-clockwise, rotate anti-clockwise/clockwise by the specified angle, rotate 90° clockwise.

Shift transform up, down, left and right by the specified distance.

Shrink or enlарge by the specified percentage.

Copy transform co-ordinates, paste transform co-ordinates, enable extended mode (lets you rotate and enlarge the transform, rather than just move it), lock transform axes (only rotates the specific axis, rather than the whole triangle), balance weights and enable post-transform.

Transform:

Variations	Variables	Xaos
Triangle	Transform	Colors
X	1	0
Y	0	1
O	0.2	-0.3
Reset transform		
Rectangular		Polar (deg)
Reset post-transform		
X	1	0
Y	0	1
O	0	0
Auto calculate pre_zscale <input type="checkbox"/>		

Point X's x co-ordinate, then y co-ordinate.

Point Y's x co-ordinate, then y co-ordinate.

Point O's x co-ordinate, then y co-ordinate.

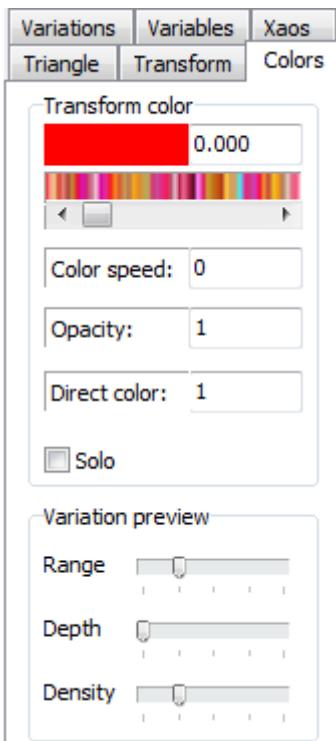
Reset transform. This sets the transform back to it's original co-ordinates – X(1, 0), Y(0, 1), O(0, 0). In short, where the grey triangle is.

Rectangular sets the co-ordinates as standard cartesian co-ordinates. Polar sets the x co-ordinate as the distance away from point O (or if the point is point O, then it's the distance from the origin (0, 0). The y co-ordinate becomes the degree of rotation to the specified point.

Reset post-transform sets the post-transform back to the grey triangle.

Then you have the co-ordinates of the post transform.

Colors (damn American spelling...)



Transform colour allows you to set the base colour of the transform. This ranges from 0.000 to 1.000.

Colour speed (colour symmetry in previous verisons of Apophysis) is how the colours are repeated through the flame. Unfortunately, there was a very good tutorial at explaining how colours work in apophysis, but it's been taken down and the site is being renovated.

Opacity is how transparant this transform is. The default setting is 1, meaning that you will be able to see it. It will be completely invisible at 0, but it will still influence other transforms.

Direct colour. Unfortunately I don't understand this, but I found a short guide to it here <http://apophysis.deviantart.com/blog/33800807/>. If you have any idea about it, you're doing better than me...

Solo will set the opacity of all the other transforms to 0, so you can only see the current transform.

Variation preview just adjusts well, the variation preview... The coloured dots? It will change the density and stuff. I've never seriously used it, but have a play if you want.

Variations:

Variation	Value
linear3D	3D 0
linear	0
sinusoidal	0
spherical	0
swirl	0
horseshoe	0
polar	0
disc	0
spiral	0
hyperbolic	0
diamond	0
eyefish	0
bubble	3D 0
cylinder	3D 0
noise	0
blur	0
gaussian_blur	0
zblur	3D 0
blur3D	3D 0
pre_blur	3D 2.5
pre_zscale	3D 0
pre_ztranslate	3D 0
pre_rotate_x	3D 0
pre_rotate_y	3D 0
zscale	3D 0
ztranslate	3D 0
zcone	3D 0
post_rotate_x	3D 0
post_rotate_y	3D 0
radial_blur	0
rings2	-0.052

Hide non-used variations

Variations are what changes the shape of the flame. I'm not going to go through every single one, but I shall mention some:

Linear – this will tile anything that the previous transforms have made. You have to move the transform to get this effect, and there has to be something for it to tile.

Pre-_____ - these transforms will be “prioritised”. They will be the first variation to effect the current transform, regardless of any other variations.

Post-_____ - much like Pre-_____ variations and post-transforms, these variations will be applied last to the transform.

Z_____ - anything with a Z at the beginning will effect the transform through the Z axis. This will give access to 3D images.

Transform name here - any transform highlighted with a bluey-grey colour (I couldn't get a decent colour to highlight it with) and any below them will have extra options in the Variables tab.

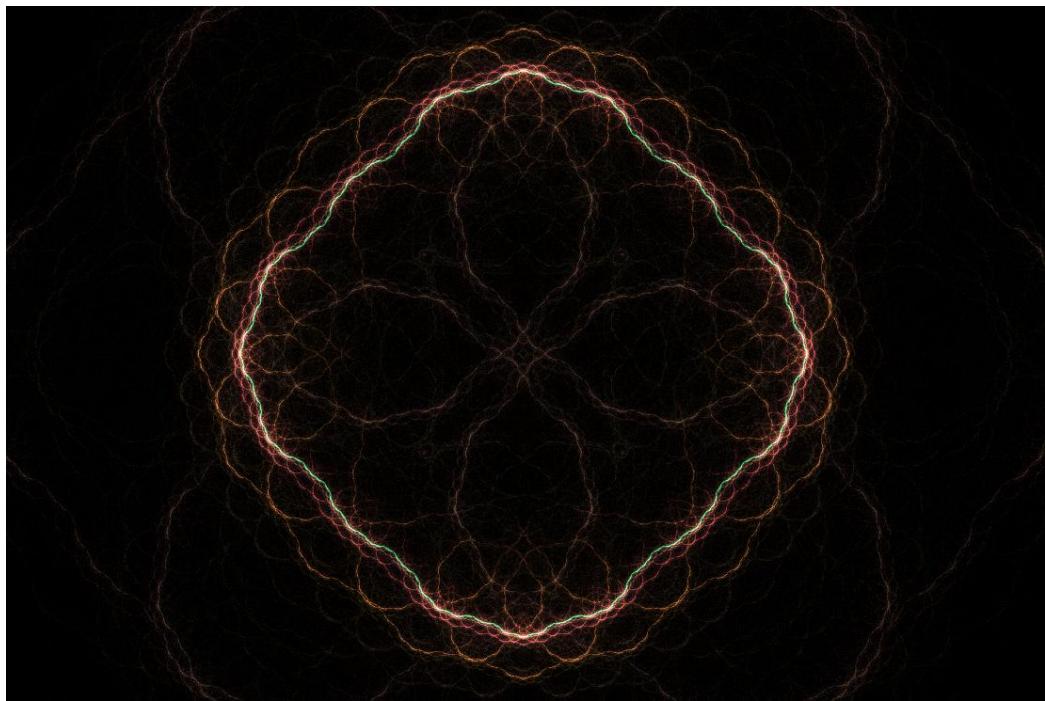
Clear will set all variations back to 0.

Variables:

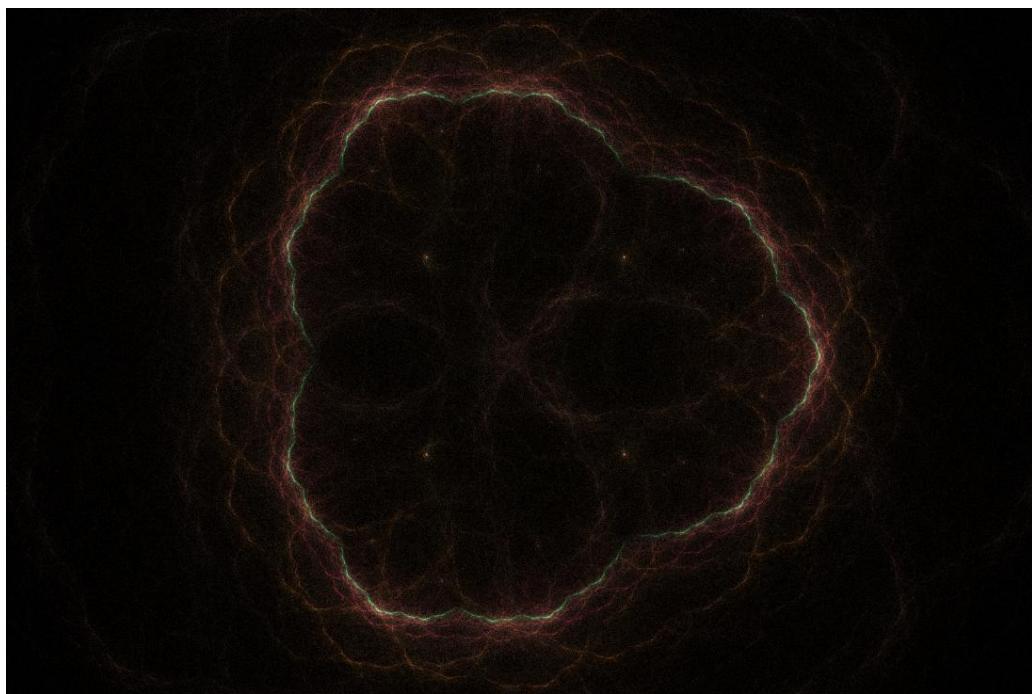
Variables:		
Triangle	Transform	Colors
Variations	Variables	Xaos
Variable	Value	
rings2_val	0.382343	

What is in the variables tab will depend on what variations you will be using. In this particular fractal, I am using the rings2 variation, giving me access to the rings2_val variable.

To me, the most common one is julian_power (appears when julian is being used). This will change how many times the transform is repeated:



The second transform has a julian power of 4.



Here it has 3.

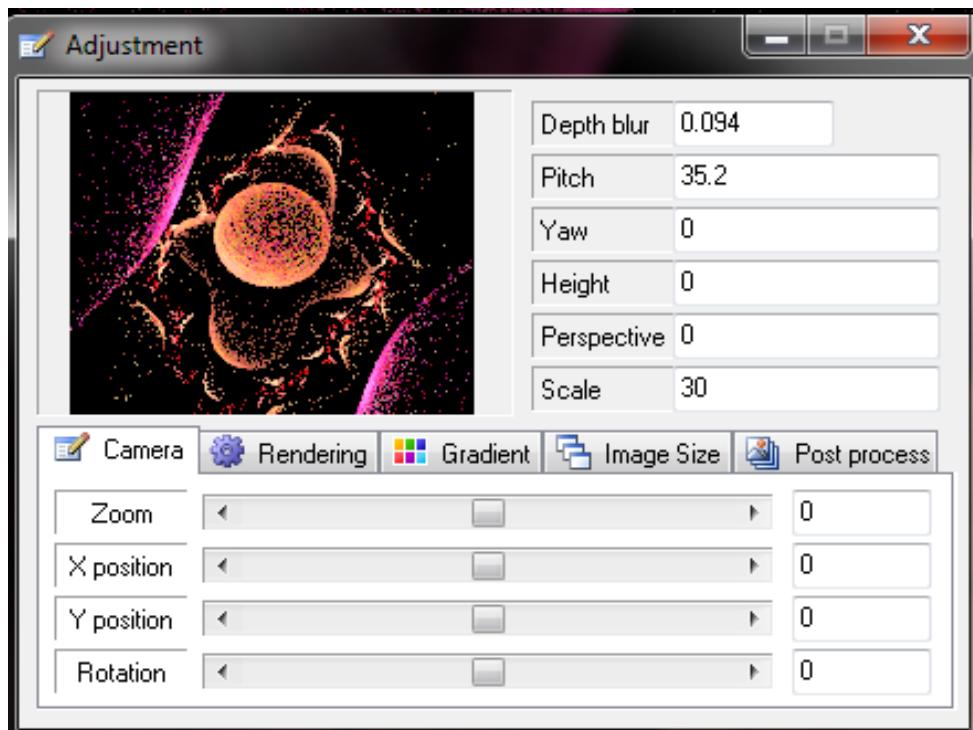
Xaos:

Triangle	Transform	Colors
Variations	Variables	Xaos
Path	Weight modifier	
to 1	 1	
to 2	 1	

View links as "to"
 View links as "from"

If I understand this correctly, you have the transform's weight, and then the transform's xaos. The xaos is like the weight, but you get to control how much of the transform is effected by previous ones. These "links" between transforms can be either "to" another transform, or "from" a previous transform. Unfortunately, this is another function I don't fully understand.

Adjustments:



This is where you change the camera angle and zoom.

Depth blur gives a tiltshift effect almost. The edges go blurry, making the centre of the image the focus.

Pitch will rotate the flame vertically.

Yaw will rotate the flame around the Z axis, like a spinning top.

Height will shift the flame up or down (relative to the camera).

Perspective distorts the flame with perspective. Something tells me this could've been a variation at some point.

Scale is how big the flame is within the program. The default scale is 25. Even though it will look like you're zooming in, you aren't. You're making the flame bigger (or smaller).

Camera:

These controls are for the camera only, they will not effect the flame in any way.

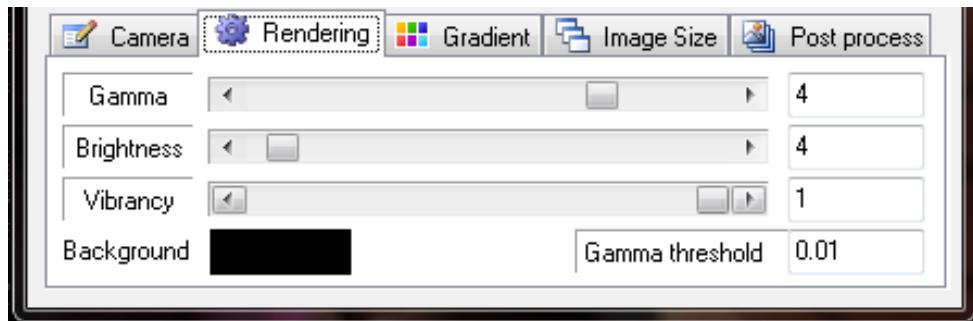
Zoom will (obviously) zoom into the flame, or out. Note that if you zoom in, the render time will go through the roof, and if you zoom out, the render time will go through the floor. If you do need to change the zoom level, use the scale instead to preserve quality.

X position will shift the camera left or right.

Y position will move the camera up and down. There is a subtle difference between this and height. Height moves the flame, Y position moves the camera.

Rotation will rotate the camera. Like height and Y position, there's a difference between this and yaw. Yaw will look like rotation unless you change the pitch of the flame as well.

Rendering:



Gamma adjusts the midtones of the flame.

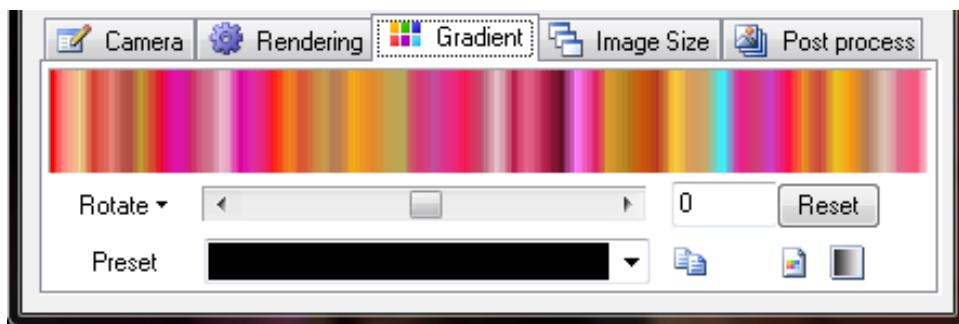
Brightness adjusts how bright the image is.

Vibrancy adjusts how vibrant the colours are.

Background lets you change the background colour. The background will not come out in the rendered image unless you use post-processing.

Gamma threshold adjusts where the shadows of the image start/stop.

Gradient (F6):



This is where you choose your colours. It's chosen by you choosing a gradient. The flame takes various points from the gradient and then applies those colours to itself.

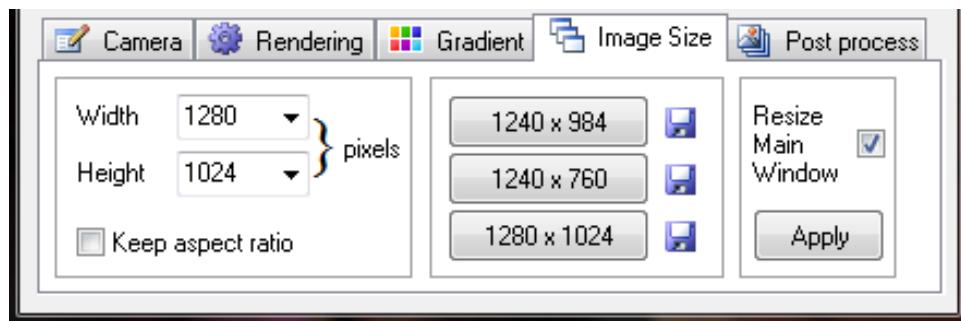
Rotate will shift the gradient along one way or the other, changing the colours. You have finer controls over this in the editor.

Click on rotate and you get other options – **Hue**, **Saturation**, **Brightness**, **Contrast**, **Blur** and **Frequency**. Hue will change the colour of the gradient. Saturation will bring more colour out, or make it greyer. Contrast will make the dark colours dark and vice versa. Blur will just blur the gradient so it's smoother. Frequency will make the gradient repeat again, or as many times as you want.

You can then reset the gradient if you don't like what you've done to it.

- ☒ Copy gradient to clipboard. I have never used this before, and I have no idea where you can paste the gradient...
- ☒ Open gradient browser will let you load up custom gradients, or downloaded ones.
- ☒ Smooth palette will let you open an image and convert it to a gradient. This can be useful if you're after a very particular gradient.

Image Size:

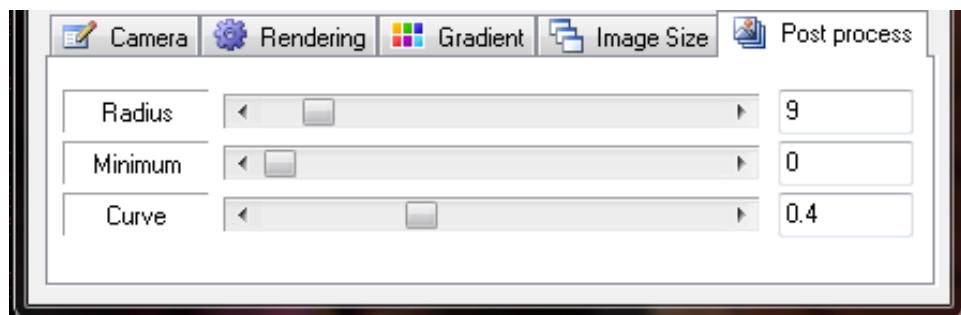


Width and height are the dimensions of the image. I tend to stick to desktop resolutions, but a different resolution may fit the flame better.

If you use a certain resolution more than others, you have three preset spaces. All you have to do is set the resolution, then click the save button by one of the presets. To use a preset, just click on the button.

Resizing the main window can be useful, if you want to get an idea of what it's like at full screen or something.

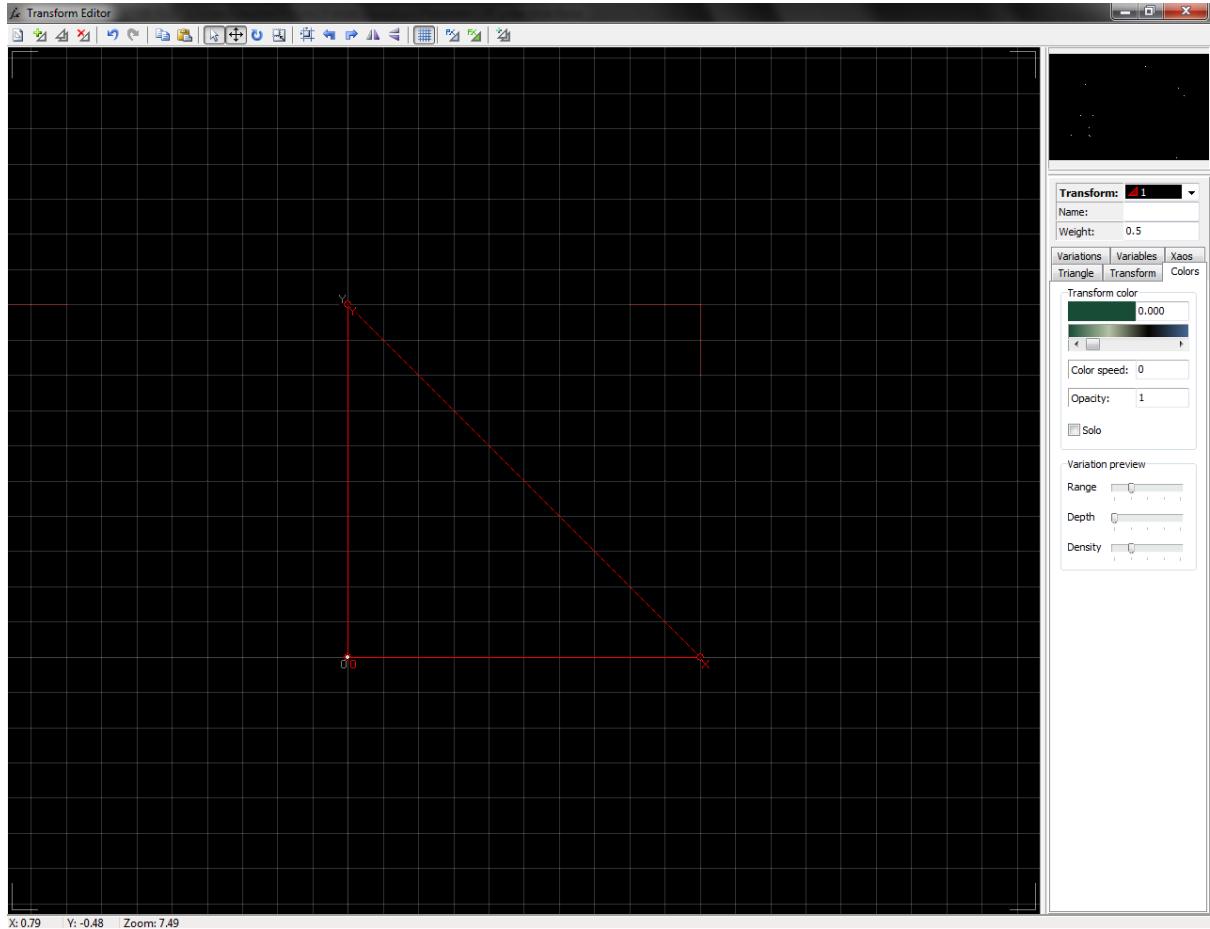
Post-process:



I have a feeling that these are all to do with the filter radius, but I'm not 100% sure. Sorry I can't be more help with this bit.

How to make a fractal

Right, I'm now going to run through how to go about making one of these things. Open Apophysis and either click new flame , or go to the editor (F4)  and press new flame . So then you are confronted with this.



Yeah, this can be a tad daunting. Right, the fractal I'm going to make is quite easy to make and looks really quite complex. It's called a Julian/Rings2 fractal, as those are the two main variations used.

Right, head for the variations tab. I want you to change:

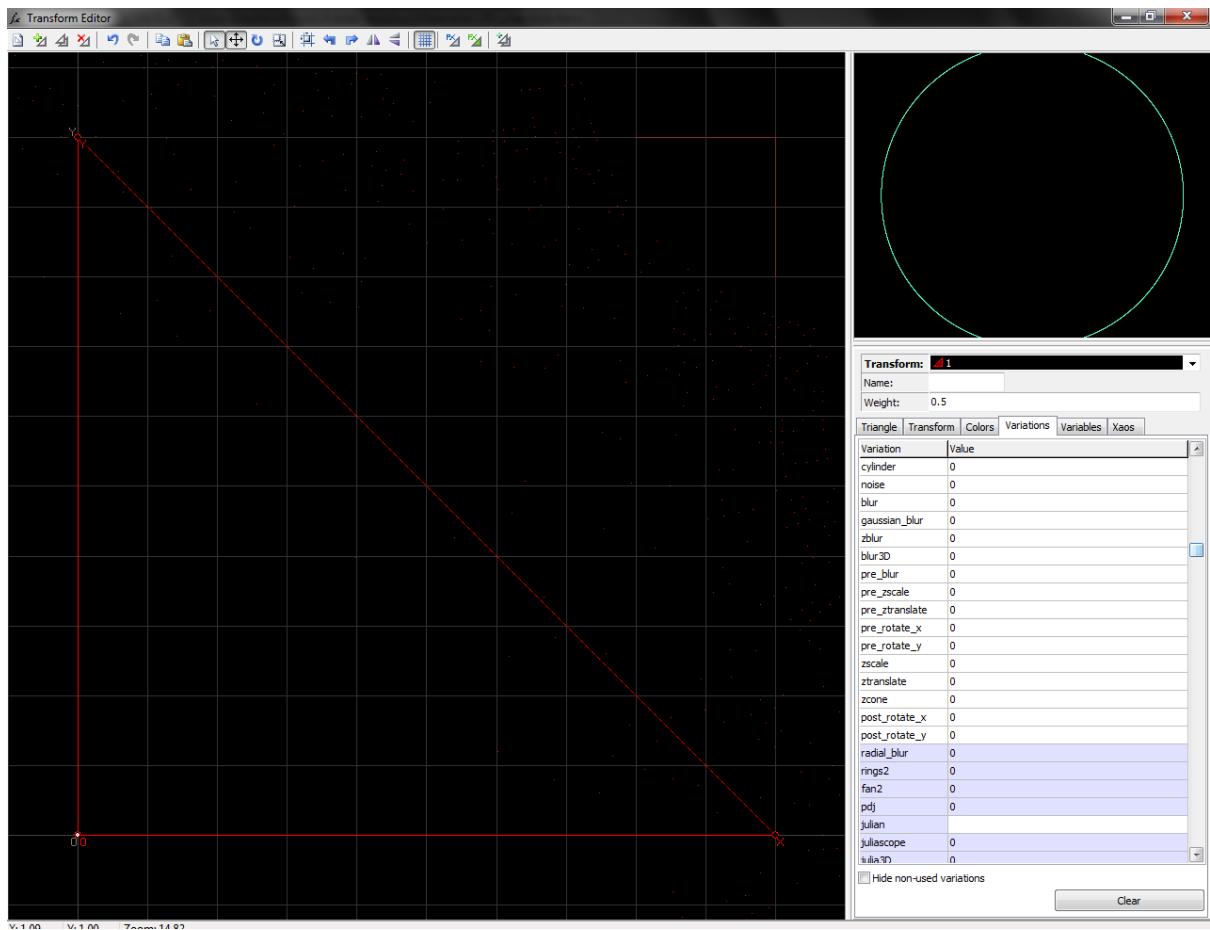
Linear3D > 0

Julian > 1

To save time, you can just double click on the names of the variations and it will change from either 0 to 1, or reset it to 0.

You should get something like this:

post_rotate_y	0
radial_blur	0
rings2	0
fan2	0
pdj	0
julian	1
juliascope	0
julia3D	0
julia3Dz	0
curl	0
curl3D	0
rectangles	0
hemisphere	0
bent2	0



I usually drag the edges of the toolbars out a bit so I get a better view of the thumbnail. Don't worry if your circle is a difference size or colour.

Right, now to the variables tab!

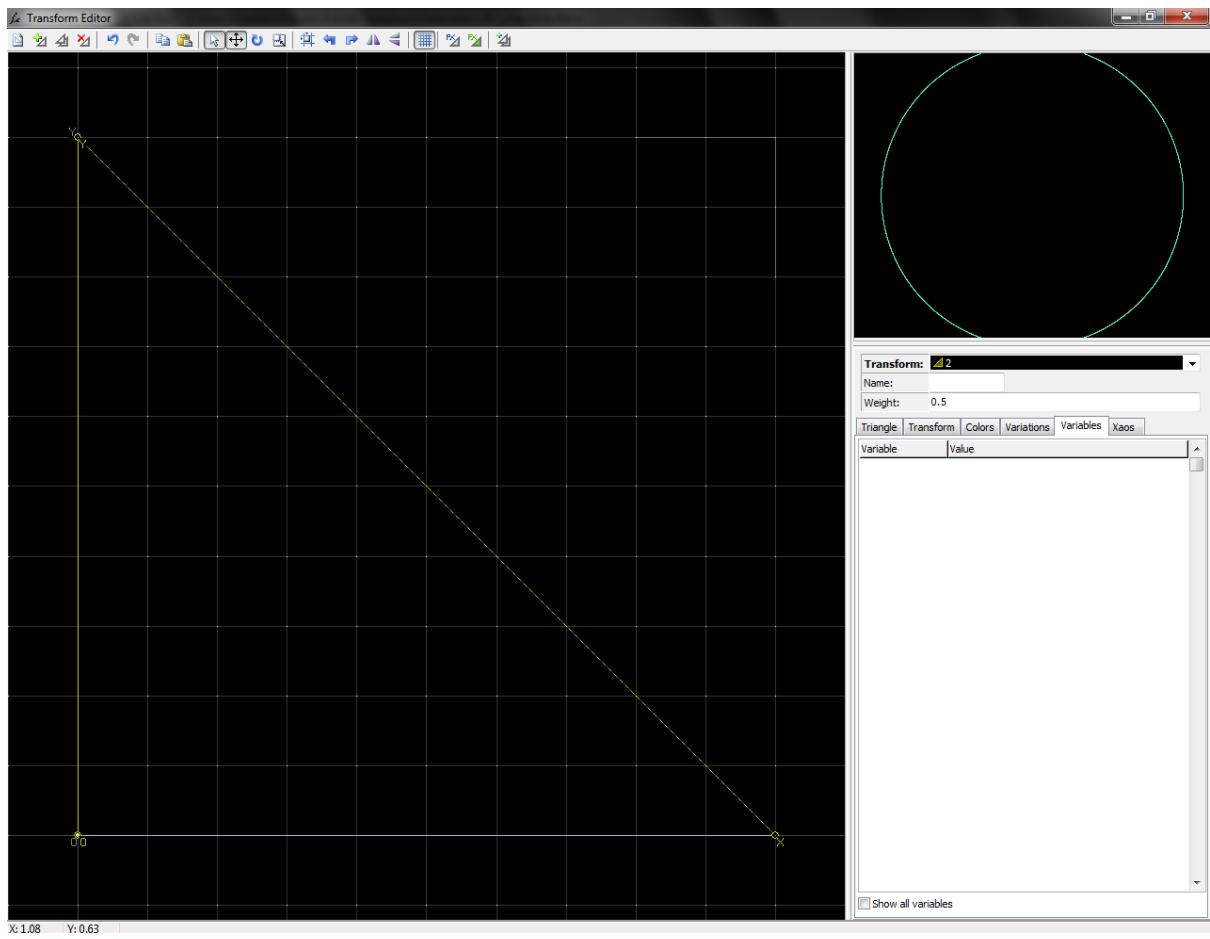
Variable	Value
julian_power	4
julian_dist	1

I want you to change julian_power to something like 8000. Yes, that is a rather big number... Usually in Apophysis, you stick around 1, and sometimes go higher.

The only thing that should change is the red variation preview (around your red transform) will be a lot sharper.

Ok, press add new transform . This will create a yellow transform. If you have another colour, you clicked it too many times.

If you are still on the variables tab, it will go blank. Don't worry about this.

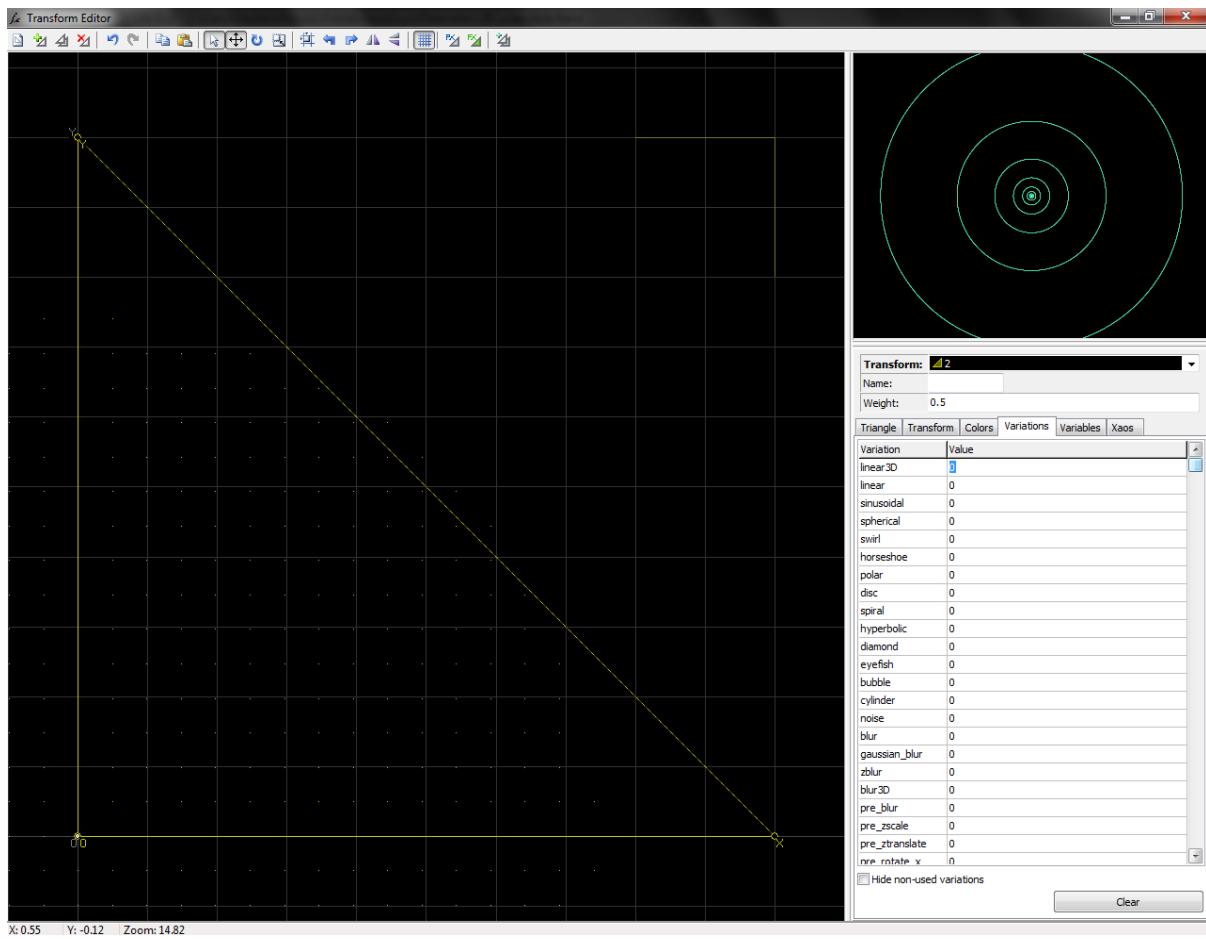


Now, go back to the variations tab, and do this:

Linear3D > 0

rings2 > 1

This will do something like this (apparently I can only fit one screenshot on a page. Grr):



You will have more circles! Again, don't worry about their frequency or colour.

Now back to the variables tab. This time there will be this in it:

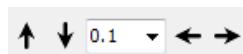
Variable	Value
rings2_val	1.22734

The reason why is that only the “blue” variations in the list, and the ones below, will have extra variables. Set rings2_val to 1. You should only have one circle again.

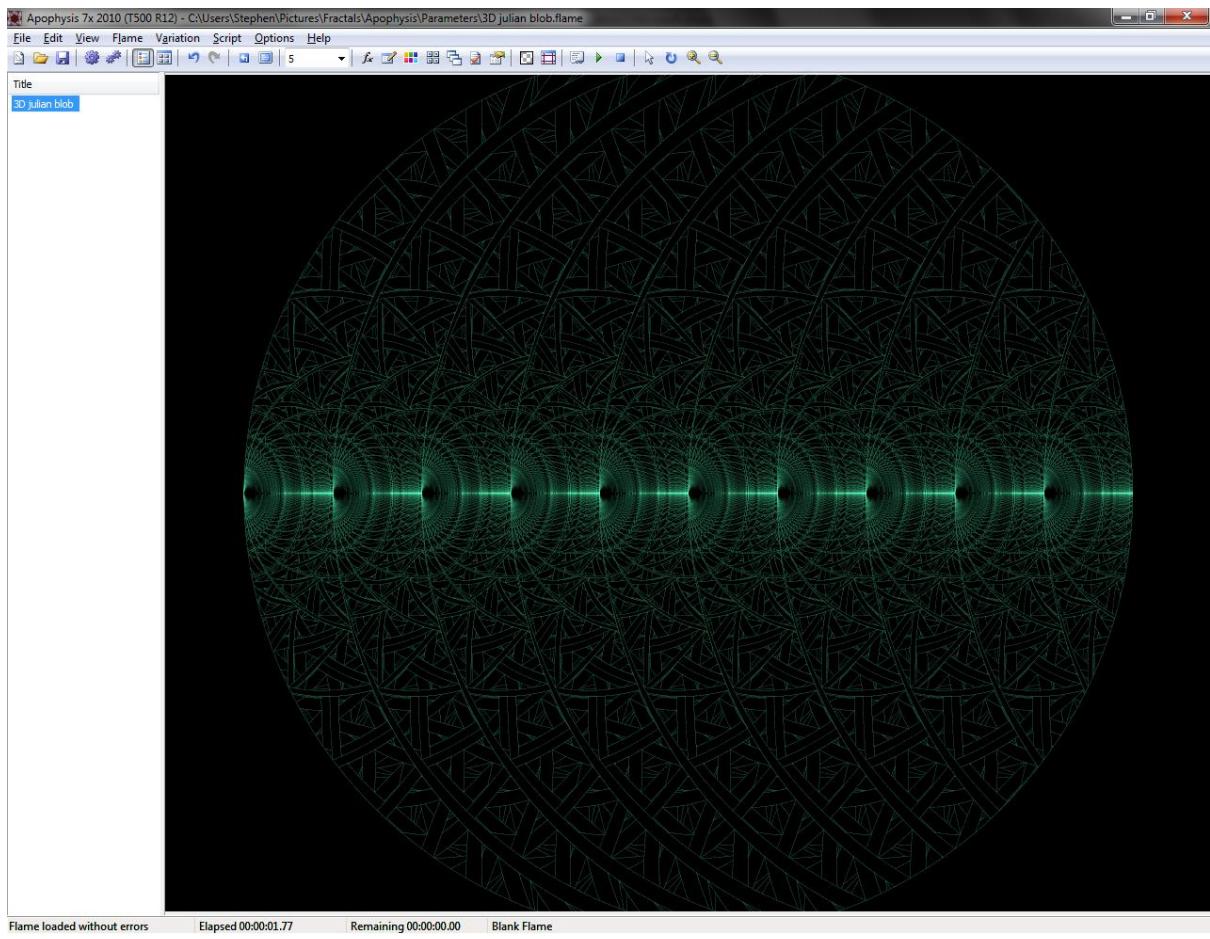
Now go up to the transform's weight. It should say 0.5. Change this to something like 50. Make sure that you've still got a little yellow triangle and a 2 when you do this, otherwise it won't work.

Still just one circle? Yup...

Now, go to the triangle tab, and press one of these buttons a couple of times. The yellow triangle should shift in the direction you clicked in. You can move it in more than one direction as well, just don't do something like up then down, as it'll defeat the purpose of moving it...

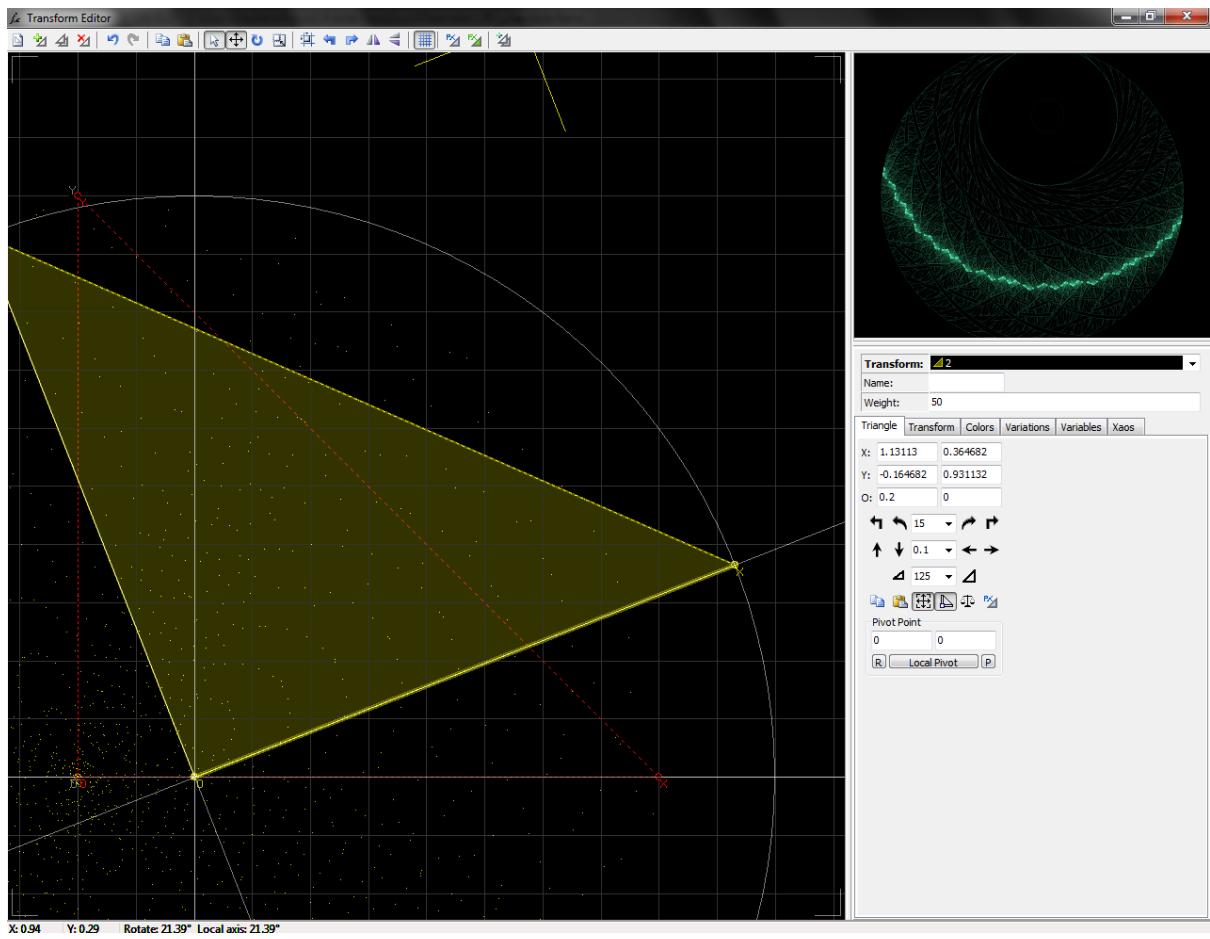


You will then have a rather nice pattern within the circle.

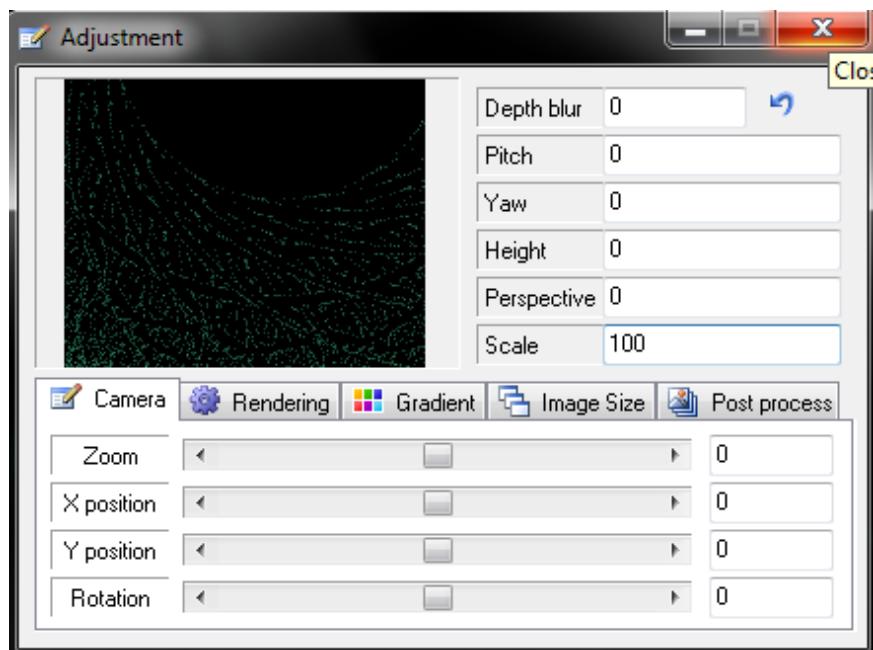


I would set the quality to 5 using , as at the moment you're just looking to see the pattern, rather than the quality. The direction of the pattern will depend on how you moved the second transform. I closed the editor for this screenshot. Now what you can do, is go back to the editor, and rotate the yellow transform a little. You can click and drag on one of the sides of the triangle, or rotate it using the buttons in the triangle tab.

Stupid word, leaving all this free space...

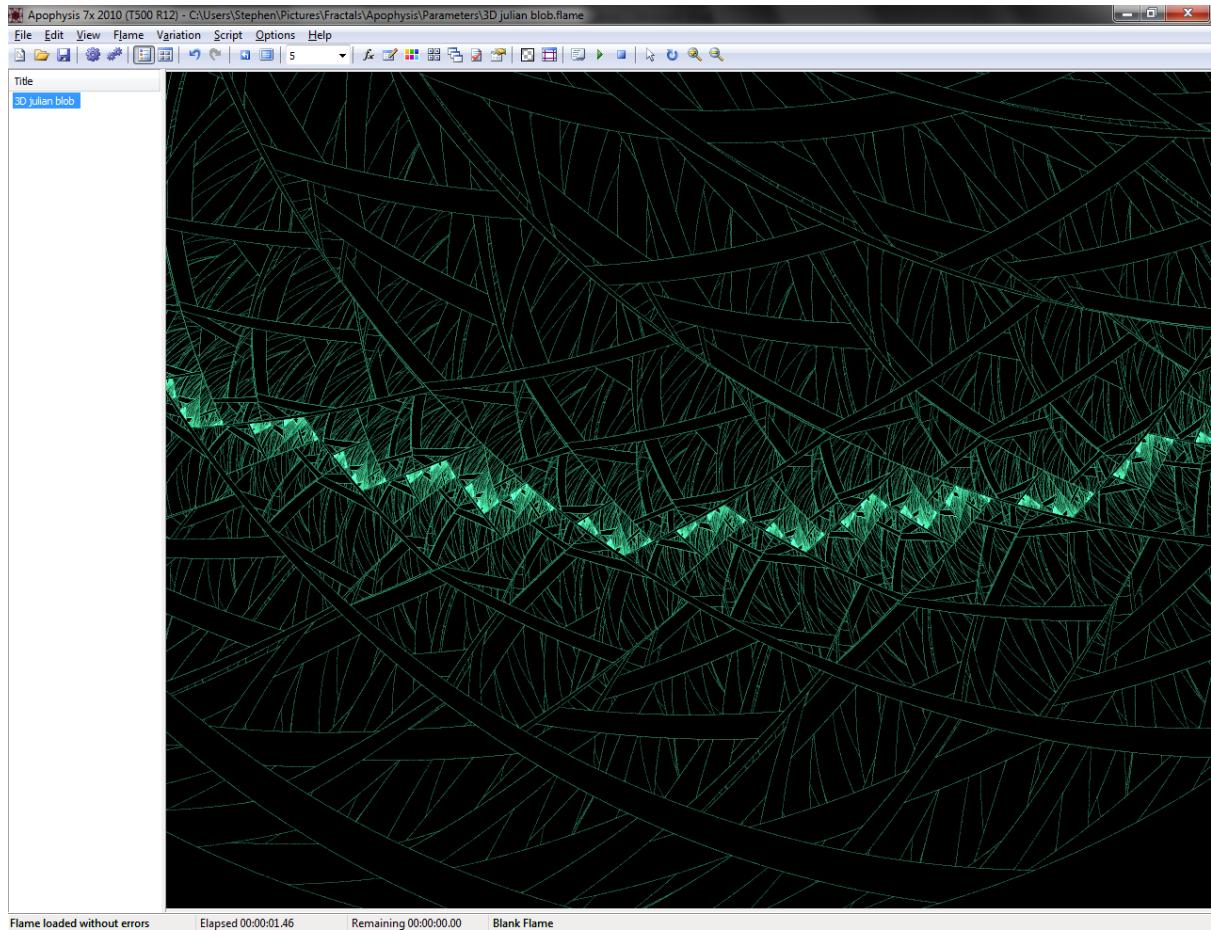


The pattern will bend. We can't see an awful lot of detail unfortunately, so close the editor, and head for the adjustments window (F5)

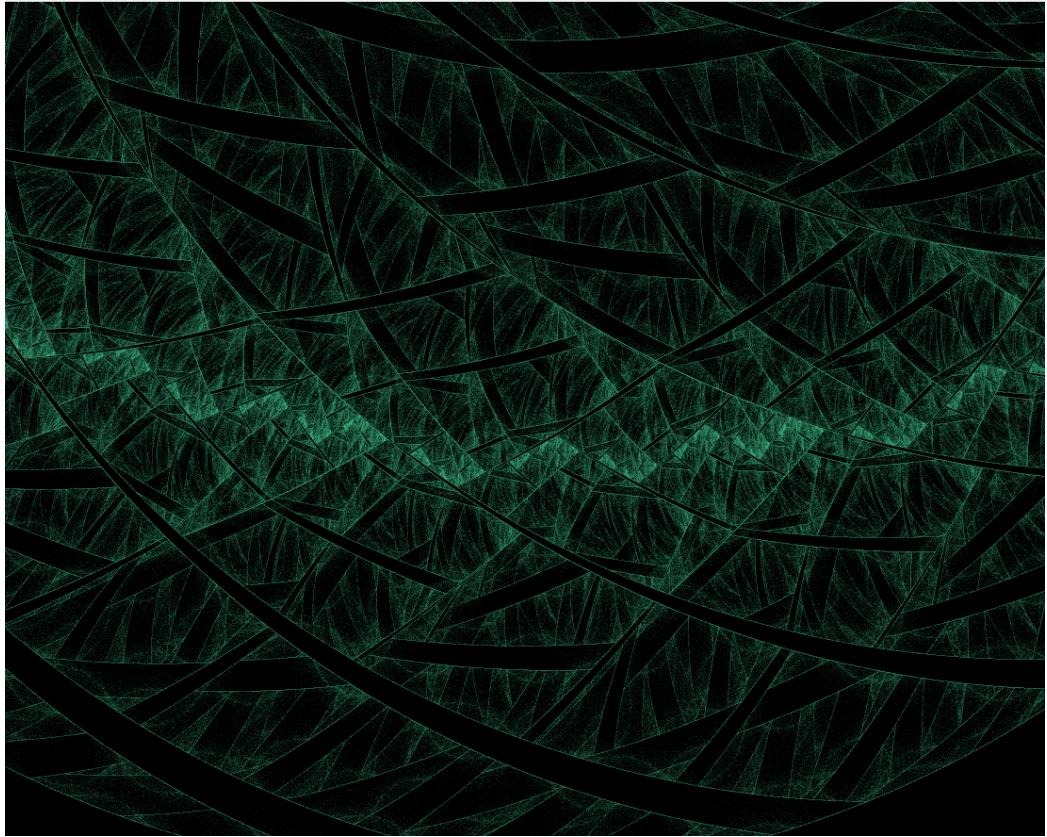


Now set the scale to 100. You may not get such a good view, so use the X and Y position to find a nice spot (or close the adjustments window and click and drag on the main screen).

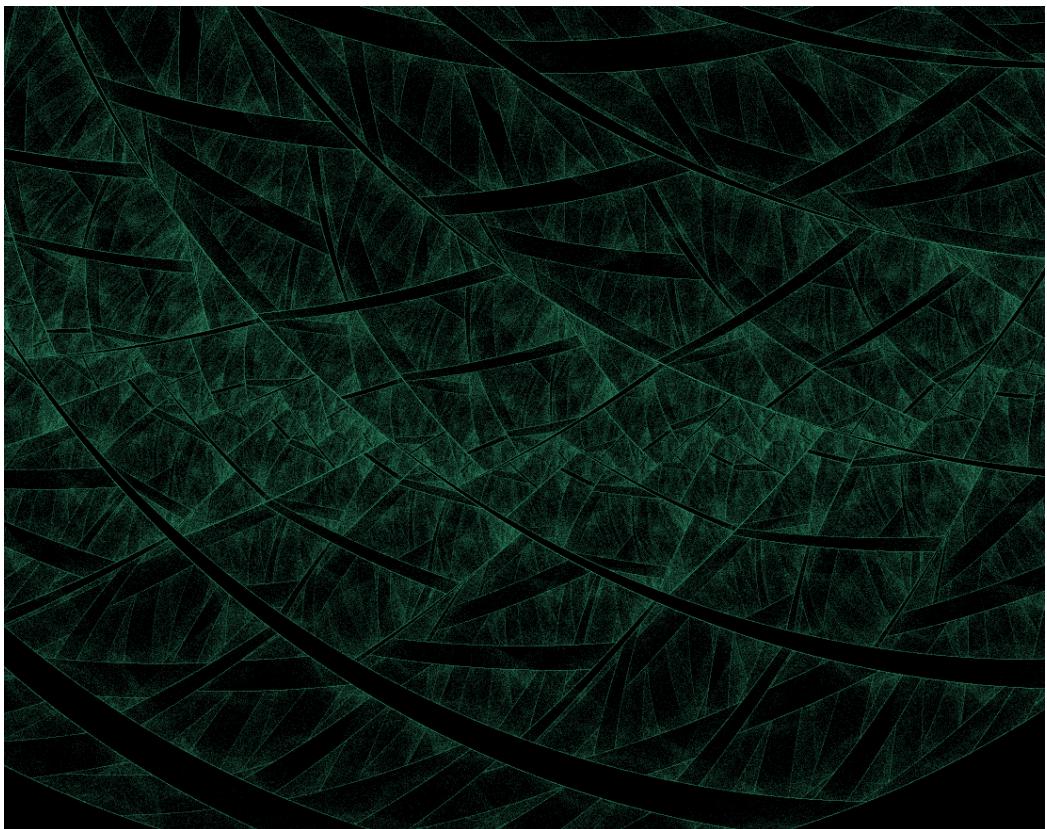
Whilst we're in the adjustments screen, go to image size, and pick a size. You don't have to if you're happy with how it is.



Right, so I have this now. Something you can do with Julian/rings2 is add more Julian transforms, and give it some texture. So, go back to the editor, add another transform (it will be green this time). Then set linear3D to 0, and Julian to 1. Now go to the variables and set the julian_power to about 40. Also, set the weight to about 40. You should have something like this:



And now one more... Repeat that last step, but set julian to 0.5, julian_power to about 15, and leave the weight at 0.5. This is what I get afterwards:



Right, now I think it's time for a bit of colour. Head to the gradient adjustment (F6). Choose a gradient you like the look of, then head back to the editor and go to the colours tab.

To be honest, julian/rings2 flames are quite hard to colour at times. Just play around with the colour sliders and colour speed/symmetry for each transform, starting with the first.

If you want some suggestions, I did this:

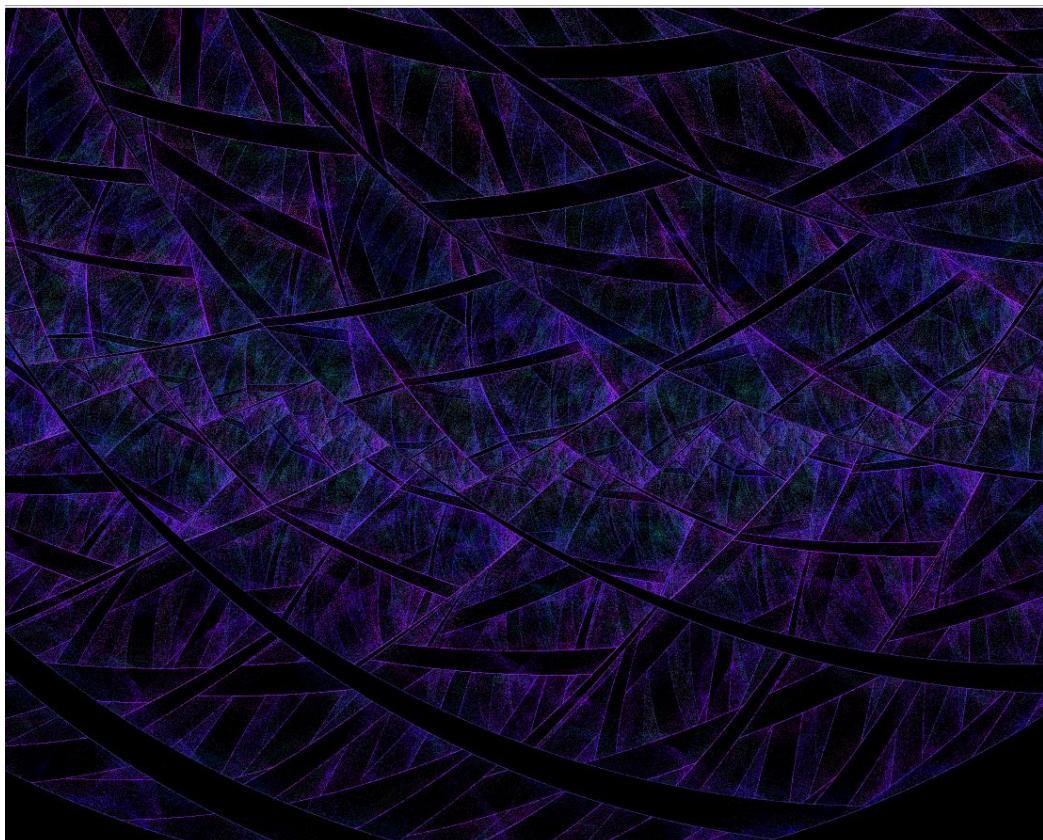
Transform 1, colour 0.000, speed 0.000

Transform 2, colour 1.000, speed 0.908

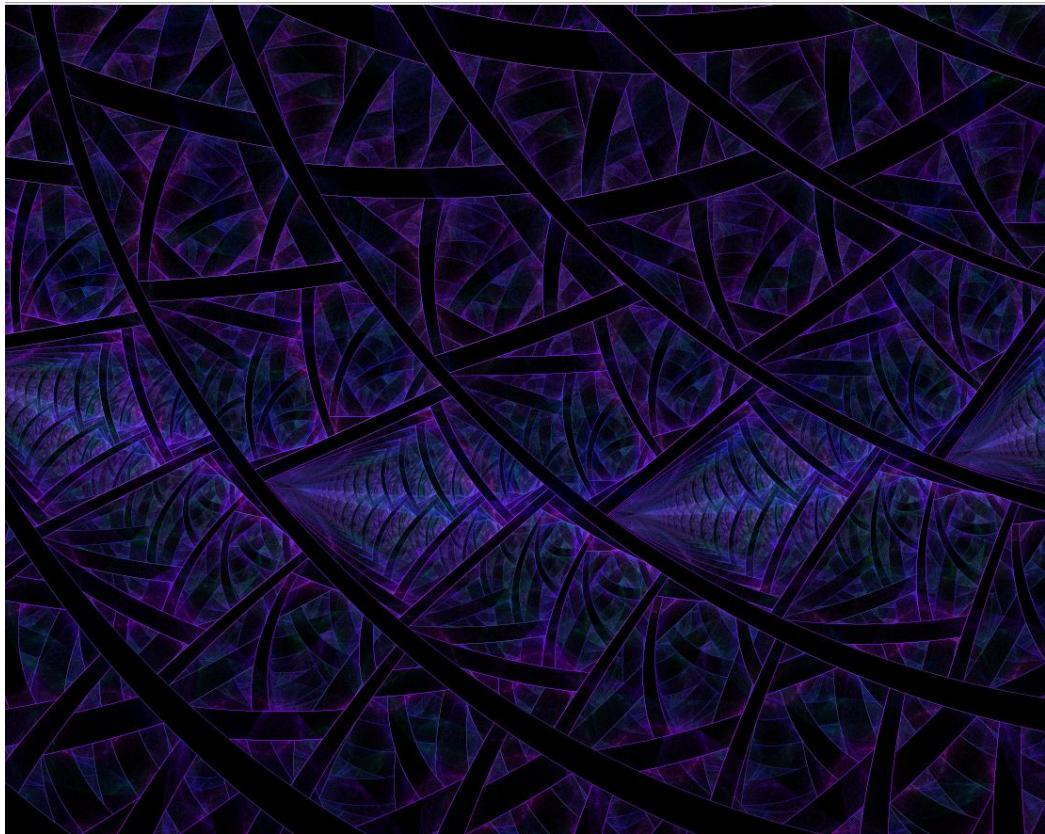
Transform 3, colour 0.000, speed -0.743

Transform 4, colour 0.909, speed -1

And this is what I came out with:



Right, time for rendering. Set the quality to 100, so you can see what it will look like at a higher quality. If you don't like it, have a bit of a play around in the editor until you're happy. I went back to the editor, rotated transform 2 a little less, and shrank it a tiny amount, letting the gaps grow.



That's looking pretty good to me. Make sure you save it. I put the directory as "C:\Users\Stephen\Pictures\Fractals\Apophysis\Parameters\Tutorial Flame.flame" and the name as "Tut#". The hash isn't important, it was just a typo. Remember that only the end bit of the directory is the filename. So in my Parameters folder, I will see "Tutorial Flame.flame". Unfortunately there isn't a normal save function in Apophysis, so you'll have to overwrite the file each time. It isn't a big deal though.

Now, rendering. Exit the editor, and press render (ctrl + R) . Make sure that you're happy with the resolution it's at. Now I'm going to set my quality to 10000. You don't have to go that high though, as on my computer 10000 takes just over an hour. I wouldn't bother with anything else. Hit render and wait!

If you want to have a play around with this fractal in particular, open notepad, and paste all this into it:

```
<Flames name="Tutorial Flame">

<flame name="Tut#" version="Apophysis 7x 2010 (T500 R12)" size="1280 1024"
center="0.047704770477 0.409540954095409" scale="1280" oversample="1" filter="0.2"
quality="5" background="0 0 0" brightness="1" gamma="1" gamma_threshold="0.01"
estimator_radius="9" estimator_minimum="0" estimator_curve="0.4" >

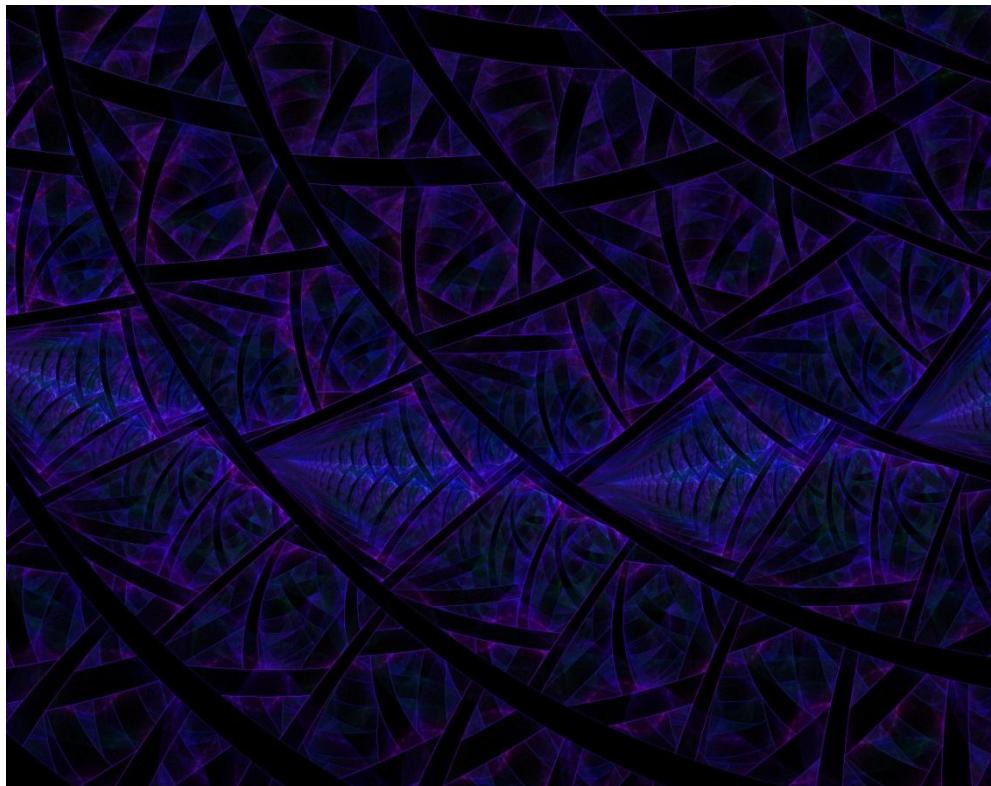
<xform weight="0.5" color="0" julian="1" coefs="1 0 0 1 0 0" julian_power="8000" julian_dist="-1"
opacity="1" />
```

```
<xform weight="50" color="1" symmetry="0.908" rings2="1" coefs="0.959411 -0.257073 0.257073  
0.959411 0.2 0" rings2_val="1" opacity="1" />  
  
<xform weight="1" color="0" symmetry="-0.743" julian="1" coefs="1 0 0 1 0 0" julian_power="40"  
julian_dist="1" opacity="1" />  
  
<xform weight="0.5" color="0.909" symmetry="-1" julian="0.5" coefs="1 0 0 1 0 0"  
julian_power="15" julian_dist="1" opacity="1" />  
  
<palette count="256" format="RGB">  
  
7026A86825B66624BC6424C25E1FB1581AA05217994D1492  
  
391C66392351392B3D2C362A204118204718204E18254D23  
  
2B4C2E363954462F6956267E601A916A0EA56C0BAD6E08B6  
  
5600C64703D33806E02A04E31C02E61801E01500DA0400D7  
  
0004D3000CB300119E001789001F75002762002655002649  
  
00342C002C2A002428001832000C3D010B41030A460F074C  
  
1A05501D004D1C013D1B032D15092510101EOF101F0E1020  
  
0F0A2D1510371C164124184D2D1B592D1C5B2E1E5E26245D  
  
1F31591740540E3755062F5605295A04235E021766060C6A  
  
1E007C1E027A1F057821027623007520006E1D006813085B  
  
03065000003700052A000A1E00101A001617001C08001B00  
  
002C0000390700470F034B130650180B59280E5D3B065D48  
  
035959064766053D66043467072D6E0A27751D27872F2C8E  
  
5723AB6A1BB97D14C78113C78613C87F0EB87008A05C0B84  
  
4B1B65272C36212C321B2D2E162F2E1C2A2F2024402F1F56  
  
3E046F3B0872390D7534146E301B681A1B560E2A3D053E33  
  
0441240730000D2D00132B0028250E300D2041003F4E0051  
  
5600725500795400815000794C00724C00665900626A006A  
  
6A006770078078078A8008958C0CA28D0FA9900CAE9A08B3  
  
A30DB5A90BB3AF0AB1B706B5C204C2C014CFB818C7B725B2  
  
A52C928D359A8933958531907A2D756D35795B2F82502A98  
  
572DAA5A2FAB5E31AD6436B96A33BE7531C17A2AB98A20B8
```

```
8917B2850FB07C08AD7900B16F00B25F00B25002B75304C0
6202DA6102E06002E65D02E75804E95B00E45400E04900D1
4100C73B00B73300AA310299310795340B8F33128D2E1C89
1F1C861D2281262C86262E9026379C1D369D2A3CA73B36B7
5D3FC8612CC76D20C37F14C6900BCE9D05CFA304C3A008B5
8E0FA775239C5F35864D456E364B50245D4014602C0A612A
06592D035035003F3C002A45001F5B001A6D00107A000885
00008E0C07982813A23B14AE4D05B85C00C76500D06807D7
620FD75C17D24625BF1F22AB123194073B7A00475C005D57
00584D004F450747451C454126334835315C432C8260309C
</palette>
</flame>
</Flames>
```

Now save this as something like “Tutorial.flame”. The name doesn’t matter, but make sure it ends in “.flame”. Then all you do is open that in apophysis.

Here’s the finished product after some touching up in photoshop:



Hope this has been understandable.

Stephen Daly, ~[08Spectre80](#)