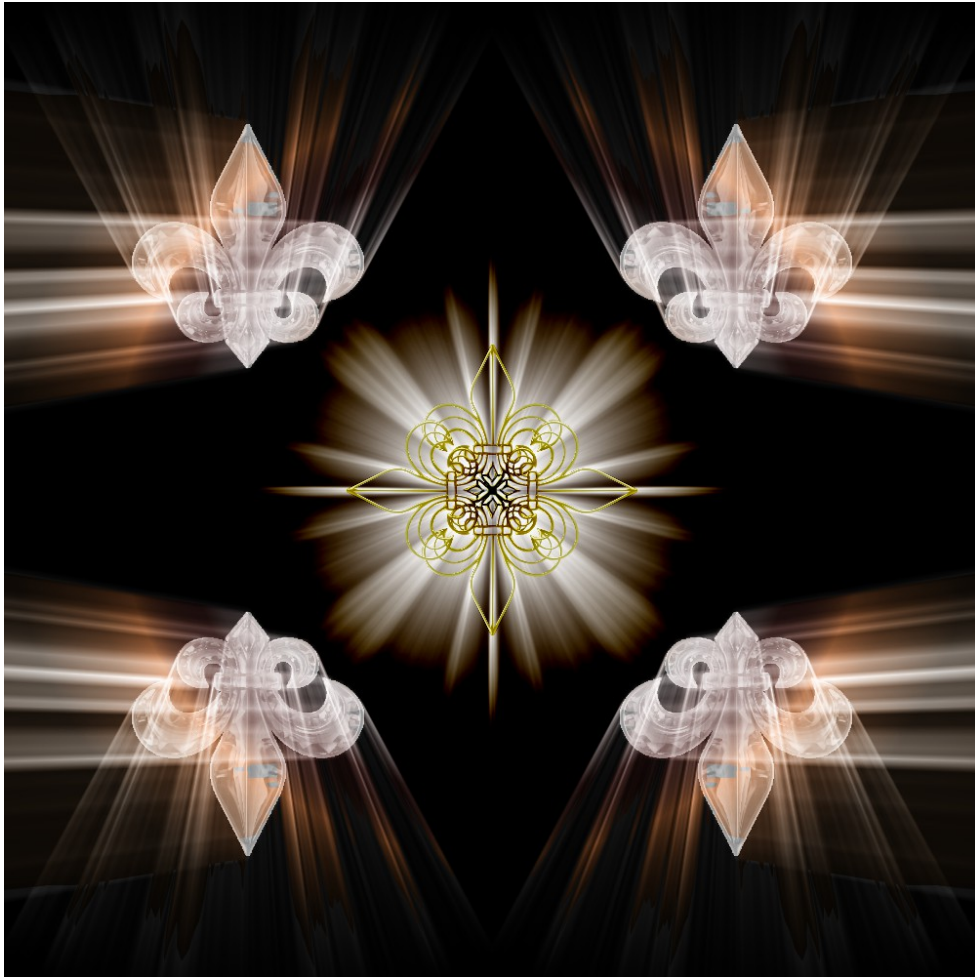


Playing With Light Rays (Part 2)

**A tutorial in three parts on how to use the
GMIC 'Light Rays' filter in GIMP**



By OldManGrumpy



Playing With Light Rays (Part 2)

A tutorial in three parts on how to use the GMIC 'Light Rays' filter in GIMP

Introduction

This is part 2 of a 3 part series on creating images using the GMIC Light Rays filter. This tutorial was created following a number of requests from members of the Gimp Chat forum in a thread I originated with the same name – Playing With Light Rays.

Essentially this tutorial reflects my own journey and the experience I gained along the way, when learning to use the GMIC Light Rays filter. The possibilities are endless and all I am really doing is providing some hints so that others can achieve beautiful outcomes with light rays and GIMP.

As always this tutorial is geared specifically for **less experienced** GIMP users, but I am sure that both new and more experienced GIMP users will find some benefit in being able to create images like those shown on the title page and also those to be found in the Gimp Chat thread at:

<http://gimpchat.com/viewtopic.php?f=11&t=14263>

This tutorial series comes in three parts as follows:

1. **Part 1** (already posted in Gimp Chat) itself is in three sections, the first of which addresses the basics of the filter, its behaviour and the parameters available to manipulate it. Two short, 'step by step' simple tutorials are then provided, one using a single image/shape and default parameters in the filter to start the 'light rays' ball rolling, the second with a single image, offset from centre and two sets of rays. Colouring options for the light rays are also identified.
2. **Part 2** (this tutorial) addresses a more complex image with more objects/shapes each with multiple light rays in varying directions to form a monochrome light ray pattern on the canvas. A number of colouring options are then demonstrated using standard GIMP gradients which can change the pattern outcomes considerably.
3. **Part 3** addresses the creation of shaped objects/images using 'paths' and a 'layer mask' equivalent to produce, direct and focus the light rays as desired to create a space scene. Further manipulation of these rays and colouring options are also identified.

Assumptions

Given that we are using a GMIC filter in this tutorial, then you must have already installed GMIC in your GIMP plug-ins folder. For more information if required please visit:

<http://gmic.eu/gimp.shtml>

Conventions used in this tutorial

Instructions on accessing and using various GIMP functions and filters are expressed in the following format:

Image>Guides>New Guide (by Percent)...

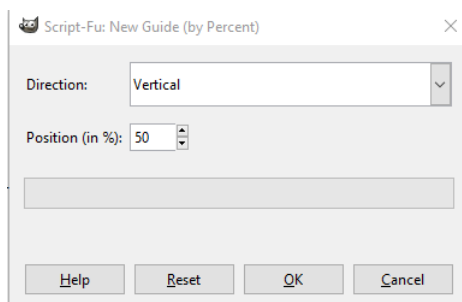
This means that the user with a mouse, firstly left clicks on **Image** from the main GIMP menu,

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which then shows a drop down list of Image options available.

From this list the user with a mouse then left clicks on **Guides** to show the Guides options available. From this list the user then left clicks on **New Guide (by Percent)...** to display the following form for completion:



For ease of reference in this tutorial, I will use both **layer and path names** and instructions to name each such layer/path are included in the step by step dialogue.

References to the path names that we use will be identified like this – **Path name 1**

References to the layer names that we use will be identified like this – **Layer Name 1**

References to any guides we use when positioning objects on the canvas or as we create any required paths, will be in the following format:

Horizontal 1 for horizontal guides, top to bottom.

Vertical 1 for vertical guides, left to right.

I should state here that the correct name and location of the 'light rays' filter, the subject of this tutorial, is found under:

Filters>GMIC>Lights & shadows>Light rays

Other Scripts Used In/Required By This Tutorial

In this script we will use guides at set intervals to help create the objects that form our pattern. It is possible to create these guides manually and I cover that aspect in the tutorial. However, my preference is to use a very useful script called '**New Guides Every X Pixels**', a download for which can be found at:

<http://registry.gimp.org/node/13774>

TUTORIAL PART TWO

Section 1 – Step by Step Tutorial 2

First timers with GMIC Light Rays will benefit from having a look at Part One of my tutorial, which can be found at:

<http://gimpchat.com/viewtopic.php?f=23&t=14311>

Enclosed with this Tutorial 2 set (as extras) are two of my Fleur De Lys glass brushes which we

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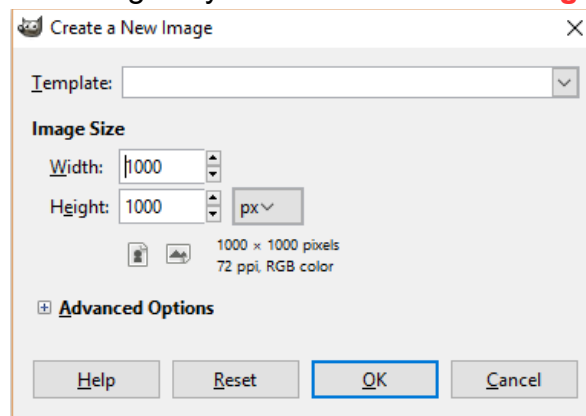
will use to create the pattern and against which we will then apply the light rays filters. The brushes will need to be unzipped into your [users/username/Gimp-2.X/brushes](#) folder before you start.

Our objective then is to create an evocative, initially black and white, image from a pattern of Fleur De Lys objects using multiple light rays, some with default setting and others with custom settings. I then also include a comprehensive number of colouring options which can be tailored to your own preferences and demonstrate the power and flexibility of GIMP. Some of those possibilities were exemplified in the thread that contained this tutorial.

OK lets start; but remember to save your xcf file regularly.

Phase 1 – Creating the Pattern

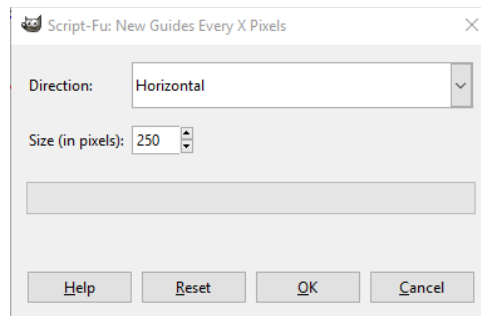
1. Let's open a new canvas; click on [File>New](#) to show the [Create a New Image](#) window as below, then enter 1000 pixels for both [Width](#) and [Height](#) of the image canvas and click OK. You will then have a single layer in white named **Background**.



2. To assist with positioning, lets set up some 'cross hair' guides on your canvas. For those undertaking this manually continue reading. For those using the 'Guides Every X Pixels' script go straight to step 3.
 1. Move your cursor to the top edge of the canvas window, left click, hold the button down and then drag a **horizontal guide** level with the 750 pixel marker on the far left of your canvas.
 2. Repeat step 2.1 to create **horizontal guides** at each of the 500 and 250 pixel markers on the far left of your canvas.
 3. Now move the cursor to the far left of your canvas window, left click, hold the button down and then drag a **vertical guide** to the 750 pixel marker on top of your canvas.
 4. Repeat step 2.3 to create **vertical guides** at each of the 500 and 250 pixel markers at the top of your canvas.
 5. Now skip to step 4.
3. For those using the script, select [Image>Guides>New Guides Every X Pixels](#) to display the window as below and enter 250 into the [Size](#) box to obtain the **3 horizontal guides**

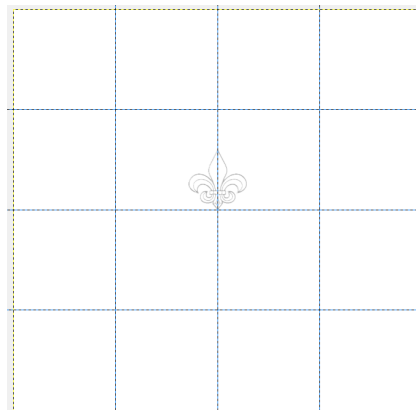
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Then repeat the above action, but change **Horizontal** to **Vertical** in the **Direction** box to create the **3 vertical guides**.

4. Create a new transparent layer – right click on the Layers dialogue box to display the **New Layer** window, ensure that that **Transparent** radio button is selected and click **OK**. Your new layer will appear with a name **Layer** which we will change soon.
5. Just to be sure, check that in the **View** menu, **Snap to Guides** is set on, i.e. there is a tick to the left.
6. Now select the **Paintbrush Tool** from the **Tool Box**; then in the **Tools Options** tab, from the **Brush** selection box choose the **omg_fleurdelys_outline** brush that you downloaded with this tutorial. In the **Size** box set the size of the brush to **150** pixels.
7. With **Layer** highlighted as the active layer, take the brush and position it so that the bottom of the shape just touches the **centre horizontal guide** and so that the **centre vertical guide** bisects the fleur de lys, as shown in the example below. Because of the snap to guides setting in 5 above, the brush should automatically take the desired position.

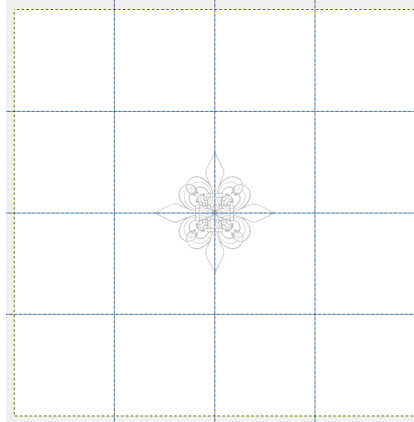


8. Now right click on the **Layer** in the **Layers** dialogue and from the menu select **Duplicate Layer** to create a duplicate named **Layer copy**.
9. From the **Tool Box** select the **Flip Tool** and click on the **Vertical** radio button, then click on the **Layer Copy** canvas to flip the fleur de lys upside down and create a mirror image of the original.
10. Now right click on this flipped layer in the the **Layers** dialogue and from the menu select **Merge Down** to create a single layer containing both fleur de lys outlines.
11. For the sake of clarity, you can now rename this double fleur de lys layer as **fdl @ 150**.
12. Now again right click on the **Layer** in the **Layers** dialogue and from the menu select **Duplicate Layer** to create a duplicate, named **fdl @ 150 copy**.
13. From the **Tool Box** select the **Rotate Tool** then click on the **fdl @ 150 copy** canvas to display the **Rotate** window. In the **Angle** box set the degrees to 90 and then click the **Rotate** button to rotate the layer.

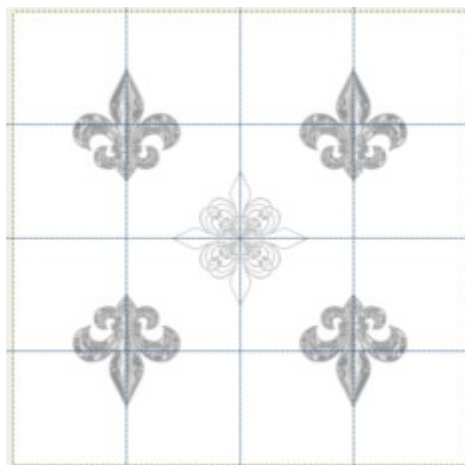
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14. These two fleur de lys outline layers, that should look like this example image below, now form the centre piece of our pattern from which we will soon produce the background light rays.



15. Now create a new transparent layer – right click on the Layers dialogue box to display the [New Layer](#) window, ensure that that [Transparent](#) radio button is selected and click [OK](#). Your new layer will appear with a name **Layer** which we will again change soon.
16. Next select the [Paintbrush Tool](#) from the [Tool Box](#); then in the [Tools Options](#) tab, from the [Brush](#) selection box choose the [omg_fleurdelys_full outline](#) brush that you downloaded with this tutorial. In the [Size](#) box set the size of the brush to 250 pixels.
17. With **Layer** highlighted as the active layer, take the brush and position it so that the centre cross hair of the brush cursor exactly covers the intersection of the 250 pixel [horizontal guide](#) and the 250 pixel [vertical guide](#). Because of the snap to guides setting in 5 above, the brush should automatically take the desired position.
18. Again for the sake of clarity, rename this full fleur de lys layer as **fdl full @ 250**.
19. Now right click on the **fdl full @ 250** layer and from the menu select [Duplicate Layer](#) to create a duplicate, named **fdl full @ 250 copy**.
20. With this copied layer as the active layer, from the [Tool Box](#) select the [Flip Tool](#) and click on the [Horizontal](#) radio button, then click on the canvas to flip the fleur de lys to the right.
21. With this horizontally flipped layer now active repeat steps 19 and 20 except that instead of a [Horizontal](#) flip select the [Vertical](#) flip radio button – no need to rename the new layer.
22. Now with the vertically flipped layer active repeat steps 19 and 20 i.e. a [Horizontal](#) flip this time (again no need to rename the new layer) and you should now see our final pattern of objects as shown immediately below.

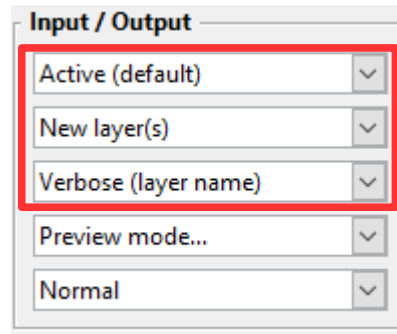


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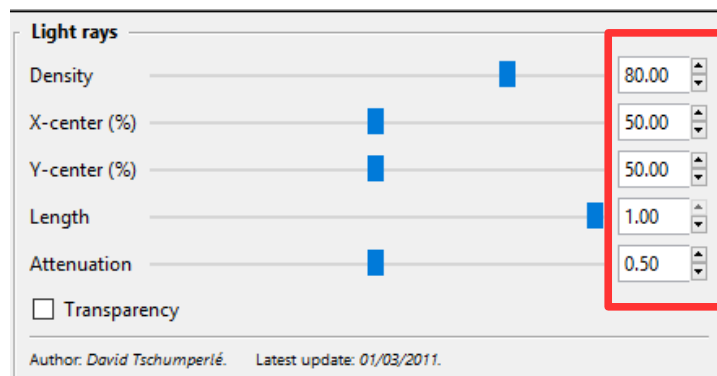
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Phase 2 – Creating the Light Rays

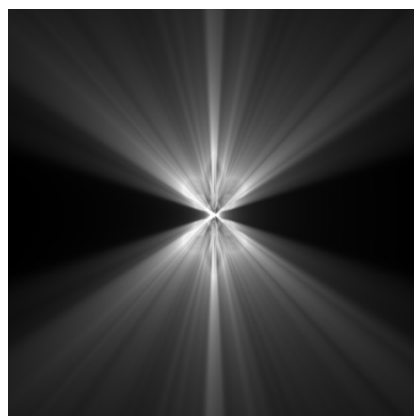
1. Select the **fdl @150** layer as the active layer; then select **Filter>GMIC>Lights and shadows>Light rays** to open the required filter window.
2. Make sure that the input/output settings in the bottom left corner are set as shown below



3. For this first set of light rays we will use the default settings again as shown below



4. Now click the **Apply** button to create the new light rays layer, automatically named **[G'MIC] Light rays: -gimp_lightrays 80,50,50,1,0.5,0** and which should look like the example below and will have **Normal** blend mode. Close the GMIC filter.

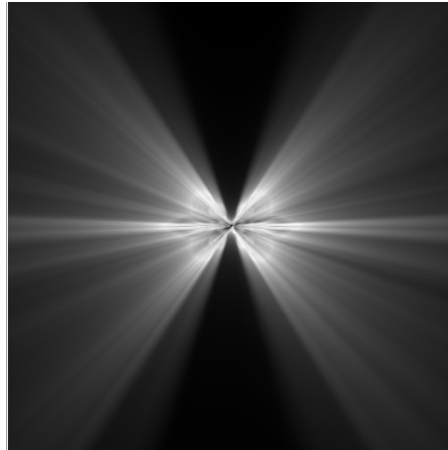


5. This layer will appear as the top layer in your **Layers** dialogue; however, we want it relocated to just above the white **Background** layer; so put the cursor over this light rays layer, hold down the left mouse button and drag the it into that position.
6. Now select the **fdl @150 copy** layer as the active layer; then again select

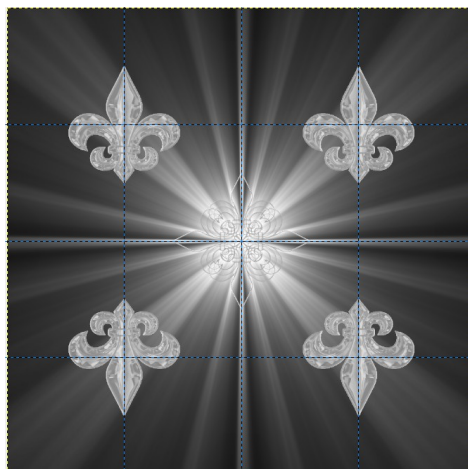
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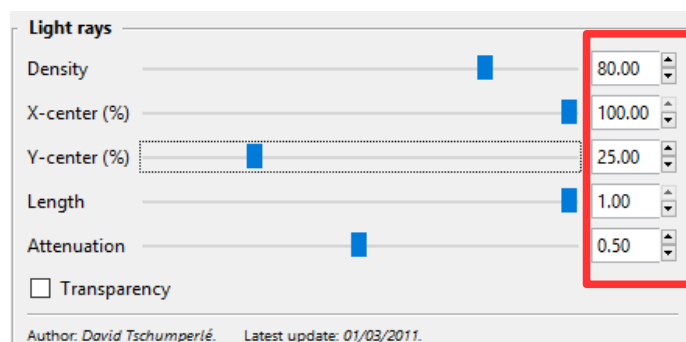
Filter>GMIC>Lights and shadows>Light rays to open the required filter window and repeat step 4 above to create our second light rays layer automatically named **[G'MIC] Light rays: -gimp_lightrays 80,50,50,1,0.5,0 #1** and should appear as the top layer and look like the example below. Close the GMIC filter.



7. Now relocate this second light rays layer and place it immediately above our first one, then change its blend mode to **Screen**, after which your canvas should look like this – now we are on the way!



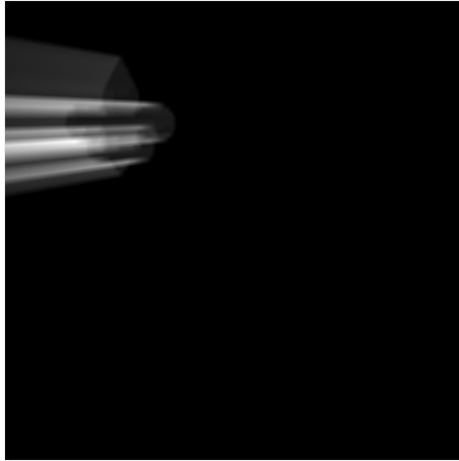
8. Make the **fdl full @ 250** layer the active layer and again select Filter>GMIC>Lights and shadows>Light rays to open our filter. This time change the settings to reflect those in the example below.



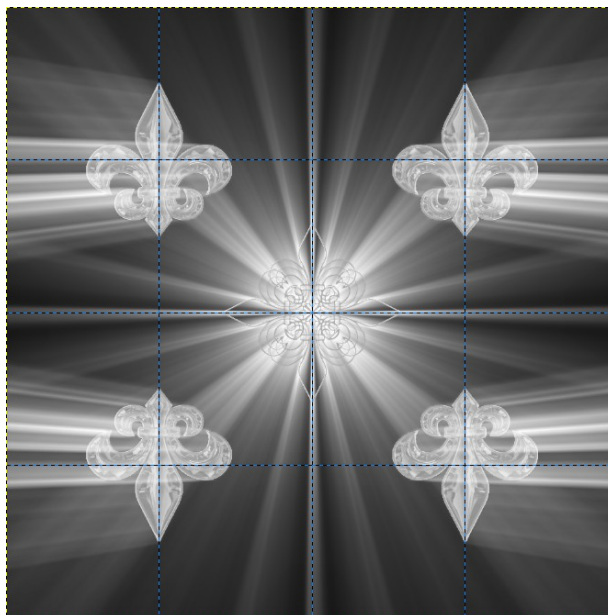
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- Click the [Apply](#) button and a new active light rays layer with the name **[G'MIC] Light rays: -gimp_lightrays 80,100,25,1,0.5,0** will be created as the top most layer, with blend mode [Normal](#) that looks like the example below. Close the GMIC window.



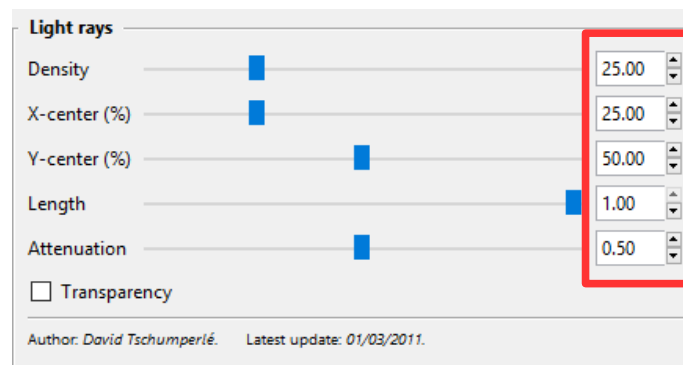
- Now change the blend mode to [Screen](#), and right click on the layer and select and click on [Duplicate Layer](#) from the menu.
- With this duplicated layer active, from the [Tool Box](#) select the [Flip Tool](#) and select the [Horizontal](#) radio button, then click on the canvas to flip the light rays to the top right side.
- Again right click on the layer and select and click on [Duplicate Layer](#) from the menu and repeat step 11 to flip the layer, but this time with the [Vertical](#) radio button selected so the rays appear now at bottom right.
- With this last duplicated layer active, from the [Tool Box](#) select the [Flip Tool](#) and select the [Horizontal](#) radio button, then click on the canvas to flip the light rays to the bottom left side. You should now have an image resembling that immediately below



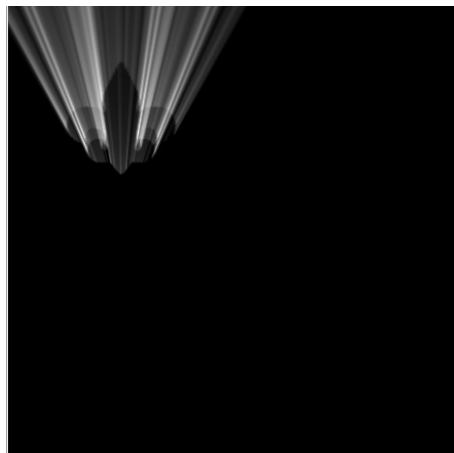
- Now make **fdl full @ 250** the layer active and select [Filter>GMIC>Lights and shadows>Light rays](#) to open our filter. This time we will create some finer rays going in a different direction by changing the settings to those exemplified below

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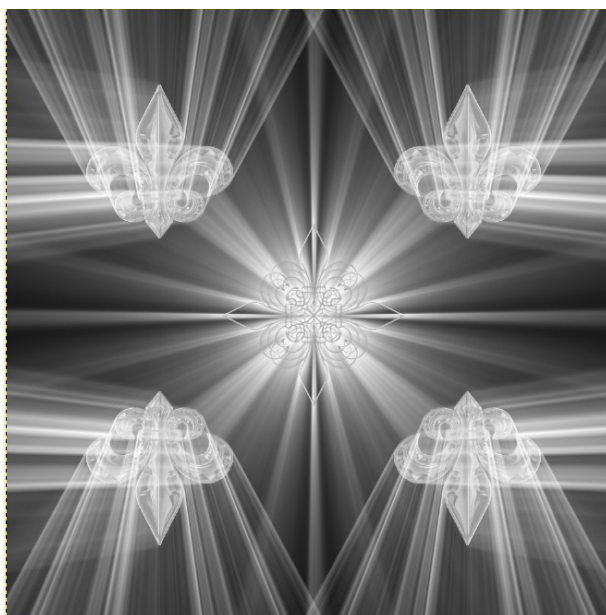
15. Click the [Apply](#) button and a new active light rays layer with the name **[G'MIC] Light rays: -gimp_lightrays 25,25,50,1,0.5,0** will be created as the top most layer, with blend mode [Normal](#) that looks like the example below. Close the GMIC window.



16. Now change the blend mode to [Screen](#), and right click on the layer and select and click on [Duplicate Layer](#) from the menu.
17. With this duplicated layer active, from the [Tool Box](#) select the [Flip Tool](#) and select the [Horizontal](#) radio button, then click on the canvas to flip the light rays to the top right side.
18. Again right click on the layer and select and click on [Duplicate Layer](#) from the menu and repeat step 17 to flip the layer, but this time with the [Vertical](#) radio button selected so the rays appear now at bottom right.
19. With this last duplicated layer active, from the [Tool Box](#) select the [Flip Tool](#) and select the [Horizontal](#) radio button, then click on the canvas to flip the light rays to the bottom left side. You should now have an image resembling that immediately below.

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20. So you should now have a monochrome patterned light rays image, with 10 separate ray layers available to colour individually or in groups – the potential combinations with various gradients/colours and GIMP blend modes is infinite. However, in the next phase I will provide some ideas to start you off which you can then extend as you wish.

Phase 2 – Applying Colour to the Light Rays

In this section we will apply some gradient/colour overlays at different points in the layer stack; some will have a blend mode of **Overlay** others **Burn**, and we will look at the results individually and in combination.

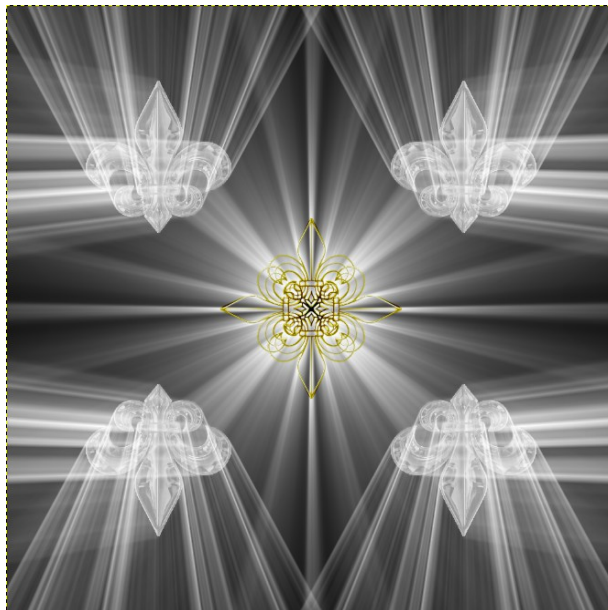
In this tutorial I have purposely left most of the glass brush patterns and the light rays on individual layers because that provides an easy and flexible set for individual colouring if required. I also could have been a little tidier and put them in defined layer groups – oh well!!

1. Firstly lets start with the centrepiece pattern of the four glass fleur de lys outlines on two layers. With **fdl @ 150** as the active layer, from the **Tool Box** choose the **Select by Color Tool** and click on the canvas in a transparent spot to obtain a **Selection** of all transparent pixels. Then right click on the canvas and from the menu choose **Select>Invert**; right click again and choose **Select>Select to Path** to create a path for later use. Then right click on the canvas again and choose **Select>None** to clear the selection.
2. Click on the **Path** dialogue tab to display your paths window and current paths, just one as yet, which will be named **Selection**, then click on it to make it the active path. Double click on the path name and change it to **fdl outline vertical**.
3. Now with **fdl @ 150 copy** as the active layer repeat step 1.
4. Repeat step 2 choosing the new path named **Selection** and change its name to **fdl outline horizontal**.
5. Now from the Path dialogue window, right click on **fdl outline vertical** to display the menu and select **Path to Selection**. Then right click on **fdl outline horizontal** to display the menu and select **Add to Selection** which now defines our glass centrepiece ready for colouring. You should see those 'marching ants' in the middle of your canvas.

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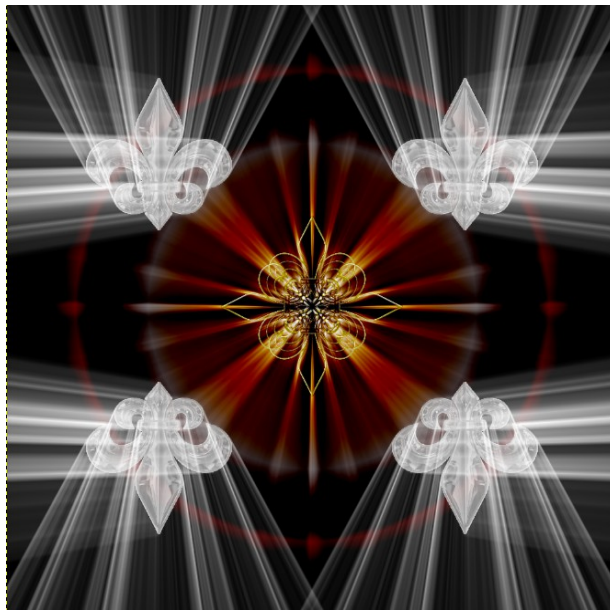
6. Make **fdl @ 150 copy** the active layer and right click on it to show the menu. Select **New Layer** to show that window and in it ensure **Transparent** radio button is selected then click **OK**.
7. From the **Tool Box** choose the **Blend Tool** and from the **Tool Options** in the **Gradient** box select **Golden**. In the **Shape** box select **Radial**.
8. Now with the new transparent layer active position the cursor over the centre guidelines at 500 x 500 and with the left button depressed, drag it right to about the 750 pixel mark then release the button to create the coloured fill inside your selection. Change the blend mode to **Burn** and rename the layer **golden radial to 750**. Then right click on the canvas and choose **Select>None**.
9. You should now see an image like this



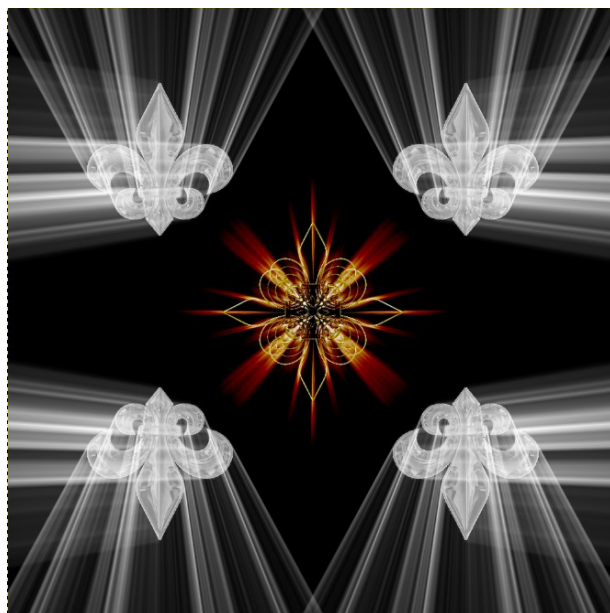
10. Your layer stack should have a white **Background** layer at the bottom with the first two GMIC light rays layers immediately above it. So create a new transparent layer between the top GMIC layer and the **fdl @ 150 layer**.
11. From the **Tool Box** choose the **Blend Tool** and from the **Tool Options** in the **Gradient** box select **Shadows 1**. In the **Shape** box select **Radial**.
12. Now with the new transparent layer active position the cursor over the centre guidelines at 500 x 500 and with the left button depressed, drag it right to about the 1000 pixel mark then release the button to create the coloured circular gradient fill. Change the blend mode to **Burn** and rename the layer **shadows 1**.
13. Duplicate the **shadows 1** layer and relocate it to the top of the layer stack, change the blend mode to **Overlay** and then click the eye to make it invisible – we will use it later. You should now see an image looking like this

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14. Now with the **shadows 1** layer active create a new transparent layer; then from the **Tool Options** in the **Gradient** box select **Shadows 2**. Repeat the action in 12 above to create another circular gradient. Rename the layer **shadows 2**. You should now see this image :



15. But as they say in all the TV adverts these days *“But wait – there’s more”*. Firstly make the **shadows 1** and **shadows 2** layers invisible by clicking on their 'eye' icons.
16. You should have a layer called **fdl full @ 250 copy #2**, being the topmost fleur de lys layer and just below the top left facing GMIC light ray layer. So make **fdl full @ 250 copy #2** the active layer and create a new transparent layer.
17. From the **Tool Box** choose the **Blend Tool** and from the **Tool Options** in the **Gradient** box select **Shadows 3**. In the **Shape** box select **Radial**.
18. Now with the new transparent layer active position the cursor over the centre guidelines at 500 x 500 and with the left button depressed, drag it right to about the 1000 pixel mark then release the button to create the coloured circular gradient fill. Change the blend

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mode to [Grain Merge](#) and rename the layer **shadows 3**. You should now see this image :

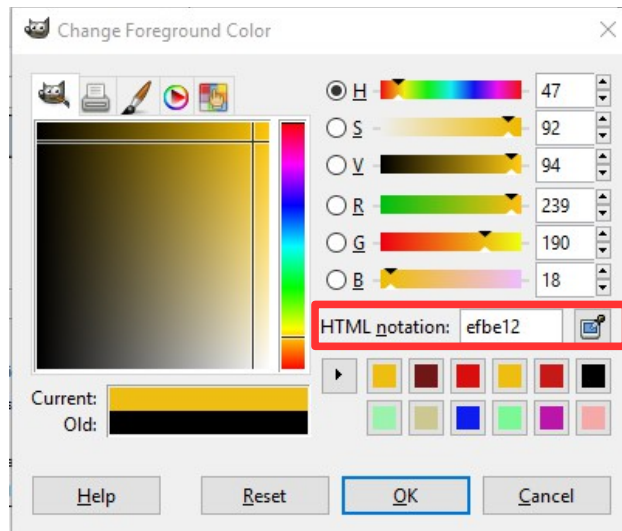


19. You can now make the **shadows 1** and **shadows 2** layers visible again in turn by clicking on their 'eye' icons to see the results from the different combinations of coloured gradient layers that you have just applied.
20. Now lets move further up our layer stack and make the topmost side facing light ray **[G'MIC] Light rays: -gimp_lightrays 80,100,25,1,0.5,0 copy #2** the active layer then create a new transparent layer and rename it to be **golden side rays**. We will come back to it in a moment.
21. For each of the four light ray layers immediately below this new transparent layer, use the [Select by Color](#) tool to click on a pure black area of the canvas to make a selection. Then do a [Select Invert](#) and a [Select to Path](#) in the same way you did in step 1 of this section. Name each path appropriately, for example **top right side rays**.
22. These paths now provide us with the ability to select all side facing light rays; so on from the paths dialogue perform a [Path to Selection](#) and three [Add to Selections](#) so that all target light rays are selected.
23. Now with the **golden side rays** layer active choose the [Blend Tool](#) and the [Golden](#) gradient with [Linear](#) shape. Position the cursor over the centre vertical guideline at the top of the canvas (0 x 500) and with the left button depressed, drag it straight down to the 1000 pixel mark at the bottom (1000 x 500), then release the button to create the coloured gradient fill across the selections. Change the blend mode to [Overlay](#) then do a [Select>None](#). If you would like a 'thicker' side rays then duplicate this layer.
24. Just a couple more colouring options now then we have finished. Now lets move even further up our layer stack and make the downwards facing light ray **[G'MIC] Light rays: -gimp_lightrays 25,25,50,1,0.5,0 copy #2** the active layer, then create a new transparent layer and rename it to be **efbe12 up down rays**. We will come back to it in a moment and the reason for the name will be clear.
25. For each of the four upwards or downwards facing light ray layers immediately below this new transparent layer, use the [Select by Color](#) tool to click on a pure black area of the canvas to make a selection. Then do a [Select Invert](#) and a [Select to Path](#) in the same way you did in step 21 of this section. Name each path appropriately, for example **top right up/down rays**.

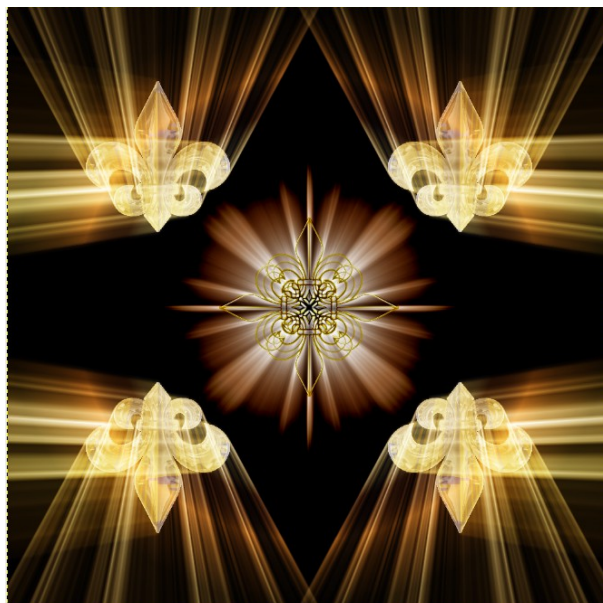
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26. These paths now provide us with the ability to select all up/down facing light rays; so on from the paths dialogue perform a [Path to Selection](#) and three [Add to Selections](#) so that all target light rays are selected.
27. Now with the **golden side rays** layer active choose the [Bucket Fill Tool](#) from the [Tool Box](#) and click on the [Foreground Color](#) icon to open the [Change Foreground Color](#) window and then enter [efbe12](#) into the [HTML notation](#) box as shown below, then click [OK](#) to make our vibrant orange colour the new foreground choice.



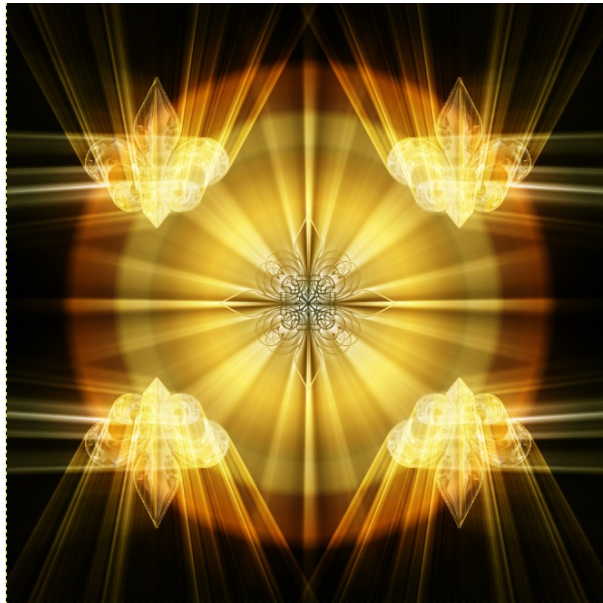
28. Now make sure that the [Fill whole selection](#) radio button is set on and with the [Bucket Fill Tool](#) click anywhere inside the selection, then make the blend mode for this layer [Overlay](#) and then perform a [Select>None](#).
29. At this stage if you turn off visibility for all our colouring layers created so far, to just show our original monochrome rays, then in turn, from the bottom switch on **shadows 2**, **golden rad to 750**, **golden side rays**, **shadows 1 copy** and **efbe12 up down rays** you should have an image looking something like this



Playing With Light Rays (Part 2)

A tutorial in three parts on how to use the GMIC 'Light Rays' filter in GIMP

30. Now for the last colouring layer. Above the **efbe12 up down rays** layer create a new transparent layer and then select the **Blend Tool** with the **Golden** gradient and **Radial** shape. Start with the cursor on our centre screen guidelines (500 x500) and drag the cursor directly right to about 900 pixels along the top ruler. Rename the layer **golden gradient** and change the blend mode to **Overlay**. Then duplicate the layer.
31. Then make visible only these colouring layers - **golden gradient copy, golden gradient, efbe12 up down rays and shadows 1 copy** and you should have an image like this



Well that is it, well done you have finished a somewhat lengthy tutorial.

You can experiment further in colouring by using different gradients and changing their blend modes and opacity levels.

You can also do a selection of each or all four glass fleur de lys and put a colour or gradient above them in **Burn** mode.

Typically, patterns like this lend themselves to further interpretation using:

- **Filters>GMIC>Arrays & tiles** filters e.g. Array (mirrored)
- Ofnuts **Layer>Symmetries** filters e.g. diagonal or quadrilateral

So now you can move on to Playing With Light Rays (Part 3), which will be found in the Gimp Chat tutorials (when I have finished writing it), or just experiment yourself with light rays, their settings and colouring methods.

Be sure though to have fun and thank you for doing my tutorial.