

Power Retouche Retouching Suite

How to get the divine proportion/golden section into your composition

Now you can instantly draw the golden sections, or other divine proportions, as an aid to composition. This plugin can draw fibonacci sequences such as the golden sections, golden spiral and the golden triangles. In addition it also can draw the harmonious triangles and the rule of thirds - based on composition through identity. The best way to use the plugin is to output the drawing to a transparent top layer you can move around for cropping.



■ Power Retouche Photoshop plug-ins are also for Paint Shop Pro, Corel Draw, Illustrator, Fireworks and other graphic software or photo software (Mac & Win) see [list](#)

Golden Section plugin - Tutorial

Benefits of the Golden Section plugin

- Draws the fibonacci sequences: Golden Section, Golden Spiral and Golden Triangles.
- Draws the two common harmonies: Rule of Thirds and Harmonic Triangles.
- Freely adjust the rectangle to any size within the image boundaries.
- Rotate or flip the divisions any way you like.

The Golden Section plugin works with these image modes (Windows and Mac)...
8 & 16 bit / channel: RGB, CMYK, Grayscale, Lab, Duotone, Multichannel.

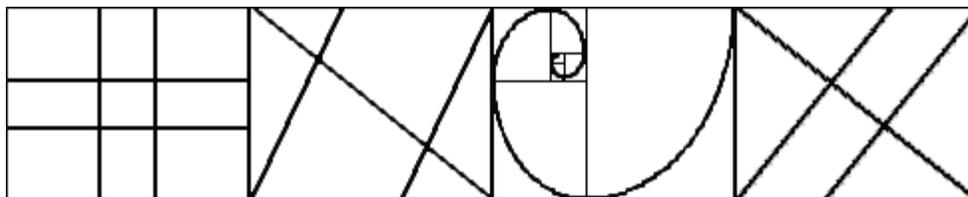
Controls

This is the Golden Section plug-ins control panel (Windows). Click on the image to enlarge. The controlpanel and preview area can be changed by dragging the sides.
The filter has four groups of controls:

1. Golden divisions
2. Harmonic divisions
3. Size (change the size of the rectangle)
4. Line thickness and darkness



Examples - golden section, golden section, golden triangles, golden spiral, harmonious triangles



The Golden Section plugin is the easiest and fastest way to divide your image into divine proportions for harmonious compositions

- Tutorial
- Tutorial as pdf
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- See Windows plugin
- See Mac plugin
- Download Win plug-ins
- Download Mac plug-ins
- Download tutorials

Use of filter

Transparent layer

The best way to use the filter is to create a transparent layer on the image you want to edit. In Photoshop you do this with Shift-Ctl-N. Its color should be None, which is transparent.

To get a resizable transparent golden section in Photoshop...

1. First create a new empty layer in Photoshop.
2. In the plugin draw the sections or divisions you want onto this transparent layer filling the entire image.
3. apply.
4. In Photoshop, with the golden section layer still active, select 'Free Transform' from the menu 'Edit' to resize the golden

section and move it around the image.

What are the Divine Proportions?

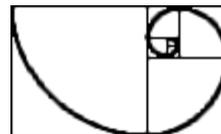
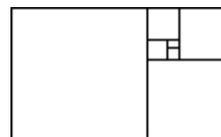
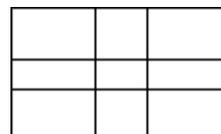
Golden sections

The divine proportions and the golden sections are two expressions for the same thing. Basically it is the division of a line in two sections, where the ratio between the smallest section and the largest section is identical to the ratio between the largest section and the entire length of the line. In other words $A/B = B/(A+B)$. The ratio is about 1/1.618.

One interesting consequence of this ratio is that if you have a rectangle where the sides have the golden ratio, then you can divide the rectangle into a square and a rectangle, where the new rectangle also has the golden ratio between its sides. This can go on ad infinitum and is known as golden spiral sections.

You can use this to construct an equiangular spiral, known as the golden spiral, where the size of the revolutions grow with the golden ratio.

If you want a more dynamic composition than the simple golden sections, then you can construct golden triangles as shown in the illustration. Below you will see an example of the harmonious triangles. If your image has the divine proportion, then golden triangles and harmonious triangles will be identical.

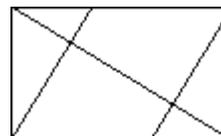
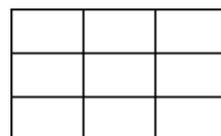


Harmonious divisions

Harmonious divisions rely on the principle of similarity.

The most common is the rule of thirds where you simply divide a line into three equal part. This is often misnamed as the golden section.

Another harmonious division is the division of a rectangle into equiangular harmonious triangles based on the diagonal. When the proportions of the rectangle are identical to the golden proportions, then the harmonious triangles will of course be identical to the golden triangles.

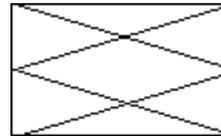
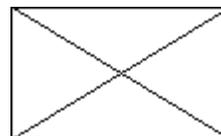


Midpoints

Diagonals offer a nice compositional grid.

The inscribed A and V.

The inscribed > and < .



Fibonacci sequence

Leonard Fibonacci discovered that if you have a sequence of numbers beginning with 1,1, where the next number in line is the sum of the previous two, then the sequence will progress towards a more and more exact representation of the golden ratio. The fibonacci sequence is 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, etc.

Oddly enough nature tends to organize growth and limbs according to this sequence. F.ex. the ratio between the length of limbs of your fingers is the golden ratio. The ratio between the length of your nose and the distance from the bottom of the chin to the bottom of the nose is the golden ratio. The spiral growth of crustaceans follows the golden spiral. The divine proportions are an in-built (or in-grained) aesthetic parameter we judge beauty by.

The plug-ins four main control groups

Golden Sections
Here you check which divisions you want and also if you want to flip or rotate the drawing.
Flip and rotate here will also apply to the harmonious divisions.

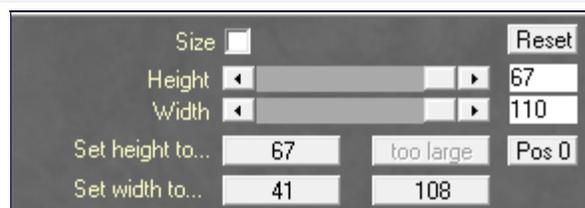


Harmonious divisions and midpoints
The most common harmonious divisions, that do not follow the golden sections, are the rule of thirds and harmonic triangles.



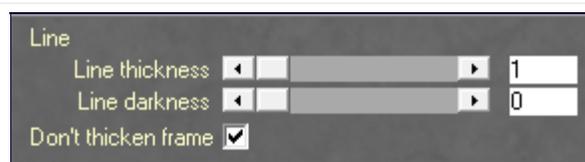
Size
Checking Size enables you to define a rectangle within the limits of the image. This is useful if you need to crop the image to a specific size and want to have some help.

The buttons let you set height from a specified width or width from a specified height so that the size is the golden ratio. In each case you have two buttons to create either a landscape or portrait format rectangle from a given side.

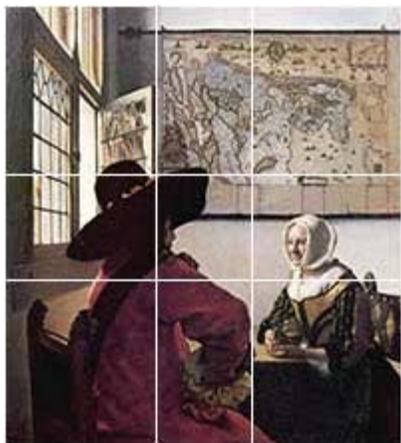


If you left-click the preview, the upper left corner of the rectangle will be moved to where you click. To reset the position to the top left corner of the image, click Pos 0.

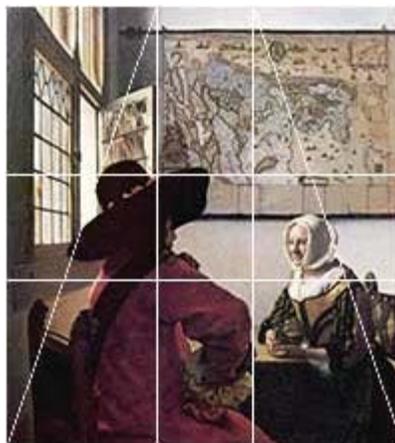
Line
Line lets you set line thickness and line darkness. If you have a large image and have to downscale it, then a line that's only one pixel may become invisible. You can't use colored lines, but can change it from black to white through any gray. You will rarely want to thicken the frame, but the option is there.



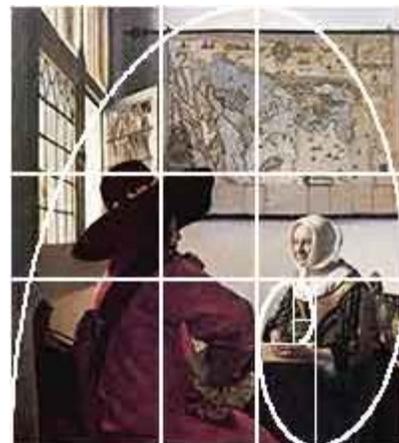
Classic examples - Vermeer



Vermeer used the basic golden sections to arrange the masses.



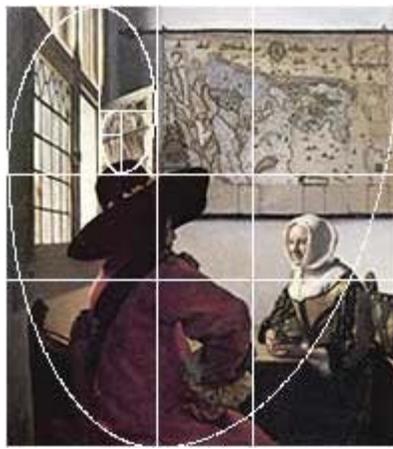
He used the golden triangles to create a pyramid containing the two persons, thus bringing them into relationship



By contracting the focalpoint of a golden spiral, he located the main dynamic focus of the composition: the girls hands and the glass of wine.



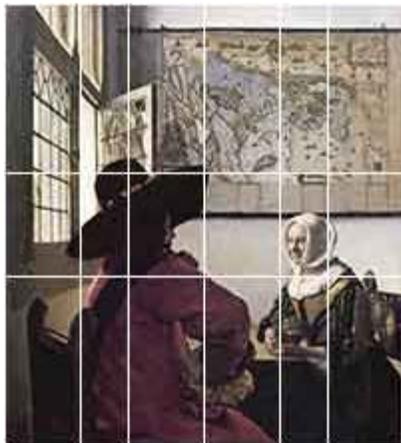
In fact Vermeer subdivided minutely and found the exact space occupied by the glass and the edges of the hands holding it.



Vermeer also used the symmetrical focalpoint of the rotated spiral.



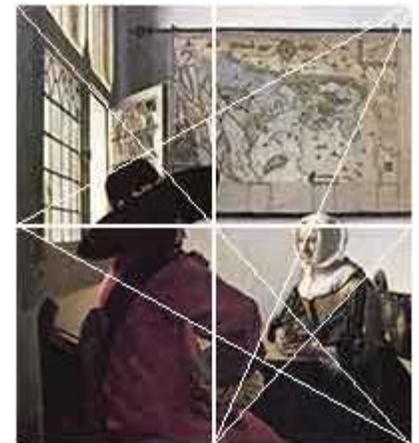
It exactly locates the placement of the open window with the faint reflection of a woman outside.



Vermeer also divided the picture into two halves along the vertical centre. He then divided each half into the golden sections.



He did the same with the horizontal halves. The horizontal middle is the mans eye-hight.

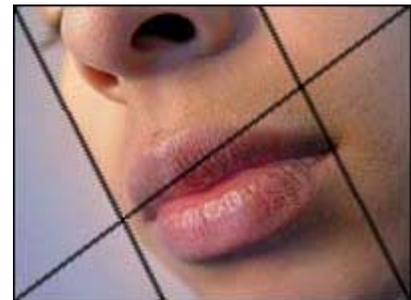


Of course there are other compositional principles, that have been in use for centuries. Diagonals and diagonals to midpoints are classics.

Aids and inspiration for composing

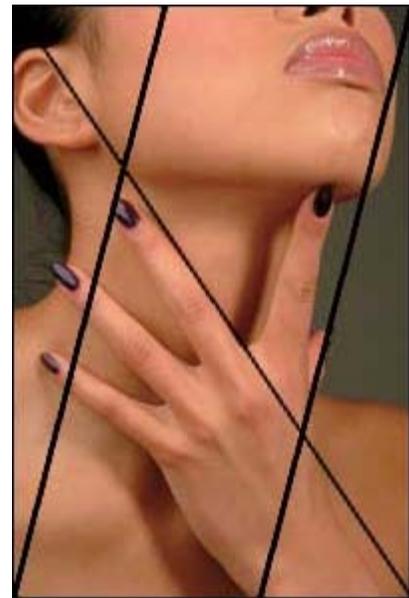
One does not have to be as exacting as Vermeer to find inspiration in the golden sections.

The golden triangles are very useful for creating dynamic images where the diagonal balances the two angles.



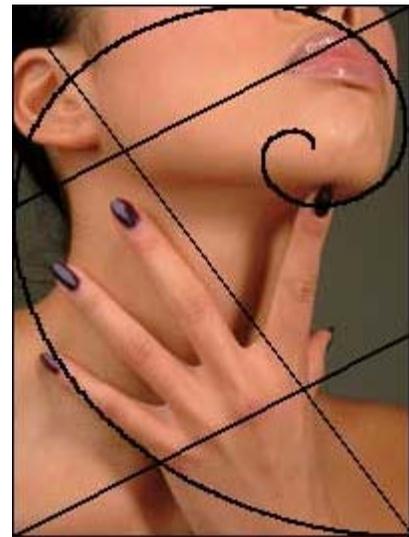
Golden triangle in close ups

Rotated golden triangles



Here the photographer composed along the upward left diagonal. The two golden triangles create a dynamic motion in the opposite direction balancing this. One could also use the following crop:

Golden spiral
for dynamic
motion



Here the golden triangles balance the diagonal and the golden spiral enforces the motion upwards right by placing focus on the dramatic point: the index finger pushing up the chin while at the same time taking the motion from the hand entering at the lower right corner.