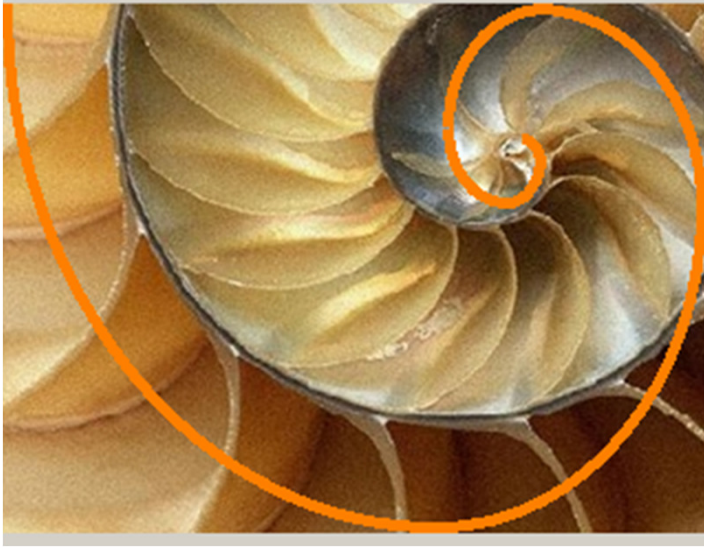




Honors 208W

Fall 2011

Nautilus shell viewed in PhotoCrop

- Image from <http://community.webshots.com/photo/39638452/39646225iPqxha>

Composition Rules

There are no rules for good photographs,
there are only good photographs.

- Ansel Adams

What is the “Composition” of a photo?

The short version is that the composition of a photograph is the way in which visual elements are arranged.

I also consider things such as focus and contrast as part of the composition.

Some things that can contribute to a photograph's composition:

- The framing of the shot.
- The placement of the visual elements.
- The careful selection of the depth of field.
- The contrast between different elements.

What makes for “good” composition?

I often think of the goal of composition as getting the user to look where you want them to look.

Strong natural lines can be used as an important component in accomplishing this.

Different stories require different composition.

- Is lower contrast going to convey a more serene feel?
- Does keeping everything in focus contribute to the sense of crowdedness?

The “Rule of Thirds”

A common composition guideline is the “Rule of Thirds” in which you mentally divide the image into thirds horizontally and vertically (very much like a Tic-Tac-Toe board) and then try to do something such as:

- Place the object of interest on one of the crosshairs.
- Place the horizon on one of the two horizontal lines.
- Place the edge of a building on one of the two vertical lines.

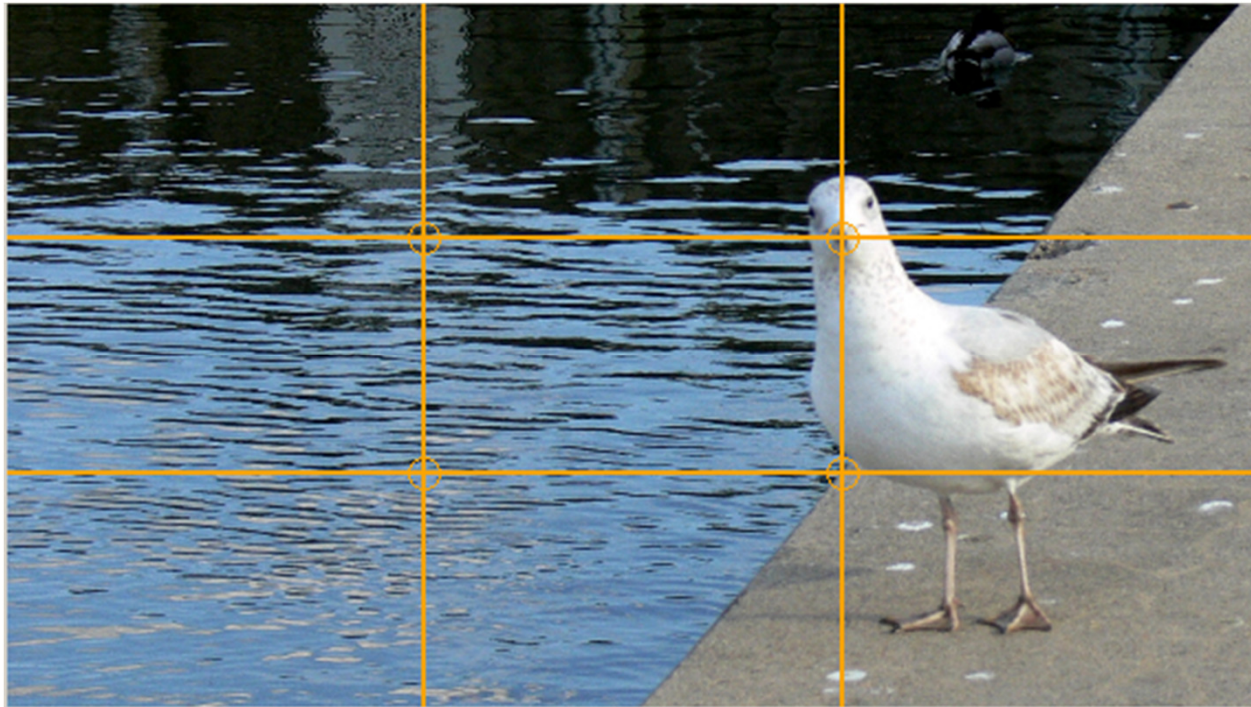
Original Image



Cropped Version



Cropped Version (Rule of Thirds lines)

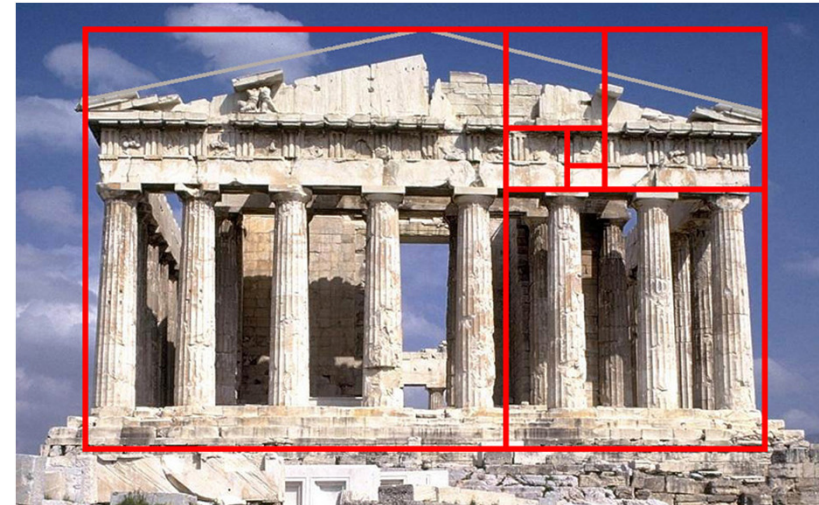


The “Golden Numbers”

- The ancient Greeks, Romans, and Egyptians all appear to have had a recurring set of aesthetic guidelines that seem influenced by the Golden Number.
 - **Phi** = $\frac{\sqrt{5}+1}{2} \approx 1.6180339\dots$
 - **phi** = $\frac{\sqrt{5}-1}{2} \approx 0.6180339\dots$
- Imagine you had a one-inch line A-----B and you wanted to divide it into two smaller sub-lines so that the ratio of smaller sub-line to the larger sub-line is the same as the ratio of the larger sub-line to the original line.
- This would mean that for A-----G---B $\frac{GB}{AG} = \frac{AG}{AB}$ and if you work this out, it gives the length of the larger sub-line as **phi**.

Greeks, Romans, Egyptians (Oh My!)

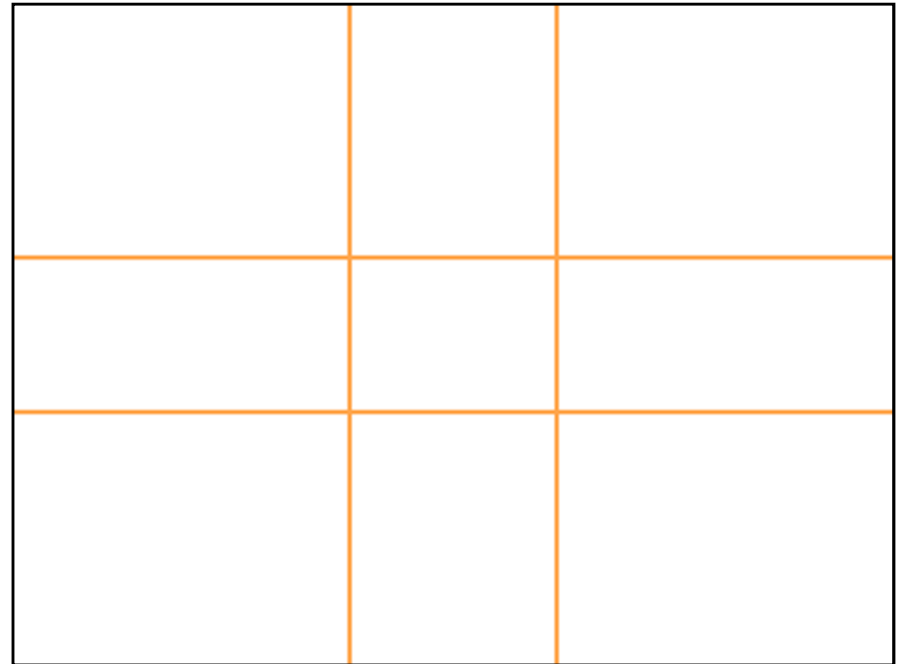
- Euclid discussed **Phi** and **phi** (3000BC).
- The Great Pyramid in Giza exhibits **Phi**.
- The ratio between successive numbers in the Fibonacci sequence gets closer and closer to **Phi** as you continue through the sequence.
- The Parthenon in Greece is said to reveal influences of Phi.



Golden “Thirds”

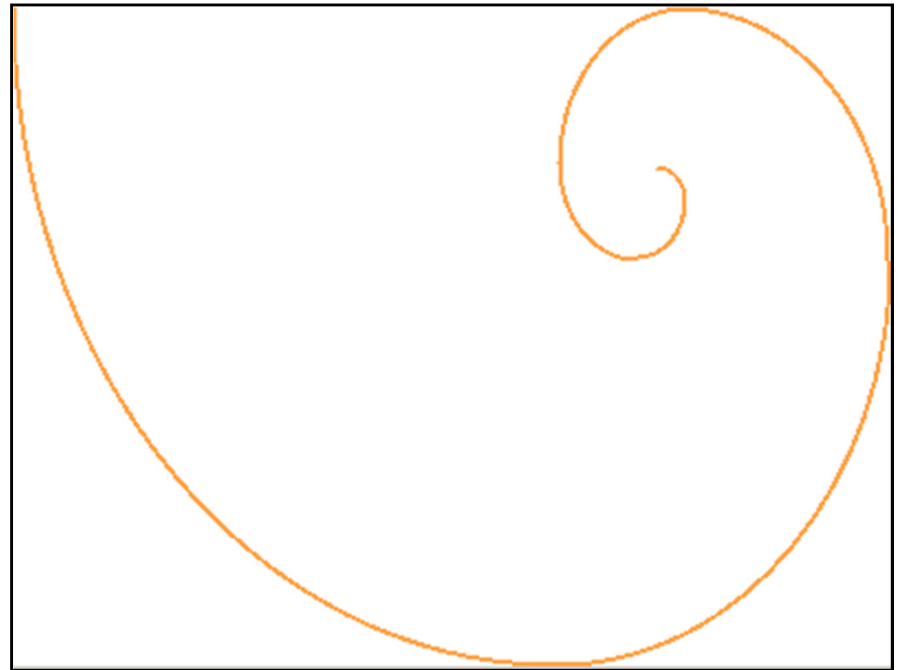
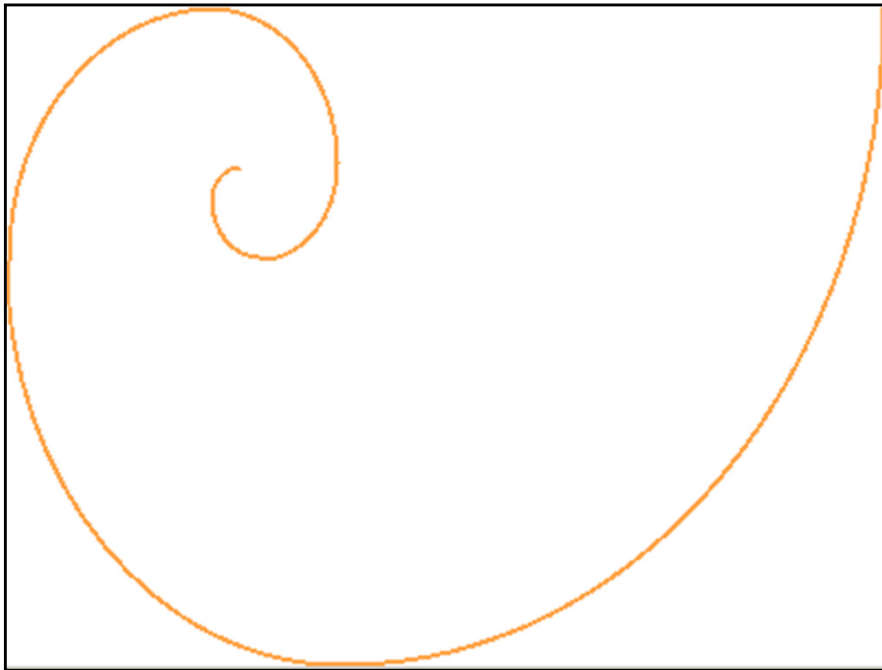
If we take any rectangle, we can divide it the a 3x3 grid, using the Golden Ratio to create the division lines.

This can be used as another composition guide instead of the (very similar) Rule of Thirds.



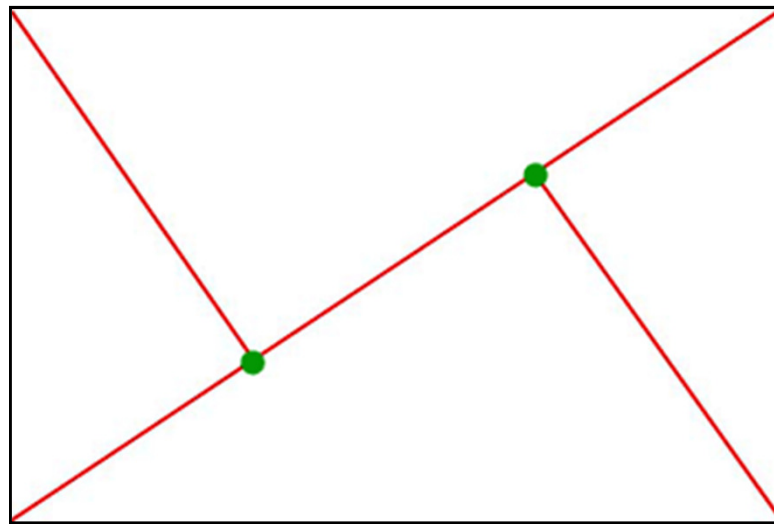
Golden Spiral

If you take a rectangle, split it using the Golden Ratio, then take the smaller sub-rectangle and split it using the Golden Ratio repeatedly, and then draw an arc within each of the larger sub-rectangles, you get one of the four the Golden Spirals.



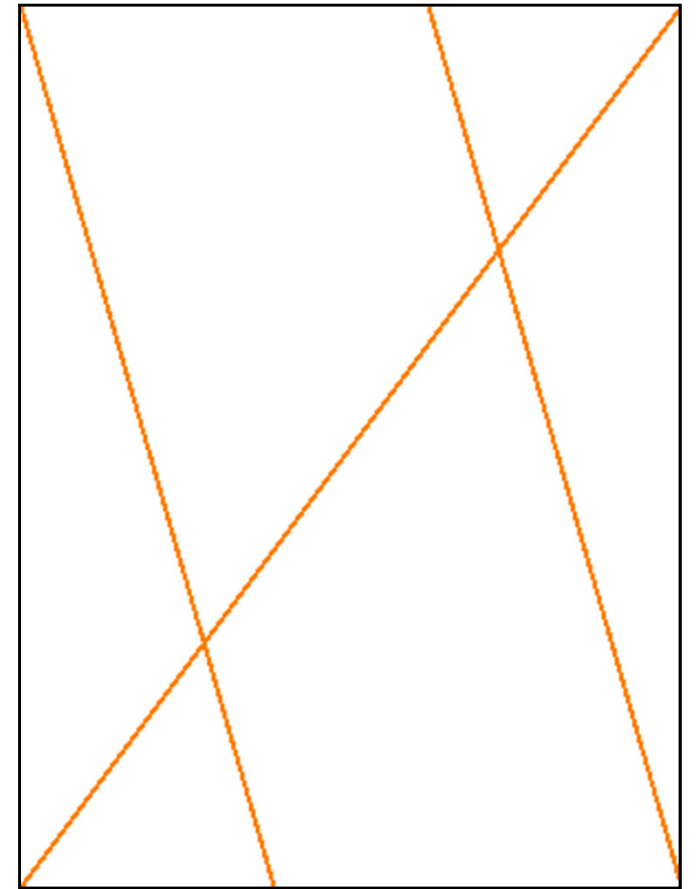
“Golden” Triangles

If you draw a diagonal connecting two opposite corners of a square, and then draw lines from the remaining two corners to the diagonal, that are perpendicular to the diagonal, you get a set of triangles.



“Golden” Diagonal

If you draw a diagonal connecting two opposite corners of a square, and then divide the rectangle using the Golden Ratio, and then draw lines from the remaining original two corners to the corner of the smaller rectangle created, you get a set of diagonals against which you can try to align visual elements.



PhotoCropr

A tool I have developed as part of a project to explore user cropping preferences and habits.

It supports cropping to (and overlay wireframes of) the Rule of Thirds, the Golden Mean, and the Golden Diagonal.

You click on the main point of interest, and several initial cropping options are presented.

You can zoom in and out without having the main point of interest move off of the crosshairs.

Frame within a frame

An interesting composition technique can be to use an existing visual element to frame the scene behind it.

There's a Flickr photo pool for this technique:

<http://www.flickr.com/groups/framewithiniframe/pool>



Original Photo © David Murphy

Changing your position...

Do not rely solely on your camera's zoom lens to change your framing.

If your subjects are stationary (or agree to stand still), you can explore the effect of your position relative to the subject(s) and the background and foreground.

- Take an initial picture of a scene.
- Take additional pictures after moving various distances away from the main subject.
- Take additional pictures after moving various distances closer to the main subject.
- Move to the left... Move to the right...

Post-photographic Cropping

Sometimes it might be easier to plan in advance to crop your photos after-the-fact.

Tools such as GIMP allow you to select a region of the image, and then crop to that selection.

You can also either select freehand, or set a specific aspect ratio (such as 4:3 landscape or 3:4 portrait).

Recall that 4"x6" photo prints have an aspect ratio of 3:2, so if you plan to print your photos, you'll want to crop them if your camera is not 3:2.



Balance, Symmetry, Negative Space

These three concepts all have us think about the use of the space in the photograph in different ways.

Balance: You might place one “heavy” thing on one side of an image, and then several “lighter” things on the other.

Symmetry: There are times where the subject or subjects can mirror each other across the horizontal or vertical.

Negative Space: We don’t need to fill every bit of the rectangle with subject matter.





Leading Lines

Use natural “lines” in the scene to guide the user to your subject or to emphasize or dramatize your subject.

Some possible ideas to try:

- use the ODK pool on the Mall to lead the eyes to a building or person
- use an escalator or people-mover (National Gallery of Art has one)
- go to a Metro station with an overpass that let's you look down the train tunnel



Selective Focus

Use a large aperture (small f/stop number) so that things behind or in front of the subject of focus are blurred. This keeps attention on the thing in focus.

It is still good to look at the out of focus parts to make sure there isn't something that is still distracting (high color contrast object for example).



Many more composition ideas...

I have presented a subset of the MANY different composition guidelines people use.

I would suggest looking at the photographs of others to expose yourself to other techniques.

I would also suggest searching for web pages that present composition tutorials for even more ideas.

You might find that you will like to mix and match different styles in different situations.

Focusing and Metering

One thing to keep in mind if you are going to take a picture with the main subjects in a position in the shot other than dead-center is that your camera might be using the center of the image to determine things such as the point of focus and the white balance.

If you do not take this into account, your picture might be properly composed, but have the wrong parts in focus, or the wrong overall lighting.

If you can not manually control these things, you might be able to depress the shutter release half-way with the subject centered, and then shift your framing before fully pressing the shutter release.

Some resources:

http://photoinf.com/General/AGFA/Photo_Composition.html

http://photoinf.com/General/Kris_Butler/Photo_Tip_-_Foreground_and_Lines.htm

<http://mathworld.wolfram.com/GoldenRatio.html>

<http://www.jstor.org/view/0024094x/ap050049/05a00080/0>

<http://digital-photography-school.com/blog/digital-photography-composition-tips/>

<http://www.cs.umd.edu/~egolub/PhotoApps/PhotoCropr>