



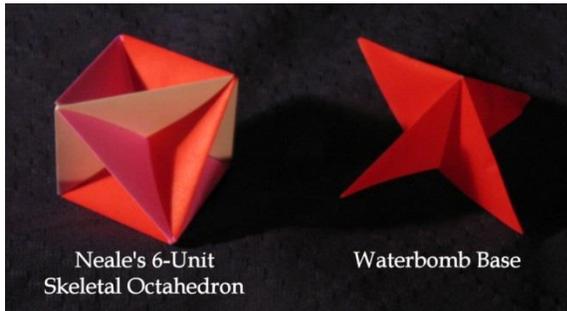
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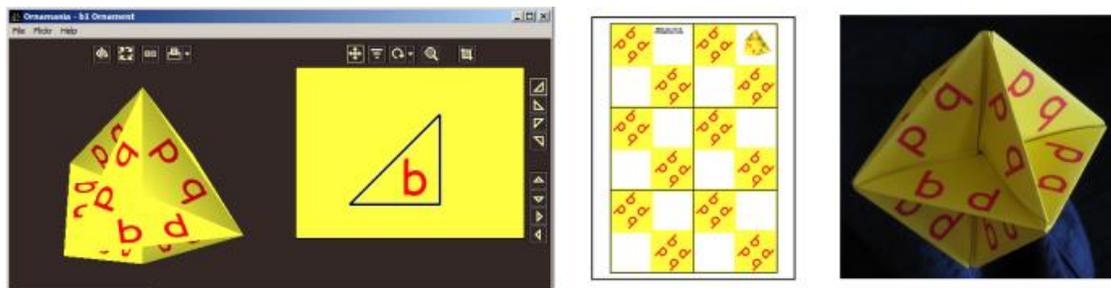
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# 1. Ornaments and the Ornamania Program

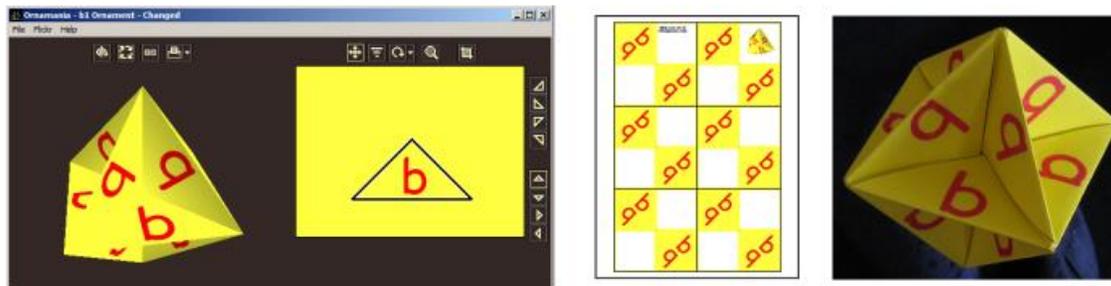


Robert Neale, a well-known American paperfolder, was the discoverer of the origami model at the left. It is made by assembling 6 pieces of origami paper that have been folded into the Waterbomb Base shape.

All the ornaments produced by the Ornamania program fold up and assemble to make Neale's model, but each can still be different because of Ornamania's ability to symmetrically decorate the squares of paper from which ornaments are constructed.



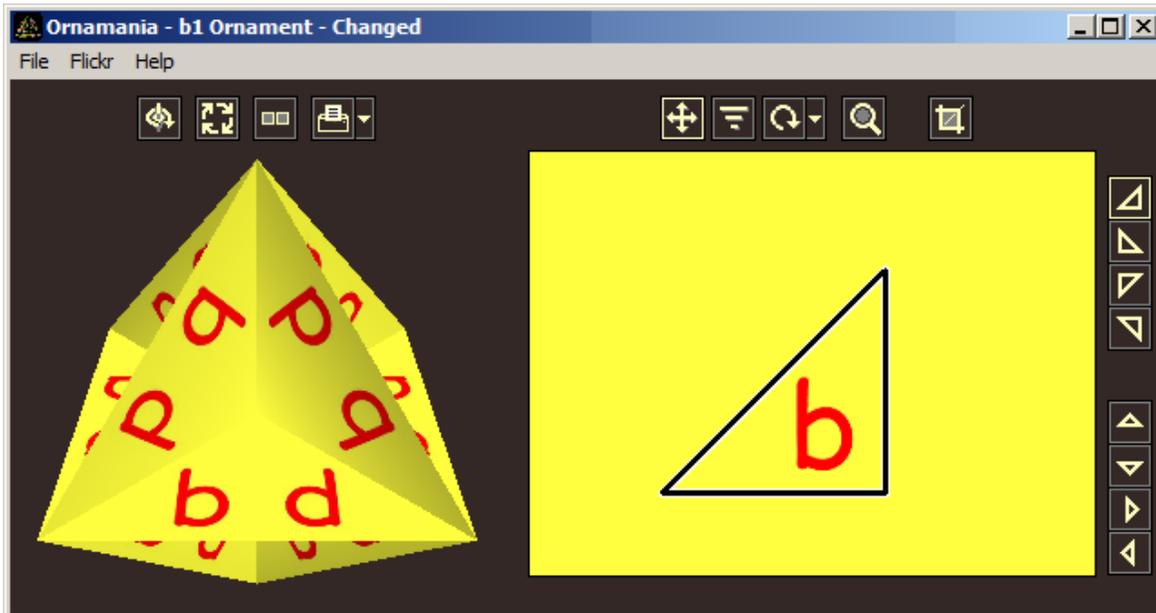
In the Ornamania program, you first load a picture and then select a triangular slice which is used to create a preview of the ornament. Above, the program took the slice, created a mirror image and combined the two to make the decoration for one face. This was then applied to all the faces of the ornament to create the 3D model at the left. To create the actual ornament, an ornament sheet is printed, cut out and assembled as shown at the right.



Another type of triangle can also be selected which skips the mirroring step. This allows for the possibility of creating ornaments with unreflected pictures or with text on their faces.

Instructions and videos on assembling ornaments and other Ornamania related topics can be found at [www.Ornamania.com](http://www.Ornamania.com)

## 2. Using the Ornamanca Program



Ornamanca is a program for Windows computers. The installation process places an Ornamanca icon on your desktop. Double-click this to start the program. A window similar to the above will appear. As with most Windows programs, you can use the minimize or maximize buttons or drag on the borders of the window to adjust it to a convenient size.

The menu bar at the top of Ornamanca window allows you to click **File**, **Flickr** or **Help**. The **File** command lets you load a new picture, save an ornament and perform other file related actions. The **Flickr** command lets you view Ornamanca ornaments on Flickr and publish your own. The Help command gives program help.

The right half of the main Ornamanca window contains the currently loaded picture along with controls that assist you in designing ornaments.

The left half of the window contains a 3D model of your ornament and buttons for controlling its rotation, animation and display style. A **Print** button is also found here. Clicking this produces an ornament sheet for the model, which can then be printed so you can construct the actual ornament.

## The File Menu

The File menu contains the following items:

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**Save Ornament... / Load Ornament...** -- these commands allow you to save and reload any ornament you create. By default, ornaments are stored in your **My Documents\My Ornamania Files\Ornaments** folder. Ornament files have a file extension of **.orn**. In addition, when an ornament is saved, a picture of the model is saved as a **.jpg** file at this same location.

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**Load Picture as New Ornament...** -- This loads an image file (.jpg, .png, .bmp) to create a new ornament.

**Paste Picture as New Ornament** -- Any image that has been copied to the clipboard can be loaded as the basis for a new ornament.

**Paste Picture from Clipboard (Ctrl+V)** -- Pastes the image on the Windows clipboard to replace the currently displayed ornament picture.

**Browse for Pictures** -- This command makes it easy to browse the internet for images. When you find something, right-click and copy it, or press the Print Screen button on your keyboard. Add the picture by using the already described Paste Picture command to create a new ornament.

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**Copy Picture to Clipboard (Ctrl+C)** -- Copies the currently displayed picture to the Windows clipboard.

**Copy Model Picture to Clipboard...** -- Click this command to copy the current image of the ornament model to the clipboard. From there it can be pasted into many other Windows programs.

**Save Ornament Sheet as...** -- allows you to save an ornament sheet as a PDF or image file which can then be sent to a friend. Such sheets can be printed, cut and assembled to create physical ornaments.

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**Preferences** -- allows you to examine/set various program preferences.

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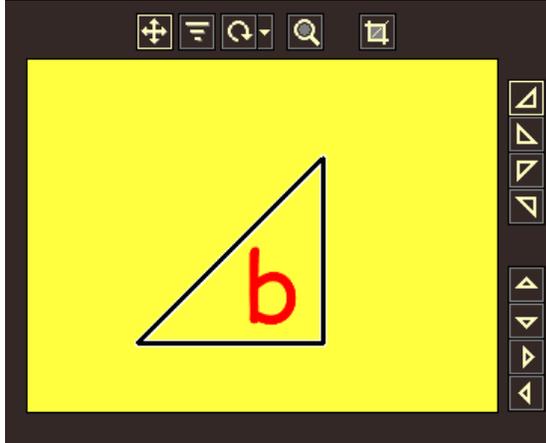
**<recent ornaments>** -- a list of the ornaments you have most recently worked with. Click a name in the list to reload an ornament.

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**Exit without Saving** -- ends the Ornamania program but does not save the current model. Instead, the model displayed when you started the program will be redisplayed when the program is restarted.

**Exit** -- ends the Ornamania program. Your current ornament is saved when the program ends and will automatically be reloaded when you next run Ornamania.

## Ornament Design



The ornament design section of the window displays the currently loaded picture. A triangle on the picture shows the currently selected slice... that part of the picture which is being used to decorate the 3D model.

### Side Buttons

There are 8 possible triangle orientations you can select from and there is a button for each just to the right of the picture. The top 4 triangles use mirroring to produce highly

decorative and symmetric ornaments. The bottom 4 triangles do not use mirroring and are more suitable if you are working with a photo of a person or trying to create an ornament that includes text.

### Top Buttons



Above the picture are buttons to control the location, size and rotation of the triangle. A zoom button lets you zoom in for fine tuning and a Crop/Edit command lets you alter the picture in various ways.

 Click the **Move button** to put the program into Move mode. Notice how the button now has a bright border to indicate it has been selected. While in Move mode you can drag on the picture with your mouse to move the selection triangle. The 3D model changes as you do this. Also while in Move mode, you can drag up and down on the picture with your **right mouse button** to change the size of the triangle.

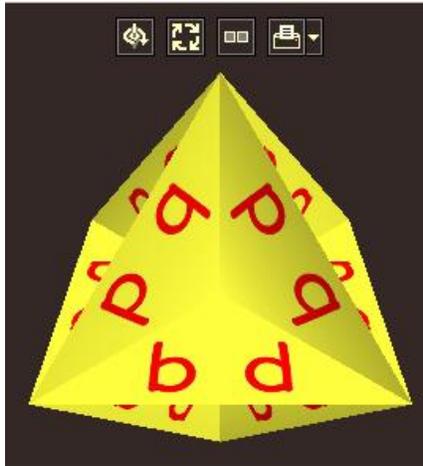
 Click the **Scale button** to put the program in Scaling mode. In Scaling mode, dragging up and down on the picture changes the size of the selection triangle.

 Click the **Rotate button** and then drag up and down on the picture to rotate it. The little **Rotation Select button** just to the right of the Rotate button allows you to quickly select common rotations. Use this to easily de-rotate your picture should the need arises.

 Click the **Zoom button** to zoom in on the selection triangle so you can fine tune your ornament's design. Click this button again to return to the normal view of the picture.

 Click the **Crop/Edit button** if you would like to crop away part of the picture, add a border or perform other simple picture editing operations.

## The 3D Model



The 3D model constantly changes as you move, scale and rotate the selection triangle. This is not only fun to watch but also gives an accurate idea of what the finished ornament will look like if you choose to print and assemble it.

If you drag right or left on the model with your left mouse button, the model will rotate. Drag faster and the speed of rotation increased. To stop the rotation, just click on the model without dragging, or click the Spin button described below.

If you drag with your right mouse button, the model will tumble in an interesting fashion. To stop the tumbling, just click on the model. To return to spinning the model in normal fashion, click the Spin button.

### Model Buttons



Above the model are buttons to control the spin, animation and display of the model. In addition, a Print button allows you to print the ornament sheet for any ornament you create:



Click the **Spin button** to start/stop the model spinning in a standard way.



Click the **Animate button** to cause the selection triangle to track all over the picture, making the model into a sort of 3D kaleidoscope. You can stop the animation at any time by clicking this button again.



Click the **Display button** to hide the ornament design portion of the screen and enlarge the view of the 3D model. Click again to restore the normal display.

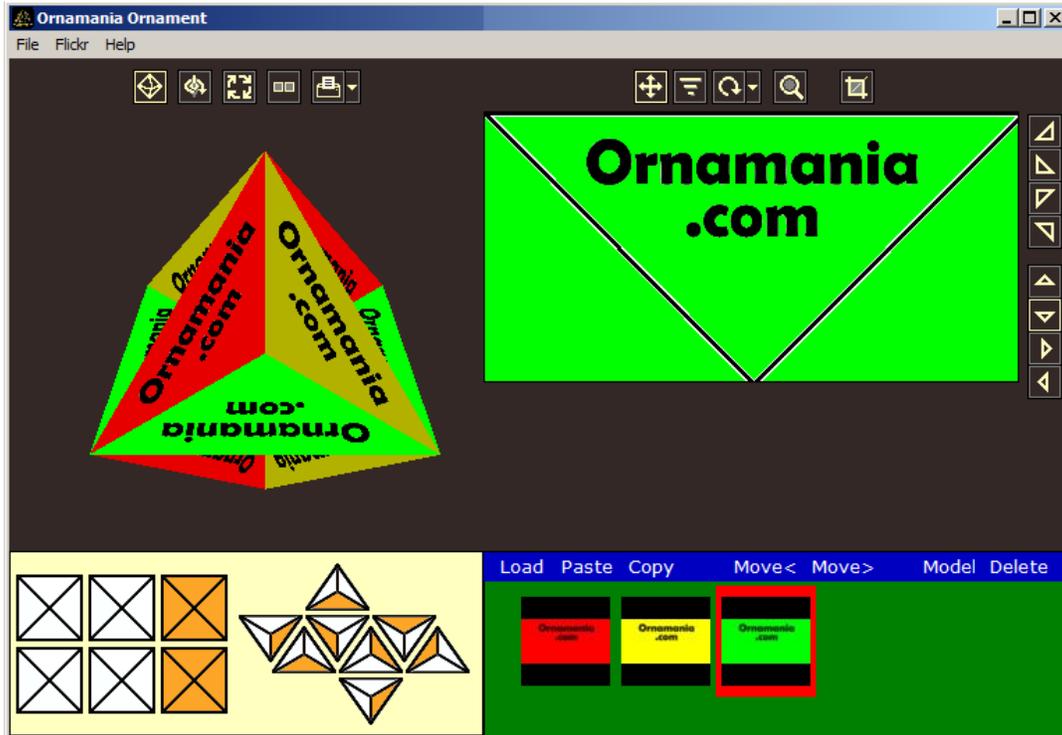


Click the **Print button** to create an ornament sheet for your ornament as a PDF file and display this in your PDF viewer program. From there you can print it and construct the actual ornament. Also, you can click the little **Print Options button** to create an ornament sheet for making larger versions of your ornament.

Here too you can change the **Cut-lines Color**. Cut-lines are the lines you cut to when cutting the sheet into 6 squares. Sometimes, depending on the colors in your ornament, it makes it a lot easier to see the cut-lines if you select a cut-line color other than Black.

### 3. Ornamanca Advanced Features

Each ornament created with the Ornamanca contains 24 triangular faces. Normally all of these faces are exactly the same slice, but Ornamanca does has the ability, through use of its Advanced Controls, to apply different slices to some or all of these faces.



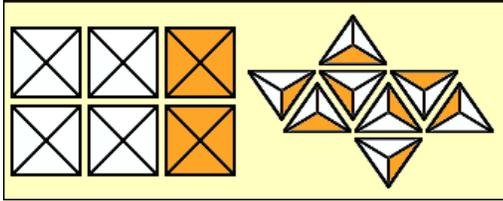
To display the Advanced Controls, press **Ctrl-A** or click **File/Preferences/Show Advanced Controls**. When you do this, the Ornamanca screen will change to show something similar to the above. To hide the Advanced Controls, simply press Ctrl-A again.

The best way to master the Advanced Controls is to read the below, watch the Advanced Controls video and to practice. The vast majority of Ornamanca users will be content with the standard controls, but for those who want to create something special, the Advanced Controls provide the means to do so.

#### Orientation Button

The top part of the Advanced Controls window is nearly the same as in standard mode. The only change is the addition of an  Orientation button. Clicking this alters the display to show the model as if it were lying on a table. Click again to re-display the model as if it were hung from one corner.

## Display Controls



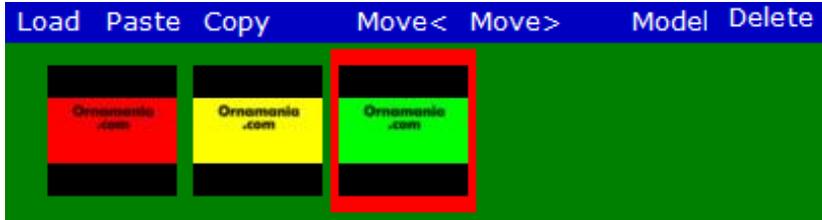
If you take an Ornamania model and rotate it in your hand, you will soon realize that you can think of it as being 3 interpenetrating squares, each square with a front and a back... each square consisting of 4 triangular faces. This gives a total of  $3 \times 2 \times 4 = 24$  triangular faces.

Alternatively, you can picture the model as being made of 8 triangular dimples, each made from 3 triangular faces, giving  $8 \times 3 = 24$  faces.

The buttons at the bottom-left of the Advanced Controls menu show both these ways of viewing the model in schematic fashion. Clicking on any of these buttons causes the model to rotate to display the selected square or dimple.

With standard ornaments, each square is exactly the same as any other. Also, each dimple is the same as any other. That, however, is about to change.

## Slice Controls



The Slice Controls are to the right of the Display Controls. Slice Controls allow you to add and change the slices used to create a model.

**Slice Thumbnails and the Current Slice** - Each available slice is represented by a small thumbnail of its related picture in the Slice Controls section of the menu. One of these thumbnails will have a red border, indicating that this is the "current slice." The picture and slice selection triangle for the current slice is displayed in the Ornament Design section of the menu, and these can be modified just as with an ordinary Ornamania model.

To select any of the available slices as the current slice, simply click it. The Ornament Design section will then change to show the picture and selection triangle for the slice you have selected.

**Applying the Current Slice to the Model** - To apply the current slice to any face of the model, simply move your mouse over the desired face in the model and double-click. There are 24 triangular faces in all Ornamania models, but you will

have to rotate the model to see them all. You can do this by dragging on the model or by using the Display Controls described above.

**Slice Usage** - As you move your mouse over the thumbnails displayed in the Slice Controls, the Display Controls change to show which faces of the model are painted with the slice you are over.

**Slice Menu Bar** - This appears above the thumbnails and allows you to perform a number of useful functions when creating complex ornaments:

**Load...**

**Load Picture as New Slice...** adds an image file to the list of available slices.

**Load Ornament as New Slice...** adds the picture from a saved ornament to the list.

**Paste...**

**Paste Picture as New Slice...** pastes the image on the clipboard as a new slice in the list.

**Paste Picture to Current Slice (Ctrl+V)...** pastes the image on the clipboard to replace the picture of the current slice. Use Ctrl-V to do this more quickly.

**Copy...**

**Copy Current Picture to Clipboard (Ctrl+C)** - copies the current picture to the clipboard.

**Copy Current Slice to Clipboard** - copies the current slice to the clipboard. This is very useful if you want to add text to one or more faces of the model. See the Advanced Controls video.

**Move<** - Moves the current slice one position to the left in the list.

**Move>** - Moves the current slice one position to the right in the list.

**Model...**

**Set All Faces to Current Slice** - sets all faces of the model to be the current slice.

**Clear Model** - removes all slices from the model leaving a white (empty) model.

**Delete...** Deletes the current slice from the list of slices. This can be dangerous. You could lose some of your work. So, be careful if you want to delete a slice.