

# Photoshop Distilled II

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## Page Layout

Preparation of digital figure plates for publication is best done with software designed for that purpose, such as QuarkExpress or Adobe Page-Maker. However, if you have only Photoshop in your repertoire, you can tackle page layout in the following ways.

**Method I:** This first method is probably easiest, but results in the loss of a few pixels along the inside edges of each of the images. **Zoom In** while working for best results.

1. Go to **File** → **New** and fill in the dialog box:
  - **Name** the new plate.
  - Enter the page **Width** in appropriate units (see **File** → **Preferences** → **Units**).
  - Enter the page **Height**.
  - Enter **Resolution** in pixels/inch.
  - Select **Mode** (e.g., grayscale).
  - Set the **Contents** (background) to white.
  - Click OK.
2. Now **File** → **Open** all the images you want to combine in the plate.
3. **Crop** and **Image** → **Adjust** → **Levels** if necessary, then size it to fit in your figure with **Image** → **Image Size...**
  - In 3.0 make sure **Constrain: Proportions** box is checked and **File Size** is not. Enter **Width** and **Height** values.
  - In 4.0 make sure **Constrain Proportions** box is checked and **Resample Image** is not.

- You may choose to **resample** (change the resolution) at this time. Remember that resampling up to a higher resolution means that pixels will be invented by Photoshop! Resampling to a lower resolution means losing pixels, but at least data is not invented. In either case, further image adjustments, such as gamma levels and sharpening with unsharp mask, may be needed.

4. Go to the image you want on the top left of the plate. **Select** → **All** then click on the **Move Tool** (3.0, 4.0) and drag and drop the image to the new file. In 3.0 it will now be a floating selection and can be moved with the Move cursor and/or the keyboard arrows while it is still selected. In 4.0 it will have become a new Layer and can be moved with the Move cursor and/or keyboard arrows as long as that layer is selected in the **Window** → **Show Layers** palette. Place the image in the upper left corner of the blank white sheet.

5. **Select** → **All** the image that will be placed to the immediate right of the first image. **Move** it to the new plate as you did the first one, aligning it so that it just touches the left image, and is the same height.

6. **Select** → **All** in turn each of the other images to be used in the plate, and align them so that they are just touching their neighbors. Keyboard arrow keys provide the most precise movements. Working with a higher screen magnification (**Window** → **Zoom In**) is helpful.

7. To make the vertical gutters (white lines separating the images), first double-click on the **Rectangular Selection Tool** to see the Options palette (3.0), or click once in (4.0).

- In **Style** choose **Fixed Size**.

- In **Width** enter the number of pixels you would like, e.g., 16 pixels at 600 dpi.

- In **Height** enter a number of pixels that will span the height of your column of images (e.g., at 600 dpi 8 inches = 2400 pixels).

- Position the selection cursor, shaped as a crosshair, at the top edge of the images, aligned with the "seam" where you'd like the gutter to be, and click the mouse. An area will be selected with marching ants. If you have made a mistake, select **Select** → **None**.

- If the gutter is positioned correctly, go to **Edit** → **Fill...**, and then use **Foreground** (which you have made white), **100%** opacity and **Mode: Normal**. This should create a white line.

8. To make horizontal gutters, follow the above instructions, except change the **Rectangular Selection Tool** **Fixed Size Width and Height** to appropriate numbers, and position the cursor on the left edge of the plate before clicking.

9. Your plate is probably not now positioned correctly on your canvas. One way to position is to use the **Crop Tool** to keep only the image portion and crop away the rest of the empty canvas. This results in a smaller file size, and when printed it will be centered on the paper. If you desire some other layout, crop the plate, then select **Image** → **Canvas Size** and make a new canvas which is the size of your final page, and place the cropped image where you want it.

- In 3.0, if further corrections need to be made to the plate, you may operate on the plate as a whole or select a portion with the **Rectangular Selection Tool** and operate on individual sections.

- In 4.0 each part of the plate is still a separate layer, and each may be operated on individually by selecting that layer. To operate on the plate as a whole, the layers all need to be merged, or the image needs to be flattened. For these options, go to the **Layers** palette, click on the right-pointing triangle near the top, and select **Merge** (to merge two layers at a time) or **Flatten**, which merges all the visible layers and discards the rest.

**Method II:** This method utilizes the **Grids and Guides** found in Photoshop 4.0, and allows retention of all the edge pixels.

1. Go to **File** → **New** and fill in the dialog box:

- **Name** the new plate.

- Enter the page **Width** in appropriate units (see **File** → **Preferences** →

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<sup>††</sup> U.S. Patents 5,465,012; 5,469,058

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## Photoshop Distilled II

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### Units).

- Enter the page **Height**.
- Enter **Resolution** in pixels/inch.
- Select **Mode** (e.g., grayscale).
- Set the **Contents** (background) to white.
- Click OK.

2. Now **File** → **Open** all the images you want to combine in the plate.

3. **Crop** and **Adjust Levels** if necessary, then size it to fit in your figure with **Image** → **Image Size**...

- In 3.0 make sure Constrain: Proportions is checked and File Size is not. Enter Width and Height values.

- In 4.0 make sure Constrain Proportions box is checked and Resample Image is not.

- You may choose to resample (change the resolution) at this time.

Remember that resampling up to a higher resolution means that pixels will be invented by Photoshop! Resampling to a lower resolution means losing pixels, but at least data is not invented. In either case, further image adjustments, such as gamma and sharpening, may be needed.

4. Set up your Grids and Guides:

- Go to **Window** → **Show Grid** and set up the number of lines and divisions.

- Go to **File** → **Preferences** → **Guides and Grids** and select a line type and color for guides

- Guides are made by depressing the mouse button and dragging from a ruler line to the position on the grid you want the guide line(s). Make a

left vertical guide and a top horizontal guide.

5. Go to the image you want on the top left of the plate. **Select** → **All** then click on the **Move Tool** and drag and drop the image to the new file. The image will have become a new Layer and can be moved with the Move cursor and/or keyboard arrows as long as that layer is selected in the **Window** → **Palettes** → **Show Layers** palette. Place the image against the upper left guide of the blank white sheet. When you are near the guide line, it will "snap" to it.

6. Position more guides as needed to define the gutters between the individual images. Continue to select and move images to the new plate and position them as desired.

7. In 4.0 each part of the plate is still a separate layer, and each may be operated on individually by selecting that layer. To operate on the plate as a whole, the layers all need to be **Merged**, or the image needs to be **Flattened**, as in method I.

**Method III:** Select and Fill gutters.

- Use **Rectangular Selection Tool** to select and define an area you want to be a gutter, then **Edit** → **Fill** with white. This is useful to border inserts.

**Method IV:** The eyeball method. This method tends to give less precise results unless you really work on it, but allows for more freedom of placement of images.

- Drag and drop images and eyeball their positions. Don't worry about adding gutters; just space them as well as you can. Keep images as individual layers for greatest flexibility. ■

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- ✓ March 1/6 '98: **PITTCOON '98** New Orleans, LA, (800)825-3221, (412)825-3220, <http://www.pittcon.org>
- ✓ March 16 (NYC), 18 (Springfield, MA) & 20 (Boston MA): **Optimizing Light Microscopy Lecture/Demonstration** (MM&E), Dr. Ken Piel: (413)746-6913, eMail: [kenpiel@map.com](mailto:kenpiel@map.com)
- ✓ April 19/23 '98: **20th International Conference on Cement Microscopy** (ICMA) Guadalajara, Mexico. [www.cemmicor.org](http://www.cemmicor.org)
- ✓ April 19/24 '98: **7th Biennial Frontiers of Electron Microscopy in Materials Science** (FEMMS98) Irsee, Germany: <http://femms98.llnl.gov>, email: [weking@llnl.gov](mailto:weking@llnl.gov)
- ✓ May 9/12 '98: **SCANNING '98: (FAMS)** Baltimore, MD. Mary K. Sullivan: (201)818-0086, Fax: (201)818-0086, email: [fams@holonet.net](mailto:fams@holonet.net). Internet
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