A **panorama** (formed from [Greek](#) πᾶν "all" + ὄραμα "sight") is any wide-angle view or representation of a physical space.

Shortly after the invention of photography in 1839, the desire to show overviews of cities and landscapes prompted photographers to create panoramas. Early panoramas were made by placing two or more daguerreotype plates side-by-side. Daguerreotypes, the first commercially available photographic process, used silver- coated copper plates to produce highly detailed images.
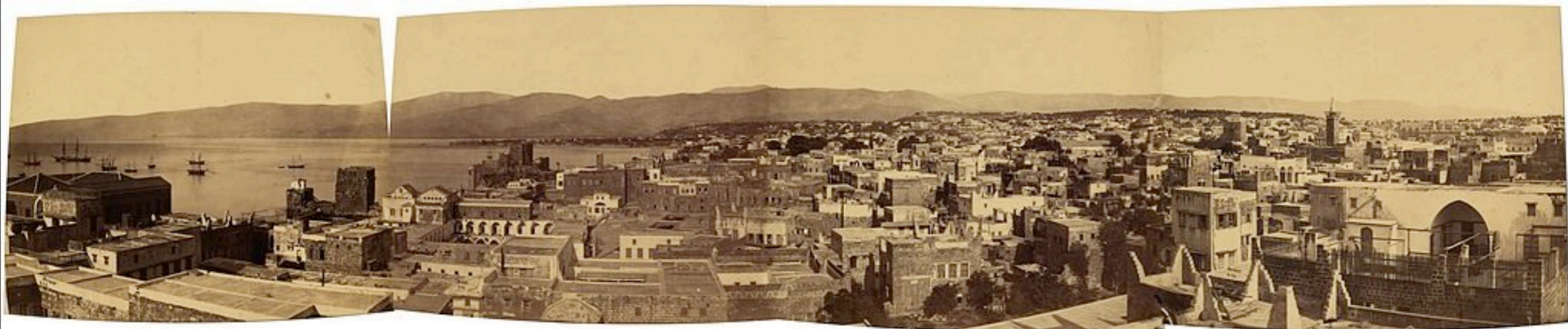
A panorama of Beirut by the Maison Bonfils, (1867-99).

View of Sydney, a French print of albumen silver photographs taken in **1875** by Holtermann and Bayliss

*Photograph of San Francisco in ruins from Lawrence Captive Airship, 2000 feet
above San Francisco Bay...*; 1906
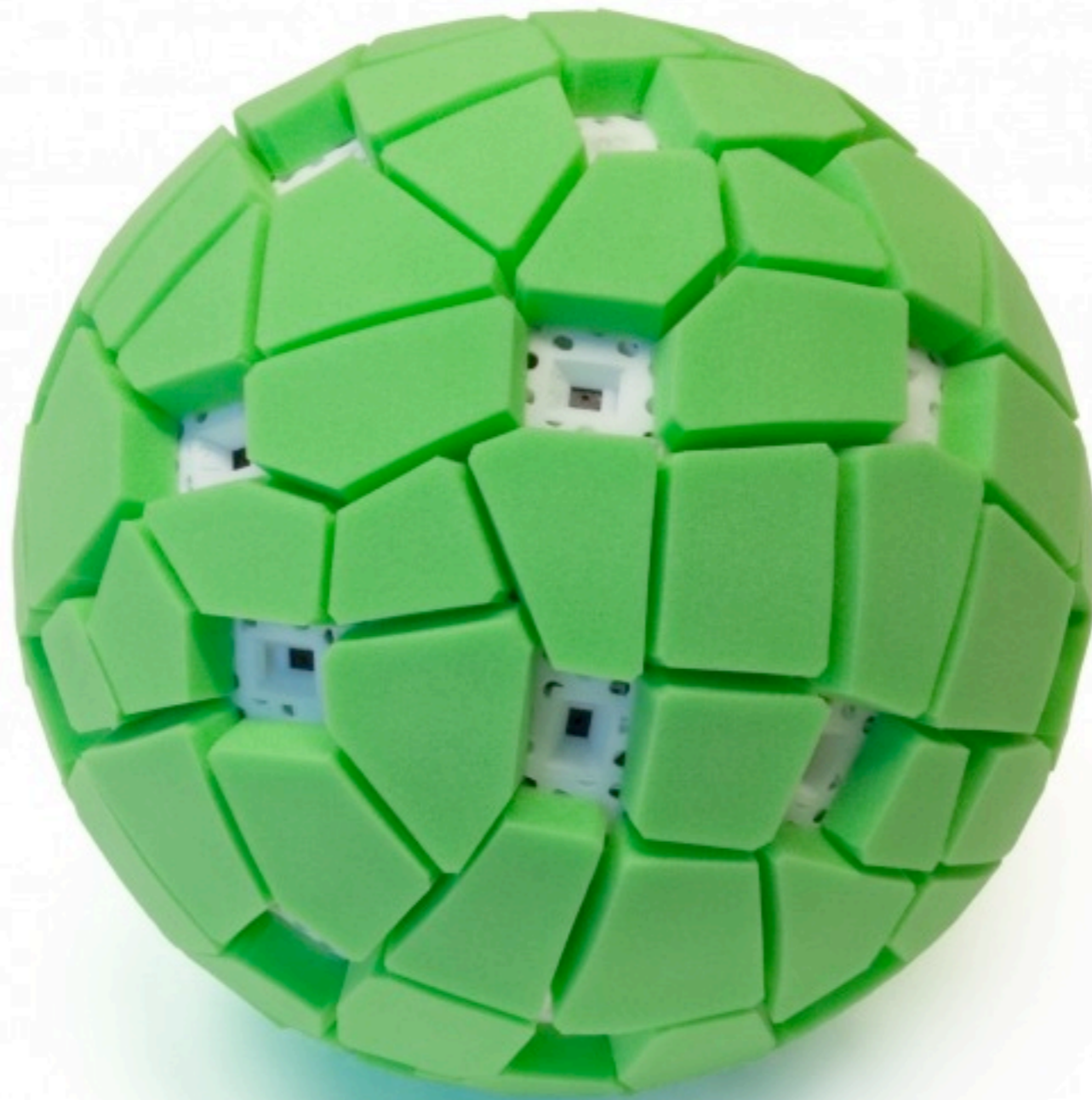Geo. R. Lawrence Co.
gelatin silver print; 18 x 48 in.

George Lawrence used **aerial kites** to photograph San Francisco after the devastating 1906 earthquake. His photographs appeared in newspapers around the world.

Google Street View

Sunday, October 21, 12

http://www.popphoto.com/gear/2011/10/
new-gear-throwable-panoramic-ball-
camera

Wim Wenders

Jim Dow

Jim Dow

Garth Meyer
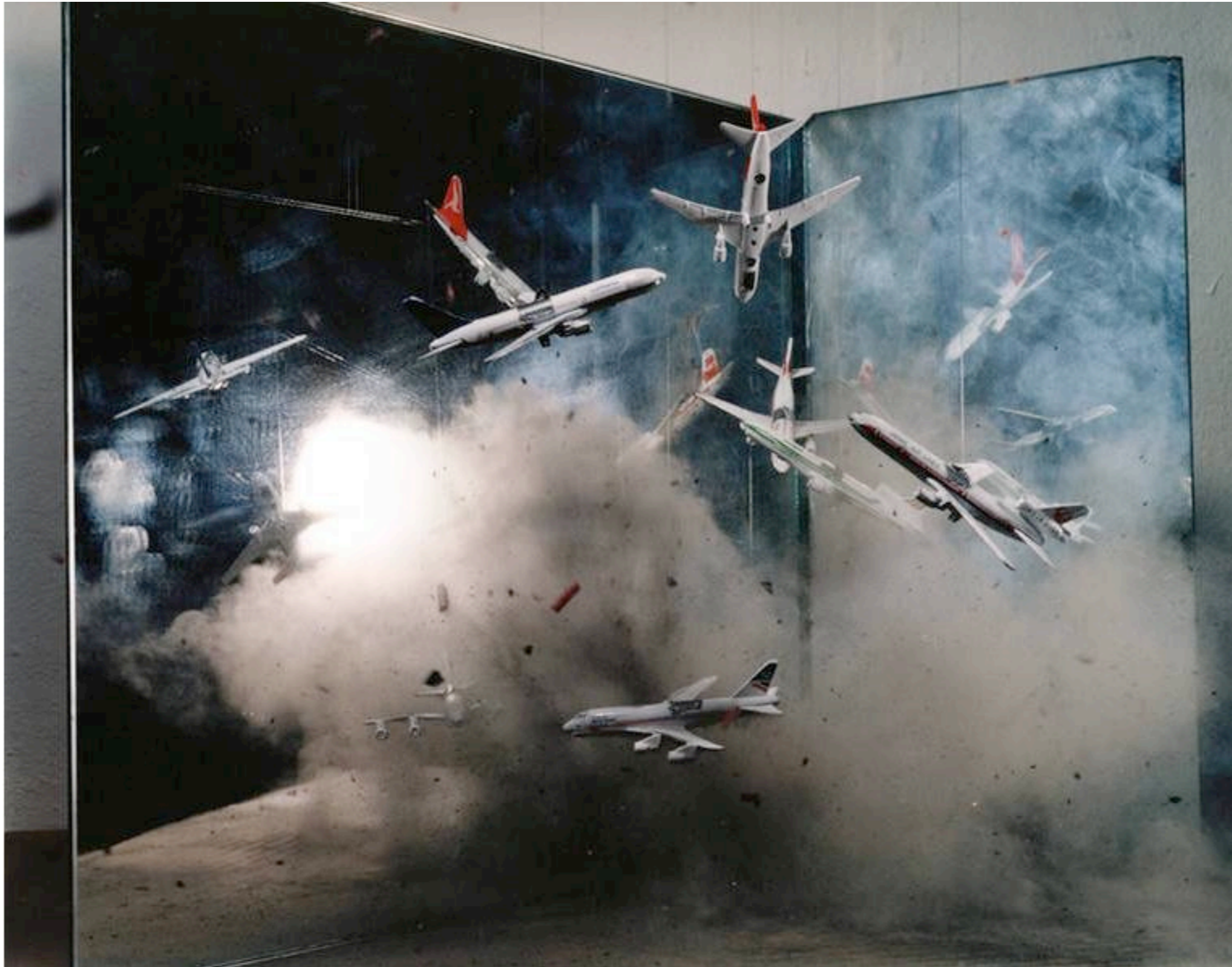
Cat Tuong Nguyen

Gottfried Helnwein
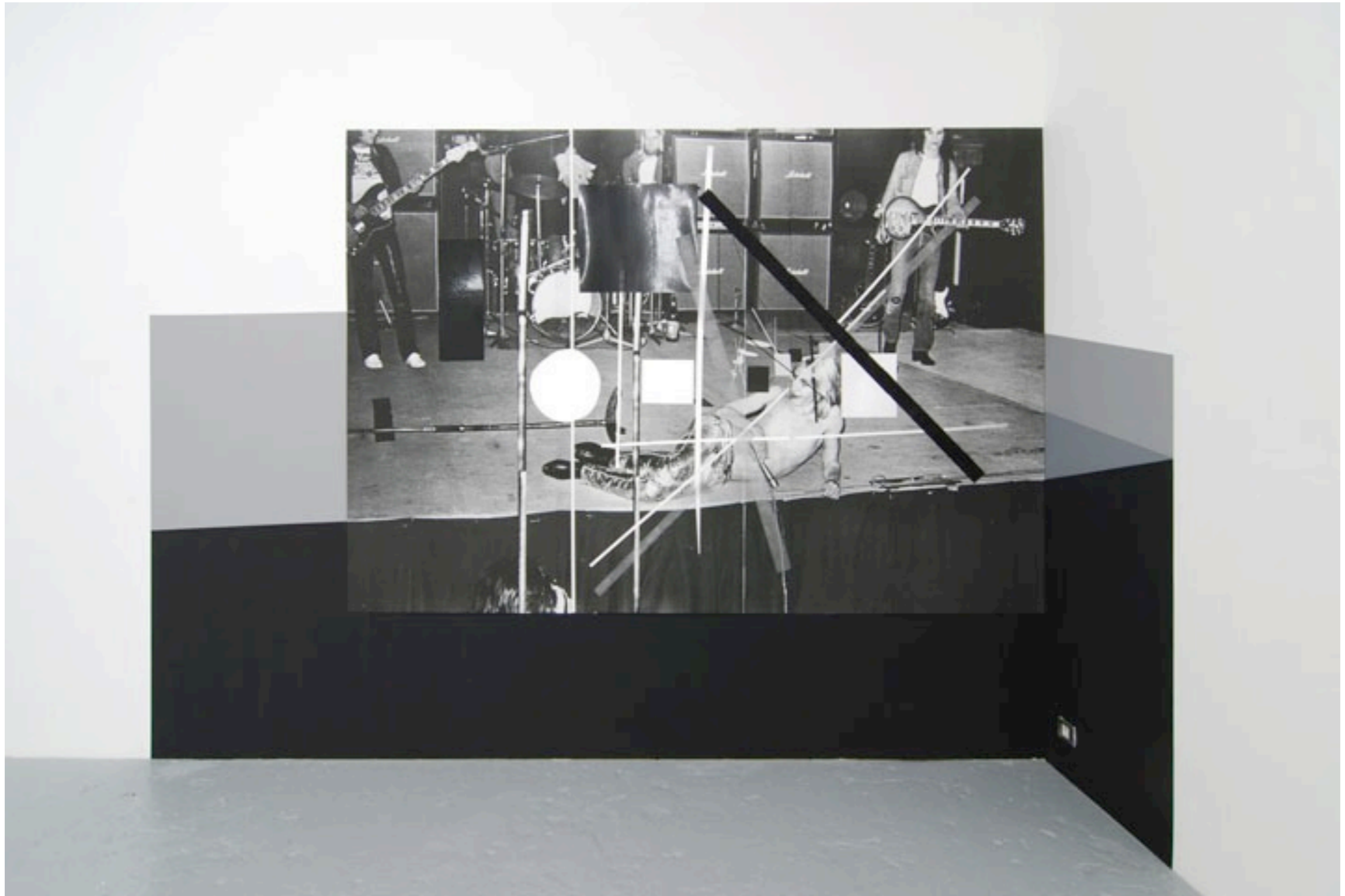
Meredith Sparks

Marlo Pascaul

Marlo Pascaul

Andreas Gursky

Andreas Gursky

Andreas Gursky
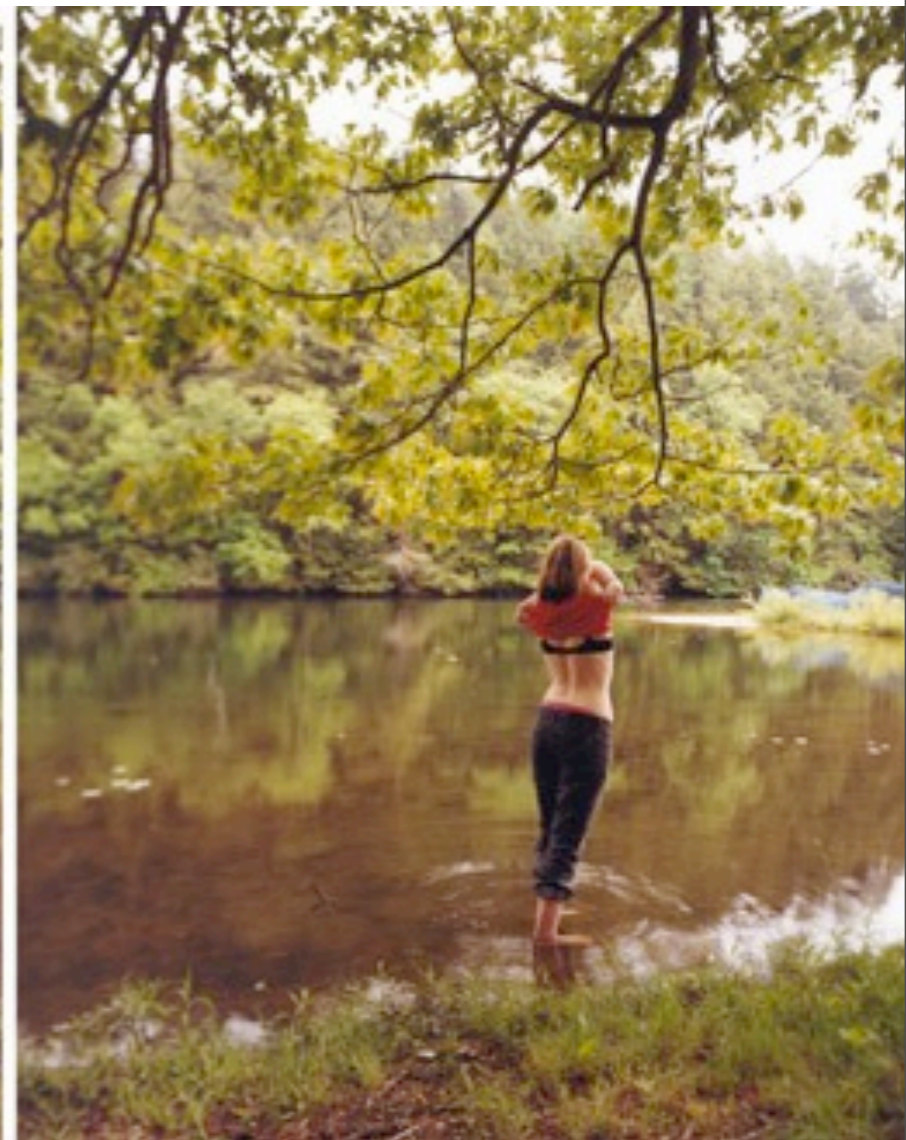
David Hilliard

David Hilliard

David Hilliard

David Hilliard

David Hilliard

David Hockney

Nicholas Wilder Studying Picasso, *1982 48 1/2 x 26 1/2 in.*

David Hockney

David Hockney

Merced River, Yosemite Valley, Sept. 1982   photographic collage, edition: 20, 52x61 in.

David Hockney

David Hockney

Shooting Suggestions

If in doubt, shoot twice

Depth of field

Generally panoramic pictures capture a scene rather than a moment. In other words most panoramic pictures are of places rather than of people or events as such, therefore you will probably want to aim for a crisp picture that captures the entire scene through to the horizon. To do this you want to set a very large depth of field so that everything in shot is in crisp focus.

When determining the depth of field you need, remember that when shooting indoors you do not need to focus further than the walls of the room and therefore you are likely to be able to widen the aperture and consequently reduce the exposure time.

Avoid altering the depth of field because to do this you will need to alter focus, and when you alter focus you subtly change the field of view of your lens. Most software cannot cope with a mixture of lenses being used for a panoramic sequence - they assume the same lens was used throughout, or more specifically that the lens was used with exactly the same settings (including focus).

So in conclusion, you need to:

- decide whether you want everything in focus (large depth of field)
- make sure that if you use these settings that they are sufficient for every frame of the sequence. In other words, if *one* of the pictures features something very close to the camera, which you want in focus, then you should set up a large depth of field for *all* pictures.

Shooting Suggestions

A Camera on a tripod

1. Position your camera in "portrait" orientation (tall photos, not wide photos).
2. Shoot photos with at least 30% overlap. (You might need to take 15-25 photos to make a full circle).
3. After you make a full circle, you can tilt your camera up or down and shoot another circle.

Some important things to remember:
- If you know how to set the exposure, you should keep the same exposure (and white balance) for ALL photos in the panorama.
- If you take pictures containing only sky, or only blank walls, they probably won't fit together. Try to get "something" in each photo. This is important!
- Don't use a flash, unless you really have to.

Shooting more than one row of pictures

33 images

HOMEWORK:

Research one artist from this panorama intro.

on your BLOG:
Upload at least 2 images to your blog entry.
Discuss the artists approach (either content, techniques or both) and **why** they work in a specifically large scale.

SHOOT:
Work on preliminary concepts.
After fall break, bring in at least two example panoramas that you've shot. They do not need to be finished, rather I'm looking at these as sketches. One of these, will be further developed after you and I discuss your works & ideas.

Create a Photomerge composition

1. Do one of the following:
   - Choose File > Automate > Photomerge.

   - In Adobe® Bridge, choose Tools > Photoshop > Photomerge from the Bridge menu bar. Skip to step 5. Note: In Bridge, choosing the Photomerge command uses all images currently displayed in Bridge. If you only want specific images used, select them before choosing the Photomerge command.

2. Under Source Files in the Photomerge dialog box, choose one of the following from the Use menu: Files
Generates the Photomerge composition using individual files.

   Folders
   Uses all the images stored in a folder to create the Photomerge composition.

3. Specify which images to use by doing one of the following:
   - To select image files or a folder of images, click the Browse button and navigate to the files or folder.

   - To use the images currently open in Photoshop, click Add Open Files.

   - To remove images from the Source File list, select the file and click the Remove button.

4. Select a Layout option: For a video that shows the effect of each Layout option, see www.layersmagazine.com/photoshop-cs4-photomerge.html.

   Auto
   Photoshop analyzes the source images and applies either a Perspective, Cylindrical, and Spherical layout, depending on which produces a better photomerge.

   Perspective
   Creates a consistent composition by designating one of the source images (by default, the middle image) as the reference image. The other images are then transformed (repositioned, stretched or skewed as necessary) so that overlapping content across layers is matched.

   Cylindrical
   Reduces the "bow-tie" distortion that can occur with the Perspective layout by displaying individual images as on an unfolded cylinder. Overlapping content across files is still matched. The reference image is placed at the center. Best suited for creating wide panoramas.Applying Cylindrical Mapping

Spherical
Aligns and transforms the images as if they were for mapping the inside of a sphere. If you have taken a set of images that cover 360 degrees, use this for 360 degree panoramas. You might also use Spherical to produce nice panoramic results with other file sets.

Collage
Aligns the layers and matches overlapping content and transforms (rotate or scale) any of the source layers.

Reposition
Aligns the layers and matches overlapping content, but does not transform (stretch or skew) any of the source layers.

1. Select any of the following options: Blend Images Together
Finds the optimal borders between the images and create seams based on those borders, and to color match the images. With Blend Images Together turned off, a simple rectangular blend is performed. This may be preferable if you intend to retouch the blending masks by hand.

   Vignette Removal
   Removes and performs exposure compensation in images that have darkened edges caused by lens flaws or improper lens shading.

   Geometric Distortion Correction
   Compensates for barrel, pincushion, or fisheye distortion.

2. Click OK.
Photoshop creates one multi-layer image from the source images, adding layer masks as needed to create optimal blending where the images overlap. You can edit the layer masks or add adjustment layers to further fine tune the different areas of the panorama.

Applying Cylindrical Mapping

Create 360-degree panoramas (Photoshop Extended)

Combine Photomerge with 3D features to create a 360-degree panorama. First, you stitch together the images to create a panorama; then you use the Spherical Panorama command to wrap the panorama so it's continuous.

Be sure to photograph a full circle of images with sufficient overlap. Photographing with a pano head on a tripod helps produce better results.

For a video on creating a 360-degree panorama, see http://tv.adobe.com/#vi+f1577v1001.
1. Choose File > Automate > Photomerge.
2. In the Photomerge dialog box, add the images you want to use. Do not include images that cover the top (zenith) or bottom (nadir) of the scene. You'll add these images later.
3. Select Spherical for the Layout. If you photographed with a fisheye lens, select the Auto layout and Geometric Distortion Correction. If Photoshop cannot automatically identify your lens, download the free Adobe Lens Profile Creator from the Adobe website.

4. (Optional) Select Vignette Removal or Geometric Distortion for the Lens Correction.
5. Click OK. There might be transparent pixels on the edges of the panoramic image. These can prevent the final 360 panorama from wrapping correctly. You can either crop the pixels out or use the Offset filter to identify and remove the pixels.
6. Choose 3D > New Shape From Layer > Spherical Panorama.
7. (Optional) Manually add the top and bottom images into the sphere. You could also paint out any remaining transparent pixels in the 3D spherical panorama layer.