Niamh Fahy - Camera Obscura Instructions

#cfprobscurachallenge

Niamh Fahy is a Research Associate and Artist working with historical photographic and photomechanical processes at the Centre For Fine Print Research, UWE. For the UWE Festival of Prints and Books 2020, Niamh will demonstrate how to turn your room into a camera obscura using this simple step-by-step method.

Materials Needed:
Some cardboard for lens
Black plastic sheets (Binbags will work) or lots of cardboard
Scissors & scalpel
Pen
Gaffer tape/duct tape
A window
An old white sheet/wall or some large sheets of white paper
A towel/sheet
Optional: old camera lens, old glasses lens, magnifying glass

Step 1: Find a room with a window, if you have a nice view and a sunny day even better, you will need a blank white wall opposite the window, as that will be where the image will be projected. If you don't have a blank wall, not to worry, hang an old white sheet or a large sheet of white card on the wall.

Step 2: Prepare the room, remove any furniture, fittings or items from around the window, remove any obstacles or trip hazards you might not see in the dark.

Step 3: Take your pen and trace a circle on the cardboard for your lens, use one or both of the following options.
Option 1: use your roll of tape or the top of a flashlight to trace and cut a circle in your cardboard, this is the simplest option and works well.
Option 2: If you would like to try different size lenses and test their optical qualities try using a washer, an old camera lens, the top of a flashlight or even a magnifying glass. Place your lens of choice on the cardboard, trace and cut a hole around it, then place the lens on top and tape with strong duct tape to the cardboard. You now have the lens of your camera obscura.

Top Tip Remember the smaller your lens, the more in focus and detailed your image, a larger lens will give you a brighter image but it might be a little blurry. You can trace as many lenses as you like, just keep the cut-out cardboard to cover them when not in use and have fun, you will be surprised by what works well!

Step 4: Begin to block out your window. Use black plastic binbags or cardboard to cover the window, overlap if necessary. Leave an area uncovered in the middle of the window for the cardboard lens. Tape your lens board to the window with duct tape. The window should now be completely covered with no light passing through apart from the lens hole. Turn off the lights and check for any light leaks, tape any areas where there is a touch of light.

Step 5. Turn off the lights. Close the door. Place a towel or blanket at the bottom of the door to block out any extra light, the only light in the room should be from your lens. Give your eyes a few minutes to adjust to the dark, an image should appear on the wall opposite the window. Play with opening and closing your different lenses to see the difference in focus and light.

Optional – Grab a white piece of card bring it closer to the window, grab an old magnifying lens or some reading glasses and play with focus of your image.

Step 6: To Capture your camera obscura, photograph with your phone or digital camera, you'll need to be able to adjust the exposure setting to around 30 seconds, for low light setting.

Top Tip: try placing your camera on a solid surface or tripod to keep it steady and avoid blurring. If you prefer to play a little more try Placing some sheets of paper on the wall and play with drawing over your projected image, tracing or collaging as you go. Take a moment to enjoy the wonder of your contraption, sit back and watch the clouds.

Interesting Fact: The image of the outside world projected on your wall will appear upside down. Why? Light rays travel in a straight line, when light bounces off its subject outside, it travels through the aperture and becomes inverted, the top of the subject becomes the bottom, the bottom of the subject becomes the top during the projection. A pinhole camera has no other structure within it to turn the image right side up. An SLR camera has a mirror inside it to make that correction.

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