



M U L T I P L E
E X P O S U R E
I N R E A L T I M E

troels steenholdt heiredal





20 Silver Gelatin each 8 x 10 inch, combined 24x 50 inch.

Preface

I was invited to create an installation for Front Art Space, 118 Chambers Street, NYC. I decided to turn the whole gallery into a camera; a camera obscura with multiple lenses.

This is a short presentation of the project that was on show from August 21st till September 12th, 2014.

C O N C E P T



Camera Obscura

The earliest mentioning of a pinhole camera or camera obscura that we know of comes from Mozi, a Chinese philosopher (470 - 390 BC). The Greek philosopher Aristotle also mentioned the principle behind the camera as he observed a solar eclipse on the ground, projected through the hundreds of small holes between the leaf of an overhanging tree top.

A camera obscura is the most simple lens based camera we know of. In a dark room a small hole to the outside is made, and a lens is placed in front of it. Light can now travel through the lens to the dark interior of the camera and make an exact delineation of the outside world; but flipped up side down and east side west. The diopters, '*strength*', of the lens will determine the focal distance inside the camera.

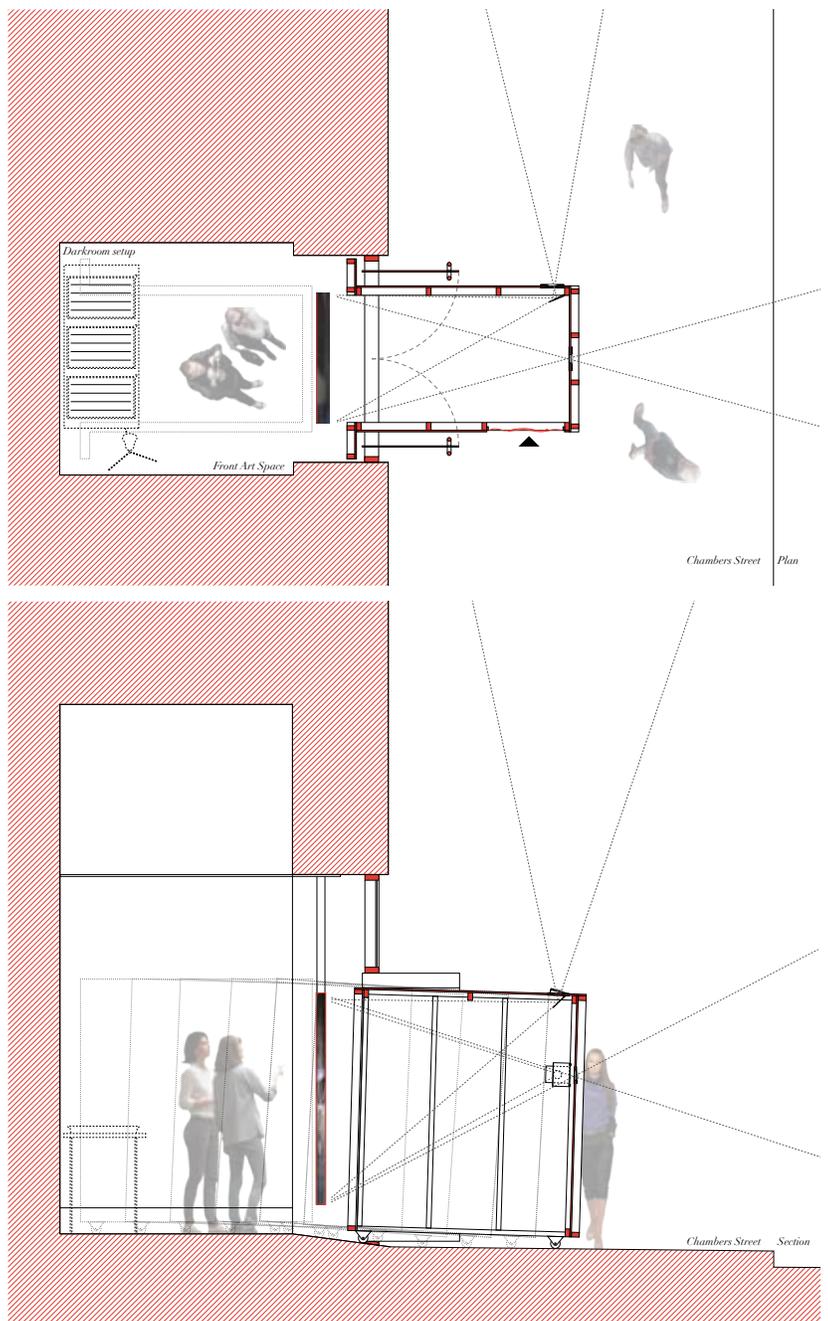
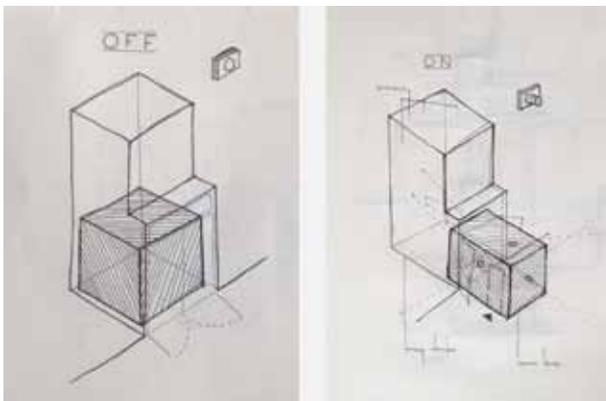
The camera obscura has also been developed as a portable version, where the image is projected onto a glass plate in the back of the camera, sometimes via a mirror onto a horizontal or a 45 degree drawing plane. The portability made the camera obscura widely used by artists and architects throughout time in order to draw exact replicas of the world. The technological advancements have since made the camera obsolete.

Drawings

The small gallery is turned into a camera by the addition of a small wooden structure, which fits perfectly inside the space. The whole facade of the gallery opens and allows for the camera structure to drive out onto the sidewalk, extending the gallery space outward, to include the street and engage with the passing by audience.

The world outside moves through the lenses to the inside, behind two of them are mirrors that alters the direction of the projection, so that the light from the three lenses merge at one plane. The lenses have been carefully chosen, so that the convergence of the images happens in the middle of the space at the former entrance to the gallery; the former point between inside and outside is now between gallery and camera-structure.

Like a compact camera, when off/ closed, the camera sits inside the locked gallery, when on/ open, the “lenses” extrude out to see the world.



Outside

The camera is a simple frame construction clad in burned and varnished osb. The burning of the osb, makes it more durable for the shifting weather conditions the camera will experience during its life time, as well as being an aesthetic choice. The burning makes the different random grains of wood stand out against each other and creates a varied exterior, like an old box that has been shipped around the world, too large to fit into the gallery.

To ensure that the lenses can be placed at the correct distance to the projection plane, the frames are only clad on one side, thus creating a difference in appearance. The lenses are set on individual pieces of tapered cedarwood, to take into account the sloping of the sidewalk. The direction of the lens in the roof, is altered slightly with a small construction to make it 'see' the sky.

The camera sticks out into the sidewalk and through written notes on the camera, I encouraged the passing by audience to step inside the camera and experience the magic that happens here.



Inside

The light from the three lenses collide on the inside. The camera was both a movie theater and a still camera. The opening of a notebook, created a movie screen right there in the book; moving it around in the space, it captured different pieces of the outside world.

A translucent screen was hung from the ceiling, this veil would catch the images coming at it and from the backside of it, the overlaid world of the outside was clearly visible. The movement captured by the different lenses, mixes in front of your eyes. The audience was invited in to experience this magic of the camera obscura, to view the world in a new way.

As a still camera, I would become the inner workings of the camera. I had an easel set up, to find the composition on a blank piece of paper, I am the viewfinder; then shutting out all light, placing a light sensitive piece of paper on the easel and covering it up. The lenses are uncovered to different levels to control the amount of light coming from each, I am the aperture; then the paper is exposed and covered back up, I am the shutter. The paper was developed in the back of the gallery, where I had a small darkroom set up.



CAPTURING
THE LIGHT



Film Stills

Much of the experience of the project was in the moving image, mixing in front of your eyes in the dark of the interior of the camera. I have tried to capture this and the experimentation with the projection screen, the veil through which the world revealed itself in new constellations, in a film.

The film investigates what was going on in the interior of the camera: how light collided, was blocked out, changed and altered. These investigations were also the beginning of the experimentation with manipulating the projection screen to create new compositions.

The film can be viewed on my website; troelsheiredal.com



Silver Gelatin

I used the camera to develop silver gelatin prints of two different sizes, 8x 10 & 11x 14 [inches].

The prints started as a learning process, getting to know compositions, exposure and developing times.

I was investigating the layering of Chambers Street onto itself; of the people moving in the street and the architecture standing there;

scale
textures
subjects
movements

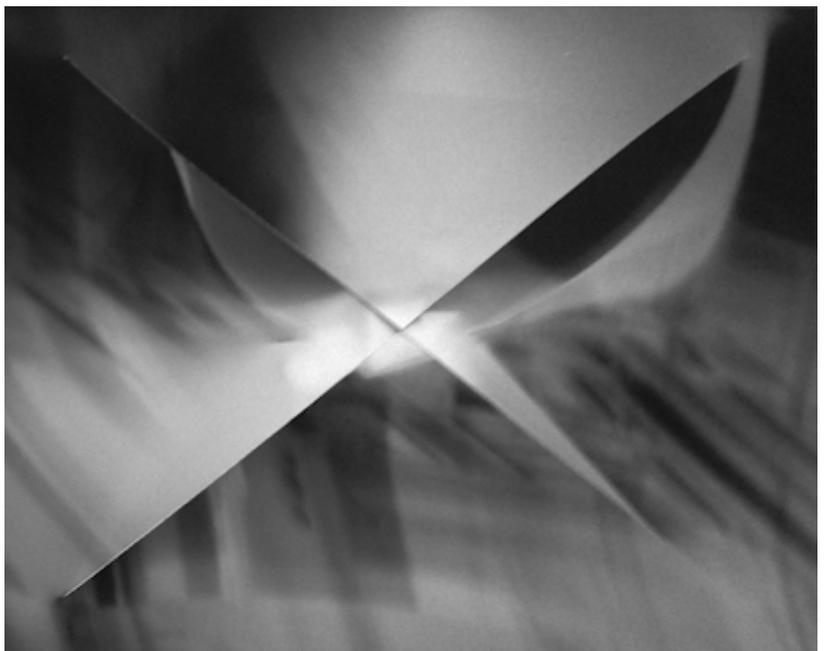
all commingle on the paper and are held there by the process of developing. My hand interrupting the image, a slight movement of the paper at the moment of uncovering. The creation of images quickly ventured into an experimental process with the surface of the light sensitive paper. Part of the paper was bend during the exposure, creating a running image, a dissolving of the image toward the edge.



The paper was exposed in my hand, moving it along inside the camera, to follow a pedestrian walking by on the outside. The bending of the paper, ended in the paper becoming a tube, and exposed in a rolling movement, showing tape marks and thumbprints.

These early experimentations led to a more direct and almost abusive violation of the picture plan. I cut open the paper and rearranged it for the exposure, scratched marks into it, a child like drawing of a face, followed by a long exposure of my own face, trying to align drawing and photo in a repetitive back and fourth between the camera and the street.

The paper crumbled up, like a piece of garbage in the street, exposed in this manner and afterwards straighten, thus bringing the photo in a strange limbo between the 2D and the 3D, obviously flat as an object in space, but containing a three dimensional light from the crumbled exposure.





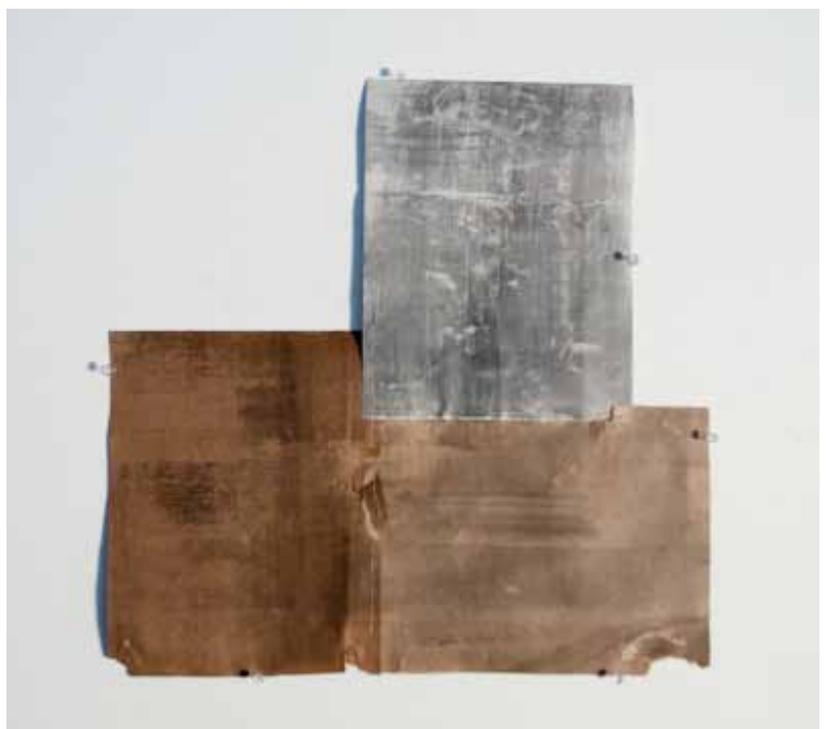
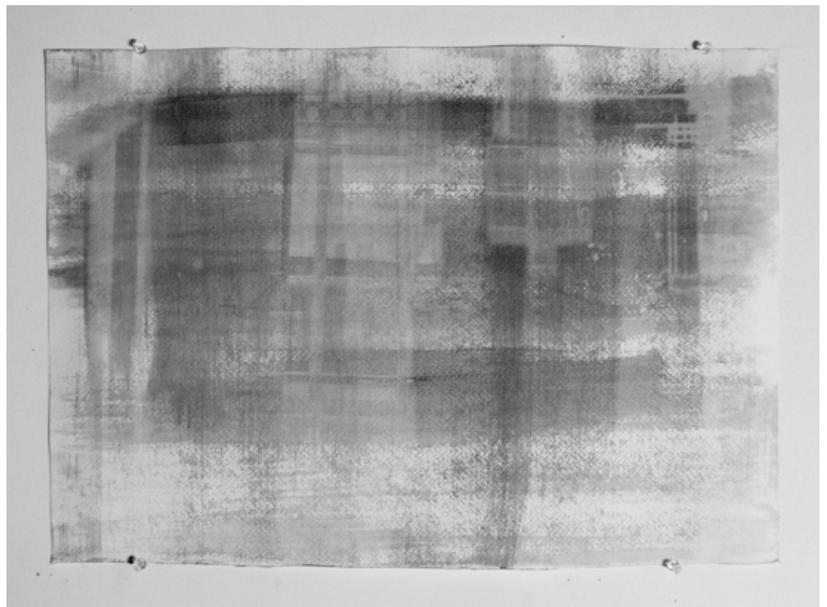
*The paper was crumpled, exposed, developed and then flattened.
Silver Gelatin 11 x 14 inch.*

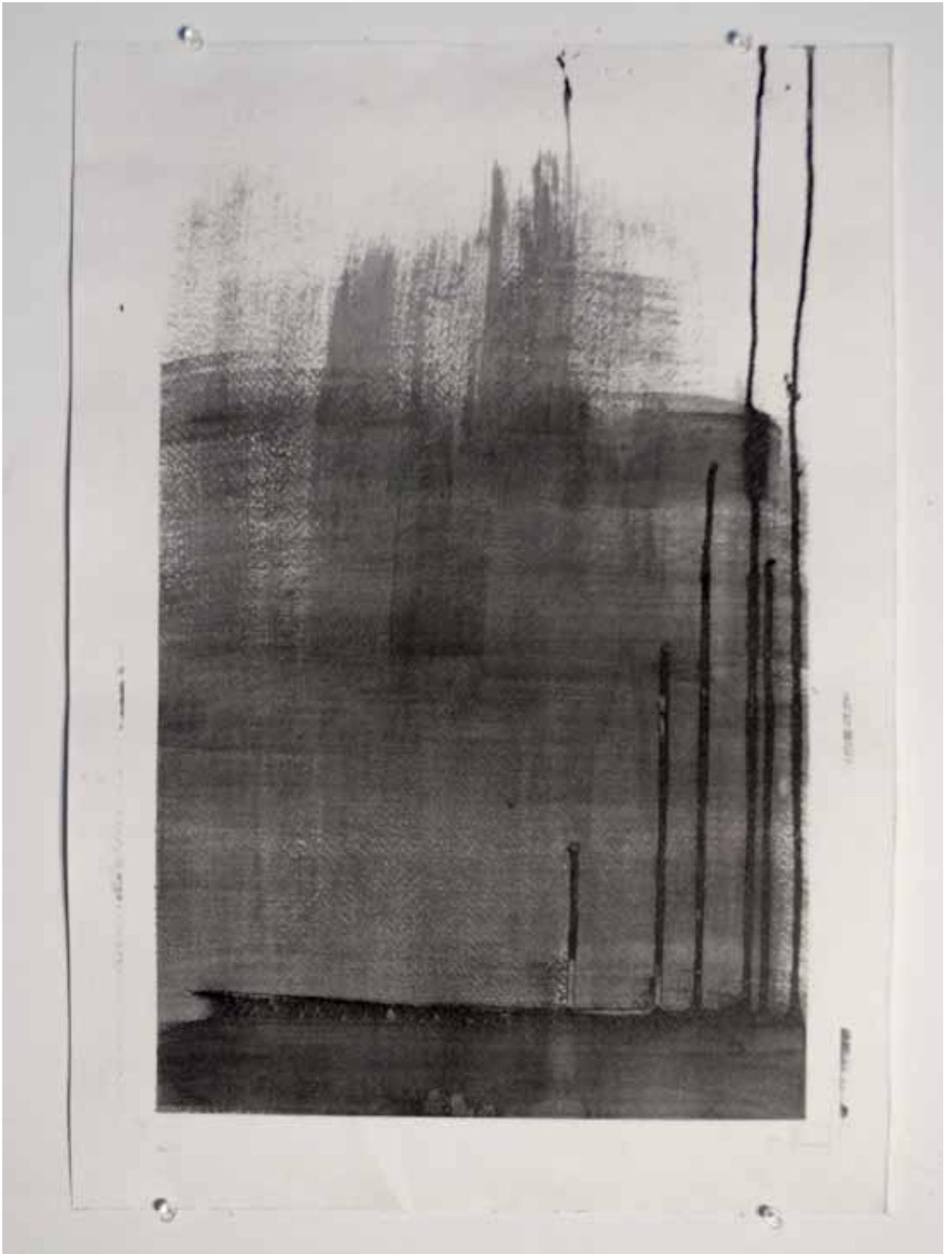
Liquid Light

I applied a liquid photo emulsion to different paper and was here by able to capture the light onto these surfaces. The emulsion is painted directly onto the paper, so differences in

- brush
- stroke
- direction
- thickness

is all visible in the final developed print. Some of the prints was made to capture recognizable figures and forms from the street-scape, while others were treated as a painting exercise, applying compositions of layers of 'paint' blindly onto the paper, still allowing for the exposure of the image to interact with the process and adapting the final toning during the development of the paper.





Liquid Light print, appr. 18x 24 inch.

Artist Statement

it's a movie theater
it's a still camera
it's a darkroom
it's a veil though which we can see the world.

The camera views the world as it goes by. It views layers of realities and superimpose them. It views the world just outside; a world you would hardly stop to look at - to look across the street; to look down the street – however, the camera permits that. The projected flipped image in the dark gallery creates a separation. Through this veil the viewer ventures back into the world as this separation allows him to simultaneously

view it
enter it

As you enter into the camera and into the image-making chamber, light collides bringing forward new constellations, forms, figures... absorbing them, revealing them to the world, co-constructing them between the camera and the I.

I am the aperture. I am the shutter. I am the focus. I am the camera.

Being the camera comes with certain freedoms. I now have control over the projection plan. I can stitch it together, move it, bend it, curve it, kiss it, draw on it, hold it, lift it, let it fall, split it into twenty different plans.

There are educational and interactive aspects to this project. A curious audience is invited into the camera, to act with it, ask their questions. And the education of me as I experiment with exposure and developing inside the camera. The back part of the Gallery/ camera has become a darkroom. Here the exposed paper is developed. In that sense it is a very empathetic project; it is being built between us and the things we see.

The last couple of years I have been doing various experiments with 35mm film. Creating multiple exposures with an analog film camera maintains a mysterious element. Constructing the camera/ darkroom has been my way of trying to understand multiple exposure photography. To get in between it; to get in it.

I have made a video on the project, it can be see at vimeo, [click here](#).

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