

APRICITY

CAPTURING THE WARMTH OF THE SUN IN WINTER IN A 1:1 IMMERSIVE INSTALLATION

BY NOVA BUCHANAN



Final images of 1:1 installation.



Apricity is an old English word that describes how profoundly the sun can affect humans especially after its absence.

There is a sense of relief in apricity, like you have been holding your breath all winter without realising it, as if ancient fears of the sun dying during those long dark months are still hiding within us.

Your body feels lighter, your heart hopeful and there is wellness, joy and feeling in this moment.

In short, the brief is to capture the sun.

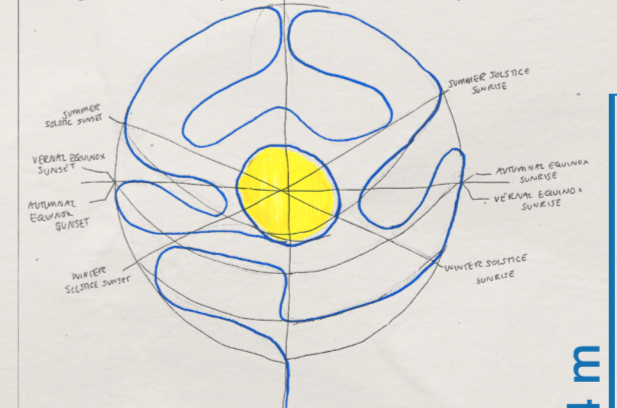
Inspired by original sun cyanotype prints on paper that illustrated the ethereal quality of the sunshine, this immersive experience began to develop. Lengths of printed fabric, specifically chosen for its transparency, movement and fluidity, stretch high above the visitor encouraging their eyes up.

It also provides a sense of enclosure, allowing the visitor to get lost within the fabric, catching veiled glimpses further into the structure.

Rays of light filter through its semi permeable walls. A video of sunlight being manipulated with mirrors is projected onto and through the veil adding to the movement of the piece and in addition providing a controlled light source to the environment.

I wanted to incorporate a sense of ritual and self-reflection into the design after looking into sun worshiping and mid-winter celebration traditions. The meandering labyrinth path that leads to a central space is designed based on lines showing the sun's rise and decent around the earth over a year. The visitor orbits through these paths around the center taking the time to reconnect with themselves with the sunshine before finally entering to find an offering from the sun, an orange. A token of the sun's sacrifice for us.

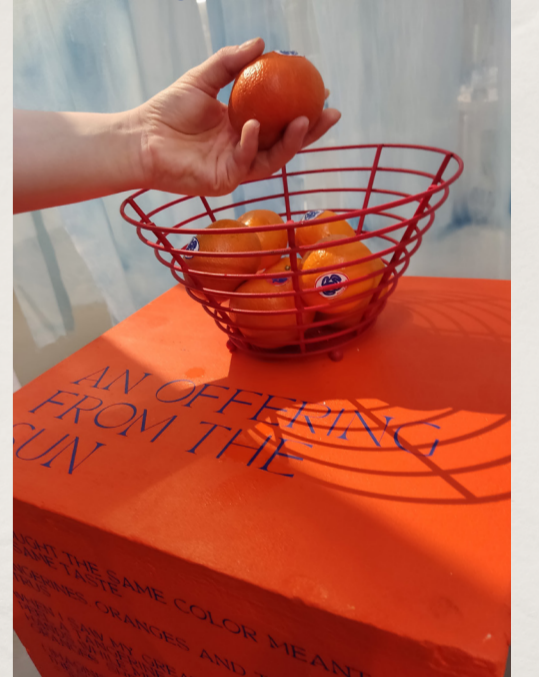
Diagram of sun paths turned into labyrinth.



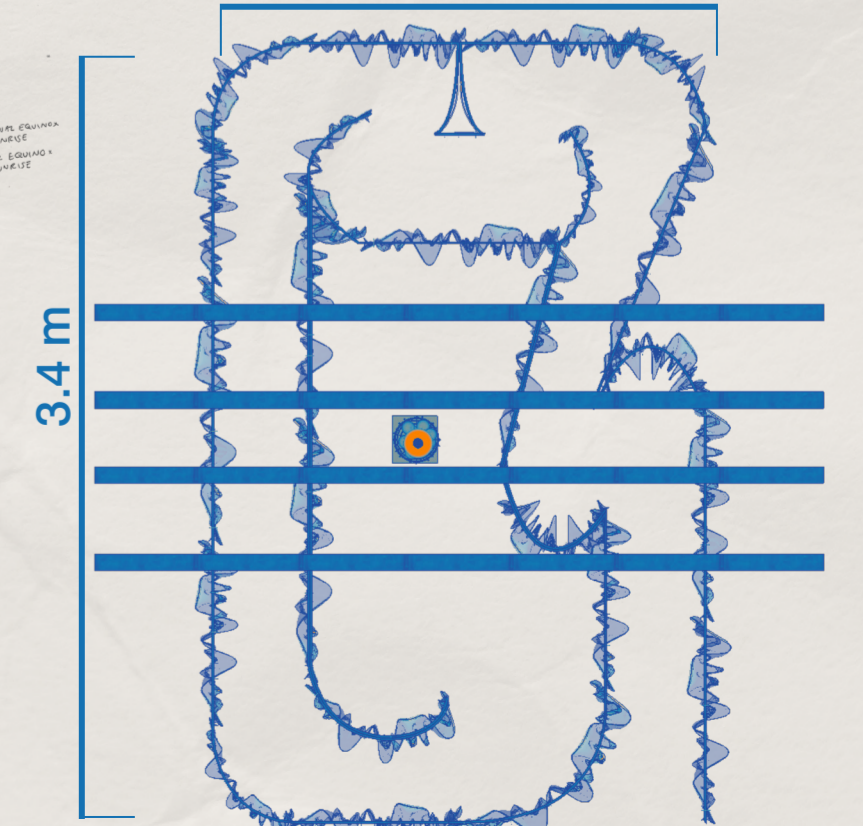
Simplified labyrinth form.



Central offering from the sun.



Plan View 2.4 m



Cyanotype

Invented in 1841 by Sir John Herschel cyanotype is a photography technique that uses the UV rays from the sun in a chemical reaction with iron salts to create a print. The salts oxidise in the sun producing a vivid, high contrast blue image. Cyanotype was an obvious choice when I set out at the beginning of this project as I thought what better way to capture the sun than sun photography.

In my project instead of using cyanotype methods in a classical way by blocking the UV rays in certain places to leave the imprint of the image, surrounded by the fully developed blue, I wanted to instead direct the UV rays onto the blank pieces to capture the actual rays of sun. So in my prints, the 'object' I'm capturing is in the darkest blues created by light as opposed to the white of untouched chemicals.



Mixing iron salts.



Sunshine manipulate by mirror to develop cyanotype prints.



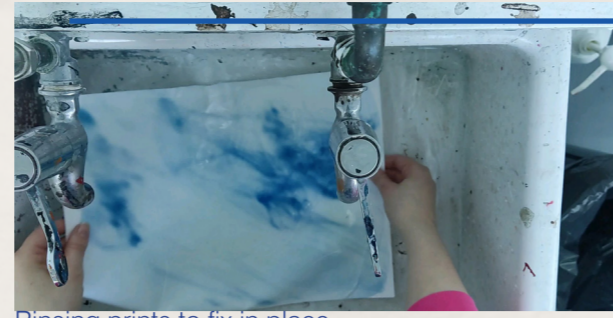
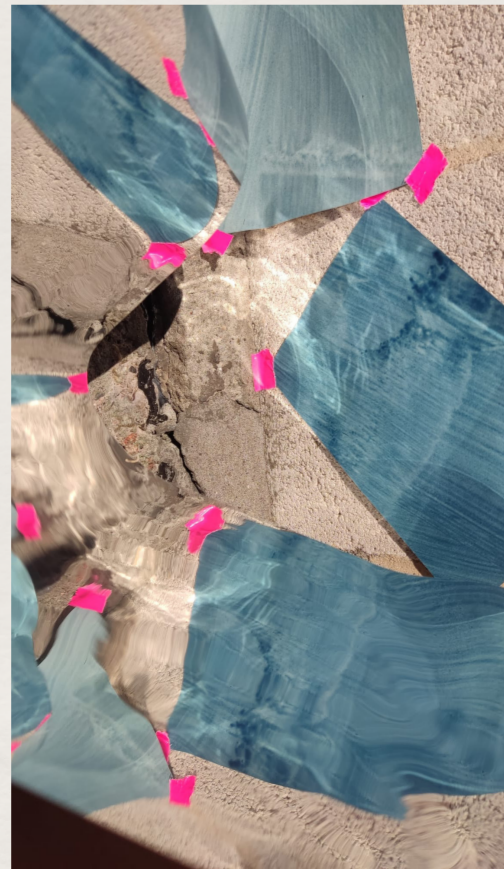
STEP 1:

Part A is made up of Potassium Ferricyanide and water at a ratio of 40g : 402ml
Part B is made up of Ferric Ammonium Citrate and water at a ratio of 100g : 402ml
Leave until the iron salts have fully dissolved.

Mix parts A and B together at a ratio of 1:1, then apply to the paper or material. Let chemicals dry in a completely dark room.

STEP 2:

Place in a shadowy spot, then use mirrors to direct the sun rays at the cyanotype. Leave to develop with as little movement as possible, approximately 6 minutes outside or a couple hours if using UV lamps inside. Step three was the hardest to get right. There were many hard to control variables and everyday was spent figuring out how to produce a good print and was full of problem solving. The most pervasive problem I found throughout this project has been my location. Living in Scotland where the weather is very unpredictable and impossible to control. Combined with the rarity of the sun, the ever pervasive wind also proved to be an issue as it moved both the paper being printed on and the mirrors bending the sunshine onto the paper. This movement caused prints to come out quite blurry and unsatisfactory. Despite this over a several month period I was able to produce many successful prints onto paper that I was happy with.



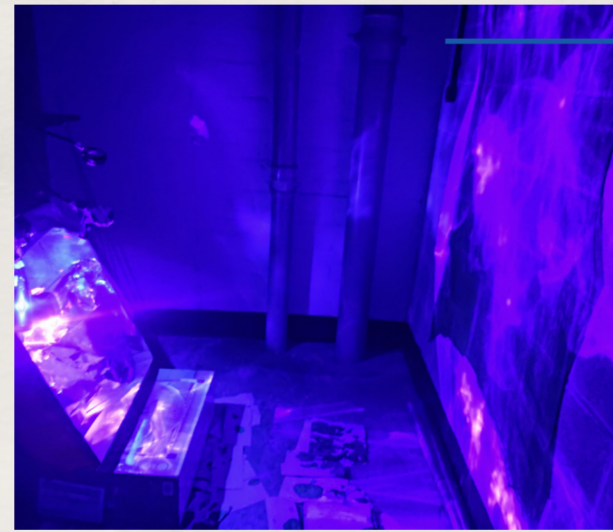
Rinsing prints to fix in place



Printing onto different fabrics.



UV light torches being used to create print.



Displaying how different types of fabrics look as cyanotypes.

STEP 3:

Rinse in a bath of water to wash away surface chemicals and to fix cyanotype print in place, stopping it from further developing. Once the prints are developed under the UV rays the chemicals must be washed off thoroughly because if it is they can turn into a brownish stain.

STEP 4:

After a lot of adjustments I was able to perfect the process, as long as the weather was good. These prints where all done on the same day and it was very rewarding to be able to finally produce many outcomes.

The fluidity, movement and transparency seen in these images of the sunshine being captured onto a photograph really reminded me of fabric and in order to turn these 2D pieces of work into the 3D I began to research how to cyanotype onto fabric.

STEP 5:

The first couple of test onto fabric, with varying success because of the wind moving things. Also, some of the fabrics I was testing on had a relatively wide weave and this dispersion in combination with the wind, led to some pretty blurry outcomes. Ones with a tighter weave produced better prints but this then compromised the transparency and layering effects I wanted to recreate from the original prints that drew me to fabric in the first place and so began the search for the perfect fabric to meet all of my requirements :

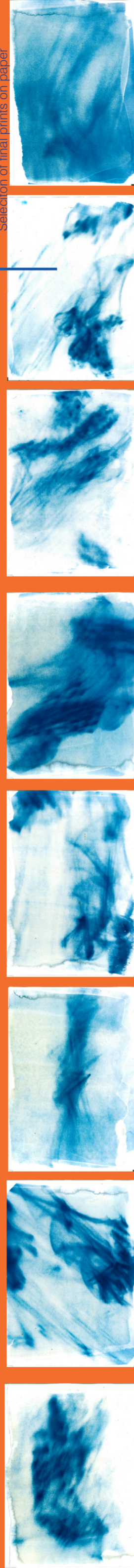
- natural fibers
- transparent
- layers/drapes nicely
- white/plain

The final chosen fabric that fit all of these criteria is a cotton muslin fabric.

STEP 6:

As a result of the weathers unpredictability I began researching alternative, artificial methods to get the prints done. This led to the use of UV torches and lamps in a dark room to avoid all other UV influences that work a lot faster and better then the torches do. one very notable difference with this method is how long it takes. As opposed to 6 minutes it now takes approximately 12 hour of continuous exposure, this is because the lamps only give off a very low nanometer length of UV wave length which limits its effectiveness. although this method take much more time it is consistent, reliable and easy to set up and leave running whilst I complete other tasks, making this more suitable for my needs.

Selection of final prints on paper



STEP 7:

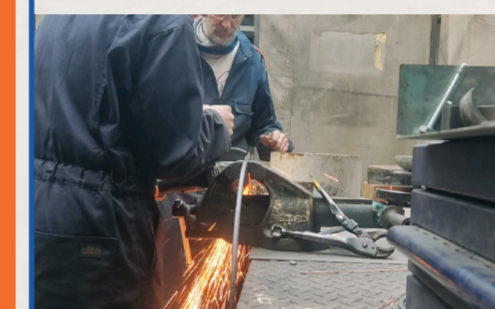
Assembly



Cutting.



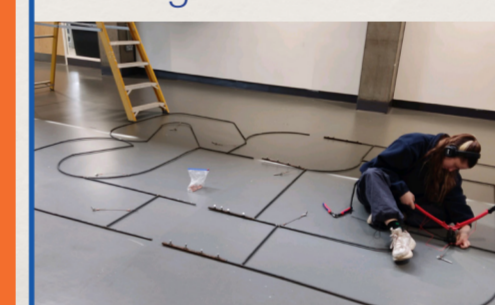
Bending.



Grinding.



Welding.



Attaching metal wires.

In the metal workshop we used a 1:1 scaled drawing as a guide to make sure everything was the right size and bend.

I started by cutting up 10mm rods into the correct sizes.

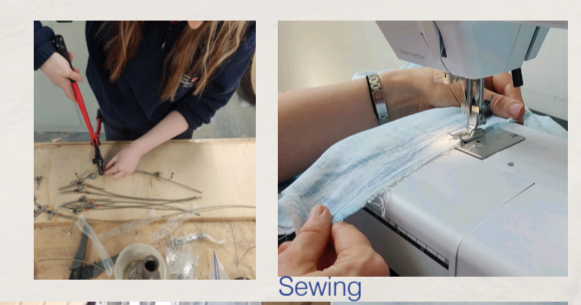
After this I bent the sections. Depending on how severe the curve was they were bent by clamping them to a similar sized cylindrical object and then bent them by hand, the 10mm thickness allowed for this to be quick and easy.

The ends where ground down and then welded together to create one continuous railing to hand the fabric from.

I created the railing in two sections due to size limitations so next up was creating the mechanism to join the two halves together securely. This was done by cutting up a metal tube that the original 10mm rod could slot inside. I then drilled four holes in each which allowed for a nut to be welded on top of and a screw to be screwed on clamping the rod in place between the screw and the tube.

After discussing with the woodwork shop, I decided to use metal wires to suspend the structure to the metal supports on level 6. The wires were secured by looping them around the battens before being clamped to hold them in place. On the end of each wire, I added an adjuster this was to allow for a small amount of length adjustment to make sure the structure was hung straight.

For the actual construction of the curtain element of the design each piece of printed fabric was paired up with another to form the vertical panel. The top upper edge was folded over then sewn down with a zigzag stitch. The two pieces of fabric there connected together with the same zigzag stich. The last thing done to each section of fabric was to cut 5 little holes at the top under the zigzag stitch to allow for the hoops to clip on.



Sewing



Hanging fabric from railing.



Installing.

