



# Artifact Live: Major Project

Olivia Bodak

Contour Fashion Innovation MA  
De Montfort University, UK

[oliviabodak@gmail.com](mailto:oliviabodak@gmail.com)



# Contents

1. Concept
2. Inspiration
3. Development
4. Experimentation- Folding & Weaving
5. Experimentation – 3D Printing
6. Design Aesthetic for the Collection
7. Fabric & Components
8. Hero Outfit
9. Sustainability
10. Finished garment
11. Garment's Details

# Concept

- The aim of this project is to create the most sustainable luxury leather outerwear garment which has corsetry features.
- Making a zero-waste trench coat
- Using biodegradable materials and components
- Exploring different methods to achieve aesthetic innovation such as 3D printing on leather
- Finding a technique to reuse all off-cuts to create embellishments while maintaining couture aesthetic



# Inspiration

Samurai Saddle  
17<sup>th</sup> Century, Japanese



Seigaiha pattern on saddle

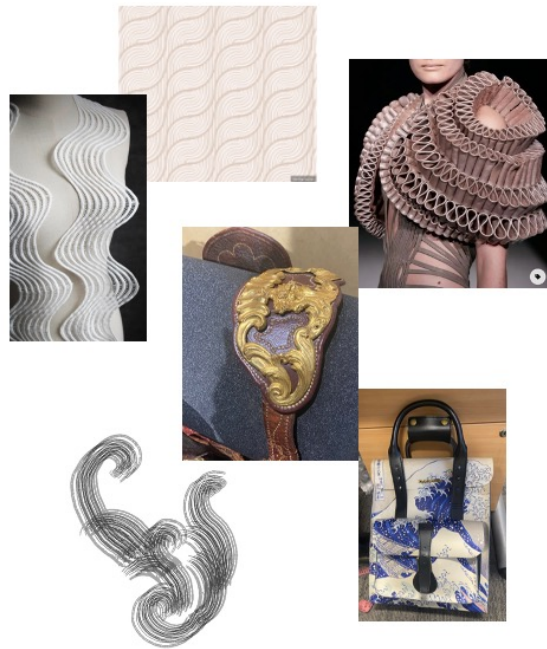
*“Seigaiha literally means ‘blue sea and waves’. It was used to illustrate seas and oceans on maps. The water and waves also symbolise power and resistance, key elements of Japanese culture” (Baeza, 2019).*

Horse Harness  
18<sup>th</sup> Century, Bavarian

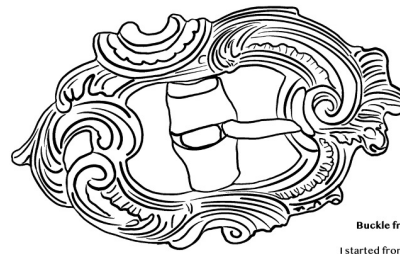


Horse Harness Details

# Development



Digital sketches of horse harness details



Buckle from the horse harness

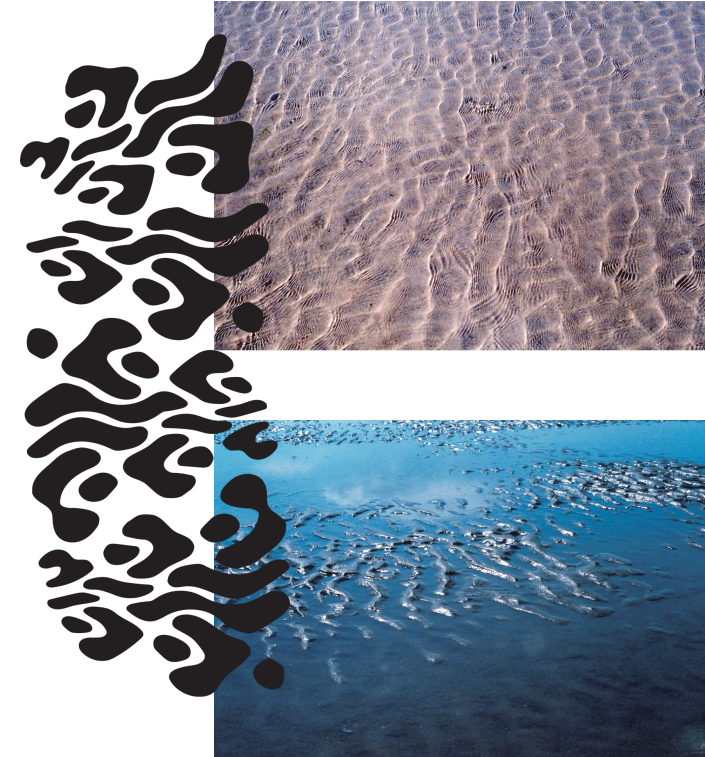
I started from drawing the buckles from the harness as they are the most interesting feature from that artefact for me in terms of inspiration for print development or details of the garment.



Some details on the buckle remind me of the Fibonacci Spiral from Fibonacci Sequence.



I also noticed that one of the shapes on the buckle reminds me of lace trim. Potentially, I could use some the lace trims for the finishing of the edges.



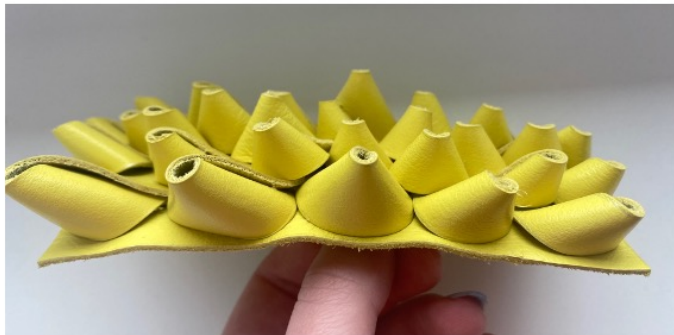
The inspiration for this project were two antique artifacts – samurai saddle and horse harness. Both these objects have a common features related to sea and waves such as print and wavy details on the components. Therefore, I focused on exploring waves and water movement in order to design print and accessories.

# Experimentation – Folding & Weaving



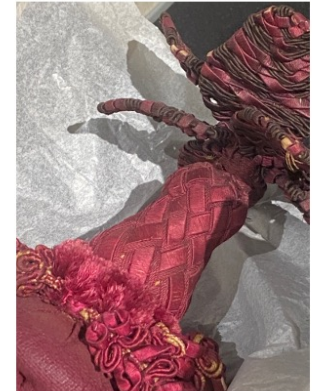
**Experimenting with off-cuts to create 3D structure as an alternative for pleated leather**

One of the aims of my experimentation was to find a way to reuse cow hide leather off-cuts in various sizes and maintain the luxury aesthetic. I manipulated the fabric straps, overlapped them and glue them only on the cross part to make sure that pieces have some movement. I will apply this technique for sleeves on one of the leather coats.



Weaving veg-tanned leather straps by using techniques used for bracelets. Afterwards, I glued the strip to create wavy shape similar to pattern on the saddle. I will use this technique to create a belt for trench coat.

**Experimentation with weaving techniques**



The embellishments on the top of the horse harness have inspired me to experiment with 3D forms, weaving and pleating by using leather off-cuts and straps.

In this project I have focused on exploring various techniques to create three dimensional textiles and embellishment from leather to achieve an aesthetic innovation for couture leather outerwear pieces.

# Experimentation – 3D printing

## 3D printing on lamb nappa leather

To link this project to my MA specialisation which is 3D printed clothing, I started to experiment with printing on leather off-cuts by using flexible and recyclable TPU filament (transparent finish) and stiff biodegradable PLA (white finish). I created a model which contains small parts to make sure that leather still has movement. For the final pieces, I will use biodegradable PLA filament which is changing colour to create three dimensional, structural leather textile which can fully biodegrade in soil.



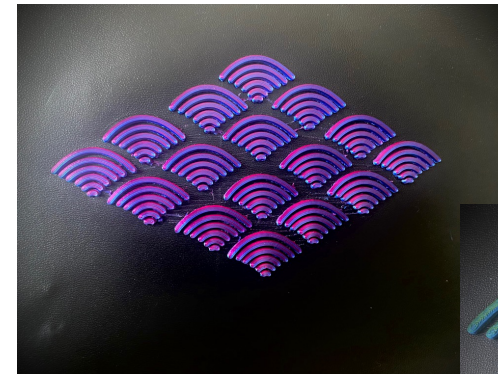
3D printing on leather with TPU



Top view on 3D printing on leather with PLA



3D printing on leather with PLA



MagicPLA sample in pink and blue colour



MagicPLA sample in blue and green colour



MagicPLA sample in pink and blue colour

MagicPLA is a biodegradable filament with satin shiny finish which offers extraordinary model.

The filament cord is constructed through combining two colour of the filament into one tube. This filament is perfect for 3D printing on fabric as it does not require heating printer's surface.

# Design Aesthetic for the Collection



Iris van Herpen at Couture 2020

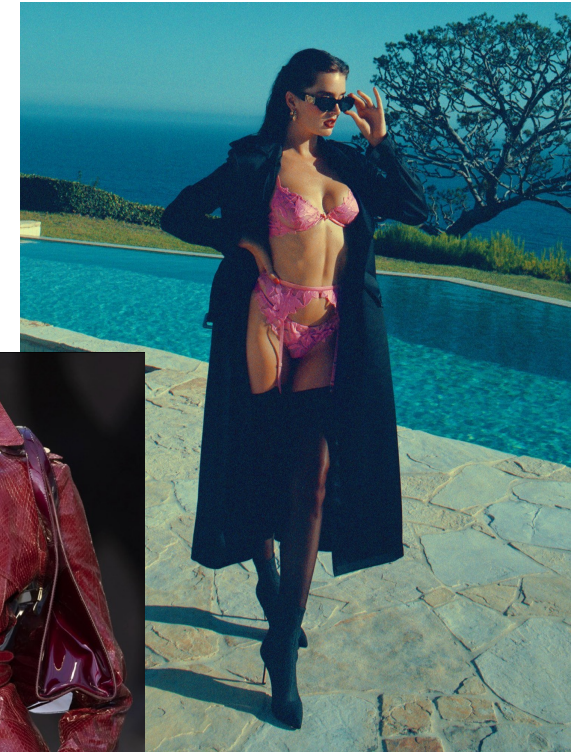


Mugler & H&M collection

- Women empowerment
- Emphasise the silhouette
- Corsetry inspired
- Combining lamb nappa leather with Japanese plonge
- 3D printed
- Sculptural
- Three dimensional textiles
- Trench coat



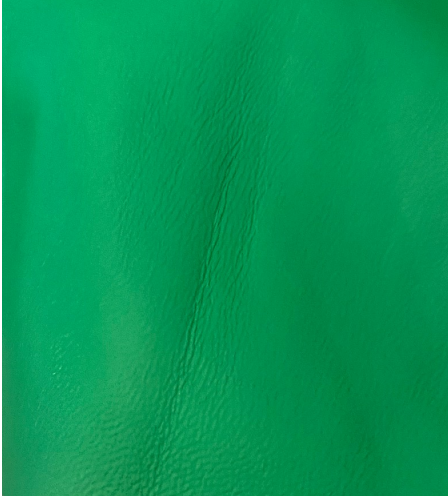
Bally Fall 2023 R-T-W



Trench coat with lingerie look by Fleur Du Mal



# Fabric & Components



Chrome tanned  
lamb nappa  
leather



3mm vegetable  
tanned cow-hide  
leather strips for  
weaved belt



Pure habotai silk

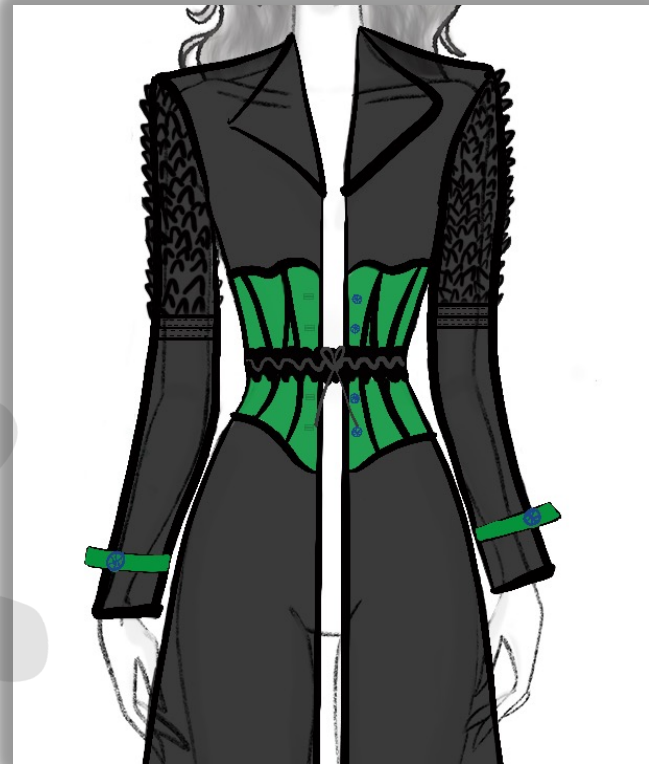


Chrome tanned  
Japanese  
Plouge with  
aniline finish

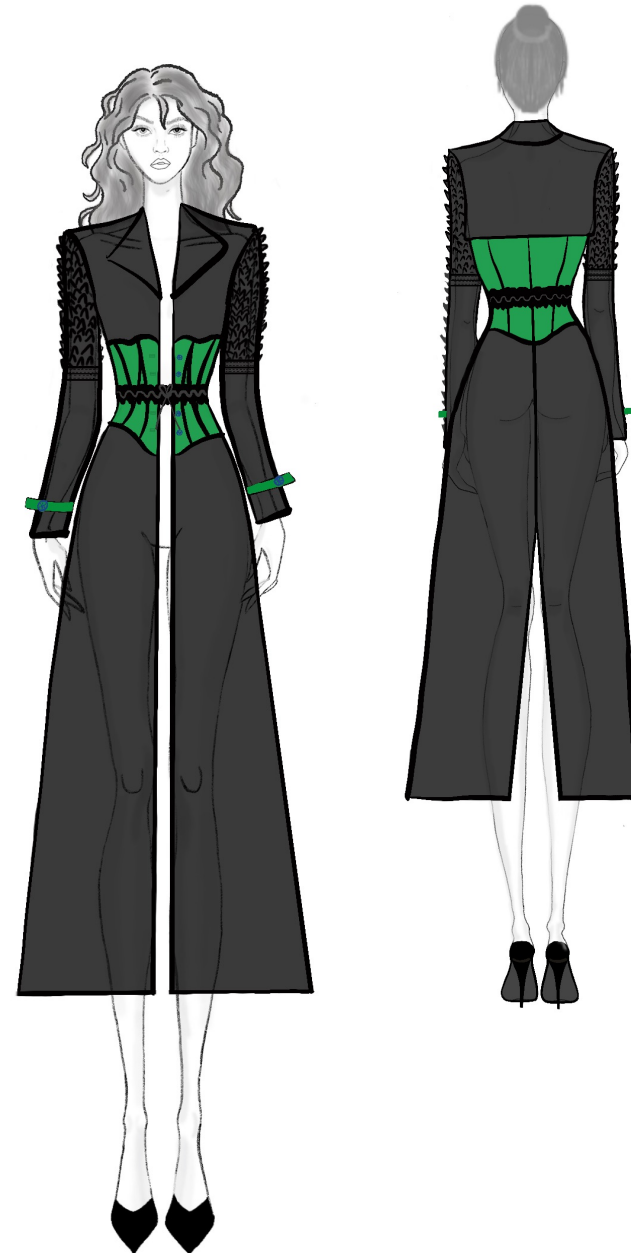


3D printed buttons  
from  
biodegradable PLA  
filament

# Hero Outfit



The hero outfit for Artifact Live project is a trench coat with built-in corset in the waist. The garment is made of black Japanese ploung leather and green lamb nappa. The trench coat is lined with pure habotai silk. The garment presents mixture of various embellishments such as weaved belt, 3D printed buttons, boning channels and three dimensional cone structural sleeves.



# Sustainability

- Designing a sustainable collection and employing circular fashion economy principles
- Zero waste pattern cutting
- Using sustainable materials: by-product of meat industry -leather, pure habotai silk
- Using rare leather – Japanese Plouge to promote its usage to reduce amount skins thrown away to landfills
- 3D printed components made of biodegradable PLA filament
- Reusing leather off-cuts for embellishments
- Creating a long-lasting garments made off leather which is supplied from certificated warehouse



*“Unsustainable patterns of consumption and production are root cause of triple planetary crises: climate change, biodiversity and pollution.”  
(United Nations, 2015)*



18 Sustainable Fashion Design Principles to be addressed:

Principle 1: Design with a purpose

Principle 2: Design for longevity

Principle 6: Design for biodegradability

Principle 11: Source and produce with good ethics

# Finished Garment



Currently, I am working on final details of the garment such as hand stitching the inner lining, attaching the buttons on the corset and weaving the belt.

# Garment's Details



The hero outfit has many unique features such as 3D embellishments on sleeves, boning channels, hand stitched lining, tailored hand stitched finish on the bottom which gives extra give while putting the garment on. Moreover, the trench coat has leather button holes similar to welt pocket and weaved belt.