

LUMINAIRE |

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PROJECT PORTFOLIO
MA DESIGN (JEWELLERY) CENTRAL SAINT MARTINS
2024

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The Luminaire collection represents a unique fusion of British manufacturing craftsmanship and contemporary design, to showcase innovation and beauty in scientific glasswork while addressing some of the challenges faced by the industry.

Drawing inspiration from the long history of manufacturing in the UK (and the culture of production), the collection breathes new life into found objects by treating them as exquisite jewels by adapting them to be worn on the body. From space exploration through to innovations in medical science, the intricate glass components serve as a testament to the vital role that this industry plays in pushing the frontiers of knowledge and technology. A celebration of the craftsmanship to reveal intriguing hidden worlds of innovation and discovery.

This body of work places value on imperfection, highlighting opportunities for further exploration, of circularity. By reimagining materials which can't be used for their original intended purpose, demonstrates how environmental impact can be reduced whilst creating new market opportunities.

Fostering a culture of cross-pollination and creativity is dedicated to the enduring legacy of craftsmanship in the face of change, where tradition and innovation converge to create something new.

BRIEF |

The collection explores two main areas

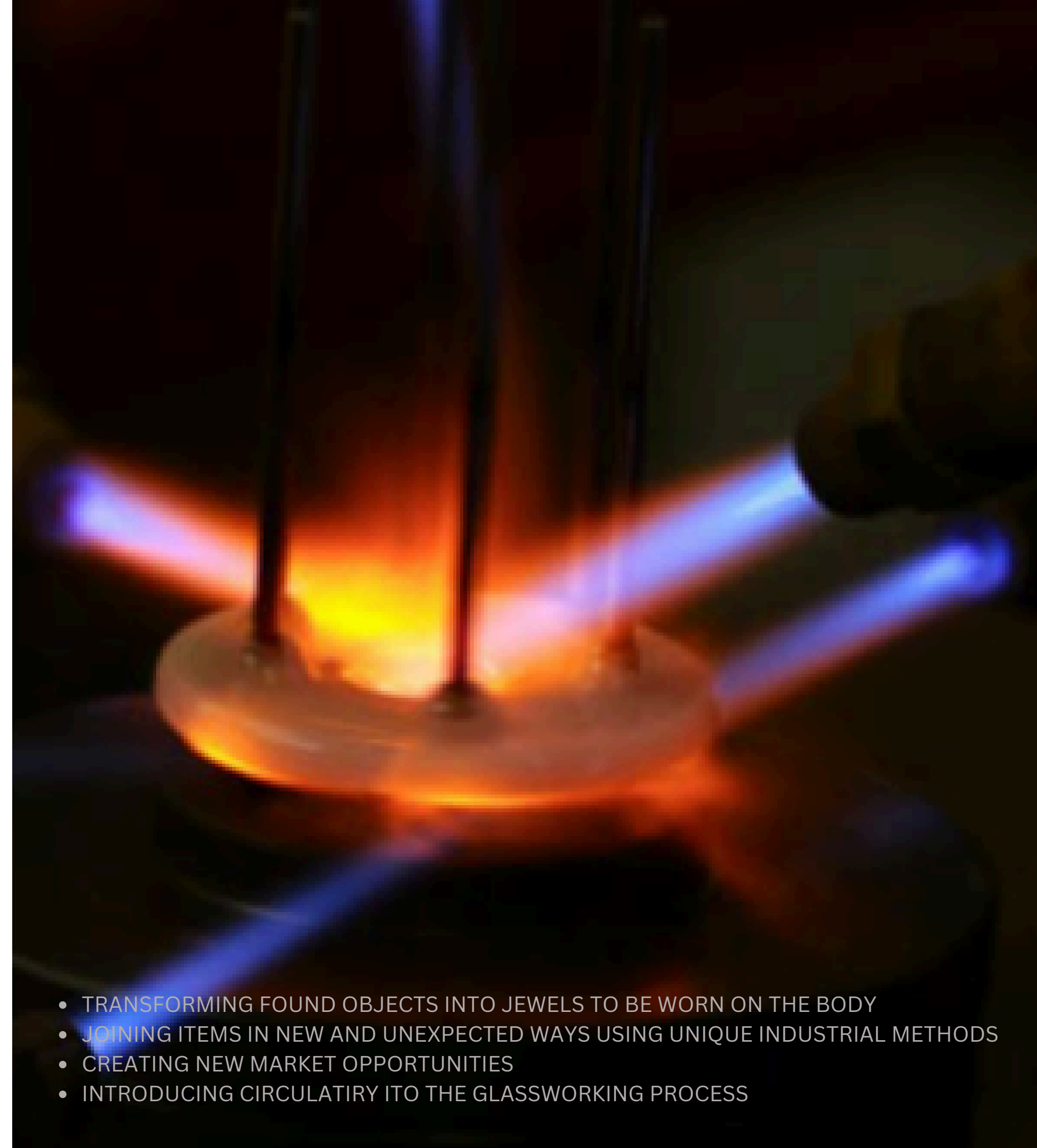
- Possibilities for manufacturing craftsmanship be elevated in the consciousness of a new audience who are already appreciative of high craft
- The introduction of circularity within glass manufacture & precision engineering

Rooted within the niche scientific glass sector of 'Glass to Metal Seals' the name connotes both the way in which these components function within the machines they're created for (to amplify energy and light) and the way in which light interacts with the glassy structures when worn on the body

By deliberately blurring the lines between what's considered production expertise and what constitutes high craft this collection aims to challenge traditional notions of value and create a new visual language in jewellery.

The primary objective for my practice is to present my research findings and establish a production network and future collaborators as a model to extend the collection both in this niche sector.

- TRANSFORMING FOUND OBJECTS INTO JEWELS TO BE WORN ON THE BODY
- JOINING ITEMS IN NEW AND UNEXPECTED WAYS USING UNIQUE INDUSTRIAL METHODS
- CREATING NEW MARKET OPPORTUNITIES
- INTRODUCING CIRCULARITY TO THE GLASSWORKING PROCESS





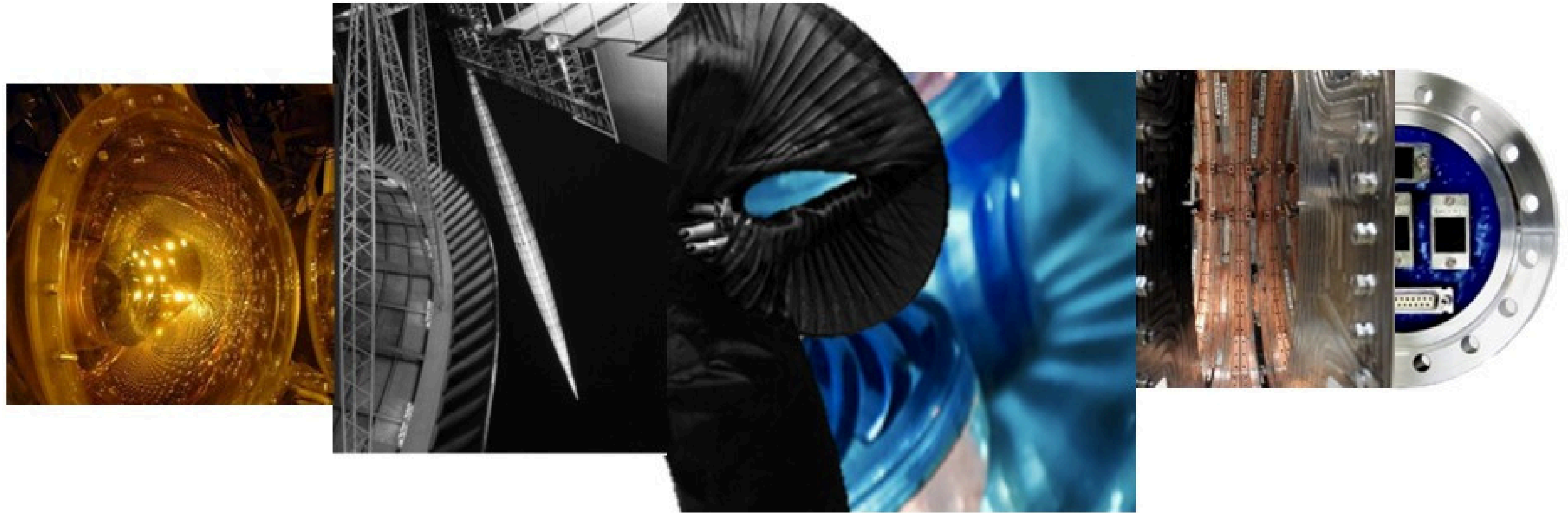
Through the fusion between industrial and jewellery craft practices a new space is created which is at the same time familiar, yet strangely alien and unsettling. A place of contrasts where materials from an unclear source ask us to reconsider any preconceptions around luxury and value.

Referencing an Art Deco and a Mid-Century aesthetic creates a natural tension between a sense of exuberant excess and a restrained austerity. Where geometric forms are explored through speculative connections and strength-giving design features featured in the found objects are amplified to be incorporated as fixtures, fittings as a way to ‘present’ and wear the research findings.

And each piece is made from a fusion of special glass and iron alloy designed to create a unique, super strong seal between the materials allowing new structures to become a possibility in a way previously not considered possible. Emphasis placed on transparency and play of light afforded by the use of structural glass which opens up opportunities for the projection of carefully controlled colour onto the body.

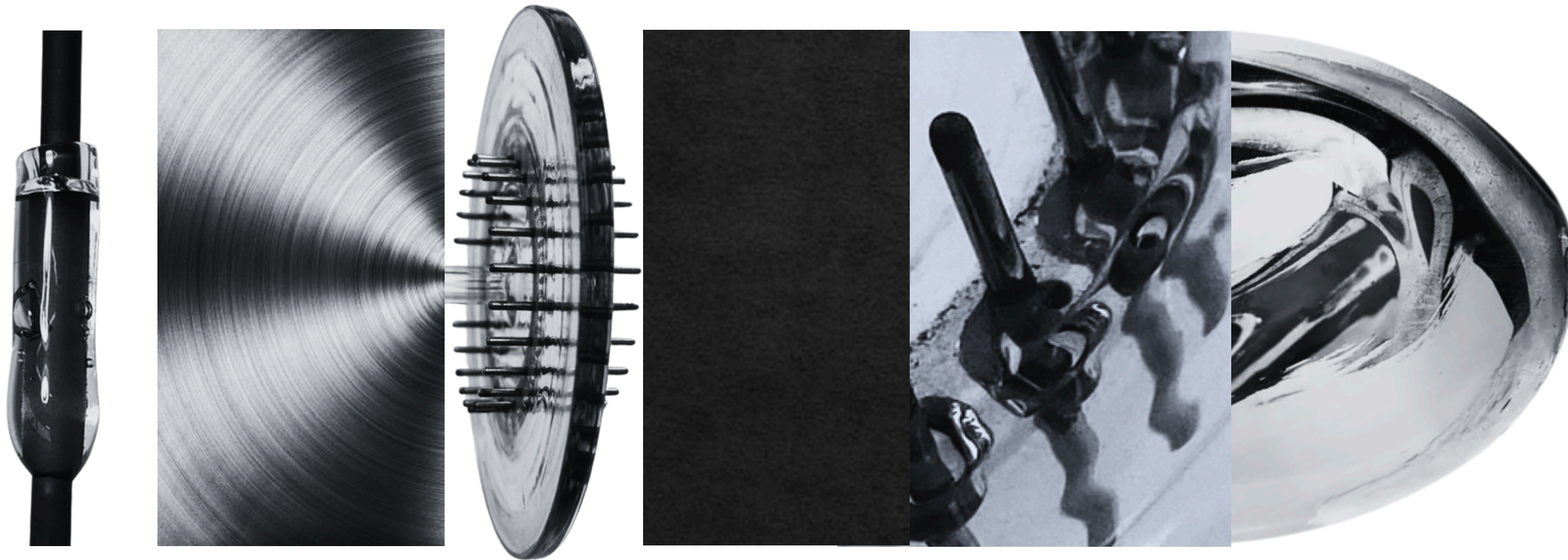
The collection should be considered a presentation of research findings and a starting point for the development of two clear collections moving forward.

MOODBOARD | MATERIALITY & FORM



DESIGN LANGUAGE INFORMED BY FOUND AND INFLUENCED BY KEY MOMENTS IN BRITAIN'S 20TH CENTURY MANUFACTURING HISTORY. A TIME OF OPTIMISM, OPPORTUNITY & INNOVATION DURING THE POST-WAR PERIODS OF THE 1920S & 1950S.

TEXTURES | PERFECT IMPERFECTION



SHOWCASING THE RHYTHM OF PRODUCTION: RIPPLES, STRIATIONS, OXIDISED COATINGS, ATTCAHMENTS & THREA DETAILT

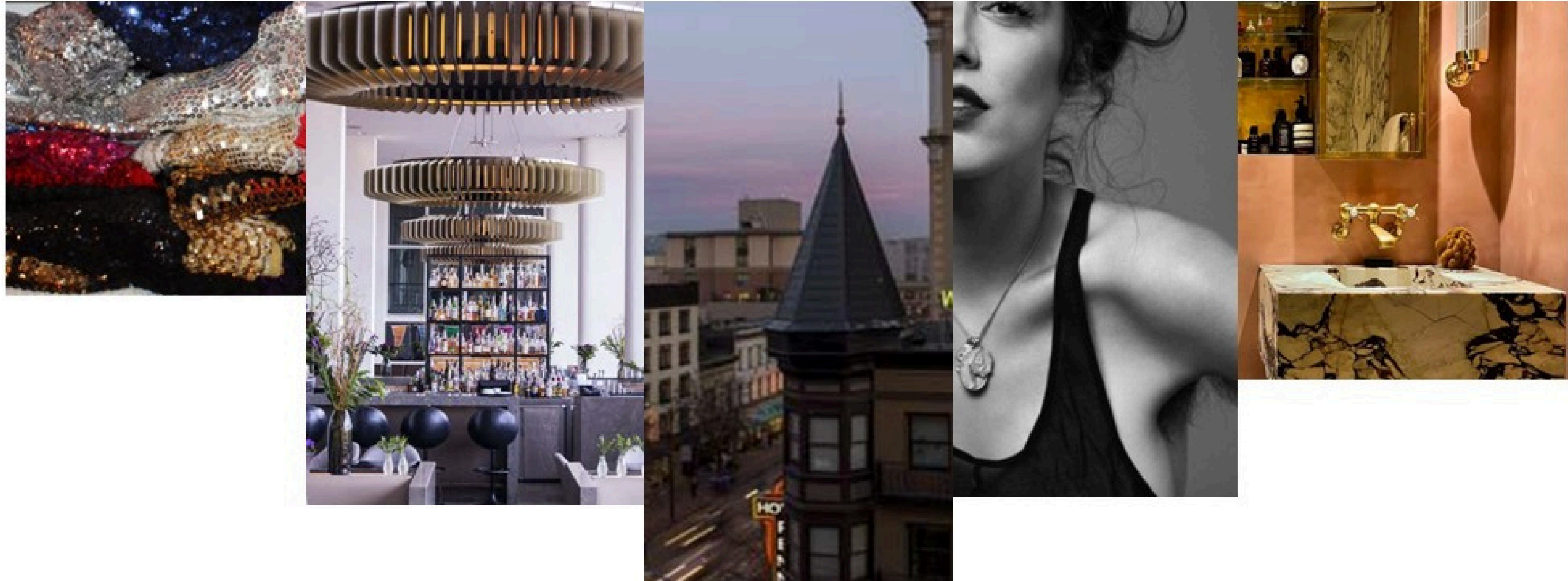
PERFECTLY IMPERFECT PIN & DISC DNA GUIDE DESIGN LEXICON |

Three components were selected as the starting point for the collection from family of found objects which share similar characteristics and the same DNA. Each made of **scientific glass** and **Kovar (an iron alloy)** designed for use within a different machine application and have not met the rigorous quality standards in the industry. Selection has been based on:

- **AVAILABILITY:** Items currently in production and readily available
- **TYPE OF IMPERFECTIONS:** To be showcased or healed through intervention
- **FORMAT:** With most design potential through manipulation, setting & joining.
- **WEARABILITY:** Considering size but also their shape, weight, and ergonomic properties. The formats should be safe and comfortable to wear while also making a powerful statement.



CLIENT MOODBOARD |



NY BASED CREATIVE: EVENTS PROMOTER, PERFORMER, WRITER
COLLECTOR OF CURIOSITIES AND VINTAGE WITH AN INNATE ABILITY TO COMBINE FOUND OBJECTS
WITH HI & LOW FASHION TO CREATE BOLD AND INNOVATIVE LOOKS
SIGNIFICANT DISPOSABLE INCOME

INTRODUCING LUMINAIRE

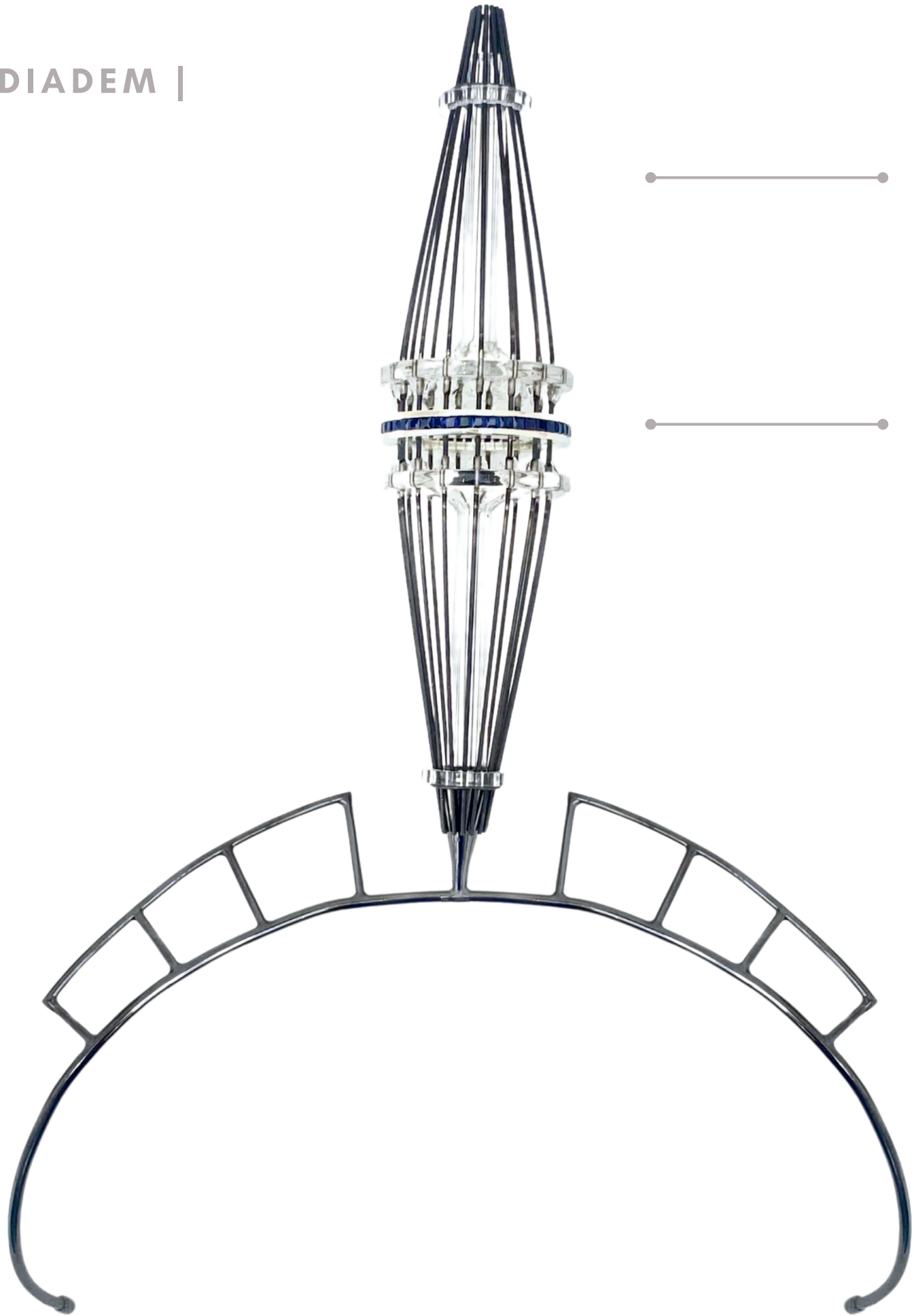
Reimagining optical waste as contemporary fine jewels designed to be worn on the body.

SKYLON DIADEM |



Borosilicate glass, Kovar, recycled silver, 24ct gold, synthetic sapphire

SKYLON DIADEM |



Brace. Initially a functional item to evenly spread the pins. Now a permanent feature which will be recreated in glass and precious metal with gemstones set



Channel set eternity connector

Borosilicate glass, Kovar, recycled silver, rhodium, lab grown sapphire



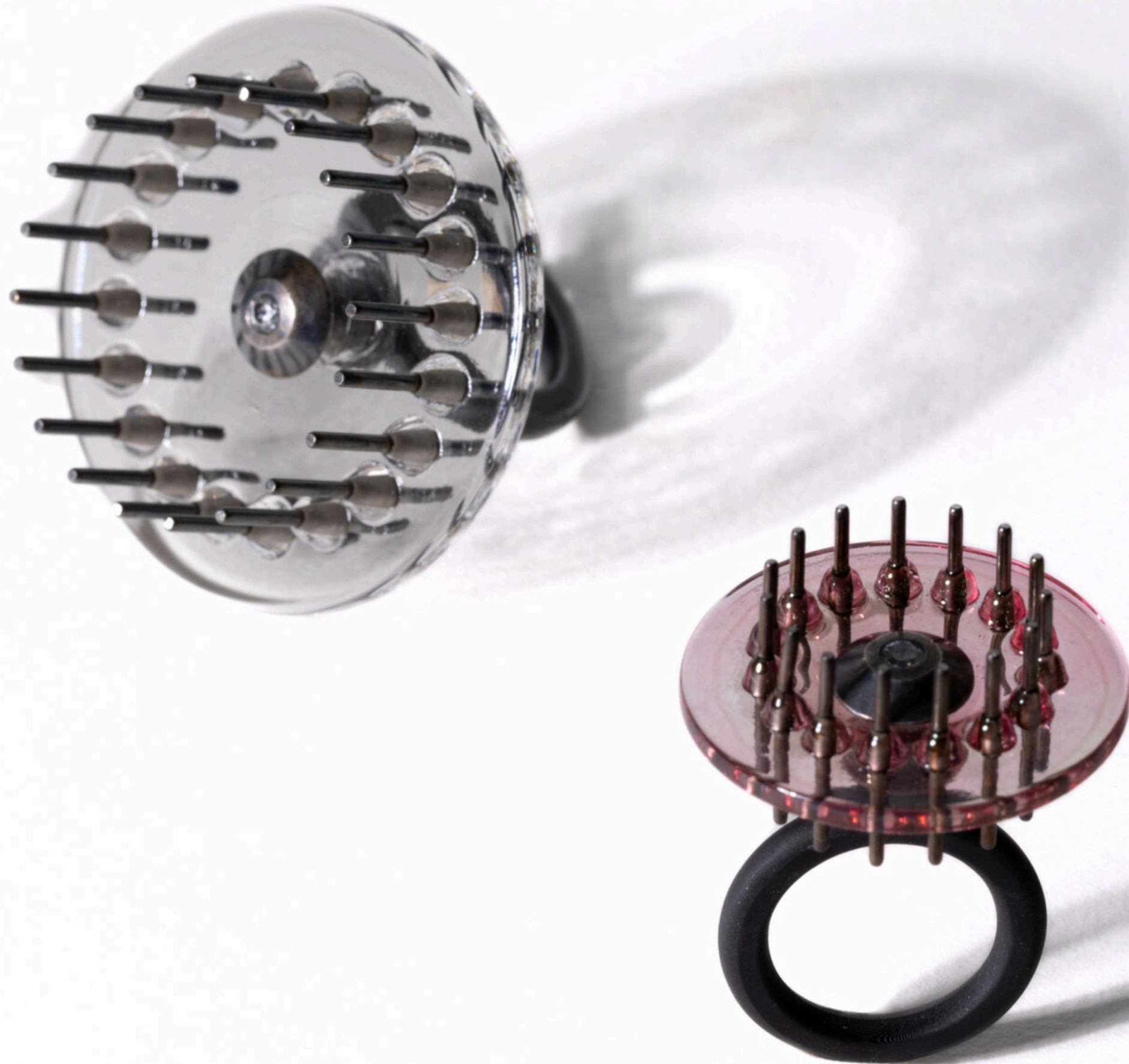
SKYLON NECKLACE



Borosilicate glass, Kovar, gold vermeil, grey seed pearls,
Acrylic joinery is used to connect and brace the forms with a view
to replacing them with hand cut technical glass in the collection

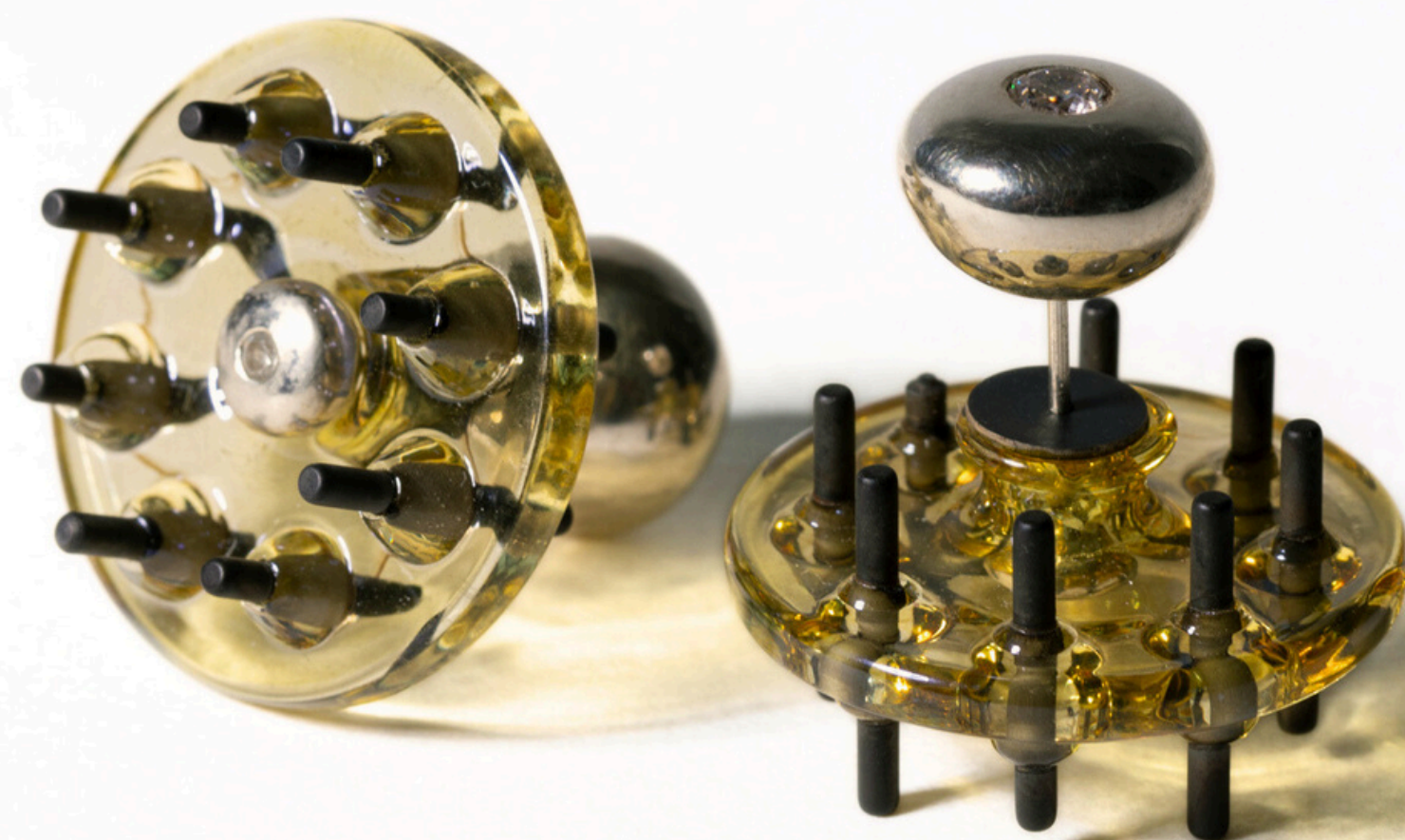


EX MACHINA RING



Borosilicate glass, Kovar, recycled silver, diamond, glass fumed with 24ct gold lemel bench filings

EX MACHINA EAR DISCS



Glass fumed with fine
silver lemmel collected
from the jewellery
workbench

Borosilicate glass, fine silver waste from the
bench. Kovar, gold & diamond

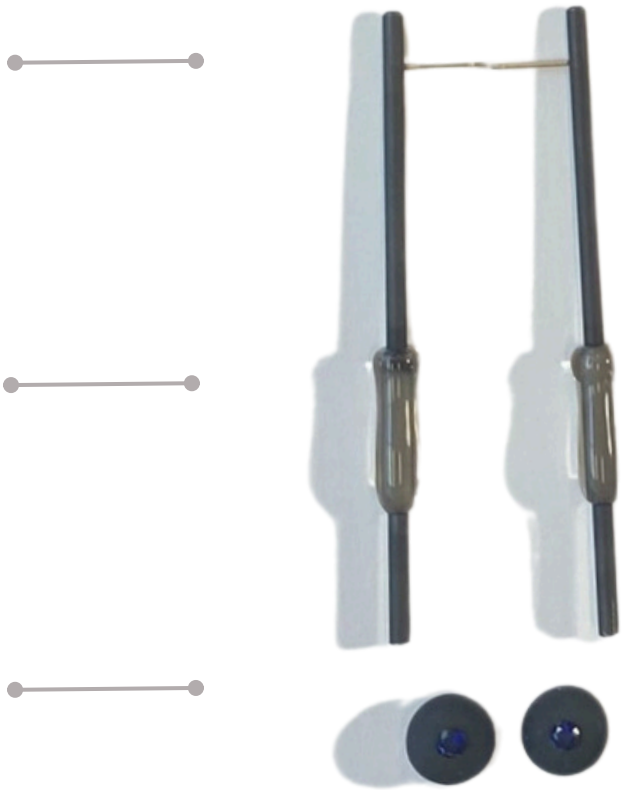
LINEDOT EAR RODS |



Sleek, velvety, oxidised iron alloy to be sealed with ceramic nano coating

Glass & metal attachments allowing for thick, luxurious coatings of to be applied

Lab grown diamond and sapphire set boule attachment



Glass 'healed' on the lathe in the flame. Oxidised traces present



Borosilicate glass, Kovar, gold, resin sapphire, diamond

EX MACHINA EARRINGS



Technical glass coloured with gold and silver waste from the bench.
Kovar, gold, resin & diamond set kovar tips

The glass to metal seal can easily withstand
the pressures of gemstone setting

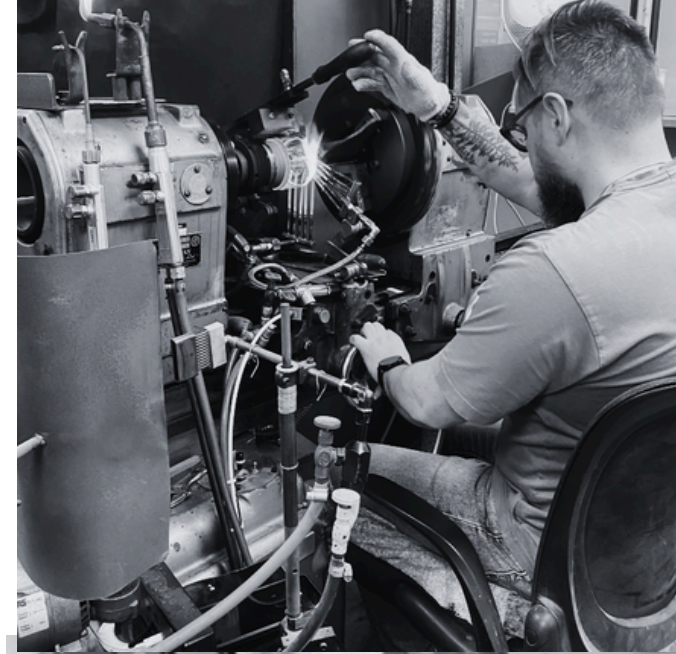
PROCESS

PARTNERS IN CRAFT | FOR EACH STAGE OF PRODUCTION

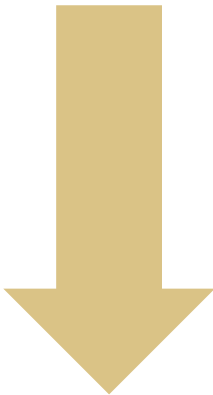
Building relationships within manufacturing and craft communities over the past 18 months.

Business leaders, scientists, craftspeople- businesses large and small: Every single one of these amazing people have helped, advised and offered their skill and expertise in some way.

- GLASS-TO-METAL SEAL MANUFACTURE & TOOLING
- SCIENTIFIC GLASS WORKING & LATHE
- COLOURING & FUMING GLASS
- INDUSTRIAL PLATING & COATING
- FINISHING & GLASS COLDWORKING
- KOVAR EXPERT & SUPPLIER



CONNECTING WITH
MANUFACTURING
PARTNERS



WORKING ON
LOCATION TO
SOURCE TREASURES



MODEL MAKING X
PHOTOGRAPHY X LARGE
FORMAT SKETCHES



ITITERATION &
TECHNICAL
DRAWINGS



COLOUR APPLICATION
THROUGH FUMING
GLASS WITH WASTE



FIXTURE + FITTINGS +
FINDINGS

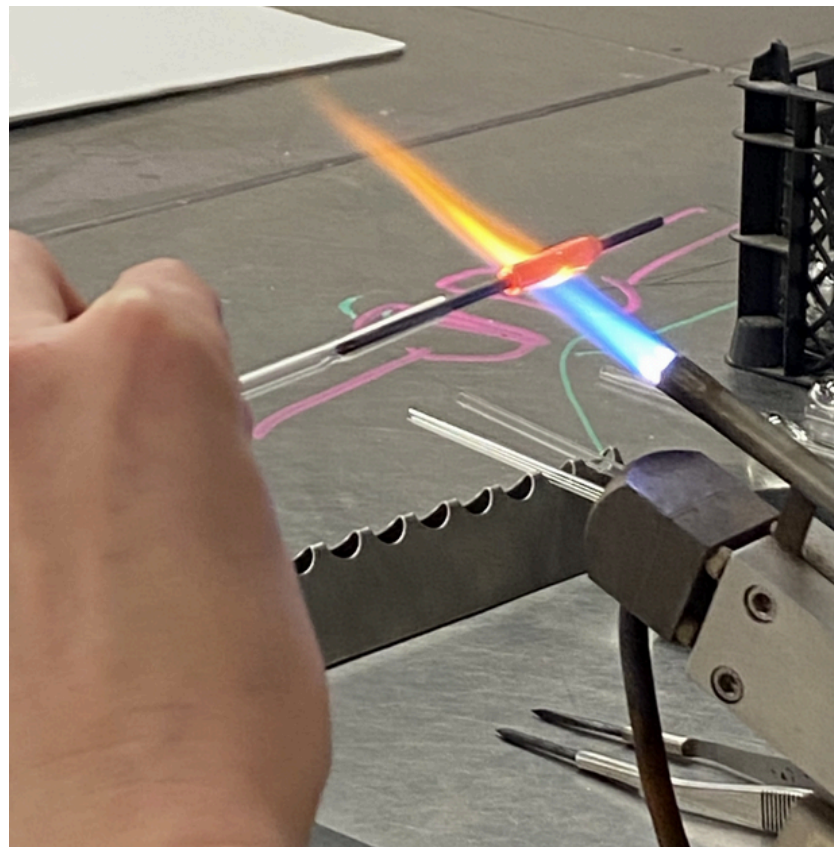
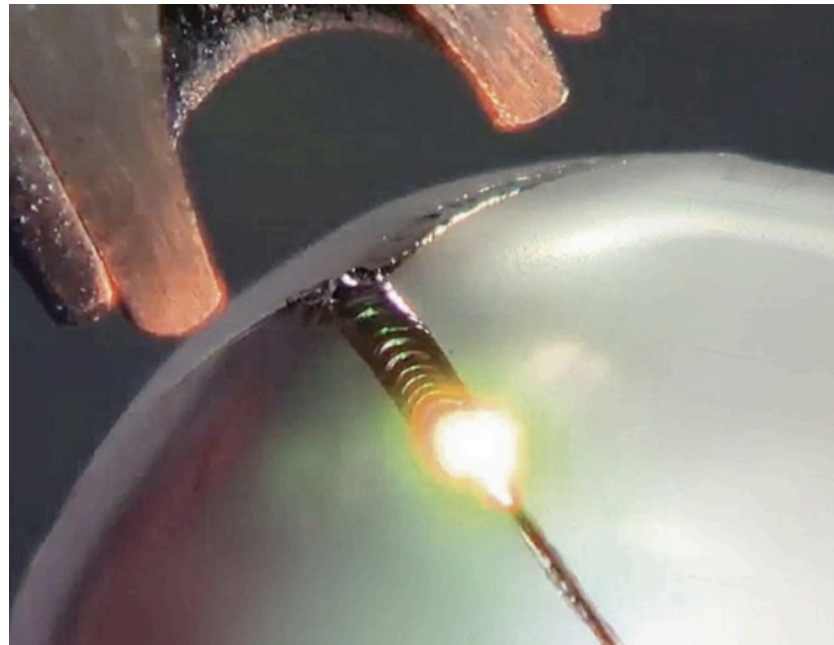


SELECTION, CURATION
& COMPOSITION

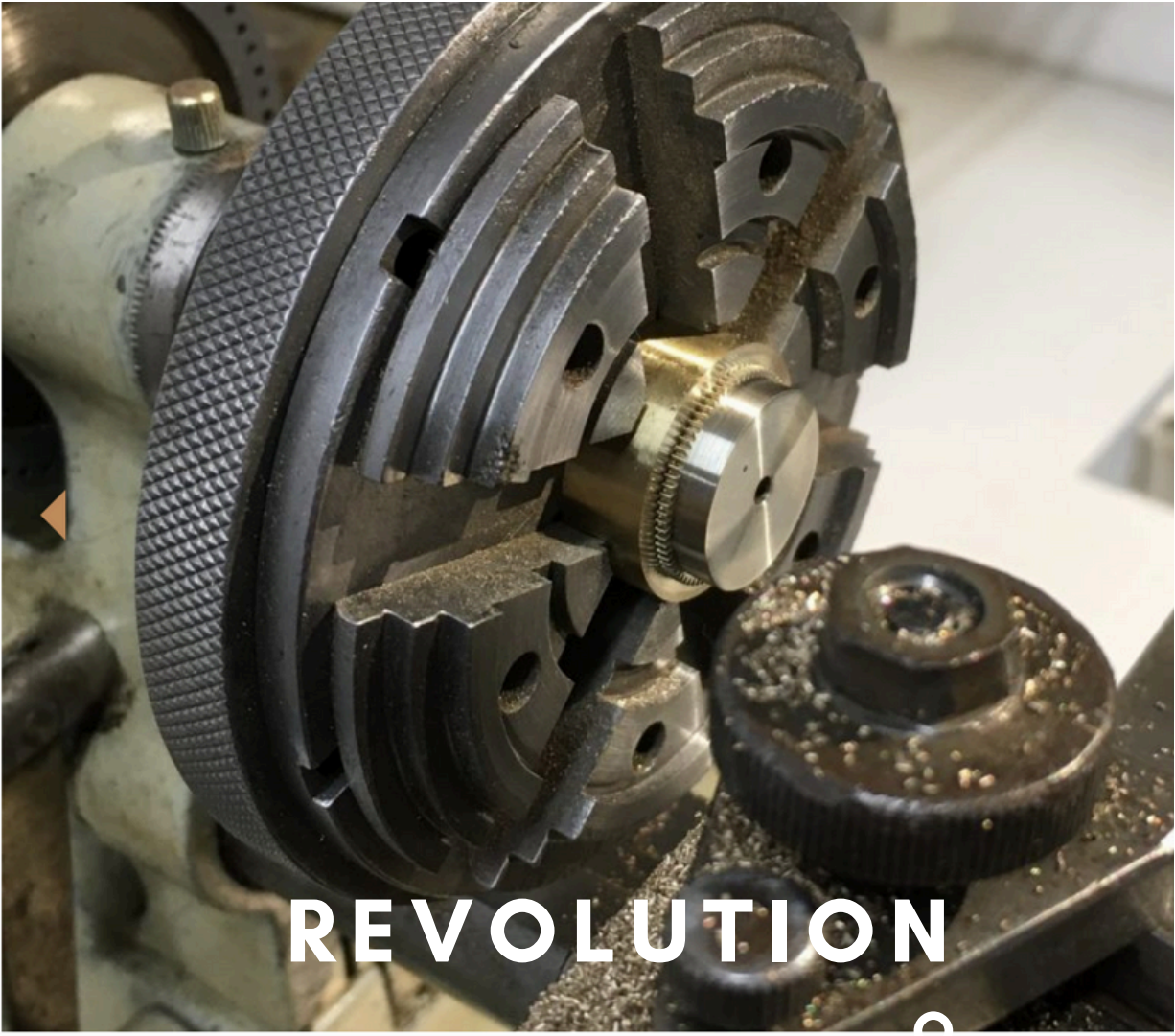
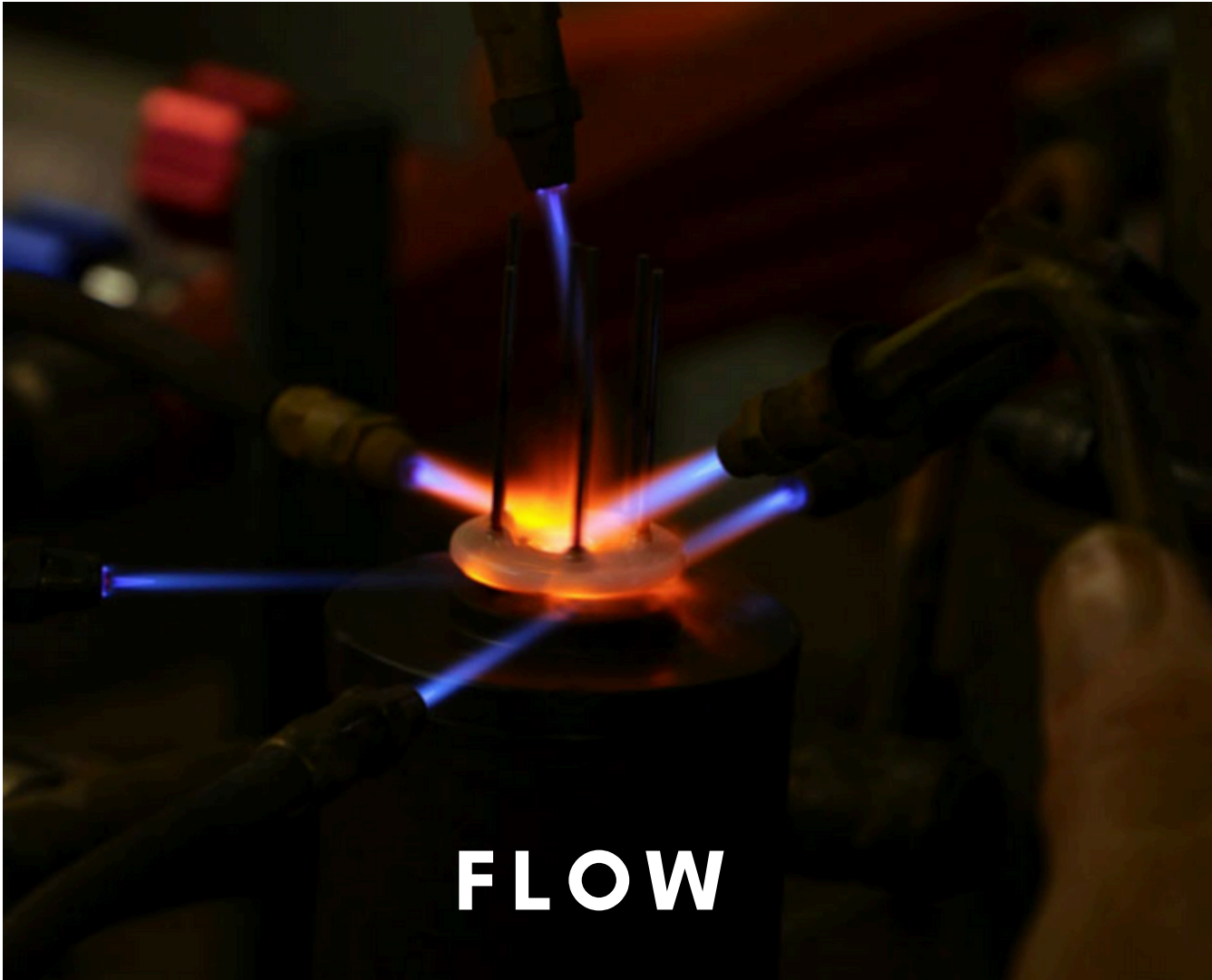
ADAPTATIONS
HEAL FRACTURES
REMOVE & SHORTEN TUBES
FOR WEAR

DEVELOPING MY OWN RELATIONSHIP WITH TECHNOLOGY & TOOLING TO
MIRROR TECHNIQUES OBSERVED DURING MY TIME ONSITE WITH INDUSTRIAL
CRAFT SPECIALISTS

LATHE
FLAME
LASER
PRINT
CAST
CUT

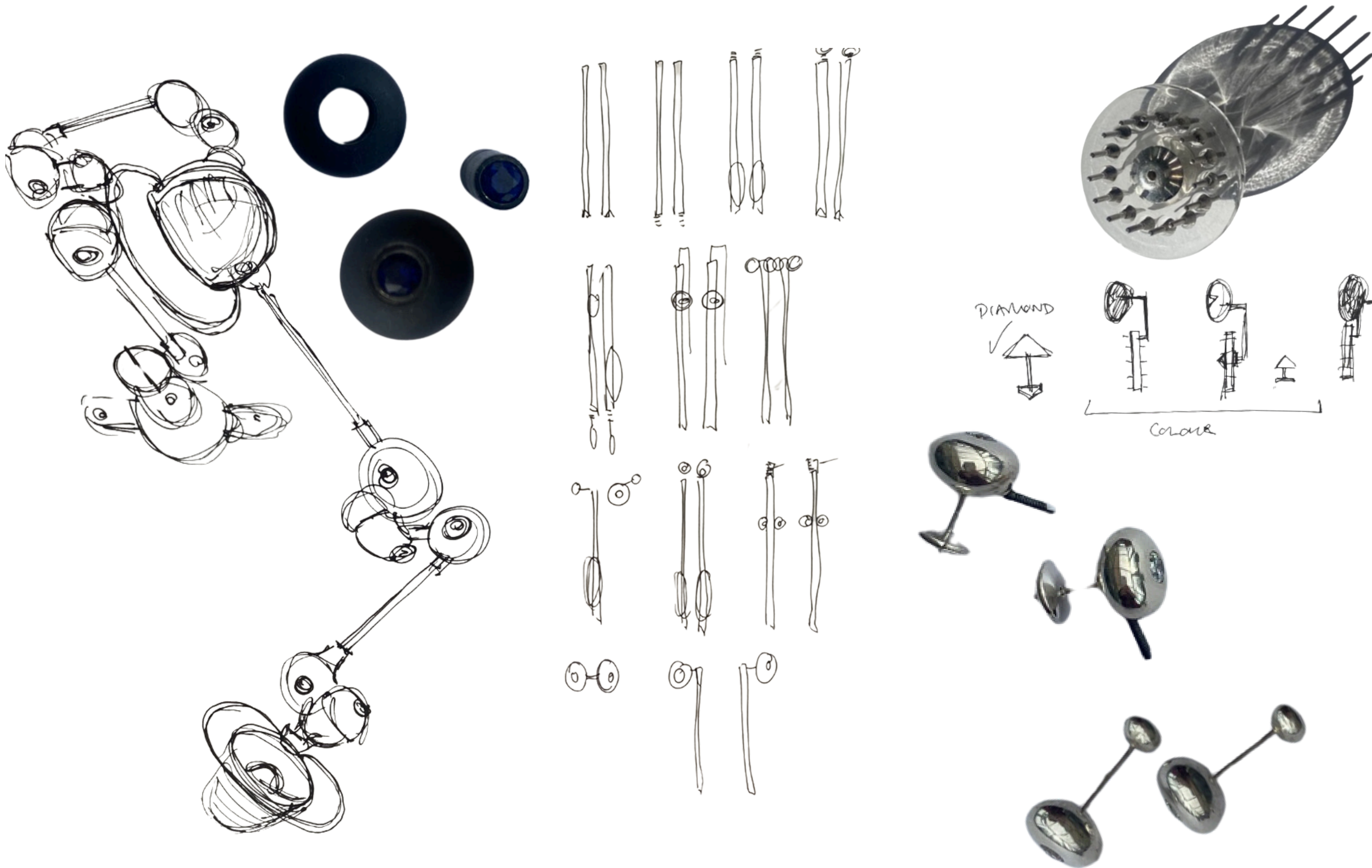


UNDERSTANDING THE RHYTHMS OF PRODUCTION
INFORM DESIGN |

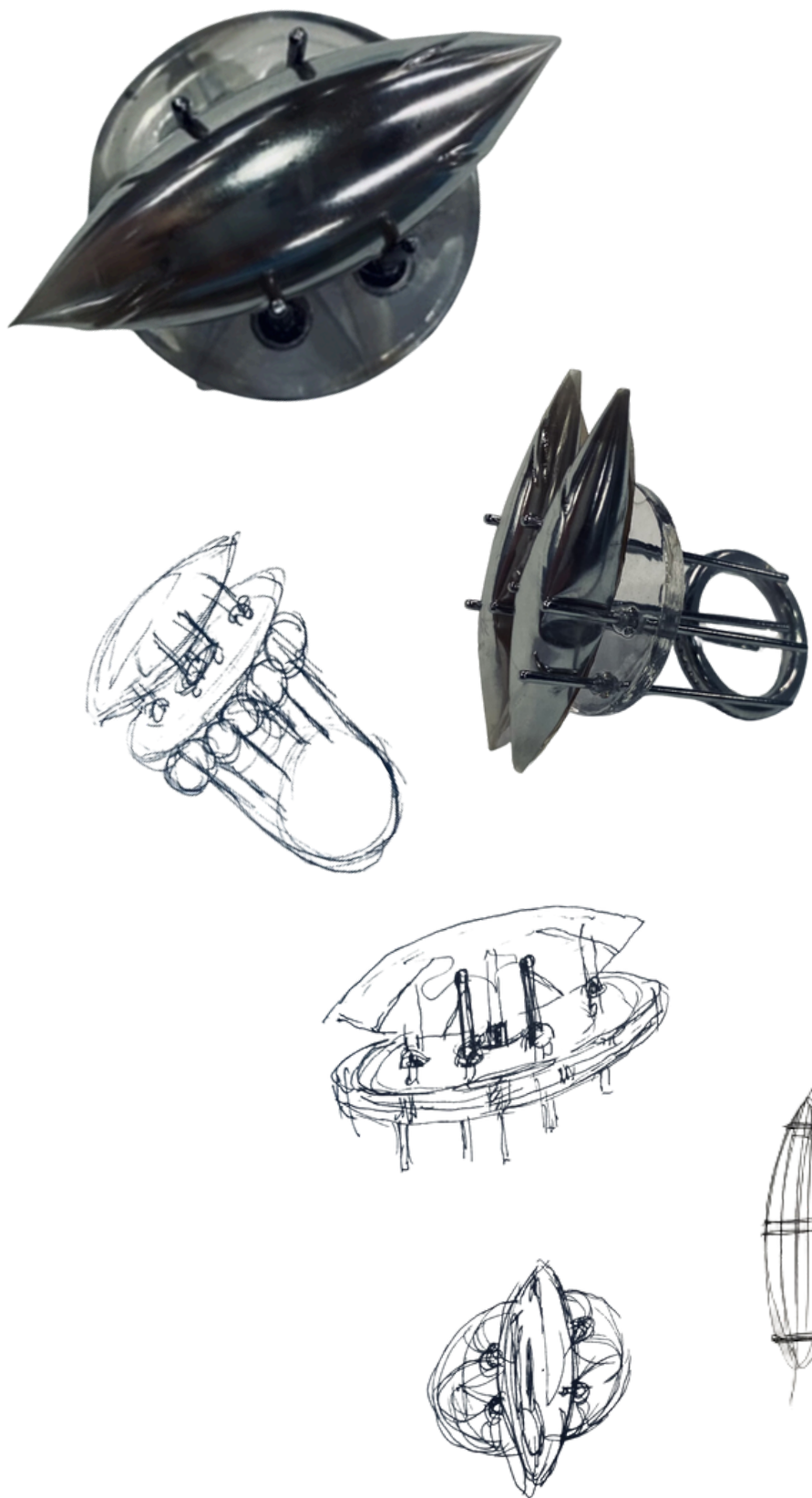


TO FOCUS ON 'DIMPLE' FEATURES & CONNECTING FORMS TO PRESENT, RATHER THAN OBSCURE THE OBJECTS

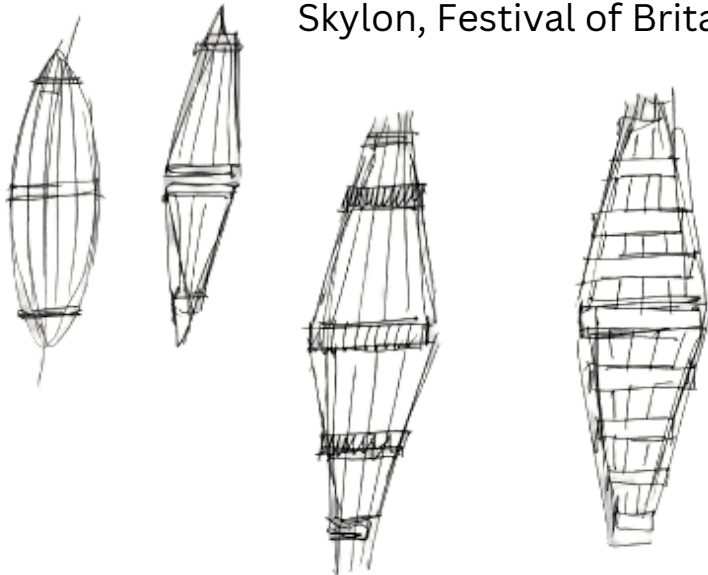
Developing earring backs based on the 'dimple' feature on each of the discs - a vital feature giving strength to connection point between the glass and metal.



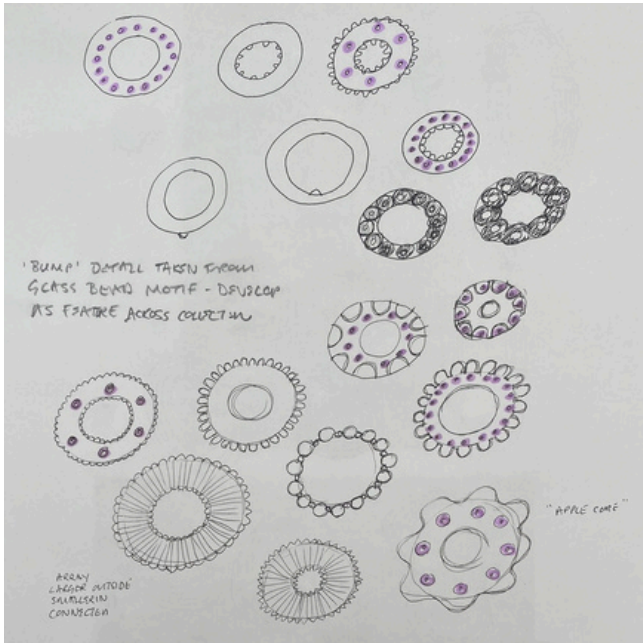
EXPLORING LINEWORK & GEOMETRIES
FORMS REALISED THROUGH THE ACT OF BRACING, INSERTION &
CONNECTEDNESS



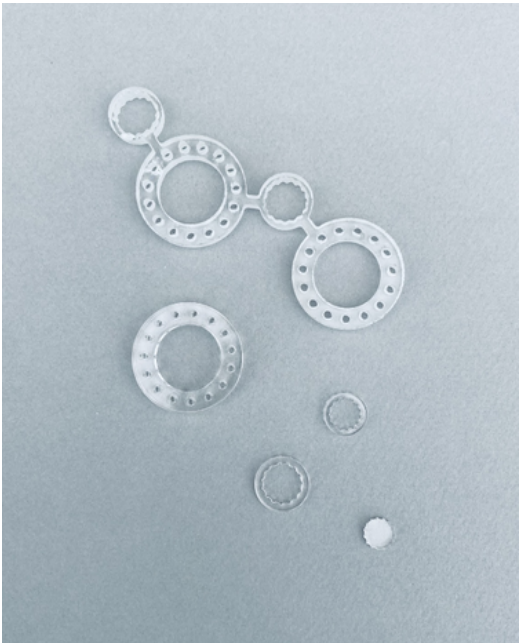
Skylon, Festival of Britain 1951



REFINING THE CONNECTOR DEVICES



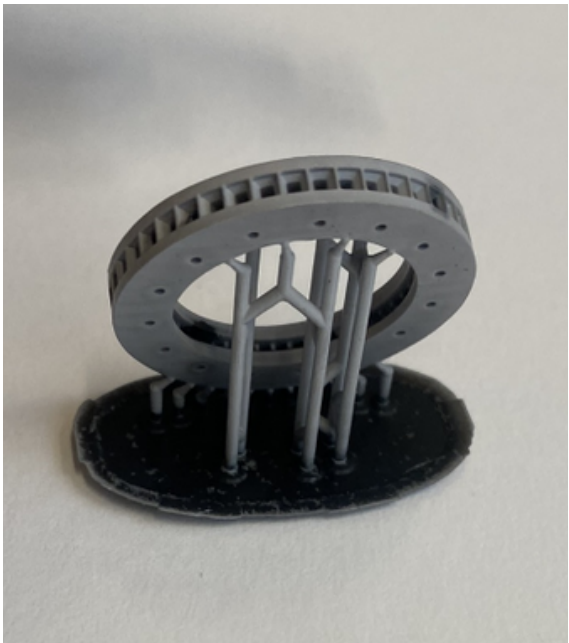
SKETCH



ACRYLIC PROTOTYPES



PRECISELEY ENGINEERED
TECHNICAL GLASS TEST



ETERNITY CONNECTOR 3D PRINT
PROTOTYPE



CHANNEL SET SAPPHIRE BAND

MATERIALS & TECHNICAL DATA

TECHNICAL DATA | GLASS TO METAL SEAL TECHNOLOGY

Glass to metal seals are a niche part of glass manufacture to allow electrical or optical signals to be amplified and pass through vacuum tight enclosures. They play a vital role in the smooth and safe operating of a wide range of machinery and equipment ranging from x-ray machines, spacecraft, nuclear fusion housing.

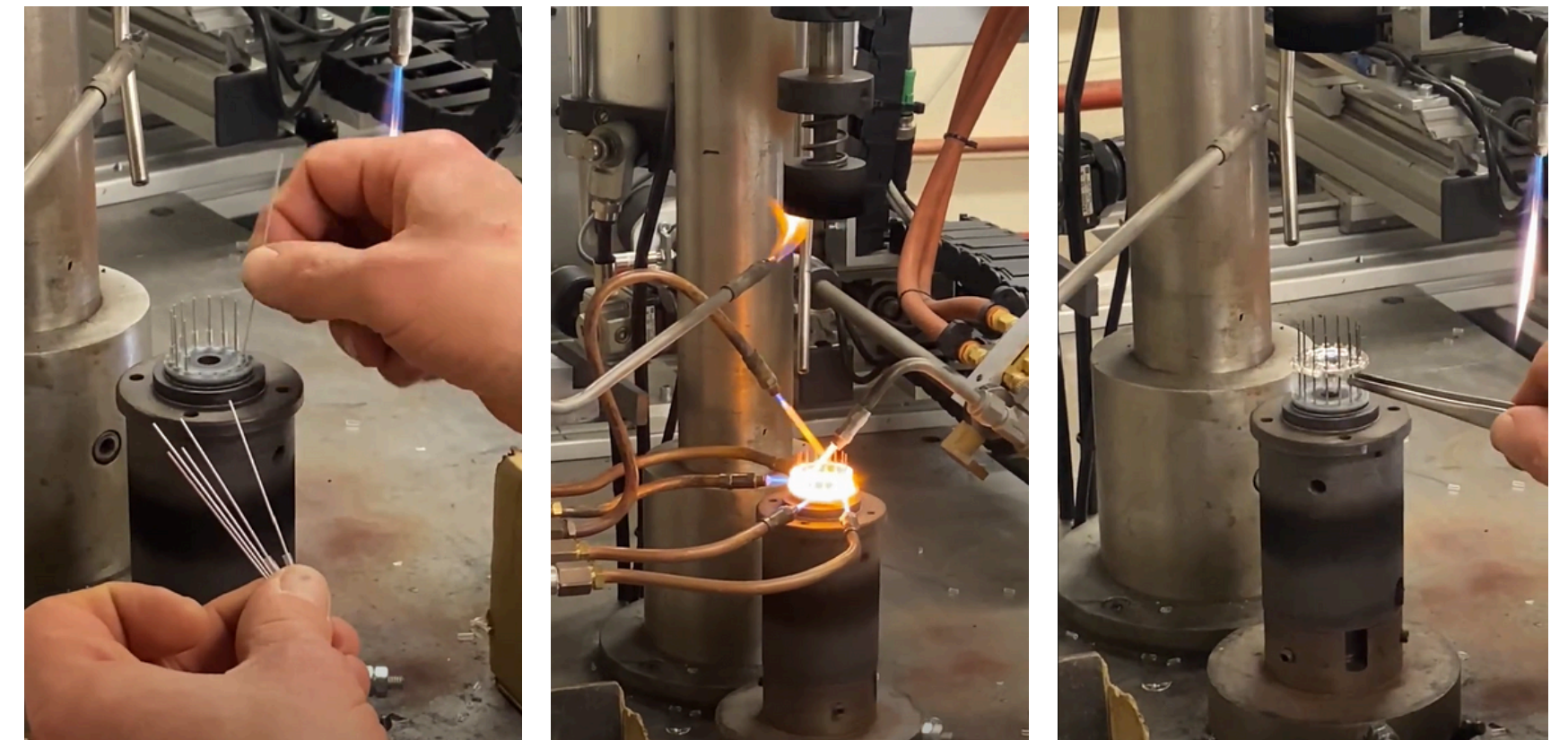
The special technical glass formulation & Kovar (a unique iron alloy created in 1960s for its compatibility with glass).

- **The bond between the glass and metal is incredibly strong, and able to withstand pressures of up to 4,000 bars**
- **Can withstand extreme temperatures ranging from -200 - 1,000C**
- **The expansion coefficient (ie. the rate the material expands and contracts on heating and cooling) is low and the only glass and metal pairing which is compatible. As yet, unused outside of the glass to metal seal industry**

Findings suggest exciting, unexplored potential for glass and metal as a structural entity for applications ranging wearable items through to architectural and construction use.

Although there is only anecdotal evidence of the quantity of waste generated by this sector with one company alone reporting around 2 tonnes of glass waste each this reflects wider issues regarding glass recycling.

Sapphires and diamonds complement this material, chosen also for their hardness and ability to withstand high temperatures needed for fuming glass and reformatting in the design process as well as being readily available in the laboratory (used also for viewports and windows in machinery and equipment)



LIGHT INTERACTION |
HIGHLIGHTING TEXTURES OF GLASS PRODUCTION & FEATURING COLOUR CREATED BY MY OWN BENCH WASTE



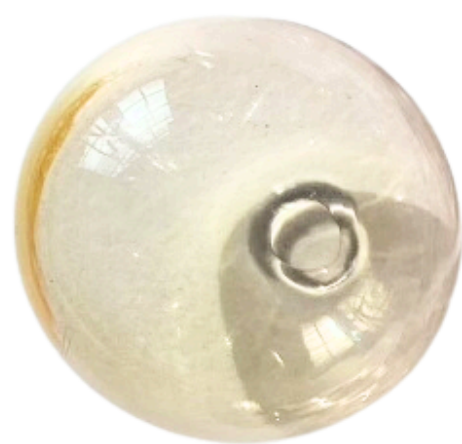
Pearl lustre



Blue lustre



Gold lustre - thick coating



24ct gold lemmel



Purple lustre



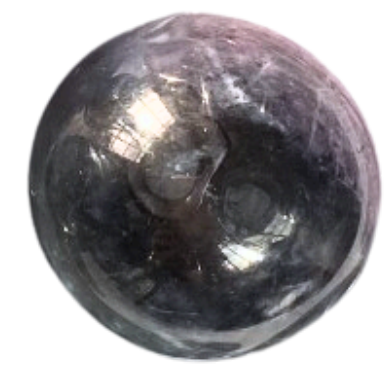
24ct gold lemmel waste



Platinum lustre



Green lustre



Gold lustre - light coating



Ear discs featuring silver lemmel fumed colour



CONTEXT

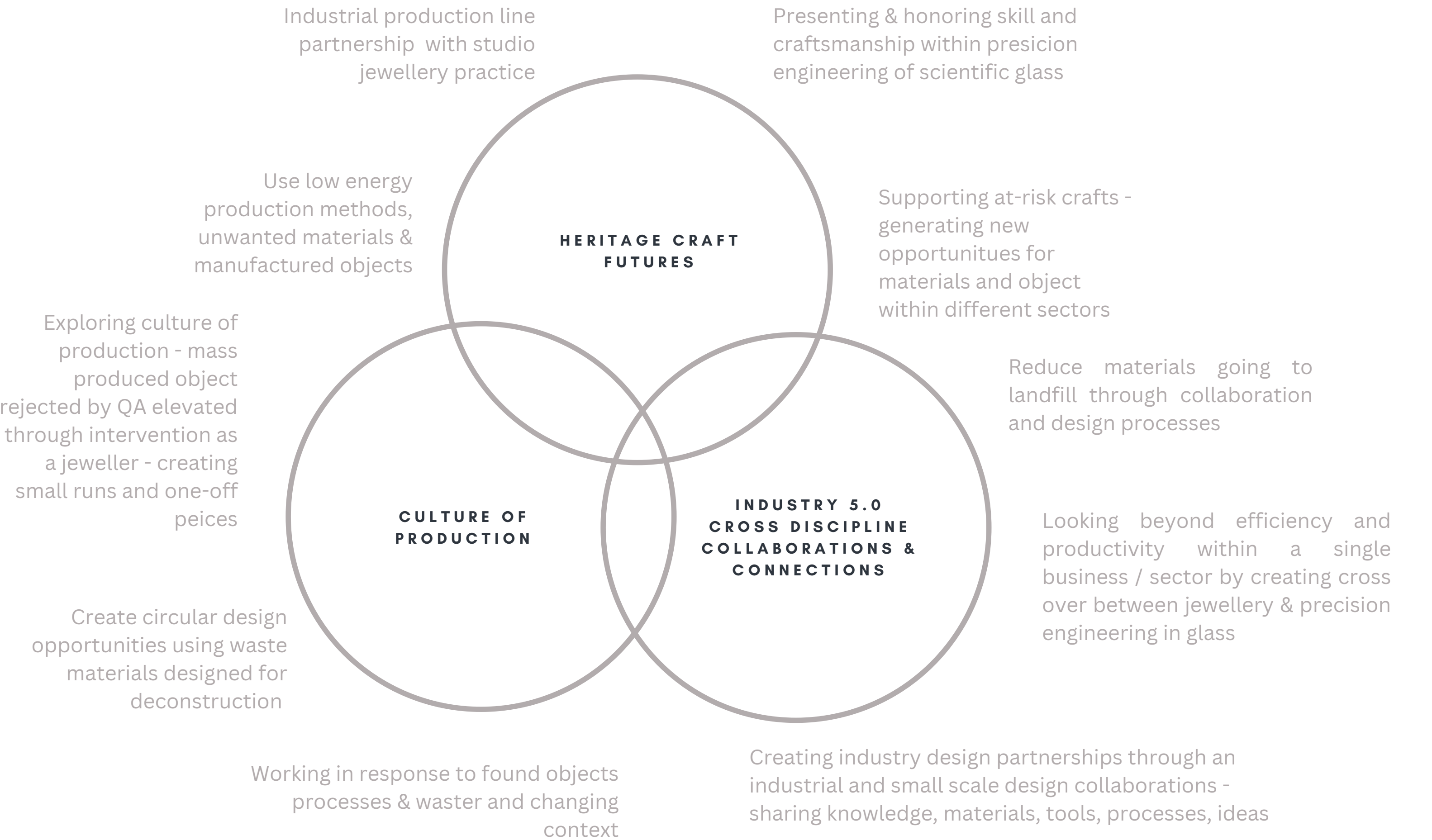
**HERITAGE CRAFTS REPORT SCIENTIFIC GLASSMAKING IS ON
THE ENDANGERED CRAFTS LIST WITH CURRENTLY JUST 100
PRACTICING BLOWERS & 8 APPRENTICES CURRENTLY IN THE UK**

Al met more and more people through this process who expressed concern with skills dying out,
and began to ask myself what I could do to create new opportunities and draw attention to this
issue using my designs as the vehicle to create

**OVER 100M TONNES OF GLASS WASTE PRODUCED GLOBALLY
EACH YEAR, AND YET
ONLY 30-35% OF THIS IS RECYCLED**

Although there is only anecdotal evidence of the quantity of waste generated by
this sector with one company alone reporting around 2 tonnes of glass waste
each this reflects wider issues regarding glass recycling

OPPORTUNITY SPACE





THE FUTURE IS BRIGHT(ER)

ENVISAGING A FUTURE WHERE INDUSTRIAL CRAFTS BECOME
MORE VALUED. WHERE MY ROLE IS FOCUSSED ON FOSTERING
COLLABORATIONS ACROSS INDUSTRIES AND CRAFT
DISCIPLINES TO BENEFIT PEOPLE, PROFIT & THE PLANET



Estelle Burton is a multidisciplinary artist and jewellery designer with a passion for glass.

Born in Birmingham, and raised in the Midlands, once the UK's industrial heartland, her interest Britain's rich manufacturing history and the culture of production which is reflected in her work. She is now based near Hastings on the East Sussex coast in the UK.

Following a successful career in tech Estelle went on to study a broad spectrum of crafts practices choosing to specialise in metalsmithing and hot glass and now works on location in collaboration with engineers and scientific glassworkers to produce her work.

The treasures she finds by working on location in the glass workshop and lab spaces form the basis of limited collections and one-off bespoke pieces featuring discarded treasures made with novel materials and industrial processes.

By recontextualising found objects and insights into the craft of production and taking these back to her own studio she finds ways to express her findings to honour manufacturing craftsmanship to bring these findings to a new, appreciative audience.

An exciting liminal space where previously hidden, glassy, jewel-like components are revealed which question the value we place on materials and craft practices by taking an agnostic view.