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Cover image: *Sofie Boons, (2025), Octagon, BRG Type 2, silver, steel. Photograph taken in natural light.*

Editorial: Beyond Form: Jewellery as Language, Memory, and Experimentation

Author: *Roberta Bernabei and Eliana Negroni*



This eighth volume of the *Journal of Jewellery Research* embraces jewellery as language, memory, and experimentation, underscoring jewellery as a powerful medium of expression, historical reflection, and material exploration.

We received submissions spanning a wide range of themes, and the final selection of papers naturally shaped the identity of this edition. It was the richness and diversity of these contributions that inspired the title. The voices and perspectives gathered here collectively demonstrate how jewellery can transcend its material form to become a space for cultural, conceptual, and experimental exploration.

We are proud to present a selection of thought-provoking papers that explore various dimensions of jewellery practice: from the experimental use of lab-grown crystals and organic materials, to historically situated analyses from Romania and the United States. One paper delves into the cultural obsession with beautification through jewellery, where creativity becomes a tool for expressing the artist's critical perspective on this theme. These diverse contributions are joined by a visually compelling creative writing piece that offers a deeply personal and performative engagement with jewellery.

The first paper in this volume, *Glowing Brilliance: A Jewellery and Crystal Growth Collaboration* by Sofie Boons, explores the innovative artistic potential of working with man-made crystals. It compellingly demonstrates to researchers and designers that this is a largely underexplored area, yet one with great potential. Man-made stones can offer design possibilities that may not be achievable with natural gemstones, and they

also allow for creative freedom unburdened by the legacy, ethical concerns, and symbolic weight often associated with natural stones.

Notably, this is just one of several fascinating explorations undertaken during Boons' doctoral programme, illustrating the depth and breadth of her experimental approach in collaboration with the industrial crystal grower BREVALOR (Switzerland). In particular, she worked with BRB and BRG crystals, which possess luminescent properties and glow in the dark. Through her experiments, Boons discovered that by varying the cut of the stones and manipulating the colour of the surrounding materials, she could generate new and complex geometries therefore opening up innovative aesthetic and structural possibilities within the field of jewellery design.

In this volume, we feature a uniquely personal writing style in Lena Karpilova's paper *A Sonata of Foreigner: Reflections of Curator and Migrant on the L'étrangère Project*. Written in the form of a personal diary, the paper traces how the topic emerged and evolved into a concrete project. Two aspects are interesting: the recall to exhibitions and art performances in a domestic context and Karpilova's analysis of ephemeral curatorial impact in the field of contemporary jewellery exhibitions. The images play a crucial role in drawing the reader into the narrative, visually guiding their attention and deepening their engagement with the story. They are not merely illustrative but serve as active elements that enhance the reader's immersive and emotionally resonant experience of the paper. Surely this case study is now recognisable by a touching text and will not fade quickly in the reader's mind.

After a powerful exploration of potential new materials and new poetic writing on jewellery, Simona Preda shifts the focus to a historical perspective in her paper *Queen Maire of Romania's Memorial Jewellery*. Preda examines the symbolic significance of some pieces from Queen Marie's collection, how their meanings were shaped by experiencing particular socio-political contexts. This historical approach with a chronological analysis, and an inventory, is investigating how the jewellery has been influenced by the political regime and legislations. The collection of jewellery is scrutinised to ascertain how choices by the Queen and others have utilised the jewellery as a non-verbal communication, conveying messages about her royal identity, her relationship with other people, and other royal families.

In Ebba Van der Taelen's paper *Double Activation in Contemporary Jewellery: Rethinking Body–Jewellery Relations*, the starting point is a discussion of how contemporary jewellery moves beyond a static and ornamental function to become fully interactive with the body, generating active and performative experiences. The key statement is "body activates jewellery that then activates body." Quite famous examples of pieces are analysed under this specific effect theorised by the author. Then a deeper exclusive focus on examples of the current century (Chen, Büyükkinal, Kalman) is appreciated and functional to focus on the *beautification* (cit. Kalman) and the psycho-sociological aspects of aesthetic surgery new mania. In doing so, the author addresses one of the most pressing and widely debated issues of our time, particularly among younger generations.

The final standard paper for Volume 8 is by Molly Watkins *Jewellery for All Americans: The Production and Importance of Costume Jewellery in Providence, Rhode Island*. An emblematic overview of the rise and fall of the American jewellery district in Providence, R.I., analysed through its historical, socio-economic and "costume" aspects. It is remarkable to remember how some peculiar conditions like the availability of human resources (immigrants and re-qualifying workers) and the typical women's attitude to work from home, in a certain epoch, shaped an entire industry. Watkins' contribution stands out as a valuable historical addition to the Journal of Jewellery Research's offerings, drawing attention to a less Eurocentric perspective and expanding the geographical and cultural scope beyond the predominantly European focus seen in previous volumes.

This year, we present a visual paper by Simone van den Broek titled *Growing Jewellery: Goldsmithing with Mycelium*. The paper explores an intriguing natural material: mycelium, the root network of fungi. As in Boon's paper, the focus here is on growing materials, and the methodologies have some commonalities. Van den Broek explores two innovative approaches to mycelium-based jewellery: shaping the material into gem-like forms to be set in precious metals and cultivating the fungi directly into wearable pieces. The study argues that mycelium not only presents novel material possibilities but also encourages a deeper connection to nature, potentially offering mental and physical benefits to the wearer. This research opens new avenues in sustainable design, material agency, and the emotional resonance of bio-based adornment.

CONCLUSION

We conclude this brief journey through the six new contributions in this volume of the *Journal of Jewellery Research* by reflecting on the remarkable diversity of perspectives they offer. These papers reveal just how complex and deeply personal our relationships with jewellery can be, and how uniquely we articulate those relationships—whether from the viewpoint of a designer, a scholar, or a combination of both.

Among the highlights are two particularly compelling papers that explore innovative methods of growing materials directly into or alongside the precious metal structures of jewellery. These experiments not only push the boundaries of traditional craftsmanship but also challenge conventional definitions of materiality and adornment.

To further enrich this edition and expand the dialogue, we invited a guest contributor to co-author this editorial: Dr. Eliana Negroni, Director of Archivio Negroni in Milan and President of the Italian Association for Contemporary Jewellery (AGC). As a curator, her commentary on selected papers offers fresh insights and helps broaden the spectrum of voices and interpretations shaping our field.

We hope you enjoy reading Volume 8, and we thank you for your continued support and engagement with the *Journal of Jewellery Research*.

-Roberta Bernabei and Eliana Negroni

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We would like to express our sincere gratitude to the authors, whose passion and generosity in sharing their research have made this volume possible. Their creativity, critical insight, and dedication continue to shape and enrich the field of contemporary jewellery studies.

We are also deeply indebted to the ongoing and invaluable support of our Advisory Board reviewers, whose thoughtful feedback ensures the academic rigour and quality of the journal. Our heartfelt thanks extend as well to the regular editorial team for their dedication, and to Oscar Trickett for his meticulous proofreading and assistance with the layout of Volume 8.

We gratefully acknowledge Dr. Tincuța Heinzl for her insightful review, Digisin for their continued support with web management, and our sponsors: Getty Publishers, AGC (Associazione del Gioiello Contemporaneo, Italy), and Loughborough University School of Design and Creative Arts, for their much-appreciated commitment to the journal's mission.

Glowing Brilliance: A Jewellery and Crystal Growth Collaboration

Author: *Sofie Boons*



ABSTRACT

This paper documents the collaboration between industrial crystal grower BREVALOR (Switzerland) and Sofie Boons (United Kingdom) conducted as part of a Case Study set up to explore whether the collaboration between art/design (jewellery) and science (crystal growth) practitioners could result in innovative man-made crystal materials that would be interesting for the production of jewellery. BRG and BRB crystals, both glow in the dark materials previously not used in jewellery, were grown and manufactured for their application and use in jewellery. The collaboration, outcomes and ongoing work is documented in order to aid a consideration of the opportunities and challenges such art-science collaborations (jewellery and crystal growth) pose and how they could result in innovative outcomes that challenge our current appreciation of man-made gemstones.

KEYWORDS: *Crystal Growth, Phosphorescence, Sci-Art Collaboration, Man-made Gemstones, Jewellery*

INTRODUCTION

With crystal growing techniques having been around since the 19th century, man-made crystals now drive innovations in various industries. This has, however, not fully translated into the jewellery industry, where efforts to de-value them have limited scientific interest, and the majority of man-made crystals are still produced to recreate mined gemstones.

Despite all controversy and the limited amount of innovation in the creation of man-made crystals for use in jewellery today, lab-grown gemstones are being incorporated into the work of an increasing number of jewellery artists, designers, and makers. An investigation into their use by jewellers indicated that they, for some makers, provided design options that would not be considered financially feasible and/or traditionally acceptable when working with mined stones. Some artists have taken liberties with lab-grown stones, bypassing conventions; for example, by drilling large holes in them, cutting them into innovative shapes, or even using them in combination with other non-traditional materials. An example of this kind of work is the brand SOMA, whose designer drilled large holes in lower-cost lab-grown cubic zirconia (CZ) to enable them to be hooked onto hoop earrings (Figure 1). CZs are significantly cheaper than most mined gemstones, which is likely to be a key driver for these types of interventions. Another example is the all-diamond ring produced by J. Ive and M. Newson, who cut the material so that it did not need to be set in a metal ring. Two other jewellery artists, Karl Fritsch (Figure 2) and Olaf Hodne (Figure 3), have been working with lab-grown materials for a while, and have

even produced some pieces that embraced lab-grown gemstone materials in their unaltered, uncut, and unpolished form.

When reviewing the innovative use of lab-grown gemstones in jewellery, this is most interesting, as here the materials are incorporated into a shape that does not appear in nature. Whether it is cutting holes, cutting stones in half, or cutting them in new ways that would not prove financially viable with mined materials, these interventions become options for artists due to the currently low cost of some man-made crystals and the larger format they can be acquired in. Presumably, if this had been possible with mined materials, lab-grown alternatives may not have been chosen.

The case study, reported on in this paper, was developed as part of the author's overarching PhD research into man-made crystals, and aimed to expand the search for the innovative potential lab-grown materials provide. This by collaborating with those who have expert knowledge of, and expertise with, crystal growth. The resulting collaboration, spanning four years, is described, documenting its incorporation, development and most notable activities and outcomes. Finally, an intermediate evaluation is provided, since the collaboration remains ongoing, and the impact of the work started is expected to exceed beyond the timeframe reported on within this paper.

METHODOLOGY

A selection of crystal growth experts were contacted to set up a collaborative project and once a suitable collaborative partner was identified, and a collaboration agreed, a range of data was collected to triangulate conclusions in relation to the analysis of the innovative potential of outcomes. The data supplementing the physical outcomes and documentary photographs documented in this paper included: email records, meeting agendas and minutes, sketches, models, proposal documents, textual records, formulas and lab notes. Following the prescribed format underpinning good case study research as documented by Gillham (2000) care is given to document the case study's alignment with the aim of the research and how it influenced the research in response. The paper therefore documents the emergent theorising, and an explanation of the issues being dealt with.



Figure 1 Asket Hoop Earrings Grace, CZs, gold-plated silver. Photography by SOMA.



Figure 2 Huge Window, Olaf Tønnesland Hodne, lab-grown quartz, steel. Photography by Olaf Tønnesland Hodne.



Figure 3 Ring #489, Karl Fritsch, silver, obsidian, synthetic sapphire, cubic zirconia. Photography by Karl Fritsch.



Figure 4 D. Rytz illuminating BRG boule, explaining internal structure by using model. Image courtesy of author.

COLLABORATION DEVELOPMENT

At the end of July 2020 contact was made with a company previously visited in 2016 that initially sparked the author's interest in the subject of crystal growth. Electro-Optics Technology GmbH (a subsidiary of Coherent Corporation since April 2021) has been conducting research and development in the field of technical crystals and laser components since 1990, specialising in the production and growth of technical crystals as well as the processing of technical crystals and all related activities (Northdata, n.d.). The company, which had previously been accommodating to a visit by jewellery students in 2016 as part of an Erasmus+ project bringing together three European institutions (British Academy of Jewellery, 2017), was additionally judged as of great interest to the project due to its location in the city of Idar-Oberstein in Germany which has been, and remains, a significant location for gemstone trading in Europe. The company's research and development manager, Daniel Rytz, a physicist and crystal grower active in the field of crystals for optical, piezoelectric and other applications since 1977, responded positively to a request to discuss a collaboration proposal. What followed is an ongoing collaboration with Rytz (Figure 4), who, as an experienced scientific PhD supervisor, supported the research by providing crystal material for experimentation, crystal growth lessons, mentoring and meetings.



Figure 5 BRG ($\text{Eu}^{2+}, \text{Dy}^{3+}:\text{SrAl}_2\text{O}_4$) boule. Height = 50 mm. Left, without excitation in natural light. Four boules on the right document the light emission continuously decreasing from excitation to ten hours later. Photography by D. Rytz. Image used with kind permission of D. Rytz.

Even though the original collaboration request had been directed to Electro-Optics Technology GmbH, Rytz, who in 2012, together with his partner Corinne Siegrist had founded BREVALOR to develop crystals with novel properties for ornamental applications in watch making and jewellery, felt the work he was conducting for BREVALOR aligned more closely with the ambitions of the PhD. Following an initial online meeting, in which Rytz explained the company's approach to the materials he had been developing, a range of design ideas were shared, and an agreement was made to attempt to investigate the materials created by BREVALOR for incorporation into jewellery.

BRG AND BRB CRYSTALS

In 2013, BREVALOR produced a new type of strontium aluminate in the form of transparent crystals with similar luminescence effects as known from pigments but with additional striking features. Such crystals and several new compositions emitting persistent luminescence light with various colours have properties very close to classical gemstones: their hardness allows them to be shaped and faceted, and their physical properties give them the optical appearance of gems. Following exposure to a few minutes' illumination by sunlight, unlike traditional gemstone materials, their entire volume emits light for many hours (Figure 5).

Long-lasting (or persistent) luminescence, sometimes also called phosphorescence, is a natural phenomenon known as far back as ancient Chinese or Japanese inks used in paintings, which remained visible at night (Xu and Tanabe, 2019). Minerals with persistent luminescence were first observed by the shoemaker and alchemist V. Cascariolo from Bologna in 1603 after transforming the mineral barium sulphate into barium sulphide (Lastusaari et al., 2012). In 1866, the French chemist T. Sidot (1866, cited by Xu and Tanabe, 2019) synthesised zinc sulphide containing cobalt. Sulphides were the dominant persistent luminescence materials until 1993, when specific modifications of strontium aluminate were discovered in Japan and implemented

in pigments with very intense and long-lasting luminescence effects leading to the emission of green-yellow light. Phosphorescent materials we encounter in daily life are usually based on pigments embedded in plastics, lacquers, paints or other support materials. The phosphorescence occurs at the surface of these non-transparent substances.

With single crystals, new design effects based on three-dimensional transparent volumes can be used. This paves the way to introducing a new functionality in gemstones and gem-like ornamental objects, by enabling the use of an internal light source that needs only a brief activation by daylight.

Figure 6 Faceted composite stone (YAG + BRB + YAG) phosphorescing after excitement with UV light source. Photography by Simon Regan for the Centre for Print Research. Image used with kind permission of the Centre for Print Research.



Figure 7 Faceted doublet (YAG + BRG) phosphorescing after excitement with UV light source. Photography by Simon Regan for the Centre for Print Research. Image used with kind permission of the Centre for Print Research.



After activation, the energy absorbed will lift the atoms of the material into an excited and unstable state (Gundermann, 2023). In an attempt to return to an unexcited state, the material undergoes a transition and will re-emit light for a period of time. This period of time, also referred to as the luminescence efficiency, depends on the degree of transformation of excitation energy into light (Gundermann, 2023), which can be adjusted by fabrication parameters, something the crystal grower continues to perfect. Visibility in the dark can currently last for 24 hours or more, with an intensity that decreases over time.

The blue glowing effects of BRB (Figure 6) and green glowing effects of BRG (Figure 7) are due to the Eu^{2+} ions introduced into the crystal matrix and to so-called traps related to Dy^{3+} and Nd^{3+} , which allow them to store the light for a period of time. The exact nature of the traps is still the subject of ongoing investigations and optimisation efforts. Further technical details of these materials are covered in a number of scientific publications co-authored by Rytz, including the paper Persistent luminescence in strontium aluminate: a roadmap to a brighter future by Van der Heggen et al. (2022) and Highly Transparent Ce^{3+} , Cr^{3+} Co-doped GYAGG Single Crystals with Enhanced Persistent Luminescence by Delgado et al. (2023). Even though the detailed compositions of the crystals are in ongoing development, the resulting boules and crystals are already suitable for cutting, faceting and polishing, and their overall properties (Table 1) are in alignment with most common gemstone materials.

Table 1 Comparison of gemstone properties including Specific Gravity (SG), Hardness, Refractive Index (RI) and Colour.

	Diamond	Sapphire	BRG/B	Garnet
SG	3.4-3.5	4-4.1	2.9-3.6	3.1-6.5
Hardness	10	9	6.5-7.5	6.5-8
RI	2.42	1.76-1.77	1.72-1.94	1.72-1.94
Colour	All colours	Most Colours	Yellow-green and blue	Most Colours

Using the most important method of crystal growth today, mainly due to its large-scale application to the growth of the semiconductor crystal silicon, the crystals are pulled from a melt contained in a crucible, a method also referred to as the Czochralski technique (Scheel, 2003). When this technique is used for oxide crystals it involves induction heating with Iridium crucibles, which allows growth temperatures of up to 2100°C, with an adequately controlled atmosphere. The growth process is controlled by a balance recording the weight of the growing crystal. Carefully monitoring the weight and comparing it with the targeted value allows crystal growers to control the shape of the crystal, resulting in boules of 20 – 50 mm in diameter grown in approximately 20 days.

Since 2013 BREVALOR has grown approximately 25 BRG and BRB boules, each time adjusting the composition of the chemicals and/or adjusting the growth cycle and routine, in order to perfect the crystal growth. The development of a novel type of crystal takes on average about 20 years from the discovery of

the material to its use in small series of commercially available products. Eleven years since the first growth of BRG Type 1 and BRB, the present paper presents simultaneously a conceptual analysis of the potential of this gemstone-like material emitting light without an external energy source and a prototyping step, demonstrating real-world effects in the first gemstones manufactured with the material. Moreover, in parallel to the work described in the paper and influenced by this work, BREVALOR has developed several additional phosphorescent single crystals emitting at other wavelengths (such as lighter blue and red), phosphorescent crystals with increased hardness (Ce³⁺-doped garnets derived from Y₃Al₅O₁₂, labelled BRG type 2).

OUTCOMES

While the start of the research did not immediately provide clarity of direction in the usage of BRG/BRB, two pathways of investigation did appear in applying the materials in a jewellery context (Table 2). In light of the cost and complexity associated with producing large crystals, particularly at the start of the collaboration, a second strand of work in addition to applying the material, revolved around a further transmutation of the material in combining it (either through crystal bonding or gluing), with other lab-grown or relevant materials. These two pathways of investigation enabled an extensive array of possibilities in relation to each of the areas of investigation conducted. The underlying question, ‘When does the material display the quintessence of a gemstone, moving beyond that which can be achieved with pigments and resin?’ was a constant undercurrent in the

process of making. Despite being portrayed here with clarity and logic, it was a cyclical process of trial and error, in which the dissolution and solidification of the concept and quintessence of a gemstone were continuously lost and found. The listed selections are those that came the closest to capturing the intended outcome.

Table 2 Taxonomy of the artefacts created with BRG and BRB.

BRG & BRB Gemstones	
Applied (using the material in its original form)	Transmutation (material combinations to maximise impact)
(1) Enabling use with other gemstones → Lapis Solaris	Doublet/Triplet ←
(2) Experimenting with effects → Pooling Light	Reflecting light ←
(3) Artefact Creation → Octagon	Cameo ←

Having never been applied to the production of jewellery before, the first area of investigation, in response to Rytz’s input, revolved around an initial investigation of the material’s role and identity as a gemstone. The question ‘How can this material be shaped so it can be incorporated into a broad variety of jewellery pieces?’ was first to be asked and answered. While a torus-shaped cut (Lapis Solaris) was developed to enable the material to be incorporated underneath traditional brilliant cut stones (Figure 8), an investigation was also conducted to explore the ideal dimensions and composition of a doublet (BRG) and

triplet (BRB), so that an effective faceted glow in the dark stone could be incorporated into designs too. Following hands-on experimentation with the material, and an alertness to light effects that can be observed in a daily context that could be applied to the material, the next area of investigation aimed to push the envelope by identifying an effect of the material and using it as the main feature of the outcome. This resulted in a stone that was not faceted as a brilliant cut, but instead engraved, allowing the pooling of light on engraved edges to feature the lines of the traditional cut (Figure 8). As a further transmutation of the effect of light, a stone was also cut with a single column of phosphorescent material in the centre which, through the cut of the stone, resulted in the reflecting of light around the stone, maximising the impact of the light in the dark. While these first two areas of investigation were intended to inspire commercial interest in the material, a further investigation into the material for artefact creation was undertaken. Here the unique ability of the material to light up its surroundings was utilised in constructing the design, extending the emission of light to the sculpting of light (Octagon). As a further transformation the material's ability to enable light to travel through other materials was exploited in an artefact that consisted of a heightmap of a traditional brilliant cut in a translucent material. Where the material was thicker less light was transmitted, and where the material was thinner more light was transmitted, resulting in an optical illusion of the patterns formed by a traditional brilliant cut (Cameo).



Figure 8 Lapis Solaris Ring excited by UV light source, BRG Type 1, CZ, brass. Pooling Light earring excited by UV light source, BRG Type 2, silver. Photography by Simon Regan for the Centre for Print Research. Image used with kind permission of the Centre for Print Research.

LAPIS SOLARIS

Following the first meeting with Rytz, where an explanation was provided of the BRG and BRB materials in development, an ideation phase followed. With incorporating the material into the existing jewellery gemstone material pallet the ambition, the first idea that progressed for prototyping was the creation of a BRG torus-shaped stone, which could be positioned under any round faceted gemstone of similar width and would illuminate this gemstone from below.

Following prototype iterations, the ideal size was established (Figure 9) which, as a model, could be scaled up and down to be used in combination with other sizes of brilliant cut stones. Once the ideal sizes were determined, a prototype was created in the material, which was supplied by BREVALOR. A bespoke tool (Figure 10) enabled faceting of the outside edges. Applying faceting to the inside edge and subsequent polishing were completed using a traditional spindle. The 10 mm BRG torus was then set

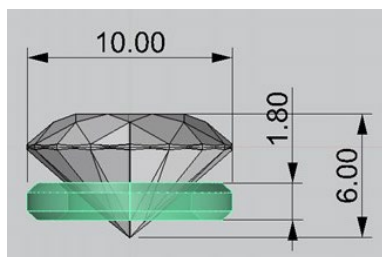


Figure 9 Rhino model of BRG stone with the ideal dimensions. Image courtesy of author.



Figure 10 Adapted faceting tools to enable faceting edges of pre-cored BRG material. Image courtesy of author.

in a bespoke mount, which had provisions for setting it directly below a 10 mm brilliant cut CZ. The resulting piece (Figure 11) serves as proof of concept.

DOUBLETS AND TRIPLETS

Having established that interesting effects could be achieved when the BRG material was reflected in a translucent faceted gemstone, the next logical step appeared to be the creation of a doublet stone. This would once more provide opportunities for the material to be incorporated into a component that would enable jewellery designers using gemstones to incorporate the material in their designs.

Quick tests of this concept were executed by cutting the culet of an existing brilliant cut CZ stone larger and gluing a small section of BRG (Figure 12 and Figure 14) and BRB (Figure 13) at the bottom. The bottom half of the stone was then re-faceted.



Figure 11 Lapis Solaris Ring, BRG Type 1, CZ, brass. Photography by Simon Regan for the Centre for Print Research. Image used with kind permission of the Centre for Print Research.

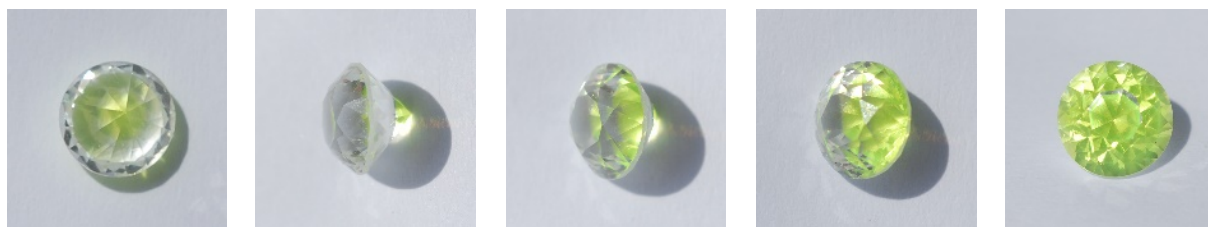


Figure 12 Various views of BRG Type 2 doublet in natural light. Doublet diameter = 8.3 mm. Top section of doublet (YAG) = 4.5 mm bottom section (BRG Type 1) = 2 mm. Images courtesy of author.

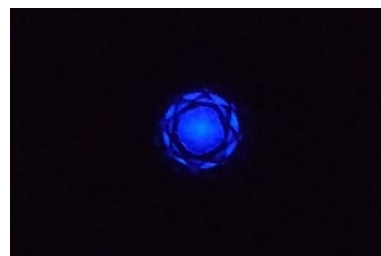


Figure 13 BRB doublet excited by UV light source. Doublet diameter = 8.3 mm. Top section (YAG) = 3.5 mm bottom section (BRB) = 3 mm. Image courtesy of author.

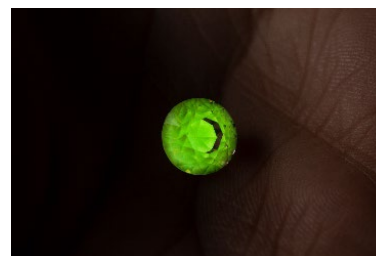


Figure 14 BRG Type 1 doublet, excited by UV light source. Photography by Simon Regan for the Centre for Print Research. Image used with kind permission of the Centre for Print Research.

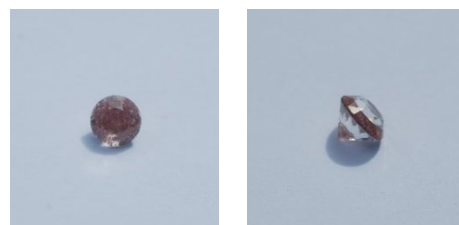


Figure 15 Top and side view of BRB triplet in natural light, excited by sunlight. Triplet diameter = 8.5mm. Top section (YAG) = 5.5 mm, middle section (BRB) = 1.5 mm and bottom section (YAG) = 1 mm. Images courtesy of author.

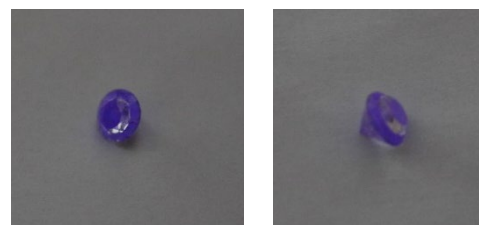


Figure 16 Top and side view of BRB triplet, excited by sunlight. Images courtesy of author.

Depending on the size of the BRB/BRG segment, various visual effects were achieved. In order to achieve optimal colour and light distribution in the stone, the measurements of Figure 12 are recommended to be applied. This composition was also recreated in a final stone, for which the CZ material was replaced with YAG (a material closely related to BRG/BRB). It is, however, at the discretion of a stone-cutter, commissioning artists, what would be preferred, as smaller segments result in a less dominant colouring of the stone in daylight and a lesser glow in the dark effect in the absence of light, whereas a larger segment will have a greater effect on colour, being distributed in zones in the stone.

For later tests the process of gluing was replaced with bonding, which enables materials with a similar lattice structure (BRG/BRB and YAG for example) to be connected in a crystal growth environment. Bonding results in a material that, albeit formed of multiple parts, can no longer be considered as such. A bonded material is monolithic (in the sense that it can no longer be separated by delamination) and will therefore facet as such. Whereas glued materials remain fragile at the glued intersection and this area during faceting can result in a very small indent (glue is softer than the materials it is gluing), no such issues are experienced with a bonded material.

The concept of phosphorescent composite gemstones was developed by Rytz in a document of 2018 and filed as a patent application in parallel to the fabrication of the prototypes made for the present thesis. Technical details about the so-called diffusion bonding process that is known for standard laser crystals can be found in

the patent US 5'441'803 granted to the company ONYX Optics in 1995. What is unique in the composites described here is the fact that the high temperatures needed for bonding can be made compatible with the physical reasons for the occurrence of phosphorescence in the composite.

Investigations into doublets also sparked an interest in the effects and possibilities of creating triplets. While the visual appearance of the BRG Type 2 doublet was desirable, from a side angle the difference in materials was still noticeable. While this can be considered a feature to appreciate, in the gemstone field the homogeneity of stones is usually a desirable property. For this reason, a triplet was also executed with the BRB material (Figure 15 and Figure 16). As expected, it displayed a greater homogeneity than the doublets. While further tests will be required to establish the ideal size of the various components, the start of this work indicates that this too is a viable option.

These experiments established that varying the cut of the stone and the colour of the material to be combined with BRG/BRB would also affect the mentioned effects. This was considered an investigation to be completed beyond the timeframe of the PhD, as it would not provide a further response to the research questions underpinning the project and therefore falls outside its scope.

POOLING LIGHT

Progressing beyond the perhaps expected formation of the materials in a traditional faceted gemstone, it was a desire to investigate the properties of the material that could be explored in different formats. One such property of the material is its ability to pool light towards scored or engraved lines, due to its ability to act as a guide for light. The engraved areas disrupt the uniform travel of light in the material, causing it to scatter and concentrate at these disruptions, making the engravings visible. It is a phenomenon often used for signage; one such example was seen on an entrance sign at a local store in Idar-Oberstein. Here Perspex or an alternative translucent material is fitted with a light source at one end, light travels through the material until it meets the engraving, which lights up due to the scattering and concentration of light, creating a bright and clear display. Considering the status of the material as gemstone, a piece was created which, instead of featuring the facets of a brilliant cut, now solely featured its graphic representation, the line drawing of the brilliant cut. These stones – small, polished discs of around 2 mm high – were engraved using a Protec laser cutter and then set in an earring (Figure 17) and necklace (Figure 18 and Figure 19).

REFLECTING LIGHT

While the pooling of light can be achieved through scoring, it can also be achieved by directing light through reflection. This was explored in a stone cut that featured 16 divisions of facets that reflected the light of a BRG rod positioned at the centre of a transparent YAG stone (Figure 20).

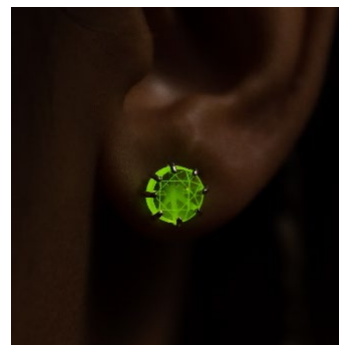


Figure 17 Pooling Light earring excited by UV light source, BRG Type 2, silver. Photography by Simon Regan for the Centre for Print Research. Image used with kind permission of the Centre for Print Research.

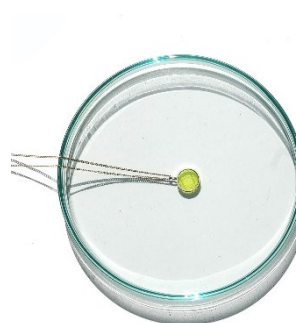


Figure 18 Pooling Light necklace, BRG Type 2, silver. Image courtesy of author.

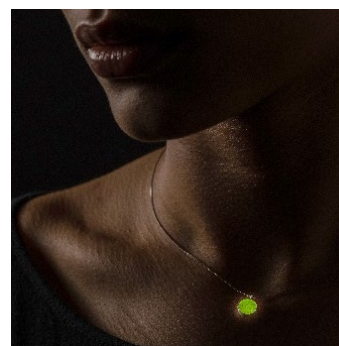


Figure 19 Pooling Light necklace excited by UV light source, BRG Type 2, silver. Photography by Simon Regan for the Centre for Print Research. Image used with kind permission of the Centre for Print Research.

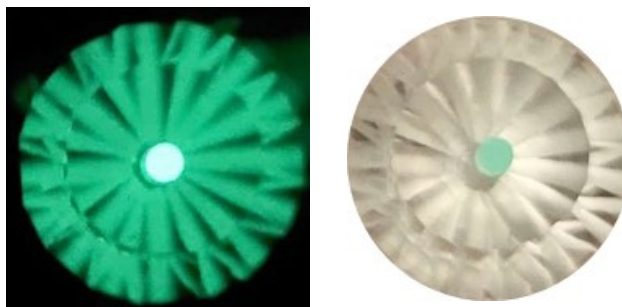


Figure 20 Reflection doublet: (a.) in natural light, (b.) excited by UV light source. BRG Type 1 + YAG. Diameter = 9.3 mm. Photography by D. Rytz. Image used with kind permission of D. Rytz.

Even though further explorations of stone cuts were not undertaken as part of the PhD project, this fantasy cut does signify the opportunities the reflection of light could hold when attempting to adapt the stone cut in order to enhance or control light reflection in response to a light inclusion. While it was not feasible to expand on this idea within the context of the PhD, this is an area of investigation that holds great promise and lies at the base for a range of further design ideas reconsidering the material as desirable light inclusions to achieve optical effects by including light sources into the volume of a stone or a carved piece of jewellery.

OCTAGON

While the experiments and tests described above all provided viable means for the material to be used as a component for the creation of jewellery designs (an agreed and desirable outcome of the collaboration), as a jewellery artist questioning these materials as gemstone

materials, they also inspired the creation of artistic responses. One piece was ultimately created following the kind donation of a large selection of material mined from leftover sections of a boule grown by Rytz for testing purposes.

When working with BRG and BRB, one does not just work with the handleable matter that is at hand, the facetable material which looks and feels similar to garnet. The material's borders, particularly when observed in the dark, are less defined than that. With light being stored, pooling on its edges and bouncing off neighbouring objects, illuminating surroundings, one is sculpting as much with light as with matter. An analogy became apparent between the material's ability to visually demonstrate its release of energy (in the visual form of light) with the quintessence of a gemstone.

The material BRG, with its yellow-green light emission, is a gemstone material, with the soul of a gemstone. To visualise the soul of the gemstone, which extends beyond its physical boundary, a piece was constructed out of eight BRG components, which were cut, positioned and combined to form the outline of a rectangular emerald cut (Figure 21 and 22).

While the middle facets of the emerald cut were represented by the pieces, the light these pieces cast sideways formed the additional facets that made up the cut, constructing the full structure with both matter and

light. The piece, which was carefully planned in collaboration with Rytz, and cut by Mr. Morsbach from the company Klein & Becker, was positioned in a silver setting that amplified its light effect through its structure.

Figure 21 Octagon, BRG Type 2, silver, steel. Photograph taken after excitement under UV light source. Image courtesy of author.



Figure 22 Octagon, BRG Type 2, silver, steel. Photograph taken in natural light. Image courtesy of author.



CAMEO

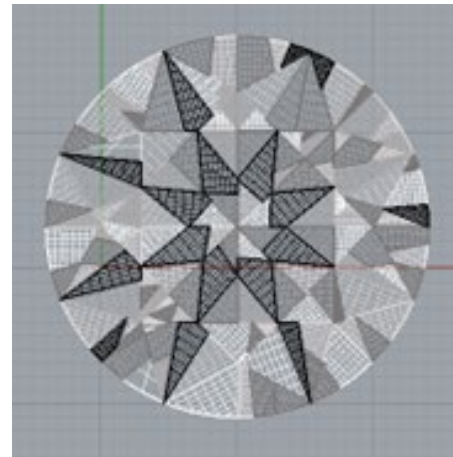
As it is being perfected in the laboratory by Rytz over the course of time, BRG has an increasingly long remanence time (the time the stone remains visible in the dark), which is expected to increase even more with further growth experiments in the near future. While its role as a gemstone has been under investigation throughout the project, its ability to perform as a light source in the dark is unquestionably a major feature of the BRG material. Whereas a play of light in faceted gemstones is evident, there are other gemstones that demonstrate optical effects. Cameos are layered stones in which the lighter layer (usually at the top) is carved to create an image that stands out from the darker background layer. When the top layer of a cameo is translucent, the darker colour of the background layer will shine through more where the layer is thinner and less where the layer is thicker, thus resulting in a tonal image. The thickness of the translucent layer ultimately affects how light is refracted, reflected and partially

Figure 23 Top view of a brilliant cut diamond. Image courtesy of author.



absorbed by the darker background layer, an effect that can also be found in basse-taille enamelled pieces. The idea of replacing the background darker layer of a cameo with the BRG material came from a discussion with Rytz on porcelain tealights, in which a tonal image is portrayed due to light transferring through thinner and thicker parts at varying intensities (thinner is lighter and thicker is darker). A similar effect could be achieved with a layered BRG gemstone. In order to extend the investigation of the material as a gemstone, the pattern chosen to apply to the lighter translucent white layer on top was based on the facets of a traditional brilliant cut, which when seen from above will display a tonal image of lighter and darker triangles as a result of light refracting in the gemstone (Figure 23). This image was brought into the CAD software and a height was established for each tone displayed (Figure 24).

Figure 24 Translation of brilliant cut diamond brilliance into sections with various heights in Rhino. Image courtesy of author.



The resulting heightmap was then 3D printed in bio-resin and overlaid over a segment of BRG Type 1 material of 30 mm diameter and set in a setting (Figure 25 and Figure 26).

Here once again, the artistic interpretation of the material revolved around BRG's ability to emit light, a property unlike any other gemstone materials available, and the faceted brilliant cut, which symbolises the

general cultural appreciation of what qualifies as a gemstone.

It is the intention for the piece to be re-created with a doublet (white translucent YAG + BRG), the cutting of such a stone in the intended shape is being tested in collaboration with the company Klein & Becker.

Figure 25 Cameo, BRG Type 1, bio-resin, silver, steel. Photograph taken after excitement under UV light source. Image courtesy of author.



Figure 26 Cameo, BRG Type 1, bio-resin, silver, steel. Photograph taken in natural light. Image courtesy of author.



FINDINGS

“The sciences open themselves in their everyday way of life to the artists, at least to a certain extent, and many artists discover – or rediscover, as one should say looking back into history – the instrumental media and the materials of the sciences as so many possibilities of creative appropriation.”

(Rheinberger, 2018, p. 242)

While these prototypes and artefacts created as part of the collaboration with BREVALOR illustrate but a small selection of the wider range of designs proposed and concepts in development, they can already be used to draw some intermediate conclusions in relation to this study’s overarching research question. Firstly, when considering the innovation opportunities lab-grown gemstones provide, BRG and BRB are clear demonstrators of the ability we have to create new crystal materials with properties that exceed the properties of crystals mined from the earth. Examples of ongoing innovations and improvements initiated by BREVALOR since their first crystals grown in 2013 include increasing light intensity and the remanence time, correlating these properties for the first time with the actual concentrations of specific dopants in the

crystals (by measuring their optical spectroscopic properties), understanding the lamellar structure and working towards suppressing it and, last but not least, growing single crystal boules with larger dimensions and ever improving homogeneity.

The opportunity to work with a new material can be inspirational for artists and has been a driving force for other sci-art collaborations (Miller, 2014). It was no different in this instance. The materials supplied by BREVALOR, while useable as a gemstone material, with their light emitting properties that required (and still require) investigation and creative exploration, a most appealing challenge to an artist.

The development of the brilliant cut in history is the documented quest of faceters trying to perfect a geometric cut, applying the laws of optics, that would optimise light emission by reflection in gemstone materials (Lindemann, 2016). A light-emitting gemstone material, now capable of storing energy and generating its own light, provides an interesting avenue for exploration, where all that was considered resolved, can be questioned again. This is something that was certainly started during the PhD study, in which some Critical Design pieces were also created as commentary on the context in which these materials are appraised. Is it a gemstone or is it not a gemstone material?

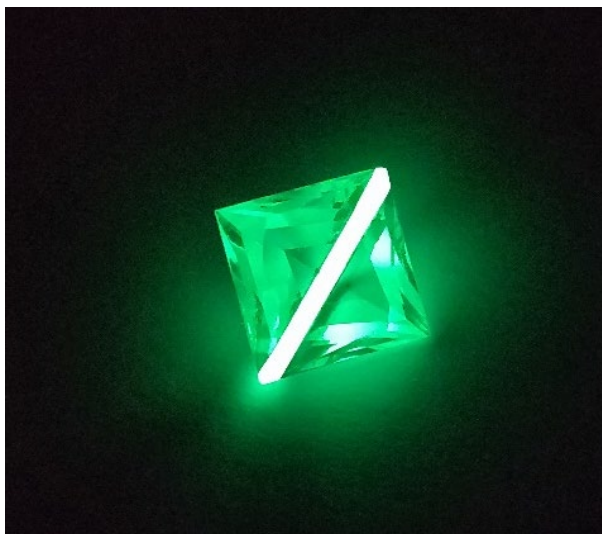


Figure 27 Neo-gemstone, BRG Type 2 + garnet doublet: (a.) photograph taken following excitement with UV light source. (b.) photograph taken in natural light. Images courtesy of author.

When the Neo-gemstone piece (Figure 27) is seen in the light it appears to be a normal gemstone, but in the dark a big line shows through it. When considering the labelling of this material, the term 'Neo-gemstone' seems most appropriate, as it is more than the gemstones that exist today. This gemstone material demands a reconsideration of its appearance and application in jewellery, a new quest that will span well beyond the duration of this PhD. A new material by definition will lead to a range of innovative outcomes and, collaborating with scientists who dedicate their time, resources and apply their knowledge to this challenge is most rewarding.

Another conclusion that can be drawn from the collaboration and the resulting outcomes achieved at this intermediate stage is that, in order to experiment with materials, one does need access to said materials. While a certain amount of exploring and playing can be performed with substitute materials (that lend themselves better to tinkering, in this case glow in the dark pigments embedded in a re-castable resin), in-depth knowledge of a material is only acquired through hands-on trial and error. The requirement of a supply of material to investigate the materials was met for this project and would remain a necessity for future similar collaborations. This could certainly pose challenges to artists, since there is not always investment available for these types of artistic explorations.

Furthermore, the limitations in size of the materials available, in some cases due to the limit in size the boules are currently being grown in, did provide some challenge and certainly influenced the final outcomes of the project. Here, in stark contrast to the general appreciation of man-made gemstone materials being abundantly available, there were limitations on their availability. While in the future, the limitations encountered with respect to availability and size of phosphorescent crystals is expected to progress towards the general appreciation of man-made gemstone material being abundantly available, size will remain connected to production cost, the equipment and technology being used and applied, and its accessibility to artists.

“The artist in the laboratory stands before the choice of two options. Either she or he engages with the products of laboratory work. [...] In this domain, scientists tend to love to be confronted with the aesthetic aspects of their research products, and it is not the least function of such reworking to decorate the covers of their prestigious journals and textbooks. Or else the

artists engage with the technologies of data generation and visualization themselves, that is, with the means and the media through which and with which the results of the sciences acquire contours. As a rule, this is the thornier path to take, for it requires a more indirect, reflexive take on scientific data production [...].”

(Rheinberger, 2018, pp.242–243)

The limited material available during this project could therefore be attributed to the timing of the collaboration, which took place while Rytz was still in a material development stage (rather than at a commercial production stage). The timing of the collaboration, however, was deemed an interesting aspect to interrogate in relation to the benefits of the collaborative work. In response to the challenges faced when faceting the glued doublet stones, Rytz developed an alternative technique to enable the bonding of BRG and YAG, bypassing the need for gluing, and resolving the technical challenge while faceting. While increased

proximity would potentially benefit this interplay and enhance the level of discussions of similar problems and resolutions, the problem and resolution identification by maker and scientist at a stage prior to commercialisation is considered to be important and impactful to the further material development. Over the course of the project, crystal growth knowledge was shared between scientist and artist/maker, and making and artistic discussions were also held. Aside from the fact that this enriched the thinking of both partners, it also led to a significantly more collaborative approach to the practices conducted by each. Overall, this collaboration with industrial partner BREVALOR enabled the start of an exciting exploration of a new material. The collaboration, which remains ongoing, provided the author with hands-on experience of experimenting with a material currently unknown in the jewellery field, and provided the scientific partner with an opportunity to test the material for its technical and creative potential.

CONCLUSION

“A discussion of the relation between the sciences and the arts hinges on finding a common ground for the comparison of their innovative practices. It has to be a ground from which this relation can be formulated in a manner such that the involvement with the unprecedented stands in the foreground, without – and it is important to stress this – denying the right to being different in approach and performance.”(Rheinberger, 2018)

“Collaboration is bloody difficult” says the Wellcome Collections’ head of public programmes from 2007-2016 Ken Arnold (2014, as cited by Miller, 2014, p.313), in relation to art-science collaborations. Even though the last four years of collaborative work have not felt difficult, and the path of collaboration with industrial partner BREVALOR is still developing, what can already be said about its evolving direction is that it was unexpected. In contrast with Arnold’s belief that collaborations work best if both parties are clear from the beginning as to their contributions, aims, and what the finished product should be (as cited by Miller, 2014, p.314), when one starts a similar long-term collaboration, an unexpected trajectory and unexpected outcomes have to be accepted. This is perhaps unsurprising, as one only knows what they themselves know prior to starting a collaboration with an expert in a different field. With naivety one embarks on a collaboration, with some areas of investigation and interest identified prior to starting. These have to evolve as the collaboration progresses in order to remain equally interesting to all collaborating partners, and so it provides room for differences in approach and intent. Concessions may have to be made. While a personal interest in the commercial application of the BRG and BRB material was not initially of interest, through exploring this avenue the partnership developed and, as the collaboration expanded, more creative outcomes were explored.

When starting the research there was the intention to set up an art-science collaboration that would result in contributive works (Halpern and Rogers, 2021):

“Rather than representing or presenting existing knowledge, these pieces contribute new ideas, techniques, or processes to scientific discourses and public understanding.”

When reviewing other art-science collaborations with new materials, contributive work is often achieved through hands-on engagement with the techniques, materials and scientific processes (Sormani, Carbone and Gisler, 2018). This is particularly prevalent in Bio-design (Kac, 2020; Myers, 2012), an expanding field that often involves art-science collaborations that result in outcomes that may hold great potential for jewellery design (Scarpitti and Valsecchi, 2023). However, due to the physical distance between the partners, the collaboration documented resulted mainly in ‘interactional expertise’ rather than ‘contributory expertise’ (Collins and Evans, 2002). It was for this reason further independent experiments with DIY crystal growth (Boons, 2021; 2022; 2025) were set up at the University of the West of England, where the freedom to conduct ‘playful experiments’ (Sormani, Carbone and Gisler, 2018) could be achieved. It is, however, important to note that the knowledge and experience gained from the documented collaborative work was instrumental in the furthering of individual experiments and, whilst the collaborative partner may not have been directly involved in these further individual experiments, the collaborative experiences did inform them.

“Research processes – whether they be of a scientific or of an artistic nature – have to be arranged in such a way that new things can make their appearance in them. But the new, insofar as it deserves that name, cannot be anticipated. It is unprecedented. It happens in the working process as a result of the procedures and constellations to which the working materials are exposed. Whereas in scientific research, the new has a predominantly epistemic connotation, what is relevant in artistic research is that the knowledge of the materials is connected to and intertwined with aesthetic effects of sorts that irritate perception.”

(Rheinberger, 2018, p.246)

The focus of this paper and the underpinning case study was to review the opportunities and challenges art-science collaborations (jewellery and crystal growth) pose and how similar collaborations could result in innovative outcomes. As the outcomes of this paper indicate, art-science collaborations can be fertile grounds for innovations. In the collaboration with BREVALOR the new materials BRG and BRB were used to create test models that provided the scientists with insights to direct adaptations and alterations to the material and the techniques used with them. Following hands-on experimentation, artefacts were produced that utilised the material’s unique properties, firmly establishing it as one with an interesting future as a gemstone.

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A Sonata of Foreigner: Reflections of Curator and Migrant on *L'étrangère* Project

Author: *Elena Karpilova*

ABSTRACT

This paper explores the process of creating and realising the *L'Étrangère* project, dedicated to the themes of migration and the search for home and belonging. Today, migration, displacement, and forced relocation are pressing global issues driven by various anthropogenic factors. The project's curator, Elena Karpilova, herself a forced migrant since 2022, initiated this exhibition project in 2024. She invites jewellers who have experienced migration to showcase their works, which reflect the theme of searching for home. This text aims to examine broader and deeper questions beyond the field of jewellery: how an exhibition space can become as significant as the objects displayed; how personal space can function as an exhibition venue; and how visitors transform from passive spectators into active participants, engaging with the exhibition through multiple sensory experiences, including taste. In this work, author also shares her personal experience of migration, reflects on the differences between voluntary and forced migration, and provides context for her engagement with this subject.

Keywords: *contemporary jewellery, migration, home, curating, exhibition, private space*

INTRODUCTION

I find myself in agreement with Boris Groys, who suggests that curatorship has become a new form of artistic practice, wherein the curator not only presents but also generates new meanings and contexts (Groys, 2008). Hans Ulrich Obrist, meanwhile, claims that curating is the art of exhibition-making itself (Obrist & Lamm, 2011). I agree with both perspectives. I believe that a curator is as much an artist in the broadest sense as a painter, writer, or composer.

Exhibitions are commonly thought of as simply the display of artworks, yet, in my view, equally important stages both precede and follow the exhibition.

While the term “exposition” is used across various disciplines—from literature to radiology—the metaphor that comes most readily to my mind here is musical. In music, the ‘*exposition*’ is the section of a composition where the main themes are introduced, setting in motion the events to follow (Wikipedia, n.d.). It is worth noting that music is often considered the most intangible of the arts: we cannot see or touch it, yet it evokes some of the most powerful emotional responses in us.

In the classical sonata form, the exposition presents the primary thematic material for the movement, unveils the characters, and sets the narrative in motion. Preceding the exposition is the introduction, and following it is the recapitulation. Even within the exposition itself, things are rarely straightforward: there are different voices, dialogues, and contrasts unfolding in their interplay.

I would like to share my curatorial project *L'étrangère*, which I organised as part of the *Second edition of the*

Lisbon International Biennial of Contemporary Jewellery.

It may not be entirely appropriate to write about one's own project, yet, on the other hand, how can I claim ownership of something that, in essence, doesn't fully belong to me? On one level, I am the author of the concept; on another, I agree with Derrida that authorship is a fluid, conditional, and relative construct, with meanings open to interpretation (Derrida, 1967). So, in the narrative that follows, I see myself as an external observer, as *l'étrangère*.

I'd love to present here the narrative of my project and reflection about it in the form of a sonata structure. This narrative will cover both the exhibition itself and its “prelude”—the circumstances that led to its creation, along with the primary and secondary themes. It won't be a libretto, but the whole “music piece”, summarising events and characters, but rather a more personal and expansive reflection on the project.

Why did I choose to use musical form as a storytelling method? Perhaps because I often look back to my family of musicians and my childhood, during which I spent ten years studying music. Sometimes I feel a touch of sadness that my professional life no longer connects to music, and so I try to find links, connections to that lost craft. Or perhaps it is a desire to blend the arts—jewellery, writing, music—into one, dissolving the boundaries between them.

- **Main characters:**

Ana Escobar Saavedra
Anastasia Rydlevskaya
Helen Clara Hemsley
Into Niilo
Julieta Ruiz Argañaraz and Maria Motyleva
Nastasia Fomina
Sharareh Aghaei
Tamara Marbl Joka
Tzu-Yun Hung
all their stories
guests
food
my flat
me (Elena Karpilova)



Figure 1: Guests of *L'Étrangère* exhibition, exploring Sharareh Aghaei installation *Utopia*, June 2024, photo: Constantin Shishkin.

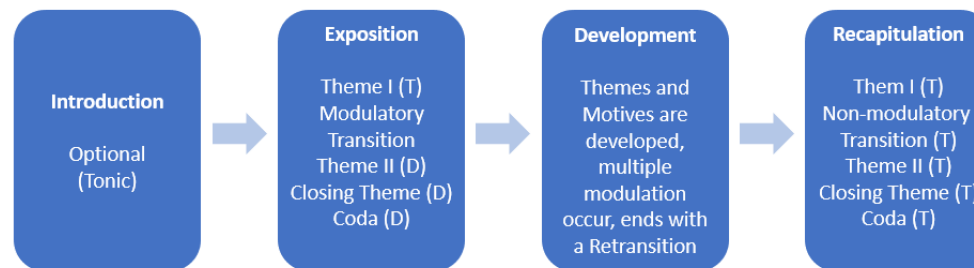


Figure 2: A scheme of the classical sonata music form. Image courtesy of author.

PRELUDE

In general, slower than the main movement.

I have always been struck by how ruthless the *machinery* of art can be towards curatorial work. An exhibition, no matter how beautiful, has a finite life: the visitors are counted, the reviews written, the budget spent—*voilà, la fin!*

In the jewellery world, even though it is a relatively niche field, there exists its own *motus perpetuus* (a perpetuum mobile is a device that exhibits perpetual motion) of curatorial processes. While the jewellery pieces themselves continue to exist, travelling between exhibitions and finding new meanings in different contexts, the curatorial work behind them often evaporates quickly. Exhibition titles are forgotten. The gallery already has five more shows in the queue. Forward, forward—*oh brave new exhibition, new names, new concepts!*

Sometimes I think about *sustainability* in the context of curatorship: what happens to the printed posters, the commissioned podiums, the curatorial insights born during the exhibition? And in general, can an exhibition have a second or even third life?

My project *L'Étrangère* is dedicated to the theme of forced migration—unfortunately, an inexhaustible subject, which could allow the project to live on beyond the five days of its physical existence in June 2024 in Lisbon.

In 2022, I became a forced migrant myself. As the saying goes, life did not prepare me for this. Nor did it prepare the millions of others fleeing and continuing to escape Eastern Europe during these years of terror, the war in Ukraine, and the dictatorships in Belarus and

Russia. Sadly, the theme of migration has become deeply personal for me. Perhaps, through *L'Étrangère*, I am sublimating my own pain and fears. But, while working on the project, I have also discovered much inspiration and have come to appreciate the positive aspects of migration.

Rem Koolhaas, the eminent Dutch architect and contemporary thinker, believes that the current discourse on immigration is taking on a "suicidal and dangerous tenor because what resistance to immigration denies" (Obrist, 2015). He cites the example of Bijlmer, a new district in Amsterdam designed in 1962 according to utopian principles inspired by Le Corbusier. Initially rejected by locals, the area was instead inhabited by immigrants who quickly and independently transformed it into a vibrant world of their own, complete with infrastructure, dynamism, diversity, and multilingualism. This influx revitalised the city, making it more diverse and challenging its previous norms. Some personal stories touch me the most. At the *Rock and Beads* show at Galeria Verso in Lisbon in 2023, I shared the idea of *L'Étrangère* with Caroline Broadhead. Upon returning home, she sent me photos of some pages from a book "Barbara Cartlidge and Electrum Gallery. Passion for Jewellery." Barbara was a forced migrant herself, fleeing Nazi Germany for the United Kingdom in 1938. Her story, and her subsequent development as a curator, writer, and professional in the field of contemporary jewellery, inspired and supported me greatly at the moment of working on exhibition.



Figure 3: Siegfried Nassuth, Aerial view of Bijlmer landscaping, Amsterdam, undated. Photographer unknown. Collection Het Nieuwe Instituut, Siegfried Nassuth archive.

EXPOSITION: THE PRIMARY THEME

Presents the primary melodic material to begin the thematic cycle.

Let me tell you my story of migration and why I simply could not avoid creating a project on this topic. In March 2022, I was forced to leave Belarus. With neither visas nor significant savings, my husband and I went wherever we could, far from war and repression—eventually landing in Uzbekistan. We spent two months there trying to obtain visas for any European country. Despite having numerous acquaintances, friends, and colleagues across Europe, despite Belarus's non-participation in the war in Ukraine, and despite the dismal state of human rights in Belarus (Spring96.org, 2024), every embassy refused us, often rudely, solely because of our nationality. Ultimately, we managed to reach Portugal after returning briefly to Minsk to secure short-term visas. Organisations in Portugal had invited us for work, but as it turned out, all their promises were empty. By May 2022, we found ourselves in Portugal with no jobs, no knowledge of the local language, no local friends, visas expiring in June, and no possibility of returning to Belarus. We eventually carved out a place for ourselves in this country, but I still do not feel part of it at all.

The ideas of place, home, finding oneself, and making the right choice of where to be have echoed constantly in my mind as a leitmotif.

While living in Belarus, I created jewellery, teaching myself the craft and using alternative materials. However, after 2022, I lost interest in this pursuit—or rather, I lost faith in the meaning of producing new things in the context of ongoing global events. My

hands refused to create anything material. Perhaps this was because materiality itself lost its significance for me. I turned instead to writing about jewellery—writing for myself, for my blog, for my followers, or just in Word documents on my computer to capture my thoughts.

I became deeply engrossed in the theoretical aspect of contemporary jewellery-making—how it, like a mycelium drawing sustenance to sustain its existence, connects with various spheres of life, drawing inspiration and knowledge from other disciplines.



Figure 4: Author and family living in mountains in Uzbekistan with whom we lived seven days in March 2022.

The idea for the project *L'Étrangère* came to me in March 2023 after learning about the topic of the upcoming second edition of the Lisbon Biennial at Munich Jewellery Week, where it was announced by Marta Costa Reis, Artistic Director of the Biennial. Its theme, *Madrugada*, focuses on a pivotal moment for the country—the transition from dictatorship to democracy. In the year of the Biennale, 2024, Portugal was celebrating the 50th anniversary of the peaceful revolution. Thus, the overarching theme of the Biennale is closely tied to politics. Upon returning to Lisbon from Munich, I heard the full "sonata" of my project resound loudly—all its chords, its possible main and secondary themes. In a single moment, everything appeared before me as one complete composition. I wanted to talk about forced migration and which forms it could get.

I invited jewellers who had themselves been forced to emigrate at some point in their lives to participate. They were tasked with presenting works that reflected their experiences of forced migration. It was crucial to me to show not just their creations as the outcome of their journeys but also their personal migration stories. Often, we recognise a creator by their craftsmanship or their striking works, but we know nothing about the lives they've lived or the hardships they've endured. I wanted to open up this world of personal narratives, highlighting the importance of human experience—in this case, through the lens of migration. The first person I immediately thought of is the winner of the Herbert Hoffmann Prize 2023, Tamara Marbl Joka, whose experience of forced emigration can be considered the most extreme among the stories presented in the exhibition. She was forced to leave

Yugoslavia in the early days of the bombing, losing her sister. What is it like to flee a country with no possibility of returning, especially when that country no longer exists? The visual form of her brooches, referencing the brutalist, semi-destroyed architecture of Yugoslavia, speaks for itself.



Figure 5: Tamara Marbl Joka, *The Empty Space*, brooch, 2023, concrete, porcelain, copper, silver, steel, photo courtesy of the artist.

EXPOSITION: TRANSITION

Often functions as a moment of transformation and may, or may not in themselves, introduce new, musical material.

I think by now you may have already guessed why the project is called *L'Étrangère*.

It refers to the eponymous novel by Albert Camus, a classic of existentialism, where the protagonist is seen as foreign, other, hostile to society, rejected by it, and who commits murder. Nevertheless, it's never entirely clear who he is: evil, good, or simply not like everyone else. The words *etranger*, *straniero*, *estrangeiro* (Fr., It., Port.) in Romance languages mean *foreignness*. This state of being different, displaced, and not belonging to the context is something an immigrant constantly feels in a new country. Interestingly, a couple of months after the idea for the exhibition and its title came to me, the theme of the 60th Venice Biennial of Art was announced: *Foreigners Everywhere*. "No matter where you find yourself, you are always, truly, and deep down inside, a foreigner," says the curator of that Biennial, Adriano Pedrosa (Designboom, 2023), as though explaining the essence of Camus' clerk Meursault.

The only detail I changed in the title was the letter "e" at the end of the word, which signifies the feminine form of the French noun. Through the title, I wanted to identify myself as a curator: the outsider gathers outsider jewelers. In the end, it turned out that all ten participants in the project were women, making the "e" even more fitting.

I immediately envisioned the exhibition in my flat which is, in general, not a new approach. On the one

hand, the roots of this approach lie in the distinction between official, permissible art, which is accepted and welcomed by galleries, and independent underground art, for which there is simply no room in official exhibition venues. For example, "apartment concerts" ("kvartirniki"), particularly frequently in the Soviet Union.

On the other hand, spaces closed to the public are always of interest due to their inaccessibility. For example, in 1992, an initiative called Open House was launched in the UK by Victoria Thornton. The idea was to open various places to the public for several days, including private apartments, flats, and houses, to emphasise the value of the space itself, of architecture, design, and atmosphere of interiors. Private spaces became objects of interest without the need for them to be filled with art objects. Today, this initiative involves more than 50 cities worldwide.

An apartment may not be a place for displaying objects, but rather a space for exploration and creation of artistic work. Tehching Hsieh, the renowned Taiwanese performance artist, regularly turned his apartment into a true laboratory, where he explored the limits of human body and spirit. For instance, he locked himself in a specially installed cage in his apartment for a year, or lived in his apartment, tethered with a 2.5-meter rope to artist Linda Montano, also for a year. In his "One Year Performance 1980–1981 (Time Clock Piece)", he marked his presence in the apartment every hour on a special board. He allowed very few visitors, perhaps once a month. The apartment was not a stage for showcasing the final result of the creative process, but a

strict limiter and the main condition for creating an ephemeral artistic product, a performance.

Returning to more classical examples of using personal space as an exhibition space, one recalls Hans Ulrich Obrist's kitchen exhibition project in 1986. This was his first curatorial project when he was only 23 years old, and he displayed works by several artists in the kitchen of his apartment in St. Gallen, Switzerland. He admits that the exhibition was visited by barely 30 people, his acquaintances. However, the number of visitors is not the main point. To this day, Obrist uses this exhibition as an example of an unconventional curatorial decision in his lectures and books.

A more recent example comes from the 2023 Munich Jewellery Week exhibition at the Mariandl Hotel, featuring artists Ludwig Menzel, Silke Spitzer, Julika Müller, and Klara Li. The group of artists occupied several rooms in the hotel, where they stayed for the entire jewellery week. Their personal belongings, suitcases, and clothes were placed in the rooms. For part of the day, the rooms transformed into exhibition spaces. The jewellery lay on antique wooden bedheads, on mahogany nightstands, hung from a large cast-iron bathtub, and was draped on the personal clothes of the authors. There were no strict guidelines for the display of objects, and each day, new arrangements were made.

In my case, the choice of an apartment as an exhibition space was entirely linked to the content of the project. I wanted to showcase the work of immigrant jewellers, works connected to the theme of home and finding one's place, in the standard environment of an immigrant: a simple, modest rented apartment.

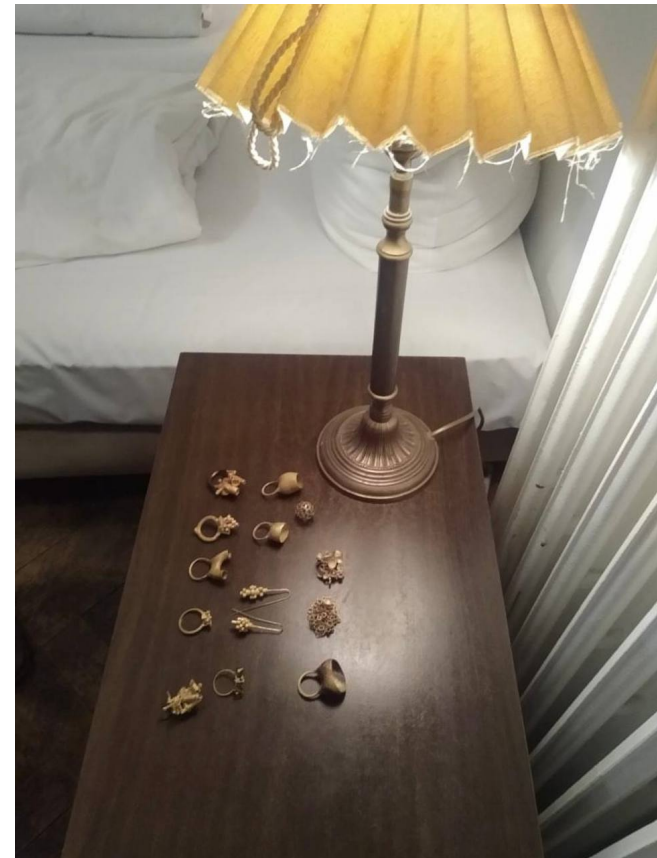


Figure 6: Exhibition in Mariandl Hotel during Munich Jewellery Week, 2023, photograph by author.



Figure 7: Guests of L'Étrangère exhibition, exploring Sharareh Aghaei installation Utopia, June 2024, photo: Constantin Shishkin.

I saw how the idea of my project, thanks to the inclusion of an apartment as a participant, shifts from being a one-off exhibition into a deeper, more enduring form. Much like in the exposition of a sonata, where one theme in the home key transitions into a passage in a secondary key.

I wanted to give a shelter for the jewellery, to give them temporary home, and also to invite visitors so they could feel safe and cozy, and experience feelings of home. So, my apartment became a residence for the jewellers' works and an integral part of the project. I invited visitors not just to look at an exhibition, but to *experience* it.

“Come and visit the flat where for half the year the temperature is +15°C, where mould appears on the walls due to excessive humidity, where I am only a guest with a five-year lease agreement. Come into my world as an emigrant, where there are no cupboards with family porcelain, no library of books, and where at 35 years old, my entire past from my homeland fits into two suitcases.”

I imagined that, not literally but metaphorically, even if just for a while, I would offer a home, for example, to the works of the duo Julieta Ruiz Argañaraz and Maria Motyleva, neither of whom has yet found a permanent place on this planet. Their voluminous, textured, almost lifelike, blood-red chokers bear barely visible words: "Thank you" and "Please" – the first and most basic words any emigrant needs in any country. These words seem scratched, burned into the skin, cast in blood.



Figure 8: Guests of *L'Étrangère* exhibition, exploring Sharareh Aghaei installation *Utopia*, June 2024, photo: Constantin Shishkin.



Figures 9: Artist Maria Motyleva is wearing choker Magic Words, 2024. Photograph by Author.



Figure 10: Artist Julieta Ruiz Argañaraz is wearing choker Magic Words, 2024. Photograph by Author.

EXPOSITION: SUBORDINATE THEME

Often lasts longer than the primary theme and contrasts with it in many ways, but does not outweigh it in terms of its significance.

An important part of the project *L'Étrangère* was connected to what the visitors felt in my apartment — from the emotions stirred by the authors' texts to the smells and tastes. One of the connections to my homeland, which I realised only recently, is culinary tradition. I call it *foodstalgia*. I decided to share a piece of my homeland with the visitors so I treated each visitor to something typical from Belarus. Since it was summer, I chose a cold soup — *khaladnik* — a cold beetroot soup made with kefir. I also made sea buckthorn lemonade: in the summer, in Belarus, you can see many trees adorned with tiny orange fruits, as if they were draped in beaded necklaces, reminiscent of Catarina Silva's jewellery pieces.



Figure 11: *Khaladnik*, traditional Belarusian cold soup, cooked by me during *L'Étrangère* exhibition, photo: Constantin Shishkin

It's interesting to see how the visitors reacted to the taste experience and how that experience was passed on. For example, the exhibition was visited by the artist Auli Laitinen and her son, who works in a very specific restaurant in Sweden specializing in dishes from different countries. They really liked the *khaladnik*, and the son wrote down the recipe for the soup. "The thing is, I really love kefir, and my mum loves beetroot. This soup is the perfect combination!"

Some visits left me with romantic memories, and it felt like they had happened in a dream. One such visit was from Ling Cheung. To me, Lin is not just a jeweller. My long love affair with jewellery started when I discovered her work in 2013. Her creations fascinated me, and I read everything I could find about her work. Lin Cheung was giving a workshop "Hope" at the Biennale in Lisbon. The workshop took place at Ar.Co, which building is just a 20-minute walk from my place. Lin's days were fully scheduled, with her workshop starting every morning at 9 am, but I really wanted to invite her to see my project. So, we scheduled a visit at 8:00 am, I met Lin and her assistant, Aurelia Praga. We had coffee in my kitchen, ate pastries, and talked about the ongoing workshop project and the exhibits in my flat. Half an hour later, Lin left. In the evening, it felt like that visit had been a dream.

On the same day, around 10 p.m., jeweller and collector Juan Harnie and Dennis Pellens arrived at the exhibition. We ended up sitting in the kitchen until midnight, discussing topics of immigration, politics in different countries. "We were a little bit scared first... Where are we going? What kind of flat is this? Who are you, really?... But Dennis said he had seen you, and that we had nothing to fear! Now, I think it's so great that

we came to you!" – confessed Juan. I thought to myself that indeed, entering someone else's private, unfamiliar space can feel intimidating. Who are you going to meet? Where will you end up? Will you feel comfortable?

Although for every group of visitors, I gave a special tour of the flat, explaining the works of the artists, with many guests we ended up spending most of the time in the kitchen, chatting. And no, we didn't talk about jewellery at all, but rather about things that, you could say, shape the jeweller's thoughts, ideas, and perspectives – life and all its manifestations. This was an invaluable, even educational experience for me, and I hope for the visitors to the exhibition as well.



Figure 12: Lin Cheung and Aurea Praga having breakfast at my place during L'Étrangère exhibition, 2024. Photograph by Author

EXPOSITION: CLOSING ZONE

What was the structure of the exhibition? I decided to arrange the works of the participants across two rooms of the flat as if they were part of my life and had always been in those places. Some works were on my husband's desk, some on a piece of marble I had found on the street. One necklace of Into Niilo was placed on a small shelf with books, another – in an absolutely dark room with no windows, the perfect place for it as it consists of an UV-sensitive ink so I organized a kind of show for visitors with a special flashlight. It's interesting how I met this artist in 2023, and I was somehow convinced that their life was carefree. But no, that wasn't the case: at one point, they left Russia to study in 2021, and now they can't and don't want to return to their homeland. I believe that this is the right stance, even though it cuts off a part of oneself, and with such an amputation, it's uncertain how to continue living.



Figures 13, 14: Demonstration of the works by Into Niilo during *L'Étrangère* exhibition, on the left: *Am I Seen* necklace, found object (bracelet) made of probably bakelite, UV-sensitive ink. On the right: *One Breaks Thinks Down. One Builds Them Up*, necklace, 3D printing in resin, metal chain. Photos: Constantin Shishkin.

The project featured a double brooch by Belarusian artist Anastasia Rydlevskaya, who was forced to leave Belarus in 2020 at the onset of political repression. Since her departure, Anastasia never visited Belarus — much like myself. Starting in 2022, the artist began occasionally creating jewellery for herself, each piece carrying deeply personal stories. Anastasia's name is not known in the jewellery community. However, my criteria for selection were not fame or the number of years a jeweller had been active on the professional scene but rather the themes of the works and the personal experience of emigration.



Figure 15: Anastasia Rydlevskaya, *Torn Connections*, Brooch, beads, textile, threads, 2024, photo courtesy of the artist.

Helen Clara Hemsley presented an intensely personal piece: a pendant crafted from her South American passport. Helen's name is well-known in jewellery circles, but not everyone knows her story: over the course of her life, she lived in five different countries, on three different continents, and has held three different citizenships.



Figure 16: Helen Clara Hemsley, *Away*, Necklace, 2024, photo: James Bates Photography.

Anna Escobar Saavedra presented an installation *Dwell*: a transparent house containing hundreds of glass rings inscribed with phrases, fragments, and single words drawn from three different books exploring the concept of home and living space: *La Casa Tomada* by Julio Cortázar, *Le Dictionnaire des symboles* by Jean Chevalier and Alain Gheerbrant, and *The Poetics of Space* by Gaston Bachelard. The inscriptions are applied to the inner surface of each ring, and when the ring is worn for a time, the writing fades away.



Figure 17: Ana Escobar Saavedra, *Dwell*, Installation, 2024, photo courtesy of the artist.



Figure 18: Ana Escobar Saavedra, *Dwell*, Installation, 2024, photo courtesy of the artist.

I was especially eager to feature a work by Tzu-Yun Hung, a ready-made object resembling a nest. The architecture of animal and bird dwellings is a powerful reminder of how a home, in the broadest sense, is carefully and lovingly created bit by bit. Unfortunately, Tzu-Yun's piece never made it to the exhibition: the Portuguese postal service deemed the item undeliverable. For two weeks, I searched for the package across Lisbon's postal offices, but to no avail — the piece had already been sent back to the artist. Initially, I was very upset, but then I thought: isn't this a metaphor for one possible outcome of emigration? You travel thousands of kilometres, uncertain whether you'll reach your destination. Even if you do arrive, there's no guarantee that the new country you've reached won't send you back.



Figure 19: Tzu-Yun Hung, *Belonging Everywhere and Nowhere*, ready-made object, pins, 2022, photo courtesy of the artist.

"Europe had always been a fiction to me," says the artist, who was born in Taiwan and has been living in Germany since 2014. Lisbon, too, remained "fiction"

for this piece of jewellery. Honouring the artist's efforts and recognising the journey of the work as an interesting story in its own right, I printed a photo of the piece along with the artist's text and displayed them on the wall.

Some of the jewelers' stories written for the exhibition were deeply private, even intimate. Others took a more detached, analytical view of forced emigration as a broader phenomenon. I didn't insist on a personal story, although, of course, such narratives held a unique value. Working on a project that touches on traumatic experiences, I prioritised maintaining the psychological comfort of the creators. As someone who has experienced and continues to experience forced emigration, I see this process as an unhealed open wound.

It is interesting that those who have lived through emigration often choose not to discuss it, avoiding defining themselves as forced emigrants or even acknowledging their past, much like victims of violence may prefer not to revisit painful memories. On the other hand, art has seen examples where traumatic past experiences serve as both inspiration and a recurring theme, being processed and re-experienced through artistic objects. These become the core motif of many artists' work, for example, Louise Bourgeois or Anselm Kiefer.

One of the project's participants, Nastasia Fomina from Ukraine, now living in Finland, reflects on whether and how to speak about her trauma:

"What is my nostalgia? Once, I proudly shared stories of my homeland when asked about my origin. Now, hesitation sets in, as the first association with my

country tends to be one of conflict. I don't conceal the elements shaping my identity, but it's a painful process, leaving scars that also form resilience... I hope that you and I will not only feel uncomfortable and see pain the next time I tell you where I come from. I hope that you will see the complexity of my culture and of me. Fragility, Resilience, and Adaptability, along with Pain, Anger, Love, and Kindness."



Figure 20: Nastasia Fomina, *Identity Marks, Necklace*, 2024, spent shell casings, Ukrainian linen thread, photo: Constantin Shishkin

At the time of Russia's full-scale invasion of Ukraine, Nastassia had already been living in Germany for over four years. I had known her since 2011 when I organised Minsk Design Week for five consecutive years. Nastassia participated in the first edition with her works: vases, lamps, and mirrors. Back then, she was an emerging talent in Ukraine, working in product design. Over time, Nastassia shifted her focus to the

theoretical study of objects and migration. For this exhibition, she created pendants from spent shell casings she collected from battlefields in Ukraine during a 2023 visit she undertook to better understand what was happening in her country.

I gave everyone who identified him/herself as a foreigner to some extent a badge with the inscription *l'étranger/l'étrangère*, depending on whether they were male or female. Sometimes women chose the male badge, and men the female one, emphasising their sense of foreignness in relation to their own body or gender. The badge was lavender in colour, reminiscent of the jacaranda tree, which inspired a piece of jewellery I created for the exhibition.



Figure 21: Me in the kitchen wearing the jacaranda pendant and *l'étrangère* pin, photo: Helen Clara Hemsley

This tree was discovered in Brazil in 18th century. In the 19th century, the tree was brought to South Africa. In Brazil, the Jacaranda bloomed during summer and early autumn, but when the tree was transported to South Africa, it started blooming at a different time of year. The trees, like immigrants, felt the need to adapt to the new climate and conditions by changing their blooming habits. It is believed that Jacarandas bloom in spring in South Africa due to their "discontent" with the new home. Nowadays, planting new Jacarandas in South Africa is prohibited as they are considered invasive plants that consume a lot of water and harm the environment and local species. This whole story reminded me of the situation with immigrants in different countries.

In the form of a small soap-like object, evoking a domestic image, I made a pendant from plaster and dried jacaranda flowers. While the flowers bloom in an exquisite lilac color, once dried, they turn brown, unremarkable, and even emit a scent that some find unpleasant.

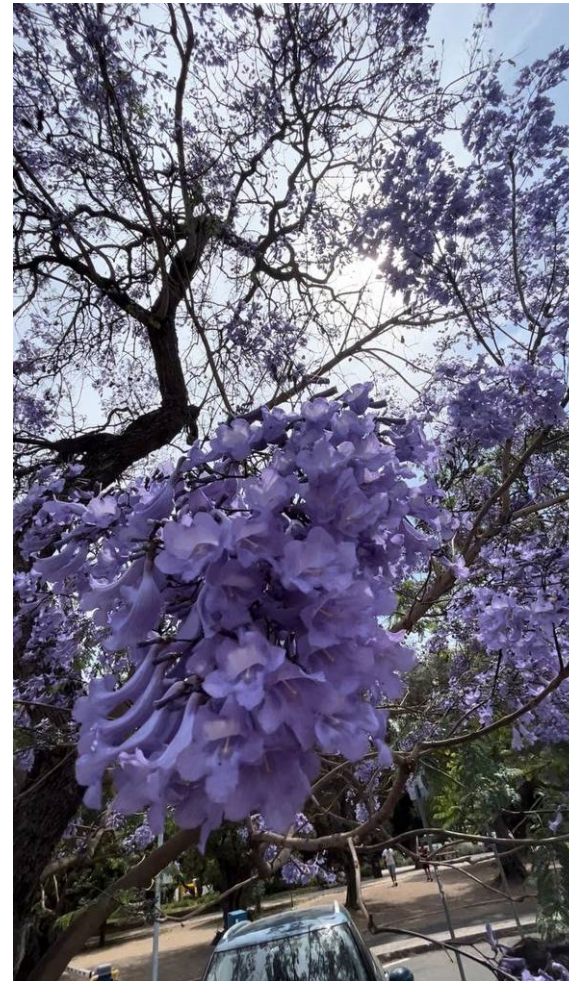


Figure 22: Jacaranda in bloom in Lisbon, photo courtesy of author, 2024.

DEVELOPMENT: THE SECOND MAJOR SECTION OF SONATA FORM

Certain central ideas are repeated in different contexts, often in a surprising manners. Themes may undergo transformation, even to the point of complete reinterpretation.

The entire Lisbon Biennial was dedicated to politics, implying that all its events were connected to political themes. Upon seeing the announcement of my exhibition, a few people expressed confusion, asking me: where is the politics here? Where is the direct statement? Are those participants of the exhibition really suffering from the migration? In the development section, the musical theme fragments into motifs, and conflicts emerge among the melodies. Nonetheless, an interaction takes place. I am ready to discuss the matter of emigration.

Forced migration, in my view, is always the result of political manipulation of some kind. I see this issue as an open question with an open ending. Organisations such as UNHCR, IOM provide distinctions and classifications for both types of migration (IOM, 2019), but I prefer to consider the phenomenon from a psychological perspective. It seems to me that only the individual undergoing displacement, knowing the full breadth and depth of their context, can make the determination and assign the status of "forced" to their migration.

The phenomenon of forced migration is explored not only in political science, sociology, and legal studies but is equally examined from psychological and philosophical perspectives. Hannah Arendt speaks of the loss of choice in forced

migration as its defining characteristic—a state of being beyond identity, a condition of exile, alienation, and profound stress (Arendt, 1943).

In my life, there are motifs between which internal conflicts arise: life in peaceful, tranquil Portugal, juxtaposed with the simultaneous lives of all my relatives in an "open-air ghetto" in Belarus. The Belarus motif is not the most pleasant or mellifluous to the ear. But allow me to "sing" it to you a little.

Just a few cases from my life in Belarus:

- Once, the historic building of the art college I attended—a building recently renovated—was demolished. Because a lot of leaders of opposition studied there and us, students, have always advocated the values of freedom and democracy.

- The forest adjacent to my dacha near Minsk was cut down, leaving an empty wasteland where dachas for KGB employees are now being built.

- The word president in my country can only be used in reference to one person, the head of state. All other leaders are officially referred to as *chairperson* or *directors*.

- For the last 20 years of his life, my father wrote a book about repressed Jewish clergy. The state never provided him with a single rouble of support, yet he was summoned by authorities multiple times. He also refrained from publicly discussing his work.

Where's the politics in all this? Isn't this a repression of freedom, a suppression of will and self-worth? I believe the combination of these facts points to a very specific state of affairs in my country. This is why people leave—to have at least basic rights, to feel free, and to avoid slowly being turned into a pliable, politically illiterate mass that can be moulded into anything by those in power.

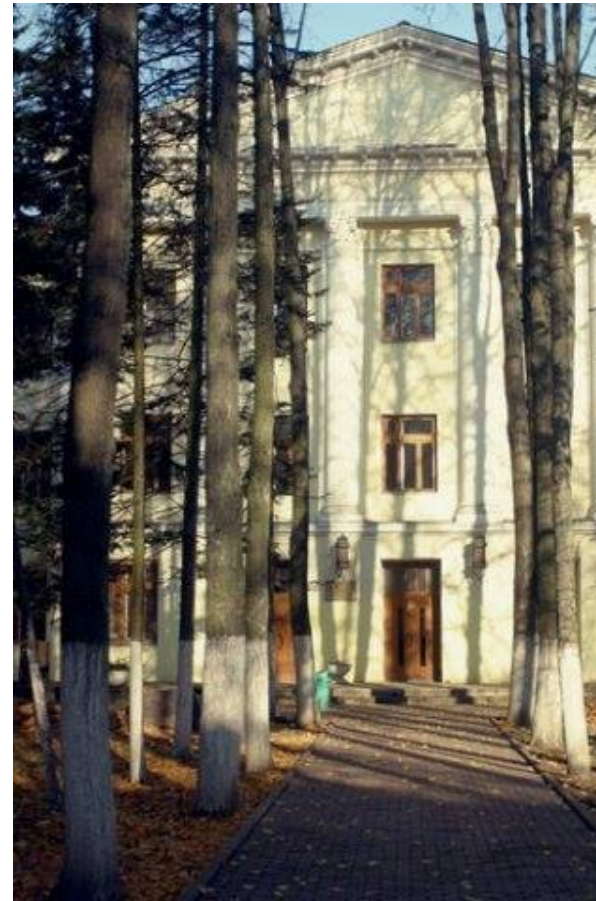


Figure 23: Photo of the main façade of the old building of the Glebov Belarusian state college of art where I studied, 2006. Was built in 1947. Demolished in 2010. Photo courtesy of the artist.

RECAPITULATION

Typically presents once more the musical themes from the movement's exposition.

A few days before the *L'Étrangère* opening, I sat in the room alone, surrounded by jewellery already placed in its designated spots, texts hung up on the walls. I wondered, "*What if no one comes?*" But over four days, my exhibition was visited by 114 people. No apartment of mine had ever seen so many guests, such a diverse, international crowd, and at the same time such a concentration of people from the jewellery world. I felt like a curator, a cook, and a guide—all while distancing myself from the apartment as its owner and resident.

I realised my project had no beginning or end. It could be repeated and adapted indefinitely to suit different temporal and geographical contexts. One could find dozens of jewellers to participate in it. I realised I couldn't call the visitors an *audience*—I could only call them *guests*. I realised the entire project had been both an educational and a somewhat therapeutic experience for me. I realised that I want to repeat my project at Munich Jewellery Week in 2025. But my Portuguese residence permit expired in December 2024. I will receive a new one in December 2025. So, I can't travel for one year. In a sonata, the recapitulation is sometimes altered – that is, the musical material is transformed in some way, perhaps played in a different key or on a different instrument. Likewise, I have decided to 'perform' my project in a different manner for Munich.

I did a virtual version of the project titled *Lost in Migration* which was dictated by my circumstances as an emigrant.

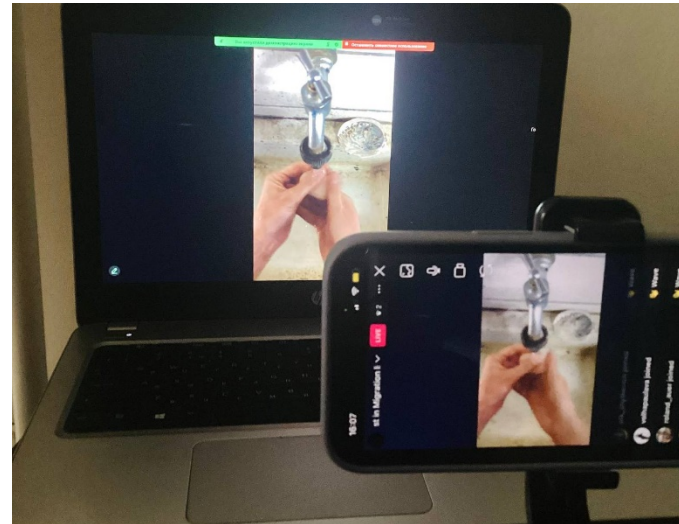


Figure 24: Virtual exhibition *Lost in Migration*. Video by Danni Schwaag with soaps she collected from all over the world like a symbols of the place, 2025. Photograph by Author.

CODA. A PASSAGE THAT BRINGS A PIECE TO AN END.

I wish I hadn't had to make this project. I honestly believe that interesting projects (and I hope *L'Étrangère* is one of them) are not born out of a good, prosperous life. But with the material life has handed me, I do have something to say. I have "threads" to weave into a "fabric." Through emotions, experience, and, as a result, the works and stories of others.

I would like to extend my gratitude to everyone who believed in me, who recognised the value of the idea, and who supported me: the participants of the exhibition for their trust and willingness to share their personal stories; my husband, an architect, who assisted me throughout the exhibition and enriched the project with new layers of meaning; Marta Costa Reis, who believed in the project and included it in the official Biennale programme; and Liesbeth den Besten, who provided contacts of jewellers who fit seamlessly into the fabric of the project.

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Queen Marie of Romania's Memorial Jewellery

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ABSTRACT

Queen Marie of Romania's (1875-1938) multifaceted life, strong character, literary contributions, diplomatic efforts, and enduring influence in the realms of culture and fashion make her a captivating and intriguing historical figure. Queen Marie was known for her impeccable fashion sense and style, and for her jewellery collection. Her elegant and often daring fashion and jewellery choices made her a trendsetter of her time. This paper will identify and analyse Queen Marie's memorial jewellery (representing those jewels that are deeply connected to the family through certain elements they contain) and will offer an overview and signification of the main historical pieces which compose what we call her collection of royal jewellery. The article will have at its core an inventory and will explore chronologically a set of key aspects, putting a special emphasis on the historical events and, within them, on the way they influence the significance of some pieces of jewellery. The social practice and social-historical context of the collection and its evolution will be thus highlighted. The paper will illuminate how a mix of her choices and the choices of others served as a form of non-verbal communication, conveying messages about her role as a queen and her connection to the people and other royal houses.

Keywords: *Queen Marie of Romania; royalty; jewellery; Victorian; power; memory*



Figure 1 Queen Marie of Romania (1875 -1938), Romanian National Archives.

INTRODUCTION

Having a British origin through her father and Russian through her mother, Princess Marie of Edinburgh (the future Queen Marie of Romania) born on October 29, 1875, in Eastwell, Kent (Great Britain), was the inheritor of some old and imposing royal traditions. Marie, called Missy, was the second child of Duke Alfred of Edinburgh (son of Queen Victoria) and Grand Duchess Marie Alexandrovna (only daughter of Tsar Alexander II of Russia) and enjoyed all the attention of a Royal Highness of Great Britain. We have, therefore, involved in this marriage of her parents two of the most powerful European dynasties: the British royalty and the Romanov tsars.

Her paternal grandmother, Queen Victoria, the embodiment of European monarchical glory, played a decisive role in the formation of the young princess, although, at the wishes of her mother, Marie Alexandrovna, she was brought up more at Eastwell Park (Kent), the country residence of the Edinburgh family, away from Clarence House, their official residence in London. In fact, Queen Victoria, called the "Grandmother of Europe," was the main pawn in the organisation of this extraordinary pan-European matrimonial network, intended to ensure both an illustrious lineage and a supremacy of the British royal blood in a world where tranquillity was only on the surface.

This article will analyse the memorial jewellery that Marie, the Queen of Romania (1875-1938) received in her childhood from the family, emphasising the value and importance that they had both symbolically as well as in the royal economy. A first question that arises is why it is important to talk about memorial jewellery in

the context of royalty. The answer is directly related, on the one hand, to the connection with the British royal house and Queen Victoria (the promoter of this type of jewellery at the end of the 19th century), and on the other hand, because they are among the few remaining in Romania, precisely because, being so personal, the Queen did not send them to Moscow with the Treasury. Queen Marie's memorial jewellery falls within the specific range of this type of piece, the article emphasising the similarities with some pieces from other museums or with some jewellery artists.

The article will have at its core a methodical inventory and will explore chronologically a set of key aspects, putting a special emphasis on the historical events and, within them, on the way they influence some pieces of jewellery. Every factual detail or observation must be seen in a broader perspective, shaped by political events and economic aspects and, at the same time, the queen's personal preferences regarding style. For instance, we need to keep in mind that the manifest goal of a queen's jewellery collection was to attempt to demonstrate the idea of royalty and status, because this is the language which this collection conveys. Also, the article provides the first comprehensive analysis of Queen Marie's memorial jewellery collection and establishes connections between Victorian memorial jewellery traditions and royal gift-giving practices. Therefore, it examines how memorial jewellery reflected and reinforced family ties between the British, Russian, and Romanian royal houses, offering new perspectives on the role of jewellery in constructing and maintaining royal identity.

Although Romanian historians have not studied extensively the issue of royal jewellery this article

builds on a robust tradition of scholarship and research concerning the memorial jewellery. Diana Mandache¹ published for the first time the list of Queen Marie's jewellery and the accompanying drawings. In writing this article, we have acknowledged with gratitude her contribution. Beyond that, there is significant literature regarding the history of jewellery in general, and in this respect, we note authors such as: Stefano Papi², Katherine Purcell³, Hans Nadelhoffer⁴, Oliver Millar⁵, Dominic Lieven⁶, Leslie Field⁷, Prince Michael of Greece⁸, whose works constitute particularly valuable contributions to the historiography on this topic.

¹ Diana Mandache (2018), *Bijuteriile Reginei Maria*. Bucharest: Corinth,

² Stefano Papi (2013) *The Jewels of the Romanovs. Family and Court*. London: Thames & Hudson.

³ Katherine Purcell (1999) *Falize. A Dynasty of Jewellers*. London: Thames & Hudson.

⁴ Hans Nadelhoffer (1999) *Cartier*. London: Thames & Hudson.

⁵ Oliver Millar (1992) *The Victorian Pictures in the Collection of Her Majesty the Queen*. Cambridge University Press.

⁶ Dominic Lieven (1994) *Nicholas II: Emperor of all Russia*. London: Pimlico, 1994.

⁷ Leslie Field (1997) *The Queen's Jewels*. New York: Harry N. Abrams.

⁸ Prince Michael of Greece (2006) *Jewels of the Tsars. The Romanovs & Imperial Russia* New York: Vendome Press.

JEWELLERY IN THE SYMBOLIC CONFIGURATION OF THE ARCHITECTURE OF THE MONARCHY

Hence, we start with the observation that jewellery is not only a beauty accessory but also equally about status, power, and the economic value of a monarchy. There is, therefore, a strong relationship between the greatness of a monarchy and the opulence of the jewellery that it illustrates in ceremonies and in moments of representation. In the symbolic configuration of the architecture of the monarchy, jewellery plays an essential and defining role. Beyond their intrinsic beauty, jewellery—and especially royal jewellery—is susceptible to certain characteristics. Jewellery are the pieces of resistance to any royal attitude and represent both an official rank and a code offered to be deciphered by the onlookers. Therefore, the key method and approach point for this article is the chronological analysis of the identified iconic objects, following their path from their appearance in the royalty collections to the role they played in the economy of the monarchy. The history of royal jewellery was influenced by the political regime and legislation.

Being transmitted within dynasties or through generations, the jewellery has characteristics of recognition, hoarding, belonging, and tradition. In addition, royal jewellery implies a language that can be translated by terms such as Your Majesty or Your Highness. But, above all, the royal jewellery represents power in all its splendour. Among all the attributes of

royalty, jewellery can be inherited, and its value can increase with the passage of time, and in times of war or crisis, it represents money. Certainly, it is obvious that in the formation of a collection of royal jewellery, not only tradition matters but also the personal taste of the princess or queen who makes it up. Therefore, we cannot talk about a homogenous collection or a specific brand within it, although only certain jewellery houses were royal suppliers. The personal contribution of the owner of the collection results in her personal style in jewellery, but the whole collection tells a story of ancestors, royal families, life moments, and, of course, personal preferences. In Queen Marie's collection, this history varied from memorial painted jewellery to the most beautiful pieces signed by Cartier, Fabergé, and Art Nouveau trends, but this time, we only emphasise the memorial jewellery.

The jewellery was offered throughout the life of a princess or queen and symbolised, above all, the recognition of rank and belonging to a royal family. And, of course, due to their beauty, they were desired and expected gifts on different occasions like birth, baptism, anniversary, engagement, “corbeille de marriage”⁹, marriage, or other solemnities. There is also the custom of making personal purchases from famous jewellers. Royal jewellery was represented by crowns, sceptres, globes, diadems, tiaras, necklaces, earrings, brooches, rings, bracelets, chains, hairpins, fans, etc.

By corroborating the different archives' sources, but also the photos, the albums of famous jewellery houses, and sometimes the auction houses' lots, we will

⁹ Corbeille de marriage – in French, is an expression that appeared at the end of the 18th century and represents the wedding gifts – usually jewellery - sent in a betrothal basket to the future wife.

consider the type of jewellery, the time it was received or purchased, the production house where it comes from, what is symbolised, where it was worn, and what is happening further for it. The source we use to identify pieces from Queen Marie's jewellery collection are varied; some of them are archival personal documents (the Queen's diary, letters to her mother and other family members or friends, the will, inventories, and photos), and some are archival public documents (invoices from royal suppliers, press articles, and official photos).

Most of Queen's Marie jewellery can now only be seen in photos because they have disappeared; in this case, with the help of jewellery lists, letters, and photos, we are trying to find them and have followed the road to the date of disappearance. Of those that disappeared, some were never found again, while others belatedly appeared for sale at some auction houses. But, of course, there are also some pieces that have remained in Romania's museums or in private collections. Queen Marie's jewellery was received or, later, purchased from several sources throughout her life. As we already notified, some of them were kept in museums or private collections, some were inherited, and others were lost together with the Romanian Treasury given for safekeeping in Moscow during World War I. Later, after Queen Marie's death, the succession process in Portugal proved that a good part of the jewellery of Elena Lupescu, wife of King Carol II, first son of Queen Marie, was, in fact, the Queen's jewellery. Queen Marie's jewellery collection is difficult to reconstruct, and looking at it from a historical perspective, many of the pieces were either missing,

stolen, or given as an inheritance and lost track of in time. For instance, there was an inventory¹⁰ made in 1900, written in German and accompanied by drawings so that the pieces could be more easily identified, which represents a remarkable document in the reconstruction of the diversity of the collection. It is the main reference point (along with the letters and photos) in relation to which we identify and compare the pieces in the following analysis.

¹⁰ CNSAS – Central Archive, SIE 52875/I-II, “Inventarul bijuteriilor principesei Maria din 1900” (The Inventory of Princess Marie's Jewellery from 1900”).

THE SPIRITUAL AND CULTURAL HERITAGE OF QUEEN MARIE OF ROMANIA

Queen Marie adored the jewellery and did her best in her youth to have as many as possible. We know this aspect from her diary, from her letters, from the testimonies of her contemporaries, and from the photos in which she appears adorned with pieces chosen with perfect taste, as well as from the autobiographic book she published, “The Story of My Life.”¹¹ The precious stones she preferred were diamonds, sapphires, and pearls, and as a style, she was more fascinated by the Art Nouveau style than by the Victorian trends in which she was raised in her native England. The fact that the Queen used to write in her daily diary, including the way she dressed and adorned herself on different occasions, gives us an idea of the jewellery she had in her collection at that time. Corroborating with correspondence and photos, we get a clearer picture of the jewellery (and, of course, of their origin) owned by the Queen.

The history of royal jewellery was influenced by the political regime and legislation. In Queen Marie's collection, this history varied from memorial painted jewellery to the most beautiful pieces signed by Cartier, Fabergé, and Art Nouveau trends. Beyond beauty, jewellery keeps the memory of loved ones. Therefore, we will analyse the jewellery that she received in childhood and youth – a period of the life of the

princess in which memorial jewellery from the family predominates. We will start with the jewellery that she received in childhood and youth spent in England (Eastwell Park, London, Osborne), Scotland (Balmoral), Russia (Sankt Petersburg, Moscow), Malta (Valletta, Verdala), and Germany (Coburg, Rosenau) — a period of the princess's life in which memorial jewellery from the family predominates. In addition to jewellery, the atmosphere at the Royal and Imperial Courts that the princess visited over time with her family must also be considered. These sumptuous places – about which she will write later in her book¹² - convey information about the attitude of royalty and the mentality of the era. It is only when we put these pieces together – the Royal Courts and the jewellery – that we can start recreating and analysing the tangible profile of the future Queen of Romania and her style.

We could conclude that the young Princess of Edinburgh inherited a set of her parents' finest traits: her father's beauty of British descent, his passion for collecting and travel, his taste for adventure and courage, and from her mother's side, the Romanovs, the passion for reading and art, the pride and organising spirit, the passion for jewellery. The spiritual and cultural heritage of Queen Victoria must also be considered, to which Missy felt very strongly attached all her life, revealed especially by the meticulousness with which she wrote her daily diaries for many years, and of course, by the love for horses and dogs. “In these days Grandmamma was following my career with grandmotherly affection, but also with the anxious severity of one who wished that those of her House

¹¹ This book – *The Story of My Life* – was published in America - New York at Charles Scribner's Sons (1934), in England - London at Cassell in 1934-1935 (vols. I-III) and in France, *Histoire de ma vie*, Paris at Plon (1937).

¹² Marie, Queen of Roumania (1934) *The Story of My Life*. New York: Charles Scribner's Sons.

should do it every honour, no matter where they were placed.”¹³ The combination of Britishness and Romanov blood created in the young Princess Marie of Edinburgh a set of traits designed to help her succeed: “There are all sorts of beings in me. God knows the influences of what ancestors are all fighting together in my blood and having a jolly good time over it.”¹⁴

Except for Queen Victoria, the English family were distinguished by the coldness and indifference they showed to their children; she did not have the same opinion of the Romanov uncles, who were huge, seductive men who smelled of leather and horse harness and laughed loudly and played with the children. And the Romanov aunts—with their glittering gold and silver outfits and dazzling jewellery—were fascinating to Missy. The splendour of the palaces of St. Petersburg and Tsarskoe Selo remained in the heart of the girl as a magical story, totally different from foggy England.” There is something fierce and at the same time curiously gentlemanly about them, well in keeping with legends of waste lands and Rocky Mountains at the end of the world.”¹⁵

From her mother, the Princess received completely different jewellery. Therefore, given that Grand Duchess Marie Alexandrovna was the Tsar's daughter, we are referring to the Romanov jewellery. This time, we are not talking about memorial jewellery; the Romanovs adored opulence, beauty, diamonds, sapphires, rubies, emeralds, and pearls. They were sensitive to pieces worked in filigree, to stones cut in

the most spectacular facets, and to the most sophisticated models. The superb jewellery of the Romanovs, crafted by Fabergé, Bolin, and Cartier, represents a distinct stage in the history of royal jewellery. And rightfully so! Nowhere in the context of the years 1850-1900 were there more refined creations than the Romanov jewellery.¹⁶

¹³ Ibidem, p.18.

¹⁴ Ibid., p.83.

¹⁵ Ibid., p.89.

¹⁶ Beyond the jewellery that belongs to the spectrum of royalty, the Romanovs had an impressive collection of jewellery with mechanisms, like toys: eggs, carriages, fountains, clocks, boxes with hidden drawers, photo frames – most of them Fabergé creations.

THE MEMORIAL JEWELLERY

Since childhood — she notes at the beginning of her book — she has been attracted by beauty, being the “real daughter of Eve,” and beauty in every form has found an “ardent admirer” in her. This trait of enjoying beauty wholeheartedly, whether it was about the whole thing or just about a detail, defined her personality. “The beauty of the ladies’ dresses and the magnificence of their jewels were a special source of interest and were commented upon for days afterwards.”¹⁷ It was somehow natural for such a being, receptive to splendour, to be attracted to jewellery, and the princess received many pieces of jewellery from both families from which she descends: the British Royal Family of her father, Duke of Edinburgh, and Saxe-Coburg, and Gotha, and the Russian Imperial Family of the Romanovs of her mother, Grand Duchess Maria Alexandrovna. Even her father, Duke Alfred de Edinburgh, was a great lover of art and had collected in his residence in Clarence House a lot of rare pieces of European and Oriental origins that he bought during his travels, and he published in a catalogue.¹⁸ “Papa was a great collector of antiques and quite a connoisseur. When he died, his collections unfortunately did not come to us, but for some reason were taken over by Uncle Bertie, then Prince of Wales.”¹⁹ At the Peles National Museum, there is a beautiful silver ship from

the end of the 19th century, from an English workshop that we assume was part of the duke’s collection.

A special figure in Princess Marie’s childhood was her grandmother, Queen Victoria (Grandmamma), a strong woman with an overwhelming personality who influenced not only her but also the era in which the Queen ruled. During the Victorian period, memorial jewellery appeared and spread, and the Queen’s name is linked to this special type of jewellery. Above all, these pieces of jewellery had a completely different function, visible in the way they were executed: heart-shaped pendants, the lid of which opened, and a miniature portrait was painted inside, rings in which teeth were embedded, bracelets with inscriptions or strands of hair under the glass. The memorial pieces were not singular pieces in the economy of the Victorian mentality, but they followed a trend set by Queen Victoria, who had suffered enormously after the death of her husband, Prince Albert. Photos of dead people and wax masks successfully completed this line. A Victorian prop of this kind may be bittersweet for posterity: a kind of macabre danse with death, of memento mori, according to the principle that you will get there at some point.

Analysing Princess Missy's correspondence, we notice that there are many letters addressed to her grandmother, Queen Victoria, in which the Princess thanks her for jewellery given on birthdays or special events. Obviously, we must not consider the gifts to Missy an isolated case; such gestures to her granddaughters are natural for Queen Victoria, and,

¹⁷ Marie, Queen of Roumania, op. cit., p.55.

¹⁸ *Catalogue of the Collection of porcelain, bronzes, arms, Japanese laquer, and other specimens of Oriental Art formed by H.R.H. The Duke of Edinburgh during his cruise on HMS Galatea. Also, the collection of European china, marbles, bronzes, pictures, water-colour*

drawings, and other objects of art and vertu at Clarence House, St. James's. 1875, London: W. Clowes & Sons.

¹⁹ Marie, Queen of Roumania, op. cit., p.53.

beyond affection, they must be understood as a form of royal power and belonging through memorial gifts and jewellery. Interestingly, this type of memorial (or mourning) jewellery spread in Europe with astonishing accuracy, creating a fashion susceptible to comforting all those who have lost a loved one. It is for the first time in the history of jewellery that it becomes more than an accessory about status, value, and beauty, and above all, an attribute of affectivity. Even the texture, shape, and the precious and semi-precious stones used in this type of memorial jewellery are inscribed in a specific style, which makes them easily recognisable: gold threads interwoven in several parts and twisted, gold hearts, medallions with portraits miniatures, enamelled glass with embedded hairs, turquoises of various sizes (perhaps the most widespread stone in the decoration of memorial jewellery), engravings of letters and names. At the beginning of the Victorian period, filigree was replaced by relief designs of scrolls and foliage pressed from light metal — designs more suited to mechanical production methods. The peridots, aquamarines, turquoises, and chrysoprase were also effectively used, and large cameo brooches were crafted, but we must mention that turquoise was a fashionable stone of the 1860s. Pavé-set, it formed round or oval bosses which centred all kind of jewellery.

This type of jewellery was also called mourning jewellery or memento mori jewellery. The jewellery could be transformed as many of the cabochons were

removable, so a necklace could be turned into a tiara and earrings into brooches, and the design could be changed to suit the wearer's taste. However, the aesthetic perspective of these memorial jewellery pieces is subordinate to their adjacent meaning. What these pieces of jewellery express, what they remember, and what meaning they convey have been more important than the way they were created. In early Victorian England (before 1850), diamonds were not extremely popular at the time²⁰, but they were desired and purchased because they were valuable, and compared to the Russian Royal Family, the British Royal Family did not own so many of these stones. It was Queen Victoria's merit who intuited that the power of diamonds would hold over time and completed her jewellery collection with spectacular stones, most of them of Indian origin.²¹ It was known that Queen Marie's mother, Grand Duchess Maria Alexandrovna, daughter of Tsar Alexander II, was both admired and envied at the British Court for her stunning jewellery sets. It was obvious, then, that Princess Marie of Edinburgh also received from her grandmother numerous medallions with such portraits surrounded by diamonds.

Princess Marie was often photographed as a child wearing chains with pendants given to her by her grandmother, Queen Victoria, on occasions of various anniversaries or festivities. In the Royal Archives, there are many letters of thanks from the princess to Queen Victoria.²² A painting by J. E. Millais from 1879 represents Princess Marie (stocking crochet was

²⁰ Sally Mitchell (2009) *Daily Life in Victorian England*. London: Greenwood Press, p.160.

²¹ A source cited by Sharon Marcus mentions the appearance of Queen Victoria at the Opera in 1847, who was "dressed in blue satin with tiara, necklace, earrings, and bracelets of splendid brilliants, and all the front of her dress covered with diamonds." For more details, see

Sharon Marcus (2007) *Between Women. Friendship, Desire, and Marriage in Victorian England*. New Jersey: Princeton University Press, p.61.

²² Diana Mandache, op.cit., p.11.

considered a virtuous activity for little girls) wearing a medallion indicating her royal ancestry and a thin brooch. (Figure 2)



Figure 2. *Princess Marie* (J. E. Millais, 1882), Royal Collection Trust

Even in childhood, Princess Marie only wore jewellery made of noble metal with precious stones, primarily because she was a descendant of imperial families but also because, in this period, it was considered horrible for a princess to wear beads made from coloured paste

²³ Ariel Beaujot (2012), *Victorian Fashion Accessories*. London: Berg, Bloomsbury Publishing, p.11.

placed on wood or metal.²³ Through comparison with identical pieces of the same period given by Queen Victoria to family members, we assume that this is a medallion created by Thomas Saulini from Garrard & Co., dated around 1864.

The portrait signed by Eduardo de Moira in 1881 (Figure 3) was also made at the request of Queen Victoria, and Princess Marie was painted white with a gold chain around her neck and a pendant with the interlaced initials VR (Victoria Regina).



Figure 3. *Princess Marie* (Eduardo de Moira, 1881), Royal Collection Trust

As we already mentioned, Victorian jewellery has certain characteristics and often contains small medallions with portraits of family members or those close to them, inscriptions with their names, or hair or teeth closed in small boxes – all this for a good memory of loved ones. In the middle of the 19th century, this type of jewellery – initiated by Queen Victoria herself – was a real fashion. Princess Marie also received such Victorian jewellery, and three of them – it's about three bracelets – are kept at the museum even today, precisely because they were very close to Marie's soul, and she didn't put them in the box that went with the Treasury in Moscow.

One of these bracelets that is part of what we call Victorian memorial jewellery is the gold bracelet with five medallions representing the children of the Edinburgh family, which is now in the collection of the Romanian National Museum of History²⁴ (Figure 4). Inside the medallions, under a cover, the date of birth of each child is engraved: Alfred, Marie, Victoria Melita, Alexandra, and Beatrice, and on the opposite side are their portraits (colour photos). This jewel,²⁵ which Marie adored, was commissioned for her by her parents, Alfred, and Maria de Edinburgh, and it was a Christmas present from 1878. The piece was produced in an English workshop.



Figure 4. The gold bracelet with five medallions representing the children of the Edinburgh family, National History Museum of Romania, photograph courtesy of author.

Another memorial bracelet, which belonged to Queen Victoria and which Princess Marie inherited from her father, Duke of Edinburgh, was a gold bracelet with five hearts decorated with turquoise. (Figure 5) The bracelet²⁶ is formed of two gold cords knotted in five places (on which the names of Queen Victoria and her first four children are written) from which is suspended

²⁴ After the establishment of communism in Romania, this bracelet, located in Peles (Sinaia), was transferred to the History Museum of the Socialist Republic of Romania, but it was not exposed. (Decision No. 32 from January 16, 1973). It was only in 1990, after the fall of the communist regime, that the bracelet was put on display by reopening the Treasury Hall.

²⁵ According to the National Bank Bulletin No. 28465 from June 20, 1977, the piece is made of 14 K gold, weighing 81,30 grams.

²⁶ This bracelet was also transferred to Bucharest from Peles, and after the fall of the communist regime, it was put on display by the reopening of the Treasury Hall of the Romanian National Museum of History.

a heart-shaped pendant on which, on one side, there is an inlaid turquoise and on the other side there is a strand of hair under the glass.²⁷ It is a jewel that originally belonged to Queen Victoria.



Figure 5. The gold bracelet with five hearts decorated with turquoise. National History Museum of Romania, photograph courtesy of author.

A bracelet made in the same style, with heart-shaped turquoise pendants and a strand of hair under the glass, was dated by engraving on July 16, 1850, and was sold on September 30, 2021, at the Fellows auction house in Birmingham's Jewellery Quarter. We can therefore assume that Queen Victoria had several pieces of

²⁷ According to the National Bank Bulletin No. 28465 from June 20, 1977, the piece is made of 14 K gold, measures 189 mm, and weighs 19,20 grams.

jewellery from this set and that the piece from Romania was part of this collection.

The third Victorian bracelet that is now on display in the same museum is a gold bracelet composed of eight filigree plates attached by hinges, each plate having a letter engraved on it, forming the word "Souvenir".

(Figure 6) The bracelet is closed with a black rectangular medallion with a cover on which a diamond is mounted, which closes a lock of hair under the glass.²⁸



Figure 6. The gold bracelet composed of eight filigree plates attached by hinges. National History Museum of Romania, photograph courtesy of author.

At the Peles National Museum, there is a gold medallion with the portrait of Queen Victoria surrounded by pearls (Figure 7). The jewel, created by an English workshop in the middle of the 19th century,

²⁸ According to the National Bank Bulletin No. 28465 from June 20, 1977, the piece is made of 14 K gold, weighing 23,67 grams.

has a strand of hair embedded under the glass on the back of the locket. Consider that this Victorian memorial piece, having the inventory number 9828, also belonged to Queen Marie of Romania. This medallion resembles one that belonged to Queen Victoria, exhibited today at the Victoria and Albert Museum (accession number M5:1,2-2011), dated 1877, created by the jeweller Carlo Giuliano in London. Susan Durant modelled the profile of Queen Victoria used in this medallion in 1864-1866. Hence, the conclusion we can formulate is the following: even if the decoration of the medallion is different, the profile of Queen Victoria in both pieces under comparison was created by the same artist.



Figure 7. The gold medallion with the portrait of Queen Victoria surrounded by pearls. Peles National Museum, photograph courtesy of author.

From the Duke of Edinburgh's side, two pieces of jewellery remained at the Peles National Museum: a medallion and a brooch. Both were given until the time of the princess's marriage and, like the other remaining pieces, were not sent for safekeeping to Moscow together with the Treasury. The gold medallion, with an oval shape (inventory number 9827) has the duke's portrait painted inside, and his monogram decorated with diamonds and rubies is engraved on the lid. (Figure 8)



Figure 8. The gold medallion with an oval shape, Peles National Museum, photograph courtesy of author.

The gold brooch has the shape of a heart, and a ducal crown is affixed to the upper part. It has the duke's portrait inside and his monogram engraved with diamonds and blue enamel on the lid. In the middle of the monogram, the jewel has a stylised anchor with a cabochon diamond. The inventory number is 9836. Both pieces – the medallion and the brooch – are the creations of an English workshop from the end of the 19th century. We affirm that they are the creations of

workshops because, although exquisitely crafted, they do not have the signature of jewellery houses (the buyer's requirements were often engraved on the jewellery: different names or dates of birth, dedications), although we know the jewellery houses that were the suppliers of the British Royal Family. Usually, the big jewellery houses did not mark the pieces they created but at least marked the boxes in which they were offered to the customer. In the case of this jewellery, we have no data to identify its provenance.

As already noted, most of the jewellery that Princess Marie received from her father's British family came from London jewellery houses that were suppliers to the British Royal House. We know this aspect from Queen Victoria's letters, from the invoices from the palace register, and from the advertisements that jewellery houses made as suppliers. Hence, the London jewellery houses that were created for the British Royal Family were Garrard & Co.²⁹, Carrington & Co.³⁰ and Phillips Brothers & Sons³¹. Victorian jewellery was made of gold, white or yellow, and less often silver, and had precious stones like diamonds, sapphires, rubies, and pearls. Sometimes, semi-precious stones like aquamarine, turquoise, citrine, onyx, or crystal were also used.

In a photograph from June 1888, taken by Eduard Uhlenhuth, identified in 2 copies, both in the collection of the National Peleş Museum and the Royal Collection

²⁹ Garrard & Co. – a jewellery house founded by George Wickes in London in 1722. Wickes set up his business on Threadneedle Street, and in 1735, the company moved to Panton Street. Garrard was the first official and most notably Crown Jeweller of the United Kingdom, having supplied jewellery for Queen Victoria and was charged with the maintenance of the British Crown Jewellery. Over the years, this jewellery house has created many tiaras that are worn even today by the British Royal Family.

Trust, we see the Princess of Edinburgh wearing around her neck a chain with a medallion with a cross, on which the arms are mounted cabochon stones, and on the wrists two bracelets, the technique of which is specific to Victorian English jewellery houses (Figure 9).



Figure 9. Princess Marie (Eduard Uhlenhuth, 1888), Peles National Museum Archive.

³⁰ Carrington & Co. – a jewellery house founded in 1780 in London on Regent Street. Carrington operated as Court Jeweller for Queen Victoria, Prince Albert, King Edward VII, and King George V.

³¹ Phillips Brothers & Sons – established in 1839 in Cockspur Street in London, was a respectable jewellery house that supplied jewellery for the British Royal Family and other aristocrats.

On Princess Marie's Confirmation, in a church near the Rosenau, her mother gave her four beautiful strings of pearls with locks of rubies and diamonds, inherited from her mother, Tsarina Maria Alexandrovna,³² just for this special moment — Missy's Confirmation. "On that day also, Mamma presented me with four beautiful rows of pearls, with a ruby and diamond set clasp, which her mother had left me for this occasion, as she too, in her youth, as Princess of Hesse, had been confirmed in a Protestant Church before she became Russia's Empress and changed her faith."³³ It was a necklace with several rows, called the slavery necklace (*collier d'esclavage*)³⁴ which, at the beginning of the 20s, Queen Marie would untie according to fashion trends, turning into a long necklace, a *sautoir*.³⁵

We focused on the jewels received from the English Royal Family, precisely because those received from her mother, that is, on the part of the Romanovs, they were not so interested in the memorial value of the pieces. Therefore, compared to the Victorian jewels, those of the Romanovs cannot be labelled as memorial for them, the market value and aesthetics matter.

³² Maria Alexandrovna (1824-1880) - Tsarina married Tsar Alexander II. Born Princess of Hesse, she had been confirmed in a Protestant church before she became Russia's Empress and changed her faith.

³³ Marie, Queen of Roumania, *op. cit.*, p.164.

³⁴ Slavery necklace – it is a short, tight necklace worn around the neck made of several rows of metal - like wires, fixed from place to place

by precious stones or metal plates. It was a fashionable jewel in the 19th century.

³⁵ *Sautoir* – is a French term for a necklace, a long chain or string of precious stones or beads, often with a pendant attached.

CONCLUSION

Throughout her life and in her diaries, Queen Marie no longer refers to these memorial pieces, although we know that she owned them. Moreover, she never wore them again, and in public appearances she adorned herself with other pieces. Obviously, two of the reasons must have been, on the one hand, the fact that they were much too personal, and on the other hand, because the Queen was more attracted to Cartier pieces and other kinds of jewellery than the Victorian memorial ones. Of course, this does not mean that she did not value them according to their affective, family, belonging, and royal status significance that they had. Moreover, in many periods of her life, especially in the difficult ones, she always remembered that she is the granddaughter of Queen Victoria and that she owes it to carry on the greatness and power of her grandmother, even if in a kingdom smaller, but these memorial jewels were by her side, constantly reminding her of her illustrious lineage.

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Double Activation in Contemporary Jewellery: Rethinking Body-Jewellery Relations

Author: *Ebba Van der Taelen*

ABSTRACT

This article introduces the concept of ‘double activation’ as a framework to examine jewellery that influences the wearer’s body perception and senses. Unlike conventional jewellery, these pieces elicit sensory responses, impose constraints, or modify bodily forms, thereby creating a dynamic, performative interaction between the object and the wearer.

This study identifies five key mechanisms through which double activation operates: (1) restricting movement, (2) interacting with the body in ways that may induce discomfort, (3) altering bodily forms, (4) extending the body’s sensory perception, and (5) exerting control over the wearer. Through case studies of works by Jennifer Crupi and Akiko Shinzato, this research explores how contemporary jewellery artists subvert traditional notions of jewellery as static and ornamental, instead positioning their creations as agents of bodily intervention and performative experience.

Furthermore, this article examines how ‘double activation’ can be used to critically engage with contemporary beauty standards and the increasing normalisation of cosmetic surgery. Through the works of Ada Chen, Burcu Büyükkunal, and Lauren Kalman, this case study demonstrates how jewellery can function as a tool for questioning the homogenisation of beauty ideals, the societal pressures placed on women’s bodies, and the intersection of adornment with bodily control. These artists employ ‘double activation’ not only as a material and sensory strategy but also as a conceptual critique of aesthetic conformity and the commodification of the body.

By emphasising the temporality of bodily interaction rather than the material permanence of jewellery objects, this article situates ‘double activation’ within broader discourses on embodiment, agency, and critical design. It argues that ‘double activation’ disrupts normative perceptions of jewellery and wearability, shifting the focus from passive adornment to an ephemeral relationship between body and object.

Keywords: *Contemporary jewellery, embodiment, performativity, sensory experience, critical design, cosmetic surgery.*

INTRODUCTION

In daily life, when we wear jewellery, we expect it not to interfere with our activities. Implicitly, this assumes an inherent passivity of jewellery (Baltimore Jewellery Center, no date). Necklaces, bracelets, and rings adorn our bodies, yet they do not assert their presence. If we were to become physically aware of the jewellery we wear, such awareness might be perceived as discomfort (Van der Taelen, 2025, p. 59). Many pieces of jewellery, therefore, seemingly melt into the skin, almost becoming part of the body (den Besten, 2011, p. 35; Skinner, 2013, p. 67). Consider, for instance, a ring: we may notice it when slipping it onto a finger, but throughout the day, its presence fades from consciousness (Van der Taelen, 2025, p. 59). This occurs because the ring, in essence, does not actively stimulate our senses; it remains passive around our finger (Skinner, 2013, p. 67).

Within contemporary jewellery art, however, a distinct category of jewellery emerges — one that resists passivity and instead actively intervenes in our bodily experience.ⁱ These creations deliberately send stimuli to the body, often eliciting sensations that are perceived as unpleasant (Van der Taelen, 2025, p. 59). Unlike conventional jewellery, which remains imperceptible once worn, these pieces demand the wearer's attention, making their presence felt. The act of wearing such jewellery initiates a process, which I termed 'double activation' (Van der Taelen, 2025, p. 59).

ACTIVATION AND DOUBLE ACTIVATION IN CONTEMPORARY JEWELLERY ART

To comprehend this concept, as well as the term that this article introduces to describe this specific category of jewellery, we must first examine a fundamental process inherent to all jewellery: 'activation' (Fig. 1). Jewellery exists in an intrinsic relationship with the body (Cohn, 2012, p. 61). A piece of jewellery only truly becomes 'a piece of jewellery' when worn — at that moment, it actualises its potential (Cohn, 2012, p. 70). Various scholars, including curators Kevin Murray and Rock Hushka, have referred to this phenomenon as the 'activation' of jewellery (Hushka, 2010; Murray, 2013, p. 60). Murray (2013, p. 60) suggests that during this process, the jewellery comes to life as an object and gains a functional identity. Hushka, by contrast, places less emphasis on the material aspect of activation, arguing instead that the act of wearing is what brings forth the jewellery's meaning, enabling it to communicate with the world. In this sense, the jewellery artist must position their creation on a body for it to attain the status of a 'real' piece of jewellery — only then can its inscribed meaning be externalised (Browning, 2012). However, following this process of activation, jewellery typically reverts to a state of passivity.

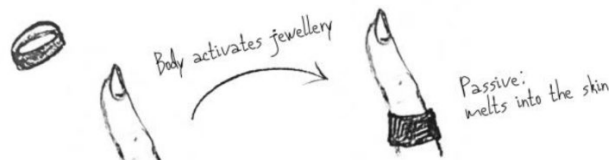


Fig. 1. Drawing illustrating the concept of 'activation.' Quick sketch made by the author.

In certain instances, a second activation occurs. Some specific creations do not melt into the skin; they are 'active' and influence the wearer's physical experience (Van der Taelen, 2025, p. 59). They take on an active role and intervene in the body after being placed on it (Van der Taelen, 2025, p. 59). Therefore, a 'double activation' occurs: first the body activates the jewellery, then the jewellery activates the body again (Van der Taelen, 2025, p. 59).

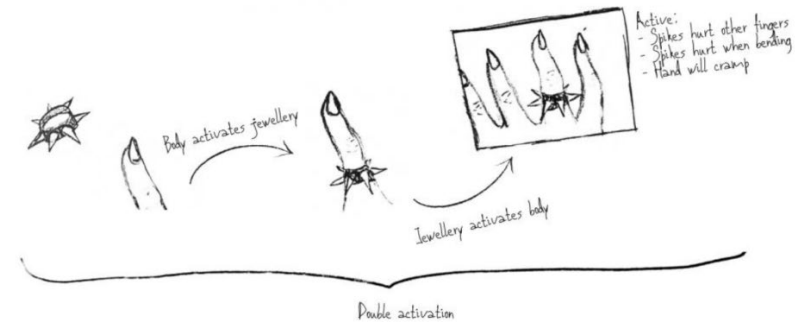


Fig. 2. Drawing illustrating the concept of 'double activation.' Quick sketch made by the author.

This kind of ‘double activation’ jewellery disrupts the wearer’s habitual bodily awareness (Van der Taelen, 2025, p. 59).ⁱⁱ As jewellery designer Sophie Hanagarth (2015) posits, individuals rarely reflect on their own corporeality in daily life. These pieces, through their design and interaction with the body, elicit unfamiliar sensations, compelling the wearer to reassess their perception of their own physical form and functionality (Van der Taelen, 2025, p. 60). The phenomenon of ‘double activation’ manifests in jewellery that...

1. restricts the body's movement possibilities.
2. interacts with body parts and may cause pain.
3. manipulates the natural shapes of the body.
4. extends the body to experience new sensations.
5. takes control over the body.

These methods of evoking sensations can occur separately or together (Van der Taelen, 2025, p. 60). A compelling example of ‘double activation’ is *Ornamental Hands: Figure One* (2010) (Fig. 3) by American jeweller Jennifer Crupi (Van der Taelen, 2025, p. 60; Smithsonian American Art Museum, no date). This piece resembles a medical brace for the right hand, crafted from solid silver (Crupi, no date). When worn, it dictates a single, predetermined hand position, selected by the jeweller. By constraining movement (1) and directing hand gestures (5), the piece exerts control over the body.

The imposed posture references the refined yet unnatural hand gestures often depicted in paintings by old masters (Crupi, 2019). As these poses are

challenging to sustain, the silver brace provides support, yet over time, it induces discomfort (Van der Taelen, 2025, p. 60). Eventually, the hand begins to cramp, introducing an element of pain (2). This dynamic makes the interaction between jewellery and body both intense and fleeting — the rigid structure of the piece contrasts with the pliability of the skin, creating a tension that cannot be sustained, ultimately leading to the dissolution of the body-jewellery relationship (Van der Taelen, 2025, p. 60).



Fig. 3. Jennifer Crupi, *Ornamental Hands: Figure One*, 2010. Silver, 38,1 x 21,6 x 14 cm. Washington D.C., Smithsonian American Art Museum, inv.nr. 2013.34A-B.

'DOUBLE ACTIVATION' AND AGENCY

The roles of both the maker and the wearer in 'double activation' jewellery challenge conventional notions of authorship and interaction (Van der Taelen, 2025, p. 60; Yang, 2019, p. 13). According to jewellery scholar Liesbeth den Besten (2011, p. 139), the maker in this context does not merely craft an ornament but actively shapes the wearer's body. A clear example is *Chin Up* (2018) by Akiko Shinzato, part of her collection *Self-confidence Boosters* (Goralik, 2022, p. 139).ⁱⁱⁱ This brass neckpiece serves a singular function: to support and elevate the wearer's chin (Van der Taelen, 2025, p. 60). Rather than allowing the body to dictate the jewellery's form, Shinzato first conceived the desired bodily posture and designed the piece accordingly — effectively sculpting both object and body (Van der Taelen, 2025, p. 60).

Beyond the creation process, the experience of wearing 'double activation' jewellery differs significantly from that of conventional adornment. Instead of passively displaying a piece, the wearer becomes an active participant, engaging in a performative interaction shaped by the jewellery (Yang, 2019, pp. 13, 16). These pieces manipulate or heighten bodily sensations, albeit temporarily, turning the act of wearing into a fleeting performance—one that is inherently tied to the presence of the body itself (Van der Taelen, 2025, p. 60).

This performative aspect of 'double activation' leads directly to questions of bodily control. By dictating movement, posture, or sensation, these pieces blur the boundary between adornment and intervention (Van

der Taelen, 2025, p. 61). Some works deliberately impose control, while others push the wearer toward an experience of losing it, revealing a fundamental tension in the relationship between jewellery and the body (Van der Taelen, 2025, p. 61).

The impact of 'double activation' extends beyond aesthetics; it directly influences bodily autonomy. One key reason why the relationship between body and jewellery remains temporary is the wearer's instinctive desire to regain control (Van der Taelen, 2025, p. 61). Fashion theorist Linor Goralik (2022, p. 244) describes how 'double activation' jewellery can interfere with the body's 'three lines of control,' a concept rooted in developmental psychology. She explains that as individuals mature, they acquire three progressive levels of bodily regulation. The first concerns fundamental control over physiological functions, such as the retention of bodily fluids (Goralik, 2022, p. 244). The second pertains to the mastery of movement and gesture, enabling individuals to navigate social and physical environments (Goralik, 2022, p. 244). The final level involves the socialised regulation of facial expressions, allowing individuals to either conceal or express emotions in accordance with cultural norms (Goralik, 2022, p. 244). Jewellery designed under the premise of 'double activation' has the capacity to override these forms of control, whether intentionally or unexpectedly (Goralik, 2022, p. 245).

CASE STUDY: ‘DOUBLE ACTIVATION’ AS TOOL FOR QUESTIONING COSMETIC SURGERY

‘Double activation’ can be employed by makers in a wide variety of ways. Over the past two decades, jewellery incorporating characteristics of ‘double activation’ has emerged in an increasing variety of forms. However, ‘double activation’ is definitely not a recent phenomenon; it has been present in contemporary jewellery since the late 1960s. Examples of this concept can already be found in the work from the 1970s and 1980s of famous jewellers like Gijs Bakker, Pierre Degen, Caroline Broadhead, Marjorie Schick, David Watkins and Otto Künzli (Bernabei, 2011, p. 29-31; den Besten, 2011, pp. 131-2). In fact, its roots trace back to the radical jewellery experiments of the late 1960s and early 1970s, when artists began exploring more interactive and performative dimensions of jewellery (Bernabei, 2011, p. 31).

Anyone who picks up a book filled with images of contemporary jewellery or browses through websites like Klimt02, will quickly notice that many pieces can be classified as ‘double activation’ jewellery, as they deliberately engage with form, scale, and material to ‘activate’ the body.

So, in theory, this article could present an extensive list of diverse examples to illustrate both the concept and its versatility. To avoid a superficial enumeration, I present a case study focusing on ‘double activation’ jewellery that critically engages with a specific societal phenomenon — namely, the popularisation of cosmetic surgery. This case study is particularly relevant as it

provides an opportunity to deepen our understanding of ‘double activation’ while also demonstrating a critical potential of this concept.

‘DOUBLE ACTIVATION’ AND CRITICAL DESIGN

Although well-known cosmetic and plastic surgical procedures, such as rhinoplasty and breast augmentation, were already performed in the 1960s, it was not until the 1990s that the taboo surrounding these procedures largely disappeared (Holland, 2021). This decade saw a boom in plastic surgery and various forms of body modification, fueled in part by the accelerating marketing of these procedures in the 1980s (Brooks, 2004, p. 211; Holland, 2021). Whereas such medical techniques had previously been used primarily for reconstructive purposes, they were now increasingly applied to uninjured, healthy faces and body parts purely for aesthetic alterations (Holland, 2021). This trend continued into the early 21st century and gained further momentum with the legalisation of Botox for cosmetic use.

Parallel to this development, Liesbeth den Besten observed a phenomenon in contemporary jewellery: predominantly female makers began using their creations to question the growing popularity of cosmetic procedures and body modifications, reflecting on the social pressures—often imposed on women—by society (den Besten, 2011, pp. 138-9). In this boom period, the body became something that could be shaped at will, and these makers engaged with that notion in their work (den Besten, 2011, p. 139). A

number of jewellery pieces that critically examine this trend employ ‘double activation’ as a means to express critique, materialise societal pressure, or explore bodily alteration as a thought experiment in response to these developments. Notably, the forms of these jewellery pieces often reference medical equipment or prosthetics, giving them an uncanny and sometimes unsettling appearance (Tanguy, 2016; Gross, 2013). The aesthetics of braces, medical corsets, acupuncture needles, and orthodontic devices frequently emerge in these works.^{iv}

Before discussing examples of jewellery that critically engage with cosmetic facial surgery, it is necessary to first examine the connection between these creations and the concept of *Critical Design*. In the 1990s, designer Anthony Dunne coined the term *Critical Design* to describe a new approach within applied arts and design (Raby and Dunne, no date). Designers, including jewellery makers, adopted a conceptual approach to create provocative works (Rabey, 2018). These pieces serve a singular purpose: to prompt reflection in both the wearer and the viewer—often with a degree of satire (Doughty, 2020; Raby and Dunne, no date). Dominant norms and conventions are actively questioned to challenge the status quo and initiate socio-critical debates (Rabey, 2018; Doughty, 2020).

Jewellery designer Katia Rabey (2018) notes that this approach gained significant traction in contemporary jewellery towards the end of the 20th century, as many makers began to direct their attention toward prevailing—and often oppressive—beauty standards. This tendency is also evident in ‘double activation’

jewellery, where three recurring strategies can be identified in countering beauty ideals: presenting bodies that do not conform to these standards, exaggerating beauty ideals and the tools used to achieve them to the point of absurdity, and exposing their inherent hypocrisy (Rabey, 2018). These strategies are not mutually exclusive and often overlap.

Although Liesbeth den Besten and Katia Rabey already observed the connection between the rise of plastic surgery and its critique within jewellery art in the 1990s, this paper will focus exclusively on examples from the 21st century. This period is particularly significant due to the continued use of ‘double activation’, the ongoing relevance of *Critical Design*, and the increasing number of designers addressing this still-pertinent topic.

POPULARISATION OF COSMETIC SURGERY

Although beauty ideals have existed and evolved for centuries, several female jewellery designers have noted that women are becoming increasingly subjected to them (Parbs, 2009, p. 41; Büyükcinal, no date). As women themselves, these makers are inundated with images of idealised bodies and advertisements for various products and treatments promising to achieve them. The rise of social media platforms such as Instagram has further fueled the cosmetic industry’s success (Arab e.a., 2019, p. 6). Some jewellery designers presented in this article, express concern over how societal pressures lead women to undergo cosmetic procedures on their otherwise normal, healthy faces, and they use their work as a means of

critique. They also highlight the psychological consequences of beauty standards, and the pressure individuals feel to conform (den Besten, 2011, 137; van Es, 2021). Additionally, some designers critically examine the origins of these beauty ideals, questioning why they have become so dominant and who is responsible for enforcing them.

ADA CHEN: QUESTIONING WESTERN BEAUTY NORMS

A striking example of this critique is *Chink Eyepiece* (2018) by Chinese American designer Ada Chen.^v Unlike medical devices, this piece mimics a luxurious beauty tool that physically alters the shape of the wearer's eyes by pulling the outer corners back to create a slanted effect (Chen, 2018). Through this act of transformation, Chen challenges the cosmetic industry's promotion of Westernised beauty standards, particularly in China, where young girls are encouraged to modify their features (Chen, 2018; Museum Arnhem, 2019).

Chen's work critiques both the cultural conditioning that promotes Western beauty ideals and the historical discrimination against Asian facial features (Chen, 2018; Brut. Original, 2019). The preference for double eyelids and almond-shaped eyes has led to widespread cosmetic procedures, reinforcing the notion that natural Asian features require modification. At the same time, Asian individuals outside China have faced derogatory stereotyping, as exemplified by the offensive term "chinky" and the historical mockery of slanted eyes in Western culture (Chen, 2018; Brut, 2019).

Through her work, Chen poses a thought experiment: What if slanted eyes were considered the ideal (Museum Arnhem, 2019)? Would Western women seek cosmetic alterations to achieve them (Brut. Original, 2019)? Her accompanying fictional advertisement mimics real beauty campaigns, exposing the contradictions and hypocrisies of plastic surgery trends. This critique gained real-world relevance in 2020, when the "fox-eye trend" emerged among Western influencers, unintentionally validating Chen's satire and underscoring the double standards in beauty culture.

BURCU BÜYÜKÜNAL: DISTORTING BEAUTY TO REVEAL ITS ABSURDITY

Turkish designer Burcu Büyükünäl similarly critiques cosmetic surgery in her collection *Terrifying Beauty* (2008). This series consists of gilded brass wire pieces that reshape different facial features, such as the nose, chin, cheeks, and mouth—not to conform to beauty ideals, but to deliberately distort them (Büyükünäl, 2019). Rather than refining features to fit an ideal, her jewellery exaggerates so-called imperfections, subverting traditional jewellery's role as an enhancement tool (Büyükünäl, no date).

One piece, *Head Piece 2*, bends the nose unnaturally upward, countering the common practice of rhinoplasty.^{vi} Rather than narrowing this facial feature — as is often the case with cosmetic rhinoplasty — Büyükünäl instead bends it completely and pulls it upward, creating an upturned effect. Another piece,

Head Piece 4, alters facial expressions by lifting one cheek while pulling the other downward, disrupting the wearer's control over their own mimicry.^{vii} The right eye takes on a 'droopy' shape due to the pulling motion, while the left corner of the mouth is tightly drawn upward as the cheek is pushed up. The resulting face reveals no discernible expression, effectively transferring the wearer's 'third line of body control' to the jewellery (Goralik, 2022, p. 247). By forcing these distortions, Büyükcünel highlights the homogenisation of beauty in an era of cosmetic surgery, where individuality is sacrificed in pursuit of a singular aesthetic ideal (Büyükcünel, no date). If everyone aspires to the same appearance, a unification of faces inevitably occurs, leading to the disappearance of socially constructed 'imperfections' (Goralik, 2022, p. 247). Through her creations, she exaggerates these 'imperfections' to the point of absurdity, thereby also challenging traditional jewellery art—which typically serves to enhance the wearer's beauty (Büyükcünel, no date).

Büyükcünel's work functions as a conceptual provocation, prompting viewers to confront their own internalised beauty standards. Would they dare to wear such a piece in public? This question forces an acknowledgment of the societal pressures that dictate which facial features are deemed acceptable or desirable.

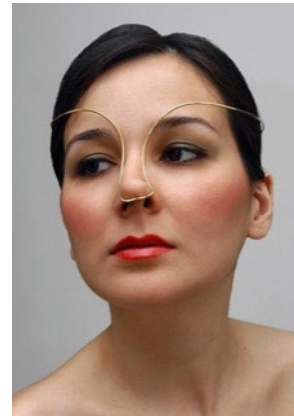


Fig. 4. Burcu Büyükcünel, *Head Piece 2*, 2008. Gilded brass, dimensions unknown. s.l.

Image credits: Burcu Büyükcünel.



Fig. 5. Burcu Büyükcünel, *Head Piece 4*, 2008. Gilded brass, dimensions unknown. s.l.

Image credits: Burcu Büyükcünel.

LAUREN KALMAN: MATERIALISING THE PAIN OF BEAUTY STANDARDS

Lauren Kalman is one of the most renowned jewellery artists critically engaging with cosmetic surgery. Her work explores the female body, the commodification of beauty, and the physical sacrifices women endure to attain the 'ideal body' (Stedelijk Museum Amsterdam, no date). Her collections *Hard Wear* (2006/2008) and *Devices for Filling a Void* (2014–2021) particularly reflect on these themes (Kalman, no date). Looking at historical precedents, Kalman observes that women have consistently been pressured to conform to male-defined beauty ideals. Youthfulness, attractiveness, and vitality—signifiers of fertility—were expected traits, and those who did not meet these standards were deemed inferior (Kalman, 2006, p. 94). According to Kalman, the female body has historically been perceived as 'incomplete,' necessitating enhancement through cosmetic surgery, makeup, or jewellery—if such 'completion' is even possible (Kalman, no date).

With the growing accessibility of cosmetic procedures, more women push the boundaries of self-modification in pursuit of societal beauty norms. Kalman notes that 'beautification' is essentially the 'concealment of imperfections,' a concept historically linked to morality: physical flaws were equated with moral shortcomings (Kalman, 2018, p. 30). By altering or masking their faces, women sought to evade societal judgment. This perpetual striving for bodily perfection, Kalman argues, remains a 'social obligation' (Kalman, 2018, p. 30).

Kalman visualises this pressure in her jewellery, particularly in the mouthpieces from *Hard Wear* and *Devices for Filling a Void*. These works document the act of wearing through photography and video, allowing viewers to witness the discomfort experienced by the wearer (den Besten, 2011, p. 137).

Two notable examples of 'double activation' jewellery from *Hard Wear* are *Oral Rims* (2006) and *Pedestal* (2006), both crafted from gold-plated copper.^{viii} Custom-fitted to Kalman's mouth, these pieces can only be fully experienced by her - to spare others the pain (van Es, 2021). Inserted into the mouth, they disrupt comfort due to their rough, irregular surfaces and sharp edges, subverting the traditional notion of jewellery as smooth and wearable (Adamson, 2012, p. 98). Kalman deliberately designed these objects to induce sensations, emphasising their performative nature. The process of inserting, wearing, and removing them was documented on video, capturing the full spectrum of their effects (Kalman, 2017a, 2017b).

In *Pedestal*, the tongue becomes the focal point: the piece is positioned beneath it, forcing it upward onto a 'golden pedestal.' The accompanying video reveals the tongue's struggle to maintain this unnatural position, causing evident distress. Closing the mouth is painful, making swallowing difficult, and resulting in involuntary drooling. This leads to a loss of the wearer's 'first line of body control,' creating a socially abject situation (Goralik, 2016, p. 246).

Similarly, *Oral Rims* fits precisely over Kalman's gums. Its rough surface scrapes against the sensitive tissue, causing discomfort. The video documentation

captures her grimacing, breathing heavily, and struggling to control saliva. The moment of relief upon removal speaks volumes, emphasising the absurdity of painful modifications undertaken in pursuit of beauty (Kalman, 2006, p. 39-40). Kalman (2006, p. 39) describes this work as emblematic of ‘the discomfort of adornment’—the self-inflicted suffering endured in the name of beauty.

Nearly a decade later, *Devices for Filling a Void* extended these explorations, further interrogating the medicalisation of beauty. This collection references surgical aesthetics, highlighting the increasing prevalence of beauty tools and cosmetic procedures (Kalman, no date). The jewellery in this series straddles the line between opulent gold adornments and sterile orthodontic devices. Like *Hard Wear*, these pieces are inserted into the mouth and often require adjustment via screws. Unlike the jagged textures of the earlier works, these objects are smooth and rounded, designed to fill cavities such as the nasal or oral cavity (Kalman, no date).

Key examples from this collection include *Device for Filling a Void (1)* (2014) and *Device for Filling a Void (3)* (2014–2015).^{ix} Instead of imposing an idealised facial position, these pieces distort the face into exaggerated, unnatural expressions—one appearing vacant, the other aggressive. In doing so, they challenge conventional beauty standards. The combination of grotesque facial distortions and the jewellery’s medical aesthetic creates an unsettling effect (Kalman, no date; 2018, p. 30). However, Kalman elevates this grotesqueness through her use of ceramic and gold, materials traditionally associated with beauty and

refinement (Freedman, 2021). By doing so, she proposes an alternative to the unattainable ideal body: the natural body, imperfections included (Kalman, 2018, p. 30). Her work ultimately aims to empower women by encouraging self-acceptance and resisting the oppressive dominance of beauty conventions.

CONCLUSION

The concept of ‘double activation’ challenges conventional perceptions of jewellery by redefining the relationship between body and adornment. Unlike passive jewellery, which seamlessly integrates with the body, ‘double activation’ pieces actively engage with and transform the wearer’s physical experience. By restricting movement, altering bodily forms, inducing discomfort, or even exerting control, these works disrupt habitual bodily awareness and emphasise the performative nature of wearing jewellery.

The case studies discussed in this paper illustrate the diverse ways in which ‘double activation’ operates within contemporary jewellery. Jennifer Crupi’s *Ornamental Hands: Figure One* enforces a rigid posture, highlighting the tension between control and constraint. Akiko Shinzato’s *Chin Up* manipulates the body’s form to explore notions of self-presentation and confidence. These examples reveal that ‘double activation’ is not just a theoretical construct but a tangible artistic strategy that prompts critical engagement with themes of agency, embodiment, and social conditioning.

A particularly significant application of ‘double activation’ jewellery is its role in critiquing cosmetic surgery and contemporary beauty ideals. Designers such as Ada Chen, Burcu Büyükcinal, and Lauren Kalman use jewellery to materialise the pressures exerted on individuals—particularly women—to conform to artificial beauty standards. Chen’s *Chink Eyepiece* highlights the racialised history of Western beauty norms, while Büyükcinal’s *Terrifying Beauty*

collection exaggerates facial distortions to expose the absurdity of perfection. Kalman’s mouthpieces, by inducing discomfort and restricting bodily control, confront the viewer with the physical and psychological costs of aesthetic modification. These works demonstrate how ‘double activation’ jewellery can function as a critical design tool, transforming adornment into a medium for socio-political discourse.

Ultimately, ‘double activation’ offers a theoretical framework within contemporary jewellery discourse. It shifts the focus from static objects to the temporality of interaction, emphasising that jewellery is not only something we wear but something that can act upon us. In doing so, it invites us to reconsider the boundaries between object and body, adornment and intervention, passivity and action.

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ⁱ These 'active' jewellery pieces have not been thoroughly theorised, a gap I aim to address by coining the concept 'double activation'. However, several scholars have previously observed that contemporary jewellery often intentionally seeks to challenge bodily experience by activating the body and prompting sensory responses. Roberta Bernabei (2011, p. 31) highlights how, since 1967, jewellery has increasingly influenced the wearer's bodily perception rather than serving a purely decorative role. This shift towards bodily awareness is echoed by Suzanne Ramljak (1997, pp. 38-41), who describes jewellery's tactile function as a tool for heightened physical awareness and self-transformation. Similarly, Linor Goralik (2022, pp. 243-250) discusses how jewellery can at times override the body's 'three lines of control.' Kate Bonansinga (2008, pp. 38-39) emphasized jewellery's impact on the human sensorium in her 'Exhibition in Print' for Metalsmith magazine, while Xiaohu Yang (2019, pp. 4-29) explored how jewellery can alter spatial perception. Despite these contributions, the literature remains limited and fragmented.

ⁱⁱ In this article, 'double activation' will not be converted into an adjective. Referring to 'double activating' jewellery would imply that the jewellery activates the body twice, which is not the case. The opposite applies to 'double activated' jewellery. If this term were used, it would suggest that the body activated the jewellery twice, which is also incorrect.

ⁱⁱⁱ Akiko Shinzato, *Chin up*, 2018. Brass, size unknown. s.l..

^{iv} While this phenomenon will be demonstrated through various examples in this chapter, this footnote provides an additional selection. Acupuncture needles appear in the work of both Tiffany Parbs and Lauren Kalman. In their respective collections—*Cosmetic* (2006-2008) and *Blooms, Efflorescence, and Other Dermatological Embellishments* (2009)—these fine needles pierce the skin, at times drawing blood. Similarly, orthodontic-looking tools feature in Lauren Kalman's work, as well as in collections by Auste Arlauskaitė (*Body Adjustments*, no date) and Pauline Müller (*Doux Leurre*, 2020).

^v Ada Chen, "*Chink*" *Eyepiece*, 2018. Brass and garnet, 16.5 × 21.6 × 0.6 cm. s.l.

^{vi} Burcu Büyükkünal, *Head Piece 2*, 2008. Gilded brass, dimensions unknown. s.l.

^{vii} Burcu Büyükkünal, *Head Piece 4*, 2008. Gilded brass, dimensions unknown. s.l.

^{viii} Lauren Kalman, *Pedestal*, 2006. Gilded copper, dimensions unknown. s.l. ; Lauren Kalman, *Oral Rims*, 2006. Gilded copper, approx. 10.2 x 10.2 x 5.1 cm. s.l.

^{ix} Lauren Kalman, *Device for Filling a Void (1)*, 2014. Gilded copper, dimensions unknown. s.l. ; Lauren Kalman, *Device for Filling a Void (3)*, 2014-2015. Gilded copper, dimensions unknown. s.l.

Jewellery for All Americans: The Production and Importance of Costume Jewellery in Providence, Rhode Island

Author: *Molly Watkins*



ABSTRACT

This essay, *Jewellery for All Americans: The Production and Importance of Costume Jewellery in Providence, Rhode Island*, examines the rise of costume jewellery in the United States following the First World War and its profound impact on Providence, Rhode Island's jewellery manufacturing industry. Drawing on scholarship in the history of costume jewellery in the United States, as well as demographic, economic, geographic, and cultural data, this study analyses the industry's role in shaping Rhode Island's economy and identity. Additionally, it explores the technological and societal factors that positioned Rhode Island as the epicentre of costume jewellery production following the First World War. The study also investigates the social changes in the United States that contributed to the rise of costume jewellery. Findings suggest that Providence's jewellery industry not only bolstered Rhode Island's economy but also shaped the state's cultural landscape. This research highlights how the national demand for costume jewellery was instrumental in Rhode Island's historical development. Ultimately, this study finds that the economic and cultural evolutions of Rhode Island as a state can be directly linked to Providence's jewellery industry. These insights may provide a broader perspective on how nationwide fashion trends can influence regional cultural identities and economic growth.

Keywords: *Costume jewellery; Providence; manufacturing; fashion jewellery; United States; Rhode Island*

INTRODUCTION

The following report outlines the history of costume jewellery in the United States and the history of jewellery production in Providence, Rhode Island. A close study of the Providence jewellery industry, in particular, will illuminate its essential place in the broader history of the state of Rhode Island. The first section of this report highlights the rise of costume jewellery in the United States and the societal factors that contributed to this rise, such as the popularity of Hollywood and the increased autonomy of women following the First World War. The second section provides an overview of the jewellery manufacturing industry in Providence, Rhode Island, from its beginnings in the early 1780s, to its peak in the early to mid-twentieth century, to its eventual decline. Finally, the third and final section of the report examines the impact of the Providence jewellery industry's success on the state of Rhode Island and how the industry has shaped the state's present-day identity and culture. By considering factors such as the demographic, geographic, and economic impacts of the Providence jewellery industry, this report investigates how the nationwide popularity of costume jewellery directly influenced the growth of Rhode Island.

COSTUME JEWELLERY IN THE UNITED STATES

The term ‘costume jewellery’ was first used in the United States in 1907 in a fashion magazine article (Cera, 2019, p. 78). At this time, ‘costume’ or ‘fashion’ jewellery had begun to gradually spread to the United States from production hubs in Europe. Before the twentieth century, a few American entrepreneurs were already manufacturing inexpensive adornments for dresses in both large and small companies; however, for the most part, the United States imported costume jewellery from Europe rather than engaging in the industry itself (Cera, 2019). This can partly be attributed to the promotion of *bijoux de couture* by renowned French fashion designer Coco Chanel in the early twentieth century, whom the American public regarded as the epitome of elegance (Cera, 2019). The functionality of Chanel’s designs had already made an impact on the big screen in Europe, with actresses such as Lucienne Roger wearing Chanel’s hats on the cover of *Comoedia Illustré* (Cattini, Colucci, and Ferriani, 2022, p. 564). The popularity of Chanel’s more simplistic clothing and costume jewellery pieces spread to Hollywood following the First World War, as Chanel ‘recognised the growing importance of cinema in popular culture, as opposed to the more elitist theatre, and realised it was a medium through which new models and styles could be widely diffused’ (Cattini, Colucci, and Ferriani, 2022, p. 573). From 1931 to 1934, Chanel worked directly with film producer Samuel Goldwyn on the wardrobes for his Hollywood productions, bringing her simplistic style, signature

hats, and faux pearl necklaces to a wider American audience (Cattini, Colucci, and Ferriani, 2022, p. 573). This coincided with the Hollywood Golden Age, when Hollywood elegance and style had become a part of the collective consciousness and culture of Americans. Actresses such as Marlene Dietrich became incredibly influential, and ‘her roles in various films and her personal style, particularly her choice of jewellery, left an indelible mark on popular culture’ (Luo, 2020, p. 20). Recognising the impact of actresses like Dietrich, some jewellery houses partnered directly with film studios to serve as prop designers and manufacturers, creating unique and visually striking jewellery pieces specifically meant to enhance a film’s visual appeal (Luo, 2020). Many American women began seeking to imitate the glamour of Hollywood stars through their jewellery and other fashion pieces. This desire for glamour was expedited by the shockwaves in the American media about the romance between King Edward VIII and American divorcee Wallis Simpson (Cera, 2019). Simpson was the first American to marry into the British royal family, a family that many Americans regarded as the epitome of class and fashion. There was a mad scramble to find any and all photographs of Simpson at the time, and the same photos of her were published in back-to-back newspaper columns (Benchley, 1936). If Simpson could achieve the glamour of British royalty, perhaps so could the average American, just by emulating Simpson’s elegant fashion sense. However, the Stock Market Crash of 1929 and the ensuing Great Depression made the idea of obtaining the fine jewellery of the elite upper-class and major Hollywood figures seemingly impossible for most. This desire of Americans to emulate the stars, coupled with the simultaneous period

of economic hardship, provided fertile ground for the rapid growth of the costume jewellery industry (Luo, 2020). To the average American, the platinum and diamonds worn by the movie stars on the big screen appeared identical to the more affordable rhinestones and rhodium-plated metal costume jewellery (Cera, 2019). Even the term itself, 'costume' jewellery, implied that the jewellery first worn by actresses in their costumes had now spread to real life.

During the earlier years of the First World War, the rigid separation of roles between men and women had been abandoned, as many women had been forced to replace men in the workplace. Women's employment rates climbed considerably during the war, from 23.6% of the working-age population in 1914, to somewhere between 37.7% and 46.7% by 1918 (Bishop, 2019, p.22). The war had initiated a process of liberation and offered a 'unique opportunity to become emancipated and take a more active role in society' (Cattini, Colucci, and Ferriani, 2022, p. 565). Many women had never before had their own independent incomes, and they now had the money to buy their own goods, such as fashion items (Bishop, 2019). However, even though by the end of the war women had more financial autonomy, the United States was still in the depths of a recession. Although in the midst of recession, there was a sudden access to a modest income for women, and this accelerated the popularity of costume jewellery. In a time when women lived in a more progressive environment, surrounded by the imagery of Hollywood stars, 'fashion jewellery stood out as the most popular, most sought-after item by women' (Cera, 2019, p. 178). The industry began to blossom, and a few jewellery firms such as La Tausca in Providence, Rhode Island,

as well as the New York firm of Henry W. Fishel and Son rose to prominence. Some firms opened branches in both New York and Providence, such as Coro. All of these firms advertised affordability yet exceptional quality (Bishop, 2019). Ultimately, with the inspiration of the rise of Hollywood glamour and improved incomes for women, the costume jewellery industry began to flourish.

Costume jewellery would dominate popular culture in the United States for many decades to come. In order to rapidly produce and cater to a tremendous demand for cheap, fashionable pieces, the country began to shift towards mass production of jewellery. The growth of mass-produced jewellery was fuelled by the development in the United States of machines with the capacity to cut, shade, and cast the basic components of individual jewellery items. Singular craftsmen, who had once been capable of individually fashioning a piece of jewellery from beginning to end, were replaced by developed machines and new methods for jewellery manufacturing, with a labour force structured according to function, often in an assembly-line structure (Figure 1). Instead of being produced in smaller firm shops and facilities by the hundreds, costume jewellery was now produced in enormous factories in the thousands. Centuries-old crafts were transformed and shaped by the rising income of consumers and the division of labour in production (Carnevali, 2011). Almost all Americans with an average income possessed at least one piece of costume jewellery from the 1930s all the way to the 1990s (Carnevali, 2011, p. 298). This sustained growth of the costume jewellery industry in the United States would not have been possible without the leader of costume jewellery production, Providence, Rhode Island.



Figure 1: Keystone View Company. Skilled workers manufacturing jewellery, Providence, R.I. [Meadville, Pa. ; New York, N.Y. ; Portland, Oregon ; London, Eng. ; Sydney, Aus.: Keystone View Company, Manufacturers and Publishers] Photograph. Retrieved from the Library of Congress.

JEWELLERY MANUFACTURING IN PROVIDENCE, RHODE ISLAND

Some of the first successful plants that mass-produced jewellery were established in Newark, New Jersey, New York, New York, and Attleboro, Massachusetts (Carnevali, 2011, p. 305). Nonetheless, the scales of production in these locations paled in comparison to Providence, Rhode Island (Carnevali, 2011). Costume jewellery played a significant role in the history of jewellery manufacturing in Providence and helped to elevate Providence to the top of jewellery production in the United States. Although the smallest state in the country, Rhode Island had already established itself as a manufacturing hub by the end of the First World War, specifically with a skilled labour force specialising in metalworking and jewellery-making. The sudden surge in demand for costume jewellery in the twentieth century allowed Providence to leverage its existing industrial capabilities and highly skilled workforce to quickly mass-produce costume pieces efficiently, thus propelling Providence to the top of the American jewellery industry.

The foundation of jewellery-making in Providence began in the 1780s, with the innovations of two men, Seril and Nehemiah Dodge. Seril and Nehemiah Dodge, an uncle and nephew pairing, have often been credited as the pioneers of Providence jewellery production in the late eighteenth century, with some referring to the pair as Providence's first jewellers. Seril was once a clockmaker in Connecticut, but he decided to open Providence's first jewellery-making shop in



*Figure 2: Seril Dodge (American, 1759 - 1802)
Teaspoon silver
12.1 cm (4 3/4 inches) (length) Gift of Sophia K.
Seabury 38.050
Courtesy of the RISD Museum, Providence, RI.*

1784 (Lightfoot, 2019, p. 131). Seril worked primarily with silver and other metals at his shop, experimenting with other metal products such as utensils (Figure 2). At Seril's shop, the relatives experimented both individually and together with various techniques for bonding or gilding relatively affordable base metals like copper with gold or a gold alloy. Nehemiah opened his own shop for the manufacture of 18k gold jewellery in 1794 but soon abandoned this traditional craft in favour of manufacturing rolled plate gold. Perhaps with techniques learned from his uncle, Nehemiah became the first Providence jeweller to produce gold soldered metal jewellery. Nehemiah's technique consisted of uniting a thin sheet of gold to a thicker sheet of copper with silver solder and then hammering it and rolling it to the desired thickness. Dodge began to sell his rolled gold to other goldsmiths within Providence, sparking the development in Rhode Island of 'manufactured jewellery' (The Jewelry District Association, 2022). Within seven years of the Dodge invention, three

additional gold and silversmiths had opened firms on North Main Street near the shop of Nehemiah (Weisberg, 1999, p. 2). By 1810, there were at least a hundred craftsmen in Providence turning out \$100,000 worth of jewellery (Weisberg, 1999, p. 2). Three hundred jewellers were employed in Providence by 1820 thanks to the city's booming jewellery sector. By 1860, there were seventy-five jewellers in the city that employed 1,750 people. These businesses produced jewellery valued at 2.2 million dollars, which was 22% of the United States' total national jewellery production at the time. The jewellery sector in Providence furthered its innovation when later in the century Thomas H. Lowe, a Birmingham man, arrived in Providence in 1848, and introduced local jewellers to a more effective rolled gold method, which 'used a combination of heat and borax to make gold adhere to an ingot of base metal. This ingot would then be rolled by heavy steel cylinders into sheets of varying thickness' (Carnevali, 2011, p. 307). In the mid-1800s, Providence metalworker E. H. Perry invented a chain-making machine, and a few years later in the 1880s, Providence jewellery producer Levi Burdon invented a new method for making seamless gold-filled wire (Lightfoot, 2019, p. 131). All of these innovations, as well as other new United States-made machines like power presses, automated drops, wire-bending machines, and hydraulic rocking and stamp presses, caused the price of jewellery to lower and enabled unskilled workers to begin to operate the machines (Lightfoot, 2019, p. 131).

It was also during this period of mechanical advancement that the centre of jewellery production shifted from its former location on North Main Street to

an area of downtown Providence. By the 1860s, many firms were moving into already existing factory buildings in the downtown area, which became known as the Jewellery District. This is an area of Providence that is bordered today by Pine, Dorrance, Chestnut, and Eddy Streets, and is where the first multi-storey factory buildings were constructed in the city. These buildings were erected by jewellers and real estate developers for multiple-firm tenancies by the jewellery industry and are still visible in the city centre today (The Jewelry District Association, 2022). Over the second half of the nineteenth century, many major manufacturers moved into the downtown area and the jewellery industry entered a period of tremendous expansion that by 1880 made Providence the country's leading jewellery producer. To put this growth into numbers, in 1875 Providence had 133 firms employing 2,667 workers; by 1905 the number of jewellery workers was almost 8,500, and the worth of the goods these workers produced had nearly reached \$24 million (Meckel, 2004, p. 85). Additionally, existing silver and other metal manufacturers began to join in creating silver and produced some of their own jewellery and ornamental pieces (Figure 3).

When the demand for costume jewellery rose in popular culture in the United States following the First World War, Providence was primed to cater to this market demand. As a result, costume jewellery quickly became the cornerstone of Providence's jewellery industry. By the end of the war, the jewellery manufacturing industry had levelled off in Providence and was developing specific labour practices that made use of changing work patterns, such as the



Figure 3: Gorham Manufacturing Company (American, 1831-present) Pin, c. 1870-1880

Silver

0.6 x 6.9 x 0.8 cm (1/4 x 2 11/16 x 5/16 inches)

Museum Purchase: Bequest of Eliza Taft, by exchange 2003.82 Courtesy of the RISD Museum, Providence, RI.

proliferation of home work; that is, the jobbing out at piecework rates of specific tasks (such as chain linking or stone setting) to individuals who, often with the help of their families, did the work in their homes' (Meckel, 2004, p. 87). In fact, home jewellery work exceeded that of any other industry in Rhode Island by the end of that year. The workforce itself in Providence had transformed as well, with more women becoming involved in the industry. This comes as no surprise, as home jewellery work was considered beneficial to

women by allowing them to remain at home with their children and offering the children a chance to participate in the industry as well (Meckel, 2004). In 1905, women accounted for 35% of the jewellery manufacturing employees in Providence; by 1930, 54%, and by 1980 nearly 70% (Meckel, 2004, p. 86). Unfortunately, these women workers were often paid very poor wages that placed their earnings among the lowest of all in the manufacturing sector.

Although some Providence firms continued to produce finer jewellery pieces made from gold or silver, they increasingly focused on the medium- to low-end segments of the market, i.e. costume jewellery (Gaggio, 2014). Coming into 1920, Providence was a giant in many industries, but several of those industries began to falter during the following decade. For some companies, this falter became a headlong downward spiral during the Great Depression. Industries such as the textile industry began to close down factories and significantly scale back levels of production. However, the popularity of costume jewellery in the United States allowed the Providence jewellery industry to persevere as many other industries began to fail. Like all other industries, jewellery manufacturing in Providence did suffer a bit during the Depression, but by 1939 it had recovered, as it registered only 6% fewer jobs than it had in 1919 (Meckel, 2004, p. 88). This pattern would continue in Providence for the remainder of the century; as other Providence industries continued their decline, the jewellery industry would occasionally dip in productivity but then retain its strength. By the mid-twentieth century, the jewellery industry of Providence was the only Rhode Island industry that remained a leader in the country, substantiated by the fact that ‘in 1947 Rhode Island firms, most of which were located in Providence, were producing forty percent of the nation’s low-cost jewelry’ (Weisberg, 1999, p. 7-8). The jewellery-making industry benefited from the decline of other Rhode Island industries. An expanding pool of employees, many of whom had metalworking skills, was created by the loss

of industrial jobs, and these workers could be used by jewellery companies. The hard times of the Great Depression also encouraged even more wives and daughters to seek work to supplement family incomes. Hence, the jewellery industry now had an even larger supply of employees available to it. Additionally, with the decline of other manufacturing divisions, many industrial workspaces could be rented by jewellery firms for a low cost as a result of the closure of so many other factories and mills (Weisberg, 1999). Although the jewellery industry had periods of prosperity and hardship, the popularity of costume jewellery allowed the jewellery industry of Rhode Island to prevail through much of the twentieth century where others, such as textiles or transportation equipment, had failed.

However, the Providence jewellery industry’s success is not one that lasted forever. Unfortunately, the collapse of the industry came rather abruptly. As recently as 1986, there were still at least nine hundred jewellery firms in the state with around 27,000 workers, and these firms produced 80% of the United States’ costume jewellery (The Jewelry District Association, 2022).

But, at the same time, there was a shift in jewellery manufacturing, as some firms had begun to follow other companies and started moving production to Mexico or China. By the time the 1990s hit, most Providence jewellery manufacturing had moved overseas, and many firms filed for bankruptcy. To this day, some jewellery firms do still operate in the Providence Jewellery District, like Gemcraft on Elmwood Avenue, but the scale of production is nothing compared to what it was at the industry’s height (Yanity, 2017).

THE IMPACT OF COSTUME JEWELLERY ON THE STATE OF RHODE ISLAND

Not only did the jewellery industry employ a large sector of the local Providence population, but the numerous employment opportunities also brought in many immigrant workers. In fact, ‘in the history of Providence, industrial growth and immigration have been inseparable partners’ (Meckel, 2004, p. 83). It is because of this, among other factors, that the Providence jewellery industry is a key component in telling the demographic history of Rhode Island. Since the early days of the industry’s growth, Providence’s costume jewellery industry lent itself to a high proportion of immigrant employment due to the semiskilled nature of much of the work and the low level of capital needed to start a factory or job shop (Meckel, 2004). With the influx of immigrants to the workforce came a dramatic increase in Providence’s population. Following the First World War, the population of Rhode Island increased from 83,000 in 1820 to more than 600,000 in 1920. In Providence alone, the population went from 50,000 in 1860 to 225,000 in 1910 (Gaggio, 2014, p. 284). In 1910, ‘a full third of Rhode Islanders were foreign born and more than two-thirds were of ‘foreign stock’ (meaning that at least one of their parents was born abroad)’ (Gaggio, 2014, p. 284). With an increase in the percentage of specifically Italian-Americans in the jewellery labour force beginning in the 1920s, a strong connection grew between the Italian community and the jewellery industry. This Italian population connection influenced

the geographic and urban makeup of the jewellery district itself. Previously, until the 1920s, Providence jewellery firms had been clustered in an area south of City Hall. In the years following the 1920s, a growing number of jewellery firms relocated to Federal Hill, an Italian community west of the downtown centre (Gaggio, 2014, p. 288-289). Italian involvement in the industry remained strong for many years; from 1935 to 1975, over half of Federal Hill’s Italian men employed in jewellery factories had relatives working in the same factories. Besides Italian men, the jewellery industry also drew in Russian, Portuguese, and Jewish immigrants (Lightfoot, 2019, p. 87).

As is true of many industries at the time, jewellery factories also attracted female immigrants by shaping work hours to fit the needs of women with children. Unfortunately, many immigrants who worked in jewellery factories were faced with a myriad of concerns: job security was always fleeting, union organisation could be exceptionally difficult, and health and safety conditions in the small job shops were abysmal (Lightfoot, 2019). Following the Second World War, immigration to Providence did slow down a bit, and by 1950, ‘three decades of war, depression, and restrictive immigration quotas had transformed the population from one heavily made up of new immigrants and their children to one in which the vast majority of the population had either been born here or had resided here for several decades’ (Meckel, 2004, p. 88). Immigration did continue, however, just at a much slower rate. The success and growth of the jewellery industry in Providence continued to create enticing opportunities for immigrant workers with little experience to start their own businesses or join factories with family members (Meckel, 2004). In the

later years of the twentieth century, the immigrant population changed, and Providence saw new waves of immigrants of Hispanic and Asian descent, who also found work in the jewellery industry. In fact, Providence became a hub for many Vietnam War refugees, and the jewellery industry of the 1980s saw many Vietnamese, Cambodian, and Laotian workers (Center for Southeast Asians, 2014). However, after the 1970s, these new immigrants saw a different industry, one that now thankfully offered better working conditions and sufficient benefits packages (Weisberg, 1999). Until the industry's collapse in the 1990s, jewellery manufacturers continued to draw in immigrant work from various parts of the world.

Shortly prior to the boom in the costume jewellery industry in the United States, the Rhode Island School of Design opened its doors in 1877. The idea behind the college was driven by the desire to support the state's thriving textiles and jewellery industries in particular (*History and Tradition*, 2025). From the beginning of the school's curriculum, classes on jewellery and silverware design have been offered. By 1903, a three-year course offered freehand drawing, modelling, designing, and other metalsmithing tasks such as die cutting, as well as academic lessons on the history of ornament. In 1904, the school officially founded its Jewellery and Metalsmithing Department (Falino, 2024). When the jewellery industry of Providence began rapidly expanding, the Rhode Island School of Design Jewellery and Metalsmithing Department was primed to provide highly skilled workers to many companies such as the largest silver manufacturer at the time, Gorham Manufacturing Company (Falino, 2024).

In fact, RISD's continual growth, particularly in the Jewellery and Metalsmithing Department, appears to correlate with the constant demands for more Rhode Island jewellery workers in the twentieth century, fuelled by the national popularity of costume jewellery beginning after the First World War (*Formal Opening of the Jewelry Building*, 1921). This is substantiated by RISD's enrolment numbers nearly tripling from 1931 to 1965, and the opening of several new buildings on the campus, including the Helen Metcalf Building on College Street in 1936, which today serves as the studio space for the Jewellery and Metalsmithing Department (*History and Tradition*, 2025). Today, the Rhode Island School of Design remains one of the top design schools in the United States, with its Jewellery and Metalsmithing Department being ranked as one of its top features. The success of RISD as a design school has been crucial to the development of Rhode Island as a state, particularly its economy and cultural preservation. As recently as 2019, RISD contributed \$112 million to the city of Providence. 'This figure includes direct institutional spending, student spending, institutional payments to the city and RISD's estimated share of the state's payment-in-lieu-of-taxes (PILOT) to the city' (*RISD's Economic Impact on Providence*, 2020). The RISD Museum, founded in 1877 as well, has been safeguarding Rhode Island's historical artefacts, art, and cultural heritage, helping the state preserve its unique history while fostering community pride (*History and Tradition*, 2025).

The state of Rhode Island itself would not be where it is today demographically, culturally, economically, and geographically without the Providence jewellery industry. The jewellery industry drew in immigrants with experience in all levels of jewellery production

and promised a sustainable career in the United States. As the jewellery industry grew, so did the city of Providence, and the geography of the city developed around the industry. Providence districts such as the Jewellery District, the Italian District on Federal Hill, and other areas would not appear as they do today without the jewellery industry. Even as other industries in Rhode Island began to collapse in the mid-1900s, the jewellery industry remained strong and was able to offer employment to those who lost their jobs, which assisted in keeping the economy of Rhode Island afloat in times of hardship. The establishment of the Rhode Island School of Design as a means to support Providence's blossoming jewellery industry led to the state becoming a home to one of the top design schools in the country. Without Providence jewellery, the state of Rhode Island would look very different in the present, and therefore the Providence jewellery industry deserves significant acknowledgement for its contributions to the state.

CONCLUSION

In recognising the evolution in demand for costume jewellery in particular in the United States, we also see how its nationwide popularity is crucial to the history of the state of Rhode Island. At the end of the First World War, the demand for costume jewellery was high due to factors such as the increased autonomy of women, the alluring glamour of Hollywood, and the presence of a recession. The rapid rise in consumers seeking costume jewellery during the twentieth century enabled a city like Providence, which had been a leader in manufacturing for many years already, to capitalise on its established industrial resources and trained labour force, allowing for the mass production of costume jewellery. The jewellery industry began to dominate Rhode Island, even more so as other industries fell during the Great Depression. The domination and success of Providence's jewellery industry greatly affected the state of Rhode Island, from driving up Rhode Island's immigration numbers to being a contributing factor in the opening of the Rhode Island School of Design. Without the widespread demand for costume jewellery, Rhode Island would not have developed into the state it is today. Providence's jewellery industry shaped Rhode Island across several dimensions, in ways that are integral to its history and identity. Ultimately, without costume jewellery and its allure to the American people, Rhode Island's present cultural fabric would not exist today.

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Growing Jewellery Goldsmithing with Mycelium

Author: *Simone van den Broek*

Growing Jewellery Goldsmithing with Mycelium

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Mycelium jewellery, images courtesy of author.

Abstract

Jewellery has long held anthropological significance, serving as a medium for personal expression, commemoration, connection, status, cultural identity, and beauty. It brings together diverse techniques and materials from around the world, merging them into unique, wearable artefacts. Mycelium, the root network of fungi, is an excellent material for product design due to its versatility, sustainability, and unique properties. It is renewable, bio-based, and can be moulded into various shapes. Beyond its physical properties, mycelium also fosters a sense of connection to nature, with associated mental and physical benefits. This paper explores whether growing mycelium can be incorporated as a technique within jewellery design. Two approaches were explored: (1) cultivating mycelium into stable forms that can be set like gemstones in precious metal, and (2) growing mycelium directly onto jewellery pieces. Throughout the process, challenges such as dehydration and contamination emerged, prompting iterative experimentation to develop practical solutions. The study results in a gallery of completed jewellery pieces incorporating mycelium, accompanied by a discussion of their potential social and cultural significance. These findings highlight the creative and conceptual opportunities that arise when goldsmithing is combined with living materials, and demonstrate the potential for mycelium to shape new directions in jewellery design.

Keywords: *Bio-design; Mycelium; Mixed-media, Goldsmithing*

Introduction

Mycelium, the root network of fungi, is an excellent material for product design due to its versatility, sustainability, and unique properties. It is renewable, bio-based, and can be moulded into various shapes. More and more designers have begun to recognise, appreciate and explore mycelium's unique and sustainable properties to make novel bio-designs. Each application of mycelium comes with its own methods and techniques to optimise the desired material qualities. Mycelium can be used in fashion as a replacement for leather (Amobonye et al., 2023), in furniture and architecture as thermal and acoustic insulation (Al-Qahtani et al., 2023), in the packaging industry as a recyclable alternative to plastics (Vandelook et al., 2021) and enables people to foster a connection with nature, which can lead to both physical and mental health benefits (van den Broek et al.).

However, current societal perceptions of fungi do not always carry a positive connotation (Bonenberg et al., 2023). Previous research shows that allowing people to closely interact with mycelium fosters a positive attitude towards the material and its potential applications (van den Broek et al.). Jewellery is worn on the human body; the wearer directly interacts with the artefact, and it becomes part of the wearer's visual identity (Unger, Marjan & Smeets, 2019). Combining jewellery with mycelium creates an artefact that fosters close interaction and introduces people to mycelium in a novel way.



FIGURE 2 Goldsmithing tools on top of a Mycelium Bio-Composite circle. Image courtesy of author.

For this artefact to become a reality, we need to know how mycelium can be applied within jewellery design, specifically gold smithing. Current research publications do not provide insight into this matter. To bridge this gap, this pictorial explores two mycelium growing methods to enable the inclusion of mycelium within handmade jewellery designs made of silver. The first method explores how mycelium can be grown into a stable shape that can be set as is traditionally done with gemstones. The second method explores how mycelium can be grown directly onto a jewellery design made of precious metal.



FIGURE 1 Mycelium. Image courtesy of author.

Related work

NATURE IN JEWELLERY

Humans have an innate desire to seek connections with nature (Kellert & Wilson, 1995). Throughout history nature has been a great inspiration for art and design. For instance, flowers have long been replicated in jewellery design and are used to convey specific meanings across cultures. (Gänsicke & Markowitz, 2019, p. 15). Designers have also explored incorporating real flowers into jewellery by drying the flower and encapsulating it by resin to preserve it. In 2006 Elliat Rich took it a step further with her Mycelium Pendant: a silver pendant that can hold a piece of living moulding bread (Elliat Rich, 2006). In her own words 'this pendant reinterprets the process of decay as one of beauty and allows for a fresh look at the magic at the back of your fridge and in the living air you breathe.' Silver Beehive Studio has experimented with mycelium in the context of jewellery, growing large mycelium forms envisioned as wearable pendants; however, these were not incorporated into jewellery pieces using goldsmithing techniques (Silver Beehive Studio, 2022). Design fiction artists have also been speculating different futures for incorporating organisms into jewellery to utilise these organisms and challenge our current perception of them (Myers & Antonelli, 2018, pp. 182, 185–7, 222). Finding a way to combine mycelium growing techniques with jewellery design might be the next evolution of nature in jewellery design and make part of design fiction a reality.

GROWING MYCELIUM

To incorporate mycelium into jewellery, techniques from both goldsmithing and bio-design need to be combined. Whereas goldsmithing typically occurs in ateliers that are often filled with particles from sawing, filing, sanding, and polishing, mycelium development usually takes place in sterile bio-labs (figure 3).

Mycelium can be used in conjunction with a bio-based substrate that serves as nutrition and a growing base for the fungus, this substrate is most often derived from recycled waste streams (Jones et al., 2017). This practice aligns well with the discipline of goldsmithing, where recycling has always been the norm (Unger, 2019, p. 6). Specific combinations of substrate and mycelium lead to Mycelium Bio-Composites (MBC), each with their own unique properties.

As a starting point for this study, a widely used MBC growing process (Elsacker et al., 2020) that utilizes the mycelium strand *Ganoderma resinaceum* was followed. Figure 4 illustrates the development process of the MBC and highlights its circularity. The first iteration employed this development process, while later iterations progressively adjusted the process to improve the growth of mycelium within jewellery designs (figure 6).

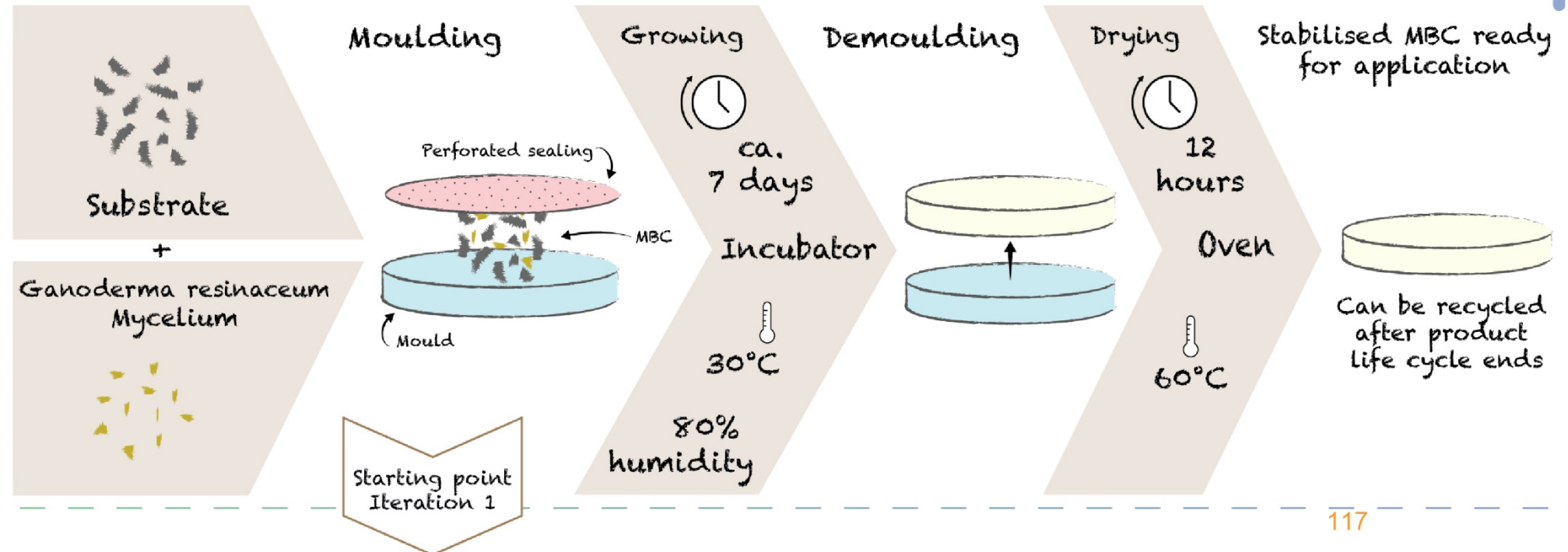


FIGURE 3 A: Bio-lab outside, B: Autoclave, C: Incubator, D: Oven, E: Flow cabinet. Images courtesy of author.

Development process of MBC:

- A bio-based waste stream enters the cycle as a substrate.
- The substrate is sterilised in an autoclave at 121°C for 27 minutes.
- Living mycelium is combined with the substrate, forming MBC.
- The MBC mixture is placed in a mould to achieve the desired shape.
- MBC is placed in an incubator at 30°C and 80% humidity to grow.
- Once the mould is filled with the desired amount of mycelium, the shape is demoulded and placed in an oven to dry. Drying renders the mycelium dormant and stops any further growth.
- The result is an MBC material with stable properties.
- When the MBC material is no longer needed, it can be composted and re-enter the cycle.

Figure 4 Visual representation of the Mycelium Bio-Composite development process, image courtesy of author.



Methodology

To explore how designing with mycelium can be integrated into goldsmithing, two methods were investigated (figure 5). The first method explores how mycelium can be grown into mycelium shapes that can be processed as gems within goldsmithing. The second method explores how a precious metal design can be used as framework for mycelium to grow on or in.

This was done by following the Research Through Design (RtD) (Godin & Zahedi, 2014) methodology. RtD utilises an iterative design process to research a hypothesis or research question. Within RtD one formulates a starting point for exploration. During the exploration, the designer reflects on the process and determines small iterative steps that might improve the outcome of the design process or provide new insights.

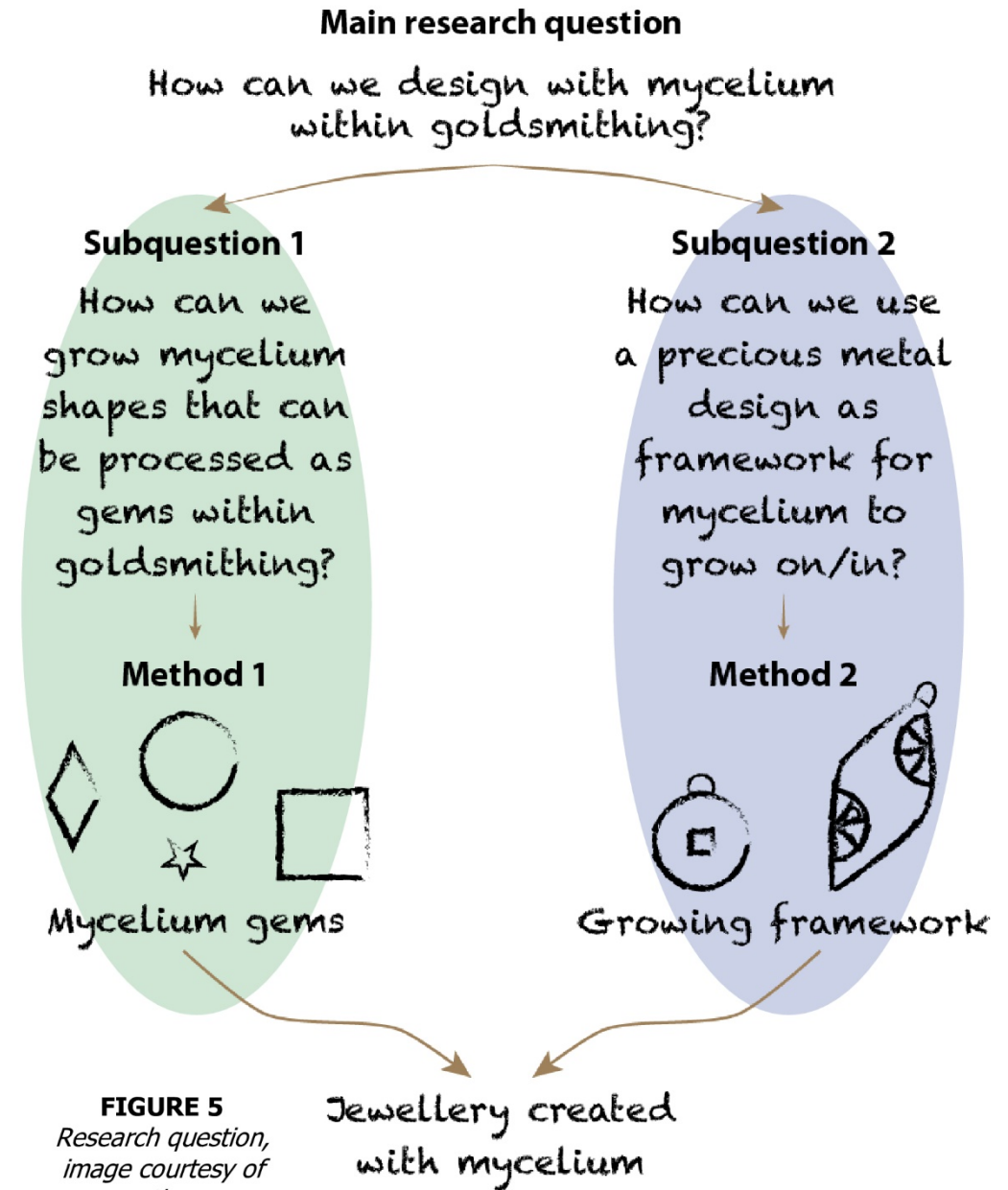
To explore how mycelium can be combined with goldsmithing, the standard procedure for growing MBC, as described in figure 4, was initially followed and then iteratively modified to improve the characteristics of the MBC. The desired MBC characteristics promote a stable, durable and aesthetic material.

Desired MBC characteristics:

- Even white layer of mycelium skin (durability and aesthetics)
- No loose substrate (durability and aesthetics)
- No contaminations (stability and aesthetics)

Results

The following section presents the insights that informed the iterative RtD process. Iterations 1 and 2 explore the possibility of growing mycelium gems and iterations 3 and 4 investigate how mycelium can be grown on a framework. The results conclude in a gallery of mycelium jewellery pieces that are made following the developed method.



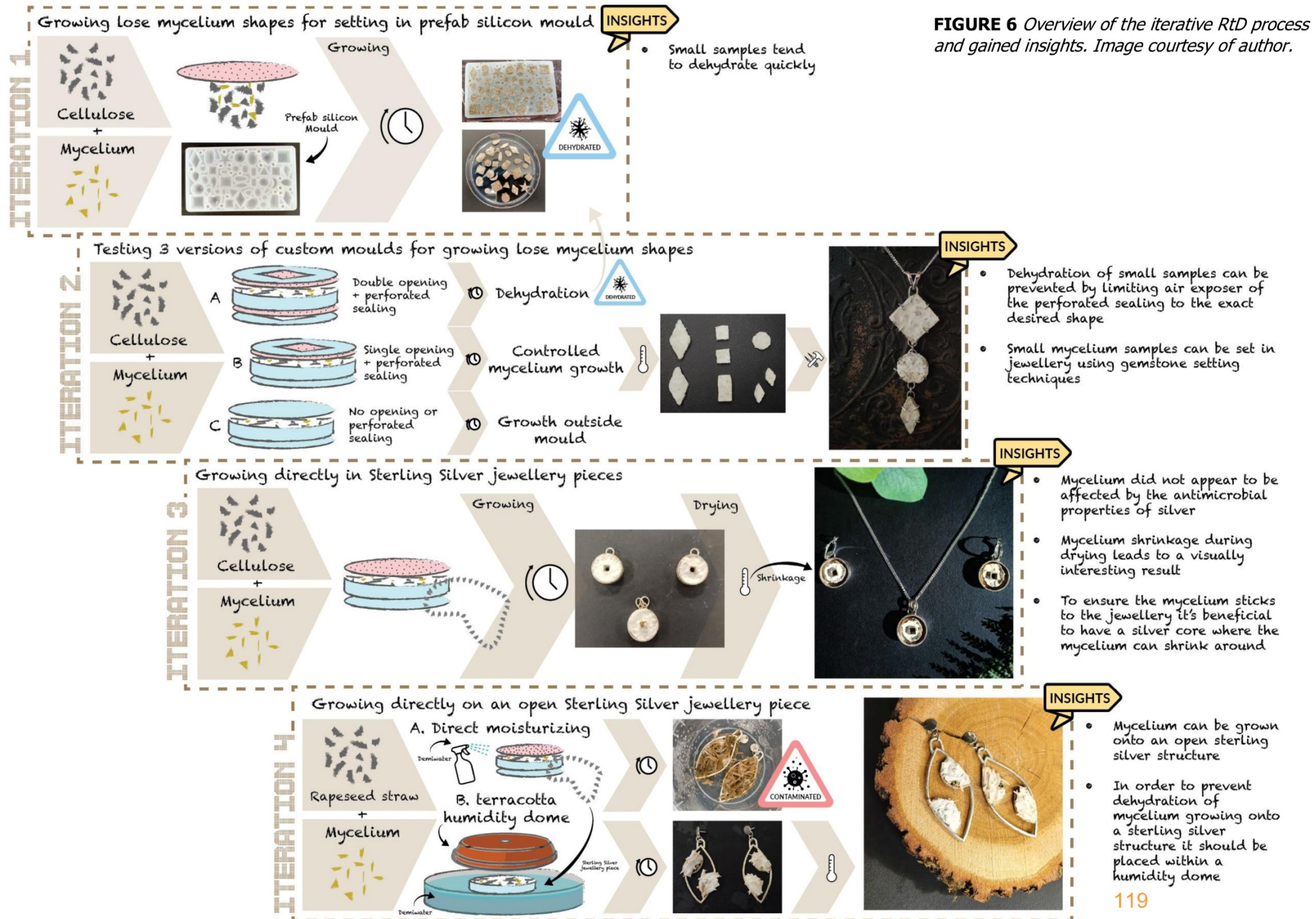


FIGURE 6 Overview of the iterative RtD process and gained insights. Image courtesy of author.

ITERATION 1

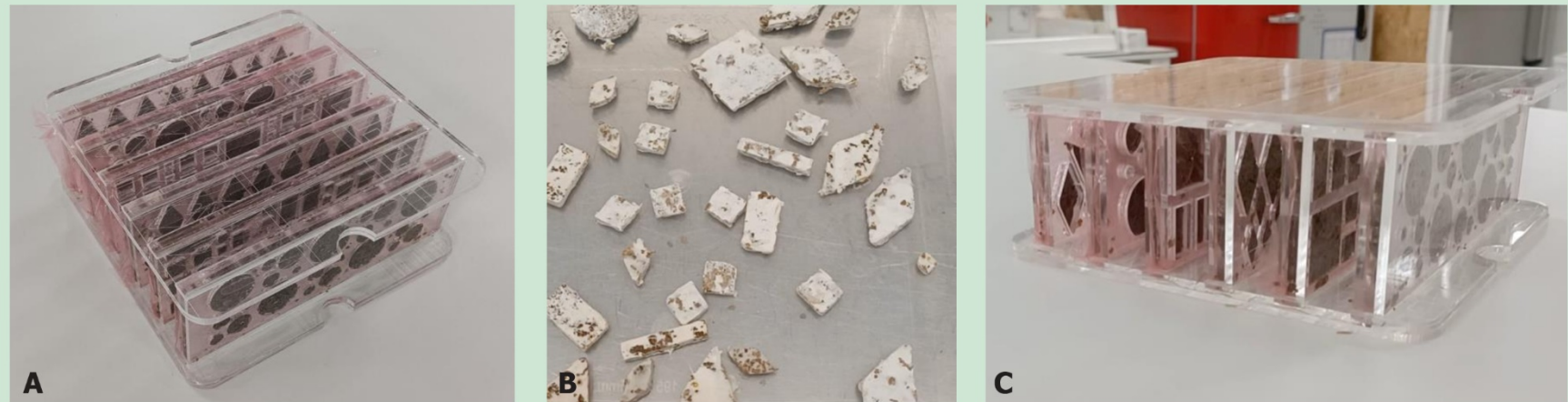
Iteration 1 based the development of the MBC on a widely used method for growing mycelium (figure 4). Pre-made moulds with a variety of shapes were purchased and used to shape the mycelium (figure 7). These moulds are typically used for epoxy or baking and are made of silicone or hard plastic. During the process the mycelium did not grow as much as expected. It is suspected that the shapes dried out too quickly due to their small size. Current applications of MBC generally feature larger designs than those attempted in this study. This hypothesis was tested in Iteration 2.

Figure 7
Mycelium growing in Pre-made moulds. Images courtesy of author.



FIGURE 9

FIGURE 8 A & C: Custom mould for growing B: loose mycelium shapes for setting. Images courtesy of author.



ITERATION 2

In Iteration 1, it appeared that the shapes dried out too quickly due to their small size. To test this hypothesis, custom moulds were designed (figure 8A, 8C). In this setup, (A) two rows were covered on both sides with perforated sealing; (B) two rows were covered on one side with perforated sealing and closed on the other; and (C) two rows were closed on both sides. This was done to test which rows would grow the best. Furthermore, this mould could grow more shapes in less space, and multiple moulds could be stacked in the incubator, providing increased growing capacities.

Setup B stimulated the most mycelium growth. Setup A resulted in completely dried-up shapes with no mycelium growth. In setup C, the mycelium grew outside of the mould. Demoulding the shapes and placing them into a growing box improve mycelium slightly. These loose mycelium shapes were set into a necklace using claw settings (figure 9).

Sterling silver necklace with mycelium shapes set in a claw setting, image courtesy of author.



FIGURE 10 Sterling silver necklace and earring design that provided a mould-like structure for the MBC to be placed in. Image courtesy of author.

ITERATION 3

For Iteration 3, a sterling silver necklace and earring design were created. They provided a mould-like structure for the MBC to be placed in (Figure 10). The filled designs were directly placed in a small growing box, then left to grow for one week in the incubator (figure 11). The growth of the mycelium in this design was surprisingly successful. The mycelium did not appear to be affected by the antimicrobial properties of silver. After one week, a nice thick layer of mycelium had formed (figure 12). After drying the designs in the oven, the mycelium had shrunk but retained its attractive white colour (figure 13, 14).



FIGURE 12 Sterling silver necklace and earring design filled with mycelium after one week of growing. Image courtesy of author.

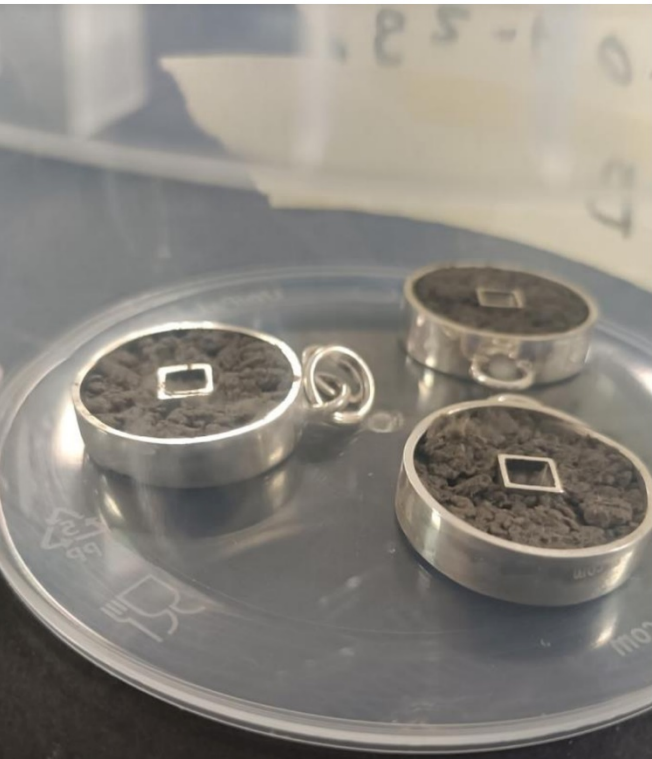


FIGURE 11 Sterling silver necklace and earring design filled with MBC. Image courtesy of author.



FIGURE 13 Sterling silver necklace and earring design filled with mycelium after drying. Studio picture. Image courtesy of author.



FIGURE 14 Sterling silver necklace and earring design filled with mycelium after drying. Lab picture. Image courtesy of author.

ITERATION 4

For Iteration 4, earrings that provided a frame for the mycelium to grow on were created (figure 17). The design was placed in a small growing box, but due to its structure, it was not possible to cover it with perforated sealing. To counteract dehydration, the design was sprayed with demineralised water. However, after one week, there was no mycelium growth, and green contamination was visible. Possibly spraying the sample made it too moist and either introduced or provided favourable growing conditions for contamination.

This led to a brainstorm about alternative ways to counteract dehydration. Storage made of porous clay has been used to keep produce fresh and moisturized through the principle of evaporative cooling. Evaporative cooling is a natural process in which heat is absorbed from the environment as water evaporates from a surface, resulting in a drop in temperature and an increase in humidity (Basediya et al., 2011). Unglazed terracotta is a porous ceramic that can be used for evaporative cooling (Windnigda et al., 2025). Could this function of terracotta be utilised for growing mycelium? A setup was developed in which the grow box was filled with 1 cm of demineralised water. The jewellery design with MBC was placed on a Petri dish, which floated on this water. A terracotta dome was placed over the Petri dish, absorbing water and enclosing the design with moisture. After placing the design in this setup mycelium would grow but the sample would keep getting contaminated (figure X), preventing the mycelium from growing evenly.

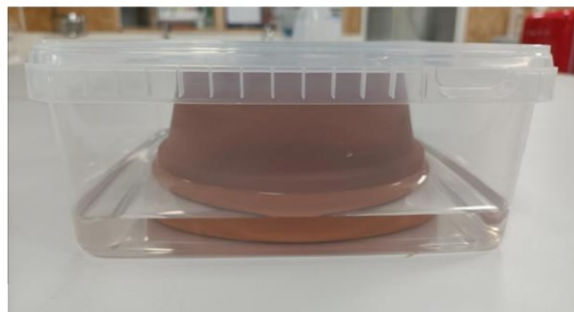
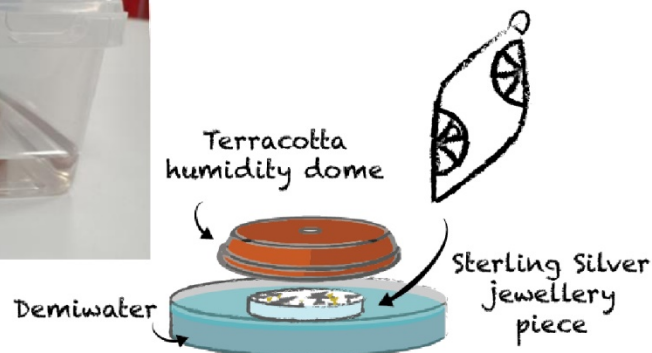


FIGURE 15 Terracotta humidity dome setup. Image courtesy of author.



Contamination can have multiple causes. One possibility was that the inoculate used was contaminated and thus contaminated anything it was used for. This hypothesis was tested by making two completely new and fresh inoculated samples. Using these new samples still caused contamination, confirming this was not the cause. Another potential cause was that the materials used were not sufficiently sterilised. Objects can be sterilised in the autoclave or with alcohol (Isopropanol). Cleaning the terracotta with alcohol proved difficult, because of this the possibility of autoclaving the terracotta without damaging either the autoclave or the terracotta itself was explored. This test was successful, and after autoclaving the terracotta dome, growing box, all utensils, and silver jewellery no more contamination took place (figure 16).



FIGURE 16 Sterilisation methods. Image courtesy of author.



FIGURE 17 Sterling silver earrings that provided a frame for the mycelium to grow on. Image courtesy of author.

GALLERY

Jewellery created with mycelium



EXTERNAL DESIGNER

To explore what a designer who does not have experience with mycelium would design, goldsmith Almar Middle was invited to develop a jewellery design that integrates mycelium. The pieces he designed (Figure x), aim to express trust that humankind will be capable of dealing with ecological and societal challenges by balancing technology and nature in a sustainable way.



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EXHIBITION

To explore how people would react to mycelium jewellery a necklace that incorporates mycelium was exhibited at the national silver day in Schoonhoven the Netherlands. The design of the necklace symbolises the delicate balance that fungi maintain in our ecosystem. Visitors were intrigued by the material combination and the fact that necklace incorporated fungi in a wearable and aesthetic way.



Mycelium Jewellery in Context

This paragraph discusses and hypothesises the social and cultural relevance of mycelium jewellery, highlights the study's limitations, and proposes directions for further research.

MYCELIUM JEWELLERY A REFLECTION OF OUR TIME

Throughout history, jewellery has served as a reflection of the time in which it was made, both conceptually and in terms of the materials and technologies used. This phenomenon is wonderfully exemplified by "Fer de Berlin": cast-iron jewellery from the early nineteenth century. These pieces combine a then-modern production technique and material with a political statement. To finance the Napoleonic Wars, people were asked to hand in their gold jewellery. In its place, they began wearing cast iron jewellery as evidence of their patriotism (Unger & van Leeuwen, 2017, pp. 399-401).

One of the most pressing global challenges today is the climate crisis and keeping the delicate balance between humans and nature (United Nations, 2024). If jewellery is to reflect its era, mycelium jewellery symbolises the ongoing search for sustainable practices, the challenges of co-existing with nature, and the reinvention of traditional craft through collaboration with living organisms. Wearing a mycelium jewellery piece could serve as a statement of personal values. It could reflect the wearer's commitment to bio-based innovation and sustainability. Such pieces may become symbols of shared ideals among like-minded individuals or conversation starters that raise awareness about the potential of mycelium.

IN LOVING MEMORY

Jewellery can provide a powerful connection to those who we have loved and lost. For example, in the 19th century hair jewellery, jewellery with a lock of hair from a loved one or deceased person incorporated into the design, was popular (Unger, 2019, pp. 144–146). Currently there are multiple mycelium based funeral products on the market. One can, for instance, choose to be buried in a coffin or urn made of mycelium (Loop Biotech. 2024). We could hypothesise that it is possible to take a piece of mycelium from a specific coffin or urn and incorporate it into a jewellery design using one of the methods that are explored in this study. This would provide a novel way of creating memorial jewellery.

LIMITATIONS AND FURTHER RESEARCH

This study marks an initial exploration into the potential of mycelium in goldsmithing. Due to time constraints, findings are limited to four iterations and a collection of designs. Given more time, further research could examine the feasibility of growing mycelium jewellery in diverse contexts, particularly outside a formal bio-lab. This with the aim to investigate what adaptations are necessary for independent designers to cultivate mycelium within their own practice.

It is hoped that this work will inspire others to experiment with mycelium in jewellery design, pushing the boundaries of what is possible with this fascinating material.



FIGURE 18 *Exhibition of mycelium jewellery at Dutch Design Week 2025. Image courtesy of author.*

Conclusion

This study demonstrates the potential of integrating mycelium into jewellery design, particularly within the context of goldsmithing. It explored both the challenges and opportunities presented by using Mycelium Bio-Composites (MBC) as a material. The research focused on two primary methods 1) growing mycelium shapes to be set into precious metals, and 2) directly growing mycelium onto jewellery designs.

During the exploration of designing with mycelium within goldsmithing, several challenges emerged, which were addressed through iterative refinement of the process. The main issues included untimely dehydration and contamination.

To prevent dehydration, custom moulds were developed for growing shapes (Iteration 2) and a setup featuring a growing box and terracotta dome was developed for cultivating mycelium directly onto the jewellery design (Iteration 4).

To counteract the contamination of samples it was discovered that it is possible to autoclave the plastic grow box, silver jewellery and terracotta (without impacting the material). From the moment that all materials were autoclaved instead of only disinfected with alcohol no more contamination took place.

Designing with mycelium within goldsmithing will be a never-ending exploration. The many factors that can influence the growing process become an integral part of the design process and remind the designer of the fact that they are working with a live organism. The unpredictable, organic nature of mycelium growth invites a new kind of craftsmanship—one where the designer collaborates with a living material, embracing variability as an aesthetic and conceptual strength. As often is the case with handmade jewellery no piece will be exactly the same and the mycelium adds to this dimension.

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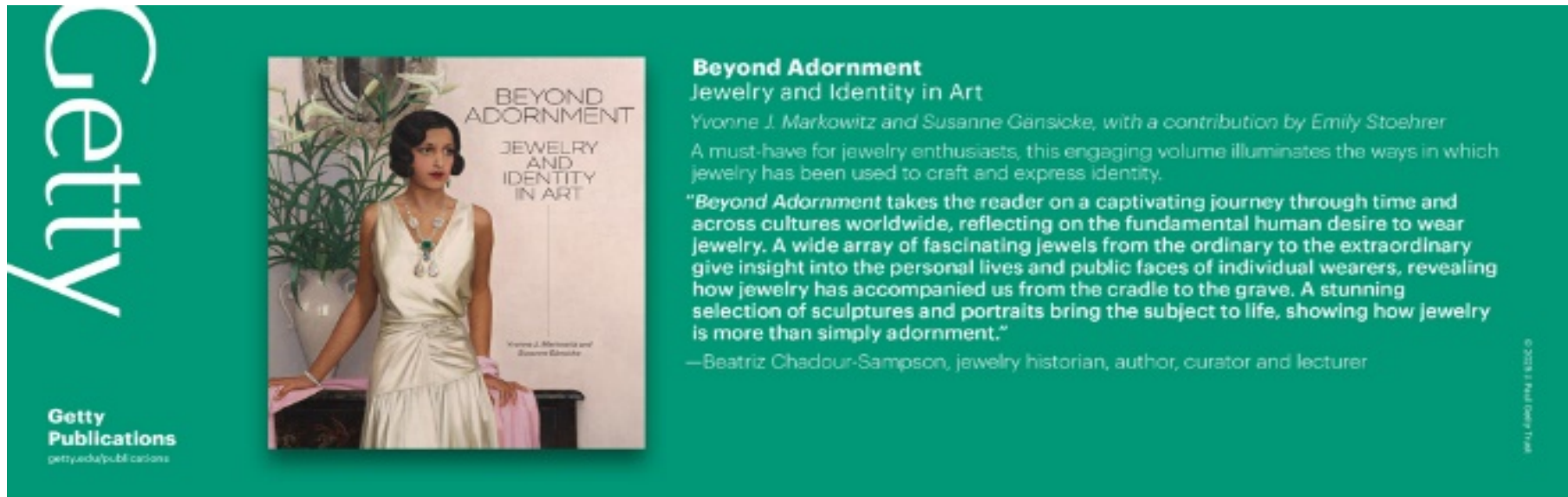


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