



AMY PEACE BUZZARD, 2016. *Prior Engagement*,
Weighted and Stuffed Cotton Chain with Embroidered Detail.
Photo: Artist own image.

It is with great pleasure that we publish the 3rd Volume of the *Journal of Jewellery Research*. We are excited to be building a leading international online and open access platform for articles exploring jewellery research. We hope that the journal will continue its expansion and become a 'go to' reference for the field. So far this has been achieved thanks to the stimulating and thought-provoking work submitted by authors; naturally aided by the formidable support of our Advisory Board, a network of international reviewers from all aspects of the jewellery field and other collaborators. The editorial team has had the exciting task of selecting the best papers and highlighting the most recent advances in jewellery studies; all with the ultimate aim of increasing and advancing knowledge in the field of jewellery.

The last two editions have comprised a volume with 5 articles. This structure will continue this year, but is also accompanied by a new feature: *Exhibition Review*. This new addition aims to provide an opportunity for readers to gain insights into exhibitions that feature specific research approaches with particular significance to the field for curatorial innovations. Our first featured review is written by Mike Holmes director of Velvet da Vinci Gallery in San Francisco. It was first published as a small run of printed catalogues supporting the FERROCity exhibition at the Academy of International Visual Arts in Shanghai, October 2019 - a travelling exhibition, co-curated by Professor Stephen Bottomley and visiting Professor Elizabeth Turrell (Birmingham Institute Jewellery, Fashion and Textiles, Birmingham City University). The exhibition provided an interesting variety of interpretations on the theme of 'Iron' including Bettina Dittlmann's work on the discourse of explorative statements about this material. Her 'Black Ephemeral

Flower' brooch is a highly interactive piece that can be transformed and rebuilt by the wearer or viewer through the movement and removal of a magnet. Its petals are composed of recycled iron particles, held in place magnetically. Removing or replacing the magnet causes the petals to fall or the flower to be recreated. A number of fine artists have investigated the use of this raw material, such as Untitled 1994 by Mona Hatoum, a spheroid shape of 31-inch diameter with a grooved surface, which resembled a brain-like cnidarian coral of welded steel and iron filings held together by magnets. But it is only with a piece of jewellery that these explorations are extended to the corporal, with the wearer given power over destruction and reconstruction.

Looking across the papers published in this volume Aya Bentur's work, which is focused on the physicality, solidity and humanness of gesture, struck a particular chord for us. She is raising the significance of the gesture through her work, seeing it as both an object in its own right and an illumination of the habitual space in between jewellery and the body – a place where an intuitive form of "emotional choreography", as she puts it, is at play. Bentur has developed innovative methods to explore, understand and give reverence to gesture and her paper made us think of the work of Pia Kontos and the theoretical notion of embodied selfhood (Kontos 2005). Kontos' work in philosophy of dementia care emphasises the importance of the powers, senses, and sociocultural character of the body for self-expression, interdependence, and relationality. One passage she recalls from her ethnographic work years ago in a residential care environment has always spoken volumes – she noticed a woman, who had profound dementia at the time, reaching, each meal time, under the bib

that had been placed on her to pull out the string of pearls that she liked to wear and place them on top of the bib, in view of others. Kontos used this gesture to articulate to medical and care disciplines how the body continues to communicate self for us even when cognitive ability cannot. It also never escaped our attention that jewellery was involved in this observation of the power of gesture for Kontos. She noticed other examples of people's gestures such as the removal of a hat on entering the dining hall, or the fiddling with a scarf, but she repeatedly returned to the example of the string of pearls in numerous talks, interviews and articles. It is always cheering when other disciplines (even inadvertently) see jewellery for its intense humanness and for the powers and particularities that it possesses. Bentur and Kontos both share an acute, fundamental observation that our bodies and the gestures we make reveal and affirm characteristics of who we are.

Another intriguing study on somatic experience is presented by Amy Peace Buzzard. 'But I can't take it off' provides an opportunity to gain a deeper understanding of somatic experiences from a maker's perspective, in conjunction with analysis of the social aspects to the physical things we interact with through our non-verbal communication to the inner and outside world. It is this narrative attached to objects that Peace Buzzard has considered during participatory projects which explore how somatic and social connotations contribute to emotionally invested objects. Additionally, the somatic experience is further explored through psychoanalyst Didier Anzieu's concept of 'inscribing surface', whereby our skin is conceived as a primary means of communication with others.

Picking up on the thread within Bentur's paper that there is a significance to what jewellery can inadvertently tell us about a person Maria MacLennan presents the interdisciplinary proposition of 'Forensic Jewellery'. MacLennan details the symbiotic relationship between the fields of jewellery and forensic science drawing on examples from literature and practice to make her case. Through the lens that she presents onto forensic identification of postmortem bodies MacLennan reveals how jewellery can function as clues to a number of aspects of the experiences and identity of a person. Her description of forensic processes and categorisations offer us a fresh, valuable and uncommon facet of the worth and exactitudes of jewellery as objects that are commonly situated intimately on the body. It is, again, also interesting to consider the field of jewellery in relation to another strand of scientific enquiry and that as MacLennan puts it practices around jewellery are a "significantly more ancient tool in the communication and interpretation of identity than its younger sibling, science". Her paper also makes an interesting case for the potential for those in our field to see relevance in their skills and knowledge for other disciplines and new possible framings for our discipline in relation to others, which always seems to be a healthy thing.

Disciplinary overlap is also a driver in Maarten Versteeg et al's paper, focused on the intersection of fashion, jewellery and wearable technology. In striving to contribute to the lexicon around these forms of artefact and specifically where they intersect Versteeg unpacks the three contexts in relation to object, theoretical understandings and lay uses. Nuanced accounts of each intersection subfield (digital jewellery, soft wearables and fashion jewellery) provides a useful tentative schematic

overview which is intended to open up discussion around these new forms of object and disciplinary opportunity. There is an honesty and self-critique in the paper that is refreshing and the discussion argues both the value of attempting to develop an analytic lexicon around these emergent forms of practice and object and also what can be gained by taking a holistic view.

Kathleen Kennedy's paper proposes an interesting and rarely considered perspective: ecology and climate change and their respective impacts upon jewellery. In this study, Kennedy investigates the use of coque de perle (later called Osmeña Pearl) in jewellery. She draws a path along centuries to trace back when the coque de perle was manufactured through its peak and decline. This journey provides insights into the etymology of the term, its transformation into Osmeña Pearl and explanations about the material itself. Crucially, the ecological impact of jewellery design is discussed in this paper. Although not necessarily a new perspective in jewellery, Kennedy's paper reminds us of the importance of ecological consequences and how ethical awareness may foster more meaningful design.

Before concluding, we have several people to thank. In addition to the ongoing and incredible support from our Advisory Board and regular team of international reviewers we acknowledge the greatly valued efforts and support of Professor Sandra Wilson (Dundee University) in serving as Co-Editor for Volumes 1 and 2. Grateful thanks go to Dr Ellen Maurer Zilioli for her services as Advisor for Volumes 1 and 2. As well as Dr Emily Stoehrer, Rita J. Kaplan and Susan B. Kaplan Curator of Jewelry at Museum of Fine Arts, Boston and Mr Bob Wood from Wolfson School, Loughborough University,

for their contributions to reviews for Volume 3.

We thank Federica Sala and Yueyang Sun for disseminating calls for the subsequent Volume 4 call in international online platforms and G-Bernabei Design and Digisin for graphic design and web management support. In the upcoming years, we face the challenging yet exciting task of strengthening the Journal's reputation by striving to achieve new heights of excellence. We do hope you will join us, submit papers to the journal and let us know of additional features you would like to see - enjoy reading Volume 3 and thank you for your support.

Roberta Bernabei and Jayne Wallace.

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Jewellery: Creating a Practice of Meaning through Gesture

Author: *Aya Bentur*



ABSTRACT

The following paper investigates the relationship between space, object and body, through jewellery. In this relationship, a connection is manifested through various forms of gesture, from making to wearing, personalising, appropriating and re-appropriating. Simple, almost intuitive gestures such as turning a ring around the finger or placing the palm of the hand on the base of the neck where a pendant is located, carry personal meaning. These gestures are, on the one hand, directed by objects, as they generate movement, define behaviour and involve interaction, and on the other, act as mediators between body and space. Although most objects are designed with a pre-defined use, they can create an unexpected and subjective appropriation, creating an emotional choreography which interweaves the material and immaterial.

The body is often used as a pragmatic tool to direct the design process, usually to create functional ergonomic solutions that can be mass-produced. In this paper, the body is conceived as an instrument of subjectivity within the framework of physical and social space. Seen in this way an emotional function is just as valid in the various design disciplines, particularly in jewellery. The generated gestures of the body in their emotional capacity become tools to direct the design process.

This article will examine the choreography generated by use, instead of the object in itself. This shift in perspective from function and use, to practice (defined as the actual application of an idea learned by a repeated performance), investigates a possible emotional function between object and self. Thus, this paper questions the role of both objects and gestures, seeing objects as generators of gestures, gestures as defining objects and also gestures as objects.

A key question here is - can jewellery direct physical gestures and in so doing participate in an emotionally subjective function?

INTRODUCTION

The body is explored as a site in-flux in which an object and the self transform each other in an ongoing ritual of defining and redefining relationships, meanings and values. The negotiation taking place on the body extends to the space around it. We learn about space with our bodies, adapting old rituals to new settings, using intuitive body memory to create small pockets of familiarity. We accumulate actions, gestures and rituals that provide familiarity and kinship with our surroundings, often these rituals revolve around objects. The objects we possess, use and wear generate a personal choreography.

The following paper explores the importance of generating gestures as a personal practice, enabling this as designers and using gesture-thinking as a design methodology. In order to do so, the paper will look at the role of the body in influencing individuality and belonging. The first section will discuss the physicality of culture, as in the dominant framework created by the spaces that surround us, and the importance of having the ability to influence our surroundings as a way to create a sense of belonging. The second section will focus on daily life as a meeting point between culture and individuality, beginning with gestures embedded in body memory and continuing with gestures as self-expression. The third will address culture and individuality embedded in objects and our relationship with them. Finally, the design methodology proposed

here will present gestures as a means of incorporating subjectivity, appropriation and self-expression in design.

METHODS

This paper is part of ongoing research, each research iteration delving into a different aspect of gestures in design. The research methodology is qualitative and interpretive in nature, it is a design-based investigation exploring the overlapping subjects of design, body, and subjectivity, supported by publications from the fields of anthropology, sociology and the arts. The research is comprised of a collection of gestures and their reading, documented in video format. As practice-based research, the research relies on observations as well as self-practice of the gestures, and in a later stage, designing through and for specific gestures. Examples from the research are interwoven throughout the paper alongside screenshots from the videos.

A. Collecting Gestures

The participants of this research were mostly students, between the ages of 20 to 30, from diverse countries, all immigrants by choice, living away from their home country for the time of their studies. The participants were asked to share an everyday gesture or ritual they practice and what it means to them, specific rituals that pertain to a relationship with a place or the concept of home. Often the participants required a few moments to reflect on what those gestures were, and to identify meaning in actions, done in some cases, almost intuitively. During the conversation additional layers were discovered, the meaning of the gesture became clearer and stronger. In most cases, at the end of the conversation, I found that a gesture was added to the research database, and in turn, the participants gained attentiveness to the significance the

small action held for them. Since the intention was to explore physical actions and their emotional impact while making them, the method included documenting the participants while practising their gesture or ritual, as well as re-enacting said gestures myself. This was done to better understand the movement not as a spectator (referring to gestures as a form of communication) but in a personal-physical, embodied manner. In order to deepen the exploration, in some cases, the gestures were detached from the objects triggering the movement. Performing the gesture without the related object permitted me to direct the focus to the gesture itself and further examine if the gesture could hold meaning without the triggering objects or spaces. Here are a few examples of the collected gestures and their emotional significance according to the participant:

- Creating a fold on the top of a sock - seen as a personal and private way to break a prescribed order, seen as an act of gaining control, of preparation.
- A cafe where the customers have their own cup - belonging is asserted through a connection to an object, performing the act of ownership over an object within a place implies a connection to the place itself.
- Touching four walls when entering a new and unfamiliar place - touching the limits of the place is seen as a generator of a sense of orientation. Recognizing the physicality of the place helps overcome the fear or discomfort associated with it.
- Conducting familiar gestures out of place or context, for example serving food around the family table or cooking a specific meal - the familiar gesture triggers a sense of familiarity. It might not be the same house, the same table, kitchen or the same family but the gesture has the potential of evoking body memory, thus creating a new form of familiarity.

- Sorting belongings after a move - especially after a breakup, the goal of the ritual is a redefinition of what is important and personal sense of self.
- Not letting an obstacle separate two people walking together within a public space - when two people walk together they chose to share a moment, a bond created by moving together in a sense of unity and togetherness. When an obstacle such as a pole comes along their path they might let that obstacle come between them temporarily. This ritual is a conscious decision not to let an obstacle disrupt the bond. Choosing to walk around an obstacle together is an act of choosing the personal space over the public space and the objects that define it.
- Unprescribed ways of sitting - even though a sofa, a chair and a table all have a specific use and an indication of how to use them, they allow certain freedom and personal choice. The freedom to sit in different places in the house is a form of re-appropriation, a familiar feeling of living in a house, a fulfilment of the range of uses and possibilities that the house provides. It is a playful game of exploring space, borders and options, transforming the space to something familiar, in a way, filling the space with a body creates a sense of control over it.

In the paper are screenshots of videos depicting an enactment of those gestures along with quotes and/or interpretations.

B. Gestures of Locality

The second research activity presented here focuses on gestures generated by and around jewellery, comparing gestures of jewellery makers with the gestures of wearers. The participants, 20 in total were made up of 10 jewellery makers and 10 jewellery students (the wearers in this

activity). The jewellery makers chosen were either Israeli-born, identified as Israelis or established names in the local Israeli jewellery field. The students, on the other hand, were in their 3rd or 4th year of jewellery studies at Shenkar College of Engineering and Design.

In preparation for a jewellery exhibition, the jewellers were asked to share their stories and gestures. Instead of bringing their works and leaving them in the hands of the curator they sat down and talked about their creative process while holding their creations. The stories evoked certain gestures, usually loaded with craft and making, material and memory. The works were then passed on to the group of wearers, jewellery students who encountered the work for the first time, their attentive gestures, at times even cautious, expressed wonder and awe. This process enabled an examination of the different types of gestures that arose, exploring the choreography generated by the jewellery objects.

The video, represented here in screenshots, was presented as the main exhibit in the jewellery exhibition, showing a collection of gestures rather than jewellery pieces.

* Limitations: gestures are a subjective practice, interpreting them is even more so, this is a limitation and an opportunity. Gestures also include cultural aspects that cannot be fully analysed in this case. Ideally, these activities would be conducted several times, differing in location and participants' background in order to achieve a wider perspective on the topic of gesture. What is described above is a facet or part of an ongoing research programme with the objective of positioning gestures as an integral part of the design process.

Body and Culture

The body is both a socio-cultural artefact and an instrument of engagement with the sociocultural context we live in. Our surroundings, space and culture, define the dominant framework we reside in, the physical and the non-physical which creating social instructions. Our body is our tool of engagement, the instrument of subjectivity within that dominant framework. De Certeau describes the systems of actions that compose culture detailing that everyday practices are 'ways of operating,' subverting, personalizing within the limitations of the dominant culture. Everyday practices such as talking, reading, shopping, walking and cooking are to de Certeau tactical ways of operating, an elementary form to subjective experience within this dominant framework, a way to escape without leaving it. (de Certeau, 1988). Actions and gestures are a subjective

expression within the framework of culture, they are not solely signs of representation but an act of emotion itself. Language is not defined by its rules but by the way we use it - by shifting and bending the rules, we appropriate it, the same applies to gestures and movement. In the words of de Certeau:

"The speech act is at the same time a use of language and an operation performed on it" (de Certeau, 1988, p. 33). In a globalised world, where the differences between cultures are no longer in plain sight, the negotiation between the subjective and the dominant framework holds a crucial role in positioning ourselves in our environment. Our ability to influence our surroundings determines our connection to it. Memories and actions tie us to a place, therefore we infuse the place we are in or the language we use with our own, trying to tie ourselves to our surroundings. In turn that subjective use expands the framework allowing it to redefine and adapt.



Fig 1. Enactment of morning ritual. Photo: Aya Bentur.

Performing Daily Life

Collected participant gesture: an enactment of his morning ritual:

“Every morning when I get dressed, there is a certain moment I consider a ritual. When I put my socks on I make a small fold on the top. For me this signifies – ‘I’m ready’. Ready to face the world and what the day brings.” This seemingly insignificant act is a personal interpretation, a hidden secret. As a uniform defines a public image, or a ‘dominant framework’, the adjustments and disruptions performed on uniformity, break the prescribed order, making room for personal narratives within it. Artist Francis Alÿs work engages in the act of positioning. In-between performance and daily life, his work is composed of actions and the representations of those actions, in negotiation between self and world, defining space with actions. Cuauhtemoc Medina describes Francis Alÿs’s early walks through Mexico city as: “an attempt literally to find a position: both a physical space and a form of activity. As a ‘passer-by constantly trying to situate’ himself in a moving environment” (Medina, 2007, p. 64). His work is chosen here to exemplify how the smallest gesture can create meaning and questioning and echoes with the quote used above from a participant. Alÿs’s work *Turista* (1994), and many others, can be seen as a process of gestures positioning himself in his surroundings, testing his status, between being a foreigner and a local, observer and participator. Even the simplest act of walking or simply standing (in his work *Turista*), is loaded with meaning. As a foreigner (Belgian-born Mexico-based), to stand by locals in search for work and declare himself a tourist is challenging the status quo of the city. Why is it that the tourists walk while the locals stand? How do these two opposing movements define the relationship between foreigners and locals in

Mexico City? Alÿs uses these basic forms of movement through many of his works, each a different examination of a relationship to place.

In the video ‘*Gestures of Locality*’ (Fig. 2) the same actions take on new meaning depending on the role of the participant. The video offers a reading of locality through the body gestures of the maker-jewel-wearer triangle. The jewellery makers were documented sharing their creation, their gestures loaded with craft and making, material and memory. At the same time, they expressed a casual manner and not the careful, gentle gestures you would expect. The works were then passed on to wearers interacting for the first time with the works, their gestures spoke of a new encounter. The gestures embodied wonder, respect, a humble demeanour, some gestures showed an attempt to trace the makers’ thoughts. The gestures also expressed pride in the act of wearing a piece of jewellery, as it carries both a personal expression of self and an expression infused by the maker. Examining both sides of wearing and making, revealed the micro-cosmos within the jewellery piece – the potential of gestures to evoke sensations of belonging, self, identity, intimacy and familiarity. While the initial question focused on locality, questioning whether there are local gestures or ‘gestures of locality’, the research showed that the human condition can potentially charge objects with meaning. In terms of the local, the gestures demonstrated a form of locality, or rather a momentary sense of it, in simple daily actions which make a place or interaction familiar.



Fig 2. Screenshots from video - *Gestures of Locality*. The makers on the right and the wearers on the left. Part of exhibition *Folk Tune - Israeli Design or Design in Israel?* Head Curator Yuval Saar 2018 (created by Aya Bentur, filmed by Gal Deren, and edited by Oren Gerner)

<https://vimeo.com/387670617>

<https://vimeo.com/387688622>

Learning with the Body

“To at least some extent every place can be remembered, partly because it is unique, but partly because it has affected our bodies and generated enough associations to hold in our personal worlds” (Bloomer and Moore p. 105 cited by Pallasmaa, 2005, p. 41). The same idea can be applied to information and values, a gesture can be a physical manifestation of value and enacting a gesture can teach us much more than studying and analysing the values behind it.

Harun Farocki in his film ‘Transmission’, examines the phenomena of touching artefacts as part of religious practice. The gestures and different forms of touching include cleaning, rubbing, caressing, absorbing, touching with a hand, forehead, lips, or touching through objects such as a passport, or a necklace. The gesture of touching is a physical means to transfer meaning, memory, beliefs

or values, transmitting the non-physical meaning from object to person, person to object or object to object. The gesture transforms the object into a ritualistic artefact. In a sense, rituals are acts of positioning yourself in your world and the collective world - a physical way to dissolve conflicts between private and public, between the known and the unknown. Rituals are directed both inwards and outwards, they are personal acts of expression but also a statement of being part of a collective and belonging. On one hand, rituals are created when what was once spontaneous actions are repeated again and again, but on the other hand, they are also a way to break out of the routine of our repetitive actions, out of the systems that we consciously and unconsciously partake in. (De Botton, 2012, p.50) Can the action hold its meaning when it is disconnected from the original context? Can it still affect our body memory?



Fig. 3 Enactment of cooking ritual removed from its physical context. Photo: Aya Bentur.

Repetition of ideas and actions help us internalize the knowledge behind it. Acting out a value or experiencing gestures physically, leads to internalizing the meaning and essence. A routine repetitive act transforms it. By redoing a simple action like a touch we learn with our body not just with our minds. The same applies for wearing a piece of jewellery, for example, the gestures of the hands

knowingly moving around the clasp located at the back of the neck and fastening it is a gesture charged with body memory and intimacy. The same familiar gesture that has been done repeatedly over time becomes a practice. Eventually, it can exist ‘post-object’, the meaning becomes embodied within the gesture, even when detached from the object that evoked it.

The Body and Self Expression

Orientation is the positioning of the body in a certain space according to the familiarities or unfamiliarities of the space itself. It is the relation to location, and not the location itself, an active engagement of body residing in space (Ahmed 2006, p. 7). According to Ahmed the criteria of orientation range from elemental forces guiding the body (the sun, the stars) to intimate orientations formed by interaction with objects in the everyday. Orientation within dominant frameworks and systems is another form of subjectivity, we not only operate in the constraints of the framework but also position ourselves within it. It is the ways in which we belong or perceive our belonging in our social

environment. One of the collected gestures in the research relates to the act of orientation (Fig. 4). A participant described a process of familiarising themselves with a new space - when entering an unfamiliar room she walks around and touches the walls around her to create a connection with the place, making it known and felt as opposed to strange and unfamiliar.

In 'The Social Life of Small Urban Spaces', William H. Whyte demonstrates how public spaces or elements in public spaces orient our behaviour. The movable chair in public spaces is an example of how an object can lend itself to appropriation and allow an act of autonomous orientation. Orientation as a way to meaningfully place yourself in a place is examined here in the context of the



Fig. 4 Enactment of familiarisation ritual. Photo: Aya Bentur.

choreography between body, object, and space. Objects can serve as mediators, as orientation devices, directing our actions in everyday life, triggering our movements, in a way that creates a relationship between body and place, a reciprocal dialogue of active positioning. How can we re-think objects as a tool of reorientation? If objects are social instructions, how can we 'open' them to include a

possibility of appropriation and dialogue with space? Bruno Munari in his work 'One comes home tired from working all day and finds an uncomfortable chair' (Munari 1944) searched for comfort in an uncomfortable chair. He mapped different forms of sitting on the same chair as a design methodology, demonstrating that there is no need to create numerous variations of chairs but

understand the variations within one. The following collection of sitting positions on a sofa is a variation on his experiment. Here the experiment expands upon Munari's premise and further speculates that the options a person has of sitting on the same object are a form of self-expression (Fig. 5).

Even though a sofa, a chair, and a table have a specific use and an indication of how to use them, the way they are used allows a certain freedom and personal choice. The freedom to sit in different places in the house is a form of

re-appropriation. It generates a familiar feeling of living in a house, a fulfilment of the range of uses and possibilities that the house provides. It is a playful game of exploring space, borders and options, a dialogue in relation to places and others in the space. The non-repetitive action, the "wrong" use, transforms the space to familiar, in a way, filling the space with a body creates a sense of control over it. Similarly, a wedding band or engagement ring placed on a necklace, tucked under a shirt, or turned around the finger to face the palm are both examples of breaking the prescribed way of how a ring "should"



Fig. 5 Enactment of sitting as an act of reappropriation within a predefined use. Photo: Aya Bentur.

be worn, the choice of wearing it differently generates a subjective connection. The recurrent act of placement and misplacement allows for the creation of different perspectives and meanings.

A Biography through Objects

Where there is communication there is animation. Animation is always a form of entanglement with an environment and with otherness". (Franke, 2012, p. 4) The meaning charged within an object is a result of an animated relationship with the material.

Often, we relate to objects as living beings. This relates to anthropomorphism, which is a way of relating to non-human entities as if they were humans, as if they hold human attributes or emotions, in a communicative situation. Gabriella Airenti describes this phenomenon as a basic human tendency, common from infancy to adulthood, in situations where objects "do". The simplest example is talking to your car, encouraging it to go faster or yelling at a computer when it is slow to react (Airenti, 2018). While anthropomorphism is usually related to objects that are expected to cooperate with our actions,

material culture studies focus not solely on the objects but also the meaning people prescribe to these objects, seeing them as a projection of the self (Miller, 1998). Anselm Franke questions “what it means for us to be animated, to be acted upon, or to be mediums of our environments and milieus.” (Franke, 2012, p. 5) He states that we are not active figures facing a passive world of matter that we act upon, our bodies are also acted upon, animated, moved by and moved within our social environments. It is a reciprocal relationship between subject and object, where bodies and objects alike are mediators, directors and actors.

“What if the soul is not a substance, not a ‘thing’, but a function? What if ‘soul’ (anima in Latin) is another name for the very medium that makes reciprocal exchange possible, for what happens in the very in-between, the event of communication? Would that not also change the very meaning of what it means to animate?” (Franke, 2012, p. 8) Franke positions animism as communication, the anima we relate to objects, places and people is a tool of meditation, a tool of understanding and being understood. Animism can be seen as a social practice, as subjectification through engagement, a form of mediation between bodies, objects and space.

In the English language objects are described using inanimate pronouns yet many languages relate to objects as feminine or masculine using gender-defined pronouns. In some languages the sun is feminine while in others it is masculine, the seemingly insignificant pronoun not only dictates an animated approach to objects, it plays a cultural role in stories and folklore. The animated or anthropomorphism relation towards objects raises the question of whether this is a primitive cognitive mistake or an acknowledgement of the human relationship with objects. Objects hold added meaning, the cultural

meaning redefines the value of an object. An object’s commercial value, for example, is calculated by its added meaning (semiotically) and not by its functionality, even if its meaning is being functional (Slater, 1999, p. 139). Designers and advertisers define the added meaning, but the users and owners of an object will continue adding their values and personal stories to it. The object will grow into an animated representation of their biography.

“The object becomes a metonymy; it contains the house. In this respect things are at the heart of the creation of a sense of place or of its recreation” (Marcoux, 2001 p. 74).

The process in which the home and its inhabitants transform each other is an ongoing ritual of defining relationships, meaning, values; a practice creating a micro-society. Miller examines the home as a representation of social relationships; he observes the processes where the home and its inhabitants transform each other. The home is not merely the expression of taste, it expresses the relationships of the inhabitants with each other, it is a negotiation of identity, of one’s view of the world, an attempt to reconcile preferences and sense of truth with material culture. We do not always possess the material culture in our home, at times it possesses us. Objects become part of a history of relationships and carry a ‘patina of affinity’ due to their story. The inhabitants see little separation between persons and things, they recognize the ‘familiar spirits’ of objects and choose to either live with them or get rid of them (Miller, 2001, p. 15-19, 124). In a sense, jewellery represents similar relationships, a necklace belonging to a deceased relative can carry feelings of connection but at the same time, it can be too heavy to bear/wear. The manifestation of materialistic consumer culture is the lack of animation when objects do not hold a story of relationships and history. Although objects and jewellery items hold our stories

and ‘familiar spirits’ they are facilitators, vessels. Human behaviour, our actions, rituals and gestures are what happens between the objects, spaces and environments we design. It is our actions around them that give them their meaning.

“Possessions are not simply given as mattering from the start. They come to matter through the sorting out ... People take with them what matters. But the things matter all the more when they are brought, once they are brought” (Marcoux 2001, p. 113, 84). The sorting of possessions is parallel to the sorting process of our rituals, gestures and actions that hold meaning for us. “sorting becomes a way of defining what matters. Thus, the ‘essential’ does not necessarily pre-exist the move. It is something to be achieved. And moving is the occasion to do so. For people get rid of things as if wanting to better remember. In a form of refurbishment of their memory” (Marcoux 2001, p. 98). As possessions do not simply matter from the start, wearing jewellery and the personal ‘jewellery box’ is a constant act of choosing, a way to define where you came from, where you are, and your position in between. Gestures around jewellery become an intuitive way of reflecting and defining. Turning a ring around the finger or placing the palm of the hand on a pendant located on the base of the neck are gestures of remembrance. At some point the trigger of remembrance becomes blurred - is it the object or the gesture? The same gesture done when the ring or pendant is missing is no less impactful.

Gestures as Design Methodology

“Can I give form to my projected designs in such a way that the communicative, the inter-subjective the dialectic are more strongly emphasized than the objective, the substantial and the problematic?” (Flusser, 1999, p. 59)

In its most basic definition function relates to cause

and effect, X is a function of Y. As designers, we have a responsibility to go beyond the pragmatic function of designs which are often simplified (a cup is meant for drinking and a necklace for self-adornment). This article proposes that functions such as expression, mediation and communication are to be considered in the design process. As designers what do we aim for? In recent years personalization is used as a tool to bridge the gap between designer and user. Yet while personalization in design is the act of adjusting an object to personal needs, referring to modifications aimed at achieving an enhanced functionality for an individual, personification refers to how inanimate objects hold human qualities, vessels of personal biographies. Charles and Ray Eames challenged the perception of function within the design process. In 1958 the Eames were invited by the Indian government to explore the problems of design and make recommendations for a program of training in design, the result of the three-month-long research was ‘The India Report’. Part of this report was an examination of the Lota as a case study of design. The Lota is a simple vessel of everyday life, designed and perfected over generations. Charles and Ray Eames hoped that “an attitude be generated that will appraise and solve the problems of our coming times with the same tremendous service, dignity and love that the Lota served its time” (Eames, 1958, p. 9). In their criteria they refer to function and gestures equally, the functions and gestures inform and form each other, and are inseparable.

“But how would one go about designing a Lota?” Here are examples from the criteria formulated in ‘The India Report’ (Eames, 1958, p. 8-9):

- The balance, the centre of gravity, when empty, when full, its balance when rotated for pouring.
- Its sculpture as it fits the palm of the hand, the curve of the hip.

- Its sculpture as compliment to the rhythmic motion of walking or a static post at the well.
- How pleasant does it feel, eyes closed, eyes open?
- How does it feel to possess it, to sell it, to give it?

The Lota is not just a vessel it is a mediator between use and gesture, between body, water and the surroundings. By analysing the functions and gestures of an object as in the analysis of the Lota, we are able to achieve a wider perspective on the relation between body and space, seeing both objects and gestures as potential mediators.

An immaterial action is not only a physical manifestation or a transmission of values but also an object in itself. Seeing immaterial actions as objects questions the balance in the relationship between objects and gestures; are objects generators of gestures, or vice-versa? Can gestures define and direct the design process of objects, both in meaning and material? The last example from the collection of gestures is a personal one, identifying the ritualistic gestures of wearing and removing prescription glasses. In this case, the ritual formulated through daily practice served as the basis for design. The following text describes the ritual and the sensations it evokes, from my

personal perspective:

My glasses have become part of me, they define my behaviour and my gestures; I rearrange and adjust their position, I feel through them and I feel them, their presence, their weight, their function, their movement on me. When I'm preoccupied or busy they tend to slip down my nose, I only notice it when raise my head to interact with the world again, I push the glasses back up to regain connection. When I want to distract attention from me I take them off and clean them, and when I'm frustrated I remove them and disengage for a moment, but I always return them. At the end of the day, I remove my glasses and with them my conciseness and my reality. The glasses collapse into relaxation, they unwind into a vulnerable state but at the same time spring into being their own entity away from me and their purpose. In the morning, between being awake and dreaming I look for my glasses, it is a moment of transformation between the intimate space of sleep and the day to come. The contrast between the space under the bed, the invisible intimate space of secrets, and the glasses, an object that is intimate as it is almost part of my body. Every morning I stroke the floor, trying to find the trailmarks of the day before. I gather them as a net, back into glasses, back to me, gathering my conciseness with them into reality and the day to come.



Fig. 6 Enactment of looking for glasses without the object triggering the gesture. Photo: Aya Bentur.

After analysing the gesture, or set of gestures, the design process focused on how an object can generate the identified gestures (Fig. 7). The process was accompanied by questioning, how can an object both guide a certain use yet at the same time allow for personal freedom of movement and expression? Furthermore, how can this process be applied in a general sense, does the subjective outcome necessarily need to be rooted in a subjective motivation?



Fig. 7 Photo: Aya Bentur.

CONCLUSIONS

The purpose of this research is to advocate for the inclusion of gestures in design, to offer a different reading to the relationship between body and objects, leading to incorporating gesture-thinking as an integral element of the design process. The objective here isn't to provide prescribed guidelines to a gesture-based design methodology but to offer three possible approaches to doing so. One is considering the emotional interaction with an object - designing for the body not just from the ergonomics perspective but also the emotional impact a gesture can have on the relationship with an object.

Second is designing in a way that allows for personal freedom in the way an object is used. The personalized use can potentially create not only a connection with the object itself but also the space it resides in - a certain gap in the prescribed use makes room for the practice of subjectivity and appropriation. Third, designing gestures as outcomes, designing for subjective use, where the objects are merely triggers. This approach further challenges the definition of what is "designed", positioning the immaterial form as a design objective in itself. This could be applied in both the physical and the virtual design

realms, questioning what are the gestures we want to evoke.

To conclude, seeing immaterial actions as objects or outcomes leads us to look differently at objects - as facilitators of forms of engagement, as materialising communication. Objects and gestures alike can be seen as tools of communication, orientation devices, instruments of engagement. In the context of jewellery, the different forms of “using” in its widest sense, allow for a multitude of expressions generating practice. The personal choreography of making and wearing, as well as the subjectivity in the design process, can and should encourage the possibilities of further incorporating subjectivity, appropriation and self-expression.

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From Coque de Perle to Osmeña Pearl: A Short Documentary History

Author: *Kathleen Kennedy*



ABSTRACT

The standard accounts of coque de perle, large gems constructed from nautilus shell, rely on art and extant pieces, but investigation of textual sources reveals a richer basis for a history of the jewel. A substantial gap exists between the onset of substantial European nautilus shell imports in the sixteenth century and the earliest coque de perle documentation, but evidence offers clues to how and when coque de perle came to be manufactured. Once unambiguous references to coque de perle begin in the early Georgian period, they clearly relate to an already popular gem. Textual sources corroborate the traditional consensus that the late Georgian period saw coque de perle fashion at its zenith. Yet, rather than decline in popularity after 1800, evidence suggests that coque de perle retained its currency throughout the nineteenth century when it could be obtained. Changes in technology and fashion all led to coque de perle's decreasing availability, but so too did environmental shifts in nautilus habitats. Our need to recognize the links between historical coque de perle fashions and nautilus ecology finds new urgency as coque de perle continues in use as a gem in the twenty-first century under the name Osmeña pearl.

INTRODUCTION

In 2011, the *New York Times* reported that a recent vogue for Osmeña pearls and other jewellery made from nautilus shell threatened to lead to species extinction, as nearly 600,000 shells had been imported into the US alone over just a three year period from 2005 to 2008 (Broad, 2011). What the *New York Times* did not note was that the Osmeña pearl was a twentieth-century reinvention of the Georgian coque de perle, and that this

earlier jewellery fashion may also have damaged nautilus populations hundreds of years ago. The material itself is

wasteful of both nautilus shell and jeweler's time. First, a craftsman strips the outer, striped layer of a nautilus shell to reveal the inner, nacreous layer. Then, the shell is halved, and the worker carves a paperthin, cabochon-shaped leaf of pure nacre from each half. To put to any use, this is then carefully filled with a binder to stabilize the resulting plaque. Plaques can be employed singly, or pairs glued together creating enormous pearl-like gems. Thus, the gem known as "coque de perle" remains unique among semi-precious materials by being simultaneously fully natural and entirely hand-crafted, as every coque de perle plaque was both hatched and manufactured. So is every Osmeña pearl today. Despite hundreds of years of popularity, coque de perle has gone without extended study. The history of the wild and cultured pearl industry has attracted scholarly and popular interest, but coque de perle is not a true pearl, and so has gone without discussion. Likewise, the manufacture of artificial pearls has been investigated since the early modern era, but coque de perle is rarely considered within this context, either. Perhaps due to its unique hybridity, coque de perle has fallen through the cracks before now, to the detriment of the chambered nautilus.

The persistent, long term interest in coque de perle shown by consumers makes this lack of research surprising. Today we associate coque de perle strongly with the Georgian period (1715-1830), but the gem's origin lies deep in the early modern era. Equally, as late as 1899 an art critic (Clarke, 1899, p.53) reported that antique coque de perle was still treasured, and occasionally worn: "it is with devotion that its lucky possessor always dons it." Moreover, both documentation and contemporary

vintage markets demonstrate that genuine and faux nautilus-shell jewelry continued to be manufactured through the twentieth and into the twenty-first centuries. The same Edwardian critic (Clarke, 1899, p.53) notes coque de perle's fragility, however, claiming that it was common to see antique pieces carelessly dropped, resulting in fractured plaques. Indeed, when combined with continued resetting and reuse, its inherent fragility may explain why so little Georgian coque de perle remains extant today. Especially given fashion's famous fickleness, the enduring appeal of coque de perle a century and more after its peak makes it worth considering other reasons for its decline as a jewel. Investigation of textual sources reveals a richer basis for a history of coque de perle that adds to and revises the standard account based on art and extant jewellery. I believe that textual evidence suggests that coque de perle retained its currency throughout the nineteenth century, despite increasingly limited availability, and that archival evidence also provides clues to how and when coque de perle came to be manufactured in the first place.

This historical account of coque de perle will occur in several stages that attempt to circumvent the ambiguity of artistic representations of what may be coque de perle, but might instead be other faux pearls, or very large genuine pearls. First, we must acknowledge the gap in our records, as we can trace nautilus imports into Europe long before we find our first unequivocal evidence of coque de perle production. Second, we will explore accounts of the jewel's manufacture, which occur by the height of coque de perle fashion in the Georgian period. Third, we will examine the evidence for coque de perle from the Georgian period, relying more on textual than on artistic sources. This investigation leads so far into the nineteenth century as to revise claims that coque de perle fell out of fashion. Instead, the evidence shows that its popularity

continued, but its availability declined. The final section explores ecological reasons that nautilus may have become too difficult to trap in any great numbers as the nineteenth century progressed, and sounds warnings about continued use of coque de perle in the twenty-first century.

THE PRE-HISTORY OF COQUE DE PERLE

The earliest extant coque de perle demi-parure is late seventeenth- or early eighteenth-century (Museum of London). Visually similar sets appear as early as in the second quarter of the seventeenth century in portraits of both the nobility and the most prosperous bourgeoisie. By the mid-seventeenth century the majority of Dutch portraits of women show such jewels. Like bow jewels (Rakhorst, 2018, p. 5), though our term for coque de perle may be French, it seems likely that its origin lies in the Netherlands. While some of the very large pearls appearing in Dutch seventeenth-century portraits were fully natural, as the breathtakingly expensive, thousand-pound pair purchased in 1632 by the Dutch jeweler Thomas Cletscher attests (Corrigan, van Campen, and Diercks, 2015, p. 172-3), such wealth was not as common as the jewels in the paintings. Historians are forced to consider alternative materials. Indeed, Cletscher's careful drawing of the pearls shows shapes that might well be coque de perle, and he describes the backs as flat. However, blister-pearls grow flat naturally, and were employed in fine premodern jewellery (Scarisbrick, 1991, p. 198-9, 206). Cletscher also depicts the gems as drilled, the normal procedure for preparing pearls (Corrigan, van Campen, and Diercks, 2015, p. 172-3), but a process which would fracture delicate nautilus nacre. All extant historical coque de perle of which I am aware shows instead banded or claw-type settings that allowed the plaques to be linked to other pieces without drilling. Designs published by jewelers in the mid-seventeenth

century (Cossin, 1663) illustrate such settings, and therefore hint at coque de perle, but remain as silent about construction materials as the paintings. Though I have yet found no firm textual evidence for this period, it is possible that some of these paintings and designs illustrate early uses of coque de perle. We suffer from an unfortunate documentation gap that impacts our understanding of how coque de perle springs onto the scene, apparently already a popular gem, in the Georgian period.

What is clear is how shells of the nautilus, a cephalopod native to Indonesian and Pacific waters, arrived in Europe. Along with other Indian, Indonesian, and Chinese luxuries, nautilus shells were available in western Europe throughout the Middle Ages, if in low numbers, traveling along the same trade routes as pepper and Chinese silk. Like other medieval European uses of imported organic materials such as ostrich eggs, nautilus shells were harnessed into goblets by strapping the delicate shells onto stems using gold and silver metalwork. Nautilus shells were often peeled, removing the outer shell layer and revealing the inner, nacre layer. Nautilus cups were purely ornamental, as the hole threading through each chamber of the nautilus shell makes them impractical beverage containers. Inventory records show nautilus cups in European royal and ecclesiastical collections beginning in the late thirteenth century (Cordez, 2016, p. 149). As with other fine cups, some nautilus vessels came to be used as reliquaries, and the oldest extant nautilus cup reliquary dates to the end of the fifteenth century (Cordez, 2016, p. 153).

Thanks to the new, direct trade with India and Indonesia, after 1500 the number of nautilus shells in Europe rose, and the number of cups remaining from this period climbs steadily before exploding in the last quarter of the sixteenth and first quarter of the seventeenth

century, thanks to the founding of the Dutch East India Company (Vereenigde Oostindische Compagnie, usually abbreviated VOC) (Tebbe, 2007, p. 154; Mette, 1995, p. 145). Jakarta served as the VOC's eastern base for the seventeenth and eighteenth centuries, and it lay at the heart of nautilus territory. In fact, the VOC made a mistake and created a nautilus shell bubble. They imported so many shells that they saturated the market by the second quarter of the seventeenth century and prices dropped substantially (Mette, 1995, p. 35-6, 145-6). It is exactly in these decades that parures of mysteriously large pearls begin to appear with increasing frequency in Dutch portraits. For importers struggling to unload no-longer-valuable nautilus shells, the striking nacre may have offered a pearly lining to the nautilus cup bubble's bust. Coque de perle may have arrived as much on the heels of financial necessity as it did the winds of fashion.

CRAFTING COQUE DE PERLE

While there are hints that nautilus shell was used for jewellery earlier, our most solid evidence for coque de perle begins in the Georgian period. By the seventeenth century, gentleman scientists explored gemstones and their counterfeiting out of appreciation for the artisan's skill at manipulating and imitating nature (Rijks, 2019, p. 309-26). There are ambiguous references to the gem as early as the 1550s (Rondelet, 1554, p. 97). Pierre de Rosnel (Rosnel, 1667, p. 43-4) may have described coque de perle in his discussion of "nacre de perle" in a gemology of 1667. He calls attention to the quality of the nacre, describes the portion of the shell providing the plaque, and highlights the rarity of perfect plaques. However, he does not describe the manufacturing process further, or mention its use in jewelry specifically, so the reference remains unclear. Nevertheless, a dictionary published in 1690 (Furetière, 1690, "Perle, Nacre de perle"), hints that Rosnel may have meant coque de perle,

as the definition matches part of Rosnel's, and adds that *nacre de perle* is "sometimes used in making pearls." Yet, neither reference is detailed enough to be diagnostic, as in other contexts "*nacre de perle*" carried a wider meaning and could simply referred to blister pearls.

We find our earliest unambiguous descriptions of *coque de perle* in eighteenth-century industry publications. In 1762, Jean Henri Prosper Pouget (Pouget, 1762, p. 20) provided the earliest written description of the manufacture of *coque de perle* that I have found. Two decades later, Johann Beckmann (Beckmann 1786, vol 2, p. 327-8; Johnson, 1817, vol. 2, p. 14-15) confirmed the use of *coque de perle* in earrings. Beckmann's interest in the nautilus product was incidental, as he was describing the methods of producing faux pearls. His long footnote on *coque de perle* instead highlighted the gem's comparatively natural, unmanufactured origin. For these technologists, *coque de perle* was unusual in being an organic product that also required significant finishing in order to use as a gem.

As late as 1826, Antoine Caire-Morant (Caire-Morant and Leroux-Dufié, 1833, p. 399-401) called *coque de perle* "no less beautiful than true pearl." Although he reported a special vogue for the jewel dated in the 1770s, he (Caire-Morant and Leroux-Dufié, 1833, p. 400) noted that it was in and out of vogue frequently, a proof "that real beauty persists in attracting attention." Caire-Morant said that at various times both the Dutch and the English crafted nautilus shell. This specialization may trace colonial control over nautilus territories, as Dutch control of Indonesia ceded to British in the eighteenth century.

Both Pouget and Caire-Morant described the process of cutting the shells and forming the plaques, a process Caire-Morant claimed to have seen himself in London. *Coque de perle* was a wasteful process: accounts

emphasize that only one or two plaques could be made from a single shell. While all historical *coques de perles* extant today of which I am aware are single plaques, Caire-Morant (Caire-Morant and Leroux-Dufié, 1833, p. 400) also saw them being stuck together, mastic-to-mastic, in order to create single, enormous pearls as we see today in some Osmeña pearls. This single-pearl process appears to have been extremely difficult to do well with genuine nautilus shell in the Georgian period, as the tweezers used could easily mar the delicate *nacre* (Caire-Morant and Leroux-Dufié, 1833, p. 401). Given such reports it seems that even into the nineteenth century, the shells were shipped whole from Indonesia, to be cut to pieces in European shops.

WEARING GEORGIAN COQUE DE PERLE

In the 1760s, Pouget was writing about a popular gem, and the textual sources do not indicate when the fashion for *coque de perle* began. Outside of the technical press, by 1730, *coque de perle* begins to turn up in a range of documents as an established jewel, suggesting it had already had years to attract devotees. Perhaps no less than the special quality of its *nacre*, the size was clearly important to *coque de perle*'s popularity. Individual plaques can easily reach six centimeters in length and are therefore far larger than most pearls. So many of these large plaques might be massed in a single earring, from two to five, that some extant earrings show both hooks and loops—one hooked the earring through the wearer's pierced ear, and then removed additional weight by tying the earring to the wearer's hair or wig (Fig. 1).



Figure 1. Boston, Museum of Fine Arts, "Earrings," English, 1750-1800, gold metal and coque de perle, 43.2122a-b, The Elizabeth Day McCormick Collection.
<http://www.mfa.org/collections/object/earrings-592347> Photograph © 2020 Museum of Fine Arts, Boston.

The documentation strongly associates coque de perle with necklaces and earrings. Although bracelets, hair ornaments, and brooches were popular in the Georgian era, I do not find evidence that coque de perle was commonly used for bracelets or other jewellery until the nineteenth century. In the lone exception, an individual plaque forms the backing for a portrait miniature bracelet (Zabar, 2010, p. 13).

Both extant examples and documentation almost inevitably combine coque de perle with faceted diamonds, or more commonly marcasite, so that individual pieces of coque de perle jewellery would have sparkled as well as gleamed in the candle-light. Coque de perle and

marcasite were even paired when sold loose (London Evening Post, 1772). The pairing continued to be evident as late as the turn of the twentieth century, when Clarke (Clarke, 1899, p. 52) said that coque de perle "is the commonest combination with marcasite."

Inventories offer tantalizing glimpses of early coque de perle collections, confirm its early popularity, and provide evidence of its fragility. A star actress of the Comédie Française, Adrienne Lecouvreur, died in 1730, and her probate inventory (Monval, 1892, p. 247) shows her to have owned both earrings and a necklace of coque de perle. For an example of a necklace dated just a bit later than Lecouvreur's see Figure 2.

Of modest origins, Lecouvreur began performing in the early eighteenth century, and so collected her jewels in about twenty years. Though the inventory does not describe the earrings, the necklace consisted of fifteen plaques and twenty-eight diamonds. Her collection reminds us that a single set of earrings and necklace might have required over a half-dozen nautilus shells.

An early example at the Museum of London (Museum of London) predates Lecouvreur's collection and includes two additional plaques: at least one additional nautilus. In its early Georgian form, Lecouvreur's necklace was valued ten times more highly in the inventory than a group of coque de perle earrings and pearls.



Figure 2. London, Victoria and Albert Museum, "Necklace," M.151&PART-1975 © Victoria and Albert Museum, London. London, Victoria and Albert Museum, "Necklace," M.151&PART-1975. Given by Dame Joan Evans <http://collections.vam.ac.uk/item/O114690/necklace-unknown/> CC-BY.

Lecouvreur's inventory also hints at the continual repair necessitated by coque de perle's fragility. Her earrings may not be a pair but parts of two broken pairs, as the inventory lists them individually. In addition, the earrings sit grouped together with a small packet of loose pearls as though they had been gathered for resetting. Much coque de perle extant today may reflect the final product following several resettings over each plaque's lifespan.

References to coque de perle across Europe increase by mid-century at a range of social levels. Coque de perle earrings were considered fashionable among the highest German nobility by 1748 (Khevenhüller-Metsch and Schlitter, 1908, p. 260). Jewelers in London record stocks of coque de perle by 1759, and it was already popular enough that artificial coque de perle appears next to genuine in the stock list ("Mr. Cock, Auctioneer," 1759). In 1766, wives of wealthy London businessmen might choose to wear coque de perle earrings in their portraits, as it appears did Hannah Vaughan (Figure 3). While art usually leaves us guessing at the identity of very large pearls, the oval upper portion of her drop earring clearly shows the gold setting necessary to hold a single coque de perle plaque in place. Likewise, Viennese Archduchess Maria Josepha was painted in 1767 wearing a choker of diamonds set with two birds-egg-sized pearls that can only be coques de perles (Menges, 1767), their oval settings just visible against a ruffle protecting the archduchess' neck from her necklace. Vaughan and the archduchess would have chosen these jewels carefully and deliberately wished to spotlight them in their portraits. As Ginny Dawes and Olivia Collings (Dawes and Collings, 2007, p. 11) note, "the prevailing style of portraiture throughout most of the Georgian period was for women to be pictured elaborately dressed but unadorned by jewels," a preference that other documentation proves does not match daily reality. Willing to defy artistic

convention, both women must have especially wanted viewers to see their pearls, including their coque de perle. Textual references increase in the 1770s, and support Caire-Morant's observation that this was a decade of special interest in coque de perle. A published report on Parisian fashion of 1769 (*L'Avantcoureur*, 1769, p. 534-5) recommends that ladies leave diamonds at home as coque de perle was considered more flattering, "plus douce," and, most importantly, more fashionable. If one simply could not appear in society without diamonds, however, the reporter concedes that one might mix coque de perle with diamonds or marcasites. Suggesting that this fashion remained current for some time, similar advice was reprinted several years later (*Almanach de Gotha*, 1771, p. 96), and in 1771 this same combination of gems was lost (or stolen) in a London playhouse ("Lost on Wednesday Night," 1771, Issue 11343). By 1773, among the category "Pearls" in his stock list, the French royal jeweler listed almost five dozen coque de perle plaques separately from blister pearls (Chariot, Joullain, and Boileau, 1773, p. 79-80). In fact, coque de perle made up a large proportion of his stock of pearls. This catalogue (Chariot, Joullain, and Boileau, 1773, p. 80) offers evidence of pairs of coques de perles glued into single faux pearls, as some of the coques de perles are described as "mounted in the form of pear-shaped pearls." Such a design also appears in a 1782 auction catalogue (Boileau and Paillet, 1782, p. 59). A diary (M, E. H., 1854, p. 512) claiming to be from 1778 reports that coque de perle necklaces and earrings were "very much in vogue" in London and the diarist vowed to get her mother to purchase a set for her as soon as possible. If the diary is an invention, it certainly illustrates that this seemed like a plausible scenario from the vantage of the mid-nineteenth century. In addition to these sources, in the 1770s, the gem also appears in at least one novel and another auction catalogue (Young lady, 1773, p. 132; Gerard, 1776).

While documentary evidence is especially strong in the 1770s, despite the French Revolution and its aftershocks, coque de perle continues to appear in a range of sources through to the end of the century. The famous Marquis de Lafayette's mother-in-law, the Duchess of Noailles, Henriette Anne d'Aguesseau, seems to have been painted in her coques de perles before her flight from Paris in 1789 (Figure 4). Here the shape of each coque is rendered clearly, as they hang pendant from fishwife-style earrings, large hoops. Not drilled as genuine or faux pearls would be, the setting is clear at the top and bottom of each

plaque, and just visible surrounding the sides. The fashionable Comtesse du Barry may have owned coque de perle earrings, as a transcribed theft inventory from 1791 claims (Goncourt, 1878, p. 376.) As late as 1799, a scientifically minded former royal equerry (Cubières, 1799, p. 44-45) wrote a conchology work and noted that the exceptionally luminous nacre of nautilus was used to make the coque de perle earrings currently fashionable. Though not immediately apparent, and in defiance of revolutions, the late-eighteenth-century fashionable world was awash in nautilus.

Figure 3. Boston, Museum of Fine Arts, Francis Cotes, 1726-1770, "Hannah Vaughn, 1766." Oil on canvas. 48.278, Gift of Samuel Vaughan and Mary Vaughan Marvin <http://www.mfa.org/collections/object/hannah-vaughan-33155> Photograph © 2020 Museum of Fine Arts, Boston.

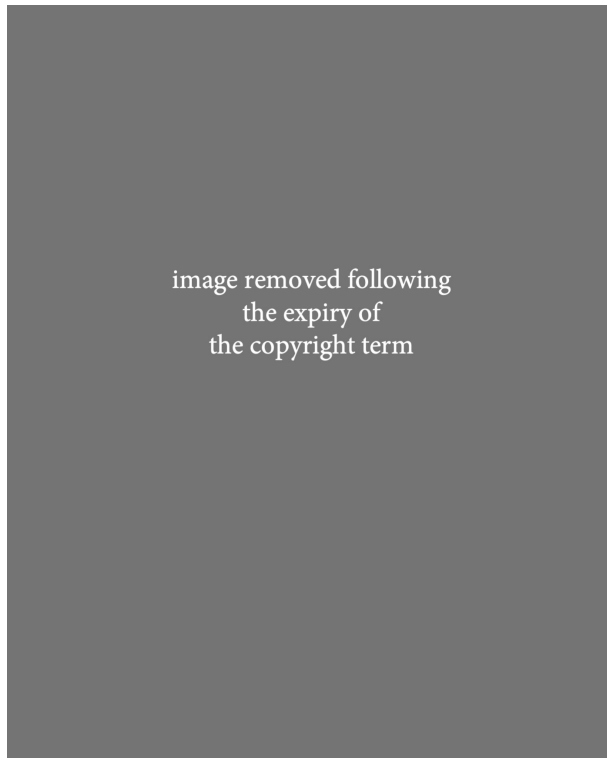


Figure 4. Washington, DC. National Gallery of Art, Élisabeth-Louise Vigée Le Brun, "Madame d'Aguesseau de Fresnes," Samuel H. Kress Collection, 1946.7.16, Courtesy of the National Gallery of Art. <https://www.nga.gov/collection/art-object-page.32694.html>

COQUE DE PERLE IN THE NINETEENTH CENTURY

The disappearance of this jewel after 1800 did not signal disinterest in coque de perle as is often assumed, however, but an increasing rarity. References to antiques increase, and the number of plaques decrease, perhaps signaling refurbishing parures around broken, now-difficult-to-replace plaques. The conclusion remains that women liked coque de perle, and continued to wear it when it was available, but that it simply was no longer being manufactured. Traditional necklaces and earrings continue to appear occasionally in documents. In 1844, large coque de perle plaques “for necklaces” received notice among other antique jewellery (de Renneville, 1844, p. 52). In 1848 a fashion magazine asserted that the recent fad for antique jewellery was over, with the exception of bracelets of coque de perle surrounded by marcassite (de V, 1848, p. 66). In 1899, Clarke darkly surmises that lower-quality examples of coque de perle may be nineteenth-century attempts to meet demand without the quality of craftsmanship or shells available in earlier centuries (Clarke, 1899, p. 52-3): “as different,” she says, “as chalk from cheese.” Viewed more kindly than did Clarke, these late efforts seem to be evidence for making the most of a scarce-but-desirable gem.

By 1850, the term “coque de perle,” often referred to blister pearls, or any mother-of-pearl: nautilus-shell coque de perle came to be specially indicated (Lord, 1868, p. 175). This can make the use of the term “coque de perle” in nineteenth-century British lists of Indian and Chinese shipping duties difficult to assess—certainly nautilus continued to be imported into England, though not seemingly in the same quantities as in the eighteenth century. With the real thing increasingly rare, women sometimes pressed artificial coque de perle into service. A

young English actress (Butler, 1835, p. 143, 151) on tour in the US looked for some coque de perle for a costume in 1832, but found none available in Philadelphia. She developed an artificial solution on her own using “foil stone, glass beads, and brass tape” (Butler, 1835, p. 195), perhaps not unlike a pair of faux coque de perle earrings from the first half of the nineteenth century now at the Victoria and Albert Museum (Victoria and Albert). Fashions may have changed, but coque de perle was still worn, when it could be obtained. Thus, the demand for coque de perle seems to have continued through the nineteenth century, but the supply could no longer meet it: what had happened?

FROM COQUE DE PERLE TO OSMEÑA PEARL

Although coque de perle faded as a prominent feature in jewellery after 1800, the gems themselves did not lose their lustre among the fashionable. Instead newly popular styles moved in two different directions, and coque de perle itself was adapted to a new century’s tastes. As gas and electric lighting became increasingly common, the popularity of diamonds, pastes, and other faceted gems that reflected this stronger illumination simply increased. Pearls did not disappear, however, but shrank. Instead of individual large plaques, tiny seed pearls were massed into dense brooches and flat ropes thick with minute pearls, as Figure 5 illustrates. While seed pearl jewellery developed in the later Georgian period right alongside coque de perle, it expanded in popularity as coque de perle’s availability declined, and it is not impossible that, in addition to the precocity of fashion, practicality played a role.

Seed pearls grow quickly in a range of hardy, nacreous mollusks, and can be sourced world-wide. Before 1850, most jewellery-quality seed pearls grew in pearl oysters

native to Indian and Pacific waters, and were imported into Europe and the early US from India and China. About 1850, the US experienced a freshwater pearl boom of its own, thanks to pearl mussels native to the Mississippi watershed (Anthony and Downing, 2001, p. 2073-4; Claassen, 1994, p. 2-4). From mid-century, then, American jewelers began crafting seed pearl jewellery ("Seed Pearl Jewelry," 1912, p. 54), adding to the European wares. Like coque de perle, seed pearl jewellery might go in and out of fashion rapidly, but the longterm trends were clear: like coque de perle, seed pearl popularity endured, but unlike coque de perle, it was increasingly available as the nineteenth century progressed. The boom

ultimately drove US mussel populations into decline by 1900, after decades of heavy exploitation (Anthony and Downing, 2001, p. 2073, 2076-7). Seed pearl fashions democratized pearl-wearing through the World Wars in the early twentieth-century, after which coque de perle reemerged as a reflection of the new economic and political power of the US. Though it is not clear precisely when it replaced the Georgian term, the name 'Osmeña pearl' can be traced at least back to the late 1920s in the Philippines, at the time, a US colony ("The Philippine Supply Co.," 1927, p. 13). In this early period, Osmeña pearls were marketed to wealthy tourists, both in the Philippines and at home in the US: "the most typical and



Figure 5. Cleveland, Cleveland Museum of Art, "Parure: Necklace, Pendant, Earrings," c. 1850. England, Seed pearl on Mother-of-Pearl; Gift of Alexander and Paula Kappos 2001.156 <http://www.clevelandart.org/art/2001.156#> CC0 1.0.

pleasing Philippines gift an American can receive" ("The Philippine Supply Co.," 1927, p. 13), as nautilus are native to Philippine waters. After World War II, American tourism expanded into the middle class, and by mid-century, American tourist guides to the Philippines also touted Osmeña pearls as souvenirs (Caldwell, 1959, p.238; Olson, 1962, p. 395; Gellhorn, 1965, p. 323). By the early 1970s the term was used in the non-tourist press, and by the 1990s if not before it could be found in popular culture such as the video game *Where in the World is Carmen Sandiego*, Deluxe Edition (Sandler and Badgett, 1991, p. 194) and puzzles in the *New York Times* (Heaney, 2009, p. SM80). The post-war world also saw a boom in

costume jewellery, and Osmeña pearls took part in this trend, too. From the mid-1950s into the 1980s ("Bonwit Teller," 1959, p.19; "Display ad 304," 1988, p. SMA141), Countess Cissy Zoltowska designed costume jewellery in Paris for couture houses and for high end department in Europe and the US ("Jewelry Designs Inspired by Nature," 1964, p. 49). Zoltowska's forms were large. Colors were bright. Materials were decidedly nonprecious, and she made liberal use of glass, rhinestones, and even bakelite. If "it is the uncommon use of common elements that really elevates costume jewellery" (Miller and Poindexter, 2018), then coque de perle's size and luminous nacre played a role in raising Zoltowska's profile.



Figure 6. CIS Cissy Zoltowska, Brooch, late 1960s. Courtesy of DSF Antique Jewelry <https://dsfantiquejewelry.com/products/vintage-1950s-countess-cissy-zoltowska-cis-pearl-glass-leaf-brooch> [1 December, 2019].

Although it did not experience a vogue of its own as it seems to have in the Georgian period, both extant pieces and textual documentation prove that post-war jewellery designers like Zoltowska once again reached for coque de perle thanks to its unique blend of properties: size, nacre quality, and relative affordability. Active from the 1960s into the 1980s, Celia Sebiri combined metals and semi-precious stones with organic gems like tortoiseshell, ivory, and coque de perle (“Collector’s Corner, 1967, p. 314; Fine, 1987, p. 250-3). Like Zoltowska’s, Sebiri’s work sold at luxury department stores, and was featured in women’s magazines like *Seventeen*, *Essence*, and *Cosmopolitan* (Le Barre, 1965, 34-7), where advertisements use the term ‘Osmeña pearl’ from 1972 (“Bonwit Teller,” 1972, p. 15), suggesting that audiences were expected to be familiar with the product. Rebecca Collins’ coque de perle designs sold at a similar stores from the 1980s until 2009 (“Covers,” 1983, p. 4; “Bejeweled,” 1999, p. 11), and she too uses the name ‘Osmeña pearl’ (Collins, 2019). Like Sebiri, Collins blends large pieces of organic materials and minerals in her work, and also often pairs these elements with ancient coins and other small antique fragments. As one advertisement puts it (“Display Ad 1--No Title,” 1996, p. A2), “stone age beauty: dig no further. we’ve unearthed the perfect post-modern accessory.” As the nautilus is a living fossil, Osmeña pearls fit thematically as well as visually into Collins’ designs. Although unrecognized in the traditional story of coque de perle, throughout the twentieth century and into the twenty-first, both named and anonymous artisans made use of the gem.

ECOLOGY & THE END OF COQUE DE PERLE?

Fashion has been global for a very long time, and sometimes historians can measure its environmental impact. Sebiri herself ran afoul of modern endangered species laws by employing tortoiseshell sourced from hawksbill turtles (Taylor, 1973, p. 38). Scholars today

recognize that premodern European hunting and deforestation destabilized populations of a range of animals (Hoffman, 2010, p. 137-64). Europe famously out-trapped its own beaver population by about 1500, and by 1600 sable had been over-hunted throughout western Russia so that hunters sought deep into the arctic and Siberia to reach their quarry (Veale, 2003, p. 174-5). Further, climate change can multiply the effects of hunting on the historical availability of animals. For example, changes in sea ice during the Little Ice Age enabled increased bowhead whale hunting at a level that destabilized bowhead populations (Degroot, 2015, p. 78-9; Degroot, 2018, 10.1002/wcc.518). Yet, sable and beaver, like bowhead whales, remain European animals. As mahogany does for the plant world, nautilus provide us an almost unparalleled instance where we can postulate the environmental impact of both climate change and European fashion’s global supply chain on a tropical animal species at a distance of hundreds of years (Anderson, 2012, p. 1-17). Only recently have scientists become fully aware of nautilus ecology and been alerted to the dangers of overfishing for the shell trade. The lone shell-dwelling cephalopod, nautilus live near coral reefs in the eastern Indian and western Pacific Oceans (Ward, 1987, p. 125-6, 156-61). A nautilus can live over twenty years, but they do not reach sexual maturity until fifteen, and bear only few eggs at a time that take up to a year to hatch. As environmentalists are noticing in contemporary overfished nautilus habitats, population destabilization easily leads to population collapse, and when combined with isolation, permanent local extinction (Dunstan, Bradshaw, and Marshall, 2011, e16716). Scientists have recorded this occurring in recent decades, and we have no reason to think that premodern nautilus populations avoided similar fates. Further, the climate ecology of nautilus matters when reconstructing their premodern use in European ornaments. Nautilus cannot thrive over

25-28C, and today that makes them deep-water animals, living well below 100-150 meters (Ward, 1987, p. 131; Vandepas, Dooley, Barord, Swalla, and Ward, 2016, p. 4925.) After the medieval warm period, however, during the Little Ice Age, water temperatures became low enough to expand nautilus territory beyond what we see today, until temperatures rose again by 1850 (Deng, Liu, Chen, Wei, Zeng, Xie, and Zhao, 2017, p. 272-3.) That is, during the Little Ice Age, nautilus could reach shallower waters without overheating, and therefore potentially made them much easier to trap than they had been in the Middle Ages. In an unexpected way, then, climate change may have partly enabled the large nautilus catches necessary to develop and sustain a fashion for coque de perle, and then played a role in the decline of coque de perle's manufacture after 1800, as oceans warmed again, forcing nautilus back into deep water. Since the twentieth century, mechanical winches have facilitated deep-water trapping of large numbers of nautilus, threatening local populations rapidly. Osmeña pearls are currently available on crafting websites for as little as seven pounds per plaque, and so there is reason to consider the history of coque de perle and its continued effects on nautilus populations carefully. Although nautilus trapping is now prohibited or regulated throughout most of the animal's current habitat, there is little oversight at shell markets, and the industry continues to soak up nautilus, regardless of legality (Nijman, Spaan, and Nekaris, 2015, e0140593).

CONCLUSION

In the end, nautilus ecology and climate change did not shutter the coque de perle industry, but they played a role in its history, and could still spell its final end if we do not prioritize sustainable use of Osmeña pearls. Cooling waters began to shrink nautilus habitats as stocks were at their most overfished in the late eighteenth century. By

the nineteenth century, remaining nautilus inhabited deeper waters than they had for several hundred years, and at the same time advances in lighting technology led the fashionable to desire ever-more faceted gemstones. As nautilus became more difficult to trap, fast-growing seed-pearls continued to offer pearl's famous lustre for those who desired it, and could be layered onto necks and arms in ways coque de perle never was, even at its height of popularity and availability. Coque de perle continued to be valued in antique jewellery throughout the nineteenth century, and continues to be collected today. Renamed by a new empire, Osmeña pearl jewellery takes part in hundreds of years of coque de perle fashion. As early as the mid-sixteenth century, naturalists enthused over the quality of nautilus nacre, claiming it "shone with a thousand kinds of color" (Belon, 1555, p. 385) "like an opal" (Argenville, 1742, p. 250), and that it was no less fine than pearl (Caire-Morant, 1833, p. 400), and these assessments have stood the test of time. Today we share the enthusiasm of the early zoologists and Georgian gentry for nautilus nacre, but we know as they did not that fashions like Osmeña pearls can lead to extinction, and perhaps a permanent end for coque de perle. My thanks to Susan Holloway Scott for the inspiration and patient encouragement to research coques de perle, and to the anonymous peer reviewers who led me to fruitfully review sources I had discounted.

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Forensic Jewellery: A Marriage of Two Fields

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ABSTRACT

Jewellery's potential as a tool in the identification of the deceased is increasingly referenced within the scientific process of forensic human identification. Jewellery's prevalence in society, potential to corroborate 'primary' methods of identification (such as DNA, fingerprinting and odontology) in addition to its generally robust physical form, means that jewellery is increasingly cited as a key form of evidence in death, crime and disaster investigations.

This paper introduces a new creative methodology for contemporary jewellery; scoping the exploratory and highly-interdisciplinary proposition of 'Forensic Jewellery' – jewellery as a method of forensic human identification. It questions the appropriateness and effectiveness of the methods and techniques present in the field of jewellery design when transferred into the new context of forensic science; drawing upon a broad range of examples from both literature and practice that highlight the unusually symbiotic relationships between the two (at first, seemingly polarized) fields.

The work is informed by the perspective, experiences and interpretations of the author as a contemporary jeweller exploring and prototyping the emergent new role of 'Forensic Jeweller' – a jeweller operating within, or whose work pertains to, the field of forensic science. It aims to open up a dialogue surrounding the need for jewellery designers and forensic practitioners to work together in co-designing a hybrid methodology; encompassing methods and approaches from both fields in order to further mutual understanding of jewellery's potential in forensic settings.

Keywords: *jewellery, forensics, identity, death, the human body, identification, crime science, disaster, co-design*

INTRODUCTION

Traditional forensic approaches to human identification in respect of identifying the deceased generally rely upon the physical body in the provision of clues. An anatomical, pathological, odontological or skeletal specimen; a drop of blood or distinctive spatter pattern; a smudged or partial fingerprint; a single, microscopic, DNA-encoded follicular tag – all can speak volumes to the correctly-tuned ear. These 'primary' methods of identification (Black, 2012; Jensen, 1999) – namely, fingerprints, DNA and dentistry – are inextricably linked with the image of forensic science today (EAFS, 2012) and generally offer a collective 'holy trinity' of reliable, indisputable evidence. They are the cruxes of any successful identification: examples of traditional forensic tools for reliably establishing identity solely if one is present (Black, 2012).

The availability and reliability of these three primaries in respect of many contemporary crimes and disasters, however, has increasingly come under attack (Schmitt, 2002; Baraybar, 2008); owing to international discrepancies regarding storage and access to dental records, a lack of fingerprint databases for comparison in respect of individuals with no criminal record, and a shortage of DNA testing and analysis capabilities in certain parts of the world.

In instances where primary methods may not be readily available or where victim remains may be otherwise too difficult to identify solely through traditional means, recent years have witnessed an increase in reliance upon 'secondary' methods of identification in order to help supplement the traditional biological parameters of the human body. Although 'secondary' methods cannot be proven unique in their occurrence (Dorries, 1999), skeletal or surgical anomalies such as medical

implants and prosthesis, scars and birthmarks, tattoos and piercings (Starkie, 2012), and even circumstantial evidence such as an eyewitness testimony or social media profiles may all help to corroborate a possible identity. Personal possessions such as jewellery can also play a potentially integral role within the context of forensic human identification. Personal Effects (PE) collectively describe the inanimate belongings of an individual located on or near to their person at the time of death (Easthope, 2008; Eyre and Payne, 2006; Thompson and Puxley, 2007). Items such as identity cards, photographs, mobile phones and jewellery can all help to supplement the internal and external narratives of the human body.

PE can be further divided into two subcategories: specifically, items which are 'associated' or 'unassociated' (Eyre and Payne, 2006; Thompson and Puxley, 2007). 'Associated' items are personal belongings which can be directly linked to the identity of an individual (Thompson and Puxley, 2007), either due to a clear identifying feature (such as a name, date, or photograph), or because they are recovered upon human remains that have otherwise been identified (for example, through primary methods). 'Unassociated' items, therefore, are those items that cannot yet be reliably linked to an identity, either because the item(s) do not have a clear identifying feature or because they have been recovered from human remains that are not yet identified.

Although a secondary method of identification, jewellery is often a potentially important example of PE. According to Dorries (1997), jewellery - more so than an individual's clothing, photographs, or even body location - often enjoys similar levels of success to blood group and radiography. Despite rarely being the sole identifier in an investigation, the use of jewellery can arguably be linked to more than twelve distinct areas of law enforcement (MacLennan, 2018). Encompassing Disaster Victim

Identification (DVI), Crime Scene Investigation (CSI), homicide/suicide differentiation, serial killer profiling, forensic art and facial reconstruction, a significant number of publicized legal cases in recent years have increasingly referenced jewellery in forensic and criminal settings.

IDENTITY, DEATH, AND THE HUMAN BODY

Whilst the 'forensic' use of jewellery may initially appear like a new phenomenon - perhaps because it is not an immediately scientific approach - the corresponding field of jewellery design shares a simultaneous fascination with the notions of identity, death and the human body. Jewellery, contextualised within design, holds significantly differing and considerably more extensive relationship(s) with these themes than that of its considerably narrower presentation within forensics; with designers for centuries having instead explored jewellery's characterisation by human-centred experiences, echoing the important contemporary shift to a culture where people are tiring of consumption and consumerism and are increasingly seeking more enriched and meaningful experiences (Bauman, 2004). Jewellery possesses an intrinsic value that differs from that of a sculpture or textile piece. As a method, it inherently considers the concept of identity, requiring the designer to have an intimate understanding of the emotional facets of identity in relation to the human body.

Culturally, socially and anthropologically, the practice of 'designing', crafting and wearing jewellery is a significantly more ancient tool in the communication and interpretation of identity than its younger sibling, science - used to interpret the biological parameters of the human body. In his essay on Thing Theory (2001), Bill Brown questioned the dualism of subject-object relations, noting that "we look through objects (to see what they disclose

about history, society, nature, or culture - above all, what they disclose about us)" (2001: 4).

Historically, jewellery's links with identity have held personal, sentimental, societal, religious, cultural and memorial significance; demonstrating a connection to identity, death and the human body across time, place and space. In many ways, jewellery is a microcosm of all human endeavor, occupying a unique place in the human psyche. Jewellery may have been presented as a gift, passed down through generations as a treasured family heirloom, or may signify a significant personal or public relationship (natural and artificial, physical and virtual), event, or life stage between individuals.

For many centuries, expert practitioners in fields of material culture have painstakingly researched, excavated, interpreted and reconstructed iconic artefacts which continue to update history with the important discoveries of our ancestors. The lives and times of an individual can often come to be better understood through artefact autopsies; objects which embody the narratives of those who created, used, or owned them - or that may provide evidence as to the specific tools and processes employed at the time they were brought into fruition. Archeologists often engage in the scientific process of 'ceramic dating' through participating directly in pottery classes (Orton and Hughes, 2013).

Indeed, there is an identified literacy of understanding that comes from learning first-hand how something is made, as well as why (Press, 2010). Human beings learn through not only the act of physically making design, bringing reasoning and doing together, but through understanding the purpose and significance of the resultant artefact itself. Understanding how and when an object was made has the potential to tell us much about whom it was made by, in addition to why and

from whence it came. This archaeological excavation and anthropological study of jewellery is arguably not so far removed from the settings wherein present-day forensic practitioners may come to uncover jewellery from modern burial or disaster sites, examining PE to help supplement biological human remains.

It is therefore not entirely surprising that many of the same forms and functions of jewellery that have fascinated human beings for centuries are the very reason the wider field of jewellery design may be able to offer further insight to the field of forensic science.

PRIOR COLLABORATION

In spite of their shared interests, it is curious that the interdisciplinary idea of 'forensic' jewellery has previously not been more commonplace, in either field, given that jewellery is one of the oldest forms and key indicators of identity adopted by human beings. The majority of prior attempts to bridge the gap between jewellery and law enforcement have largely focused on the area of Jewellery and Gem Theft (JAG), exploring jewellery from the perspective of crimes, heists and gem trafficking. The topic of forensic human identification, however, remains largely unconsidered. International collaborations between Rolex, Essex Police and INTERPOL were previously evidenced in the 1996 homicide investigation of Ronald Joseph Platt (Thompson and Puxley, 2007); between Tiffany & Company and the New York City Police Department (NYPD) in reuniting families with loved ones' jewellery after 9/11 (Snow, 2004); and through a (now-annual) partnership between the Gemmological Institute of America (GIA) and Federal Bureau of Investigation (FBI) in respect of training FBI agents in gemmological tools and techniques in order to tackle jewellery and gem-related crimes across America (Bates, 2012).

Prior initiatives have also largely stemmed from outwith the field of design; initiated by law enforcement agencies, well-meaning members of the public, and as a result of serendipitous encounters. The majority of forensic science cases that reference jewellery have been largely opportunistic, sporadic and somatic; neglecting many of the personal intricacies and emotional narratives that can exist between jewellery and its human host. In consequence, a narrow interpretation of the opportunities for knowledge exchange between forensics and jewellery has thus far been presented, with a distinct absence of the voice of the jewellery designer observed within this context. The wider discipline of design, however, is saturated with opportunistic themes of relevance to forensics, with jewellers (potentially unknowingly) already undertaking theory and practice that may offer directly practical insight to the field of forensics. Jewellers too, are arguably already prone to a lot of their own 'detective' work: from the various roles undertaken by jewellery historians, researchers and antiquarians; valuers and appraisers; fake and forgery experts; hallmark and assay specialists, and those with expertise in gemmology. Notwithstanding current debates surrounding digital and medical jewellery and the increased miniaturization and integration of biometric technology in relation to the human body, however, there is a simultaneously curious absence of forensics as an explicit theme within the field of jewellery design.

Whilst the field of jewellery design does not claim to hold all (or even any) of the answers in furthering jewellery's potential in forensic investigations, consideration should be given to where jewellers may contribute important value to this interdisciplinary discussion.

THE JEWELLERY AUTOPSY

Just like a human body, all jewellery has its own unique structural 'anatomy' upon which one may conceivably perform somewhat of a metaphorical autopsy; dissecting and identifying an object's individual component parts. Many of the approaches, tools and techniques that have their origins in the jewellery industry are already utilized to some extent within fields of law enforcement.

Physical characteristics such as hallmarks (Gregory, Jordan, and Organ, 2010), serial numbers (Sincock, 2007) and gemstones (Bates, 2012; GIA, 2008) may not only aid in victim identification, but also suspect or perpetrator apprehension (Sincock, 2007). Personal inscriptions or engravings, representational symbols such as medals, badges of office, religious iconography, military insignia and genealogical or gemmological markings can all prove useful in informing investigators much about a piece, and thus, the victim or perpetrator to whom it belonged. Through such means, jewellery has often been known to be traceable down to geographic or regional origins; in helping to establish the timeline of a piece's movement across continents; point or place of purchase, and thus - potentially even the purchaser, victim or perpetrator themselves.

The type of jewellery artefact may also be significant. Watches, for example – both higher end and inexpensive items - are often useful identifiers in homicide investigations (Costello and Zugibe, 2011; Sincock, 2007; Prahlow and Byard, 2012; Tuller and Paolello, 2011). Timepieces need not even be working – in many homicides and mass-fatality situations, battery reserve functions may be able to denote the approximate date or even time of death within a small margin of error (Mariner's Museum, 1997).

Finger rings may provide useful circumstantial evidence (Prahlow and Byard, 2012), whereas pendants or neck chains may be utilized as homicide weapons: in the deliberate asphyxiation of a victim (Daily News, 1970) or conversely, as an unintended cause of death in the case of accidental strangulation (Carty, 1993).

Commissioned, bespoke or modified items may also hold vital identity clues (Brown, 2012; STV News, 2012). Lockets containing family photographs (Easthope, 2008; Eyre and Payne, 2006; Thompson and Puxley, 2007), engravings or inscriptions, or particularly personal pieces may all help to provide the clues as to the potential identity of a victim.

Gemstones too, hold significant potential within the realms of human identification. Particularly valuable diamonds are now often laser-engraved as a matter of course at a microscopic level, concealing an otherwise secret series of serial numbers or even personal inscriptions. In a case cited by the Gemological Institute of America (GIA), the identification of a diamond in an engagement ring led to the successful identification of its owner; a previously-unidentified victim of homicide (GIA, 2012).

“In law enforcement speak, a diamond is essentially as individual as a fingerprint.” - Dan McCaffrey, FBI Jewellery Expert (Bates, 2012)

A MARRIAGE OF TWO FIELDS?

The themes of death and mourning are of particular relevance within both historical and contemporary fields of jewellery design. Such themes were particularly strong in Victorian times, whereby approaches to jewellery making often involved combining physical elements of the deceased's remains (in particular, human hair) in order to create deeply personal memorial artefacts. Both historical and contemporary jewellers alike have long experimented with how the various 'primary' forensics parameters of the human form, such as fingerprints (Figure 1: Wallace, 1999), can be literally abstracted from the physical body and translated into alternative wearable forms. .



Figure 1. 'Touch'. Photo: J. Wallace.

Jeweller Kerry Howley's 'Attraction/Aversion' collection (Figure 2, 2011), for example, weaves intricate statement necklaces from discarded human hair, creating beautiful pieces of jewellery from a material otherwise usually swept up or thrown away. Claire Johnston's 'Tooth Fairy' series (Figure 3, 2008) demonstrate how 3D printing and rapid prototyping technologies are increasingly contributing to the ability of jewellers to play with aspects of the human body using jewellery; 'upsizing'

traditionally minuscule deciduous ('milk') teeth into large ceramic jewellery. Through these contemporary techniques, individuals can effectively come to 'wear' the primary methods of another.

Might these new forms of contemporary jewellery, therefore, be used to forensically link jewellery to an individual...?



Figure 2. Attraction / Aversion': Photo: K. Howley.



'Figure 3. String of Pearls'. Photo: C. Johnston.

Forensic practitioners too, are exploring the possibilities of 'crafting' with new technologies; with forensic odontologists utilising computer-aided design and 3D printing in the process of forensic tooth reconstruction (FTR) in order to recreate missing teeth (Johnson et al., 2019). In the context of forensic science, it therefore becomes appropriate to consider the point at which objects that incorporate, replicate or reconstruct aspects of the human body function (or cease to function) as personal effects and/or as part of the human body itself.

Whereas jewellery designers are increasingly experimenting with the human form, forensic investigators are conversely dealing with jewellery.

It is sadly not an uncommon occurrence for both the human remains and jewellery of one individual to become co-mingled with those of an unrelated other (Mackinnon and Mundorff, 2007). Contemporary jewellers too, also regularly experiment with the notion of how and where jewellery may be situated around the body in ways and locations not originally intended.

The portable and thus removable nature of jewellery means that it is collectable and interchangeable between individuals, and jewellery may not always be able to be considered definitive proof of identification of the individual with whom it is recovered (Thompson and Puxley, 2007). Consideration should also be given to the fact that jewellery is commonly gifted to individuals by a partner or spouse, as is often the case with contemporary wedding or engagement pieces.

In the aftermath of 9/11, human remains were recovered with jewellery artefacts embedded in unusual places, such as a pendant located inside the dentures of an individual (Figure 4: Fisher and Fisher, 2012), whereas radiographs highlighted an amputated hand complete with finger

ring inside the thoracic cavity of a completely different individual (Figure 5: Mackinnon and Mundorff, 2007).

In spite of this, the potential for jewellery to harbour aspects of its external environment, including human tissue containing DNA, may offer investigators a useful repository from which to obtain trace evidence. Diamonds in particular often have a great affinity to attract DNA such as skin cells, and as a result, it may be possible to obtain a sample from the now solidified or calcified matter that has accumulated between the various nooks of a piece (Gregory et al., 2010).

These themes are simultaneously echoed in the field of contemporary jewellery. The inspiration for Victoria Kelsey's 'Precious Grime' collection (2011), for example, developed from her fascination with how aspects of a wearer's external environment can build up and leave a deposit on jewellery over time. From the marks, traces and residue left behind as a result of dirt, rust, age and time, Kelsey considers how these aspects may come to serve as new additions to the piece itself.



Figure 4. Cross in dentures. Image: G. E. Burgman, courtesy of B. A. J. Fisher.



Figure 5. Radiograph of amputated hand and finger-ring in thoracic cavity. Image: Used with permission of the Office of the Chief Medical Examiner, New York City, from 'Forensic Human Identification Case Studies: The World Trade Center - September 11, 2001' by G. Mackinnon and A. Z. Mundorff, in 'Forensic Human Identification: An Introduction' by T. Thompson and S. Black, 2007; permission conveyed through Copyright Clearance Center, Inc.

THE ABSENCE OF JEWELLERY

Often jewellery's strength in a forensic or criminal case is not due to its presence, but its absence. Even in jewellery's absence, it may nonetheless still be possible to detect its previous presence by observing any physical traces or clue(s) that may have been left behind on the body that hint at where jewellery could have been worn. Whether through 'nipping', 'marking', 'rubbing', or 'irritating' the wearer in some way; the reaction(s) of different materials with an individual's skin (for example, in turning a finger 'green' or in prompting a rash or allergic reaction), the various impressions, spaces, places and traces left behind in jewellery's absence are much-discussed in both the fields of forensic science and jewellery design.

From ligature marks left behind by jewellery used in strangulation (Daily News, 1970) to the impressions left behind on a victim's body as a result of the jewellery worn by perpetrators (Wainwright, 2001), jewellery may leave behind it a visual 'memory' or narrative indicative of the event, action, or crime that occurred. These messages are largely transient: investigators must be quick to recognise, read, and capture the various signs, symbols, and messages of jewellery before they disappear forever. Fisher (2005) notes, for example, that the sheer force of a lightning strike may "*melt metal objects on or in the clothing. Metal objects including jewellery may also show arc marks or charring with burning of the surrounding skin*" (2005: 130).

Often, crucial information may already be present upon the body, however the methods of recognizing, lifting, recording and matching such data can be invariably sporadic. Following the Indian Ocean Tsunami in 2004, it was reported that many jewellery items such as rings, watches and necklaces, had been removed from victims' bodies by Thai locals and subsequently sold on a means of

generating income (Bikker, 2010). Through the targeted application of ultraviolet (UV) photography, however, forensic investigators were still able to view impressions of the (now-absent) jewellery items upon victims' skin (Bikker, 2010).

Previous collaboration between the Goldsmiths' Company London Assay Office and UK police included a case whereby a homicide victim had been strangled using her own gold neck chain; an action that had in turn left a distinctive impression upon her neck (Gregory et al, 2011). Although the chain itself had subsequently been stolen, owing in due to the distinctive impression of the individual 'links' left upon the victim's skin, the Assay Office were able to narrow down a selection of possible neck chain types from their extensive jewellery database as belonging to a particular manufacturer, enabling Scotland Yard to pursue new routes in their investigation (Gregory et al, 2011).

Contemporary jewellers are also no stranger to the traces and impressions left behind by jewellery. Tiffany Parbs' conceptual jewellery series, 'Marked' (Figure 6, 2005), investigated the impact of an individual's external environment upon the body as a direct result of the application and/or intervention of different elements, processes or injuries caused by heat, friction and trauma; investigating how each one may come to be viewed as different forms of conceptual 'jewellery' and extension of the wearer's identity. Parbs' use of the skin as a "*self-referential mechanism*" demonstrates how the various surfaces of the human body "*can be gently manipulated to respond to ephemeral embellishments [...] to transmute into temporary articles of jewellery, topically and through introduced means*" (2005: Online).

As part of her 'Wear/Worn' collection (2011), contemporary jeweller Frances Andrews similarly explored the notion of temporary or transient 'jewellery' through her range of non-permanent, single-use tattoo-style transfers (Figure 7). Whilst the pieces arguably

function as examples of contemporary jewellery in their own right, the negative space and the traces subsequently left behind in their absence can arguably also be viewed as examples of more abstract 'jewellery'.



Figure 6. 'blister-ring'. Photo: T. Bogue, courtesy of T. Parbs, 2005.



Figure 7. 'Faking It'. Photo: F. Andrews, 2011.

THE ABSENCE OF THE BODY

In discussing the absence of jewellery from the body, the absence of the body itself may additionally act as a basis from which to understand one potential role of jewellery in forensic science. Cwerner (2001) discusses how PE can come to lay 'at rest' in the various handbags, wardrobes, homes, offices, and/or places of work throughout our lives. Jewellers have similarly explored the notion of jewellery that is 'resting' or out of sight or in storage away from the context of the human body - Laura Potter's 'My Life in a Sock Drawer' (2007) explored the 'secret' life of unworn jewellery that individuals often keep hidden away for personal or sentimental reasons, but which nonetheless contribute to our "*construction and preservation of the self*" (2007: Online).

These unworn artefacts can often inform police and forensic investigators much about a victim's life and relationships. As Watson (1997), Hanson (2011), and Brown (2001) all argue; inanimate objects will always allude to things that are not fully explicit, never entirely revealing all. Careful to avoid the hypothesis of conjecture, Police Family Liaison Officers (FLOs) will often closely consider the location(s) whereby an individual comes to deliberately choose or accidentally deposit PE in their daily lives, in addition to PE recovered at crime scenes, in order to establish important contextual insight surrounding a missing person - a process that McGarry (2010) refers to as building a 'victimology'. The location of jewellery can be a potentially significant form of circumstantial evidence; helping to denote the time (Sincock, 2007), speed (Campobasso et al., 2003) and even type of death - accident (Davis, 1999), homicide (Komar and Beattie, 1988), or suicide (Dettling et al. 2003). Items neatly placed, folded or otherwise arranged at the side of the sink of an individual found drowned in their bathtub, for example, may indicate

deliberate removal and thus, premeditated thought or suicidal intent. Effects found still worn upon a body or loose in the water, however, are more likely to suggest an accidental or non-suicidal drowning (Thomson and Puxley, 2007).

In coming to read the stories of these secret, hidden, or 'resting' objects, therefore, even in the absence of the human body, jewellery may come to act as useful form of circumstantial evidence; a proxy for the (often multiple) identities, narratives and personal circumstances of the individual to which it belonged. This notion was evidenced in the disappearance of Arlene Fraser (Daily Record, 2012), whose body was never recovered but whose three distinctive rings were found 'resting' at the family home; in turn becoming the cornerstone of the subsequent homicide investigation against her accused husband, Nat Fraser.

PROBLEMS WITH JEWELLERY

In reflecting upon some of these examples, it is evident that jewellery is already used on a relatively regular basis within forensics, however its use is not without its caveats. There are many problems associated with utilizing jewellery as a consistent and reliable form of forensic evidence.

Despite enjoying a proud history as a bearer and communicator of identity, the diversity of jewellery is beginning to diminish in our mass-produced society focused on consumption and consumerism. Where geographical or cultural diversity may have once been possible through jewellery, we are now losing through our increased reliance on the machine for production, whereas the inherent loss in individual hand craftsmanship has resulted in less variation between items. PE by their very nature tend not to be unique

(Thomson and Puxley, 2007), and where the inherently personal, hand-crafted sensibilities and idiosyncrasies of an item of jewellery may have once offered crucial insight as to the identity of an individual, jewellery too is suffering from the homogenous trend led by the ever-unsustainable generation of high street stores; bringing into question how one could possibly differentiate between what is one item of jewellery as opposed to one hundred others.

Similarly, whilst the nature of certain jewellery materials is often physically robust - many artefacts can withstand extreme criminal or disaster environments; surviving through the scorching temperatures of fire (Fisher, 2005; GIA, 2012); disintegration through burial (Thompson and Puxley, 2007); or degradation of water submergence (Sincok, 2007) - just like the human body, jewellery is not infallible to the effects of its environment, and still possesses the potential to deform in shape, size, and appearance subject to external trauma.

Current international process involves investigators populating INTERPOL's ante-mortem (AM) Disaster Victim Identification (DVI) forms with the descriptions of jewellery worn by a missing person provided by the victim's family or next-of-kin, and comparing with the (often hugely differing and highly sporadic) descriptions of the jewellery remnants recovered by investigators after a disaster, as recorded on INTERPOL's post-mortem (PM) forms (McGarry, 2011; Bikker, 2010). However, the combination of inconsistent or ambiguous terminology, lack of specialist knowledge regarding the item in concern, variations in both informal and formal language, translation barriers, and the natural subjectivity of interpretation, can all contribute to how successfully this process is, resulting in a 'match' (or lack thereof) between descriptions. What may have once been described as a 'yellow metal ring', for example, may have deformed

so dramatically post-disaster that it now resembles a different physical form or aesthetic entirely.

In the world of contemporary jewellery, Frances Andrews' 'Rough Diamonds' series (Figure 8, 2011) also explored the degradation and destruction of jewellery as a direct result of exposure to different external processes, actions or events. Inspired by the marks and traces of jewellery left behind by over time, the pieces involved a series of hand-carved graphite rings that become increasingly more 'worn' as the wearer chooses to 'use' or otherwise interact with them. The injury, destruction, or degradation of jewellery through the deliberate application of different materials, processes or environments (for example, fire, water, soil or pressure) is an area that could be further experimented with in exploring how jewellery may come to withstand various forensic contexts - such as in the additional case of Kekok Kim's 'Crashed Rings' (2012) which present "the re-transformed process of creating form through destructing the original" (2012: online).

To date, no centralised law enforcement database, standardized operating procedure, or universal police protocol exists on either a regional or international level to inform the universal description and classification of jewellery. Whilst there exist a variety of initiatives, recommendations and databases to inform the description, classification and identification of jewellery within the respective fields of both design and law enforcement, the vast majority exist to serve the field of jewellery and gem theft or for insurance/probate purposes (Cooper and Pelham, 2018). The future compilation of a common operational methodology and international guidelines for use in the context of international forensic investigations is therefore integral in ensuring jewellery's contribution to succinct and fast-response procedures post-crime, death and disaster.



Figure 8. 'Rough Diamonds'. Photo: F. Andrews, 2011.

When considering how to approach further developing the field of Forensic Jewellery, consideration may be given to other hybrid disciplines such as forensic archeology, forensic architecture, or forensic art - a creative approach to law enforcement dating back more than a century (Taylor, 2000) – as a framework for inspiration.

Drawing upon a diverse range of creative knowledge and requires collaboration on the part of many (Gibson, 2007; Taylor, 2000; Wilkinson, 2012), forensic art blurs the boundaries between art and science;

the result being a wholly new discipline that encompasses appropriate elements of both and yet which cannot be wholly categorised nor comfortably defined by either (Wilkinson, 2012). The 'forensic' artist must learn how to apply their artistic skills in specialist forensic contexts,

making relevant their practice in a way that is perhaps not entirely natural or indeed comfortable to them. Gibson (2007) notes that if art has previously needed desirability to endure, then forensic art "is the only profession where the image can be poorly done, sketchy, unfinished and otherwise flawed, yet becomes perfect if it generates a successful outcome" (2007: 199). This interpretation opens up artists' skills to a whole new utilitarian world - enabling a sense of purpose, value and worth not solely reliant on beauty, imagination, or being the 'best' in one's field.

CONCLUSION: TOWARDS 'FORENSIC JEWELLERY'

Jewellery has a unique position in terms of both discipline and medium: its applications are broad and the themes it deals with, diverse. Almost all of the cases that reference jewellery in the field of forensic science can be found to have a corresponding theme within the field of jewellery design. This treasure trove of relatively untapped, yet potentially significant collaborative potential offers a plethora of opportunities for both forensic and jewellery practitioners to explore in relation to identity, death and the human body.

Although multiple and complex, this paper has sought to begin a process of highlighting some of the many existing overlaps, current gaps and future opportunities for collaboration between different expert roles in each field. In order to develop a truly hybrid proposition, however, it is not enough to for any one individual (in this case, the author) to contextualize Forensic Jewellery from the individual perspective of either forensic science or jewellery design. Before either discipline may fully begin to consider the potential and appropriateness of each other's methods and approaches within their own field, the proposition of Forensic Jewellery must be co-designed; collectively, between a variety of expert practitioners. Knowledge exchange is key to the development of good ideas, with both scientists and designers alike particularly skilled at working across disciplines in order to maximize opportunities for innovation.

For designers, the proposition of Forensic Jewellery offers a plethora of new forms, functions, roles and interpretations of jewellery; from considering

new applications for traditional jewellery-making techniques such as hallmarking, to exploring wider philosophical issues and social theories. The introduction of new perspectives in contemporary jewellery may simultaneously come to challenge jewellery designers to potentially consider not only new applications of their practice, but the opportunity to adopt a more outward-looking perspective; considering the role and purpose of their designs in the wider world, and the implications and consequences of wear and use.

Conversely, the gentler perspective of design offers the current, largely mechanistic view of jewellery presented in the field of forensics fresh insight into the meaning of objects, and a view of the inherently softer, more emotive qualities of what identity can be. This builds on the current evidence base that demonstrates the designer's contribution to new and emergent research contexts outside of their own discipline, offering important insight to discussions as far-reaching as healthcare and counterterrorism to name but a few. Although the new perspective of design within the field of forensics may come to mean nothing; challenging conventions, playing out alternative scenarios and critically questioning and engaging possibilities lies at the very heart of a designer's approach.

The proposition of 'Forensic Jewellery' is ultimately about questioning the appropriateness and effectiveness of the methods and techniques of one discipline when transferred into new a context. This new, blended sci-design approach is both young and exploratory; neither exclusively a science nor an art - and yet, it is an approach which offers a plethora of opportunity for both forensic scientists and jewellery designers alike to explore and extend the boundaries of their respective practice through

building future partnerships.

“They are questions that ask not whether things are but what work they perform – questions, in fact, not about things themselves but about the subject-object relation in particular temporal and spatial contexts. These may be the first questions, if only the first, that precipitate a new materialism that takes objects for granted only in order to grant them their potency – to show how they organize our private and public affection.”

-Bill Brown (2001: 7)

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But I can't take it off, it will go cold

Author: *Amy Peace Buzzard*

ABSTRACT

We develop our personhood in part through the possessions we surround ourselves with. We live together, in conversation, forming narratives and loading our personal items with memories specific to us (Miller, 2008). These valued objects become 'a window into that person's inner self' (Richins, 1994: 522), offering a unique form of insight.

Working in dialogue with selected participants, this project explores narratives attached to our possessions, forming contemporary jewellery artworks through these discussions; with the aim being to explore how both social and corporeal perspectives contribute to the ways that we form emotive relationships with our possessions. These pieces of jewellery are then being given to their respective participants to own, temporarily. This participatory ownership aims to develop an understanding of how both social and corporeal relationships come together to form an emotive bond. The result of this project is a collection of 'lived' jewellery pieces that, uniquely, document the dialogues that have occurred.

Throughout this paper images are accompanied by poems (by Amy Peace Buzzard), written during the forming of the respective pieces.

INTRODUCTION

Our possessions and the narratives they reflect form an expression of self (Richins, 1994). We exist together, altering and being altered by what we keep close; we pour in sentiment and form attachments; 'meaning develops as an interactive process between thing and viewer.' (Pearce, 1994: 19). Our possessions act as witness to our everyday, absorbing us. They focus on certain events, allowing

access to specific experience, 'continuously re-presenting us to ourselves... telling the stories of our lives in ways which would be impossible otherwise.' (Pearce, 2010) Objects act, remaining present, whilst letting us trace backwards, forming a historic image of ourselves. (Miller, 2005: 8).

This project centres on the narratives and emotive attachments that we form with significant possessions. This theme is approached from two perspectives, the **social**, drawing on the sociological work of Ervin Goffman (1959) and Pierre Bourdieu (1977), and the **corporeal** relationships we have with our possessions; hoping to develop an understanding of how they contribute to forming an emotive dialogue. This project aims, through social research within a craft-based practice, to form a tacit understanding of these perspectives. Throughout this paper the term dialogue will be used to reference the, at times unspoken, conversations occurring between person and possession.

We form a sense of self in relation to the physical things framing our surroundings (Goffman, 1959). We digest our world, taking **social** cues from the diverse material that surrounds us, embedding this through habitual action (Bourdieu, 1977). Anthropologist Daniel Miller highlights the histories contained within this surrounding material, stating:

'We cannot know who we are, or become who we are, except by looking in a material mirror, which is the world created by those who lived before us. This world confronts us as material culture and continues to evolve through us.' (Miller, 2005: 8)

These histories are imbedded in our possessions, contributing to our social reading of the material and

But I can't take it off, it will go cold.

in turn its impact on our person. Knowledge of our possessions may be at its most intimate in its **corporeal** relationship. Our bodies register interactions, building a memory of materiality. Psychoanalyst Didier Anzieu describes the permeability of our body's surface:

‘(The skin) is, as a site, a primary means of communication with others, of establishing signifying relations; it is moreover, an ‘inscribing surface’ for the marks left by those others.’ (Anzieu, [1989] 2016: 174)

He notes a dialogue occurring, of our body interacting and recording these interactions in our tactile memory. Through this dialogue our memory of materiality is developed, forming a tactile palimpsest of experience.

The Contemporary Jewellery (see footnote ¹) discourse is the situating point for this project. People tote talismans, loading them with sentiment; these jewels are ‘capable of bestowing a certain power upon the wearer’ (Cunningham, 2007 a) developing personal meaning.

¹ Within his book *Contemporary Jewellery in Perspective*, Damien Skinner defines Contemporary Jewellery to be ‘a self reflexive studio craft practice that is orientated to the body’ critically reflecting on the history of the jewellery and adornment field through independent art practices that result in work where ‘wearability’ or the body is defined within the subject (Skinner 2013, 10-15). As a term it could include a variety of facets including Studio Jewellery, Art Jewellery, Research Jewellery and Author Jewellery (Den Besten 2012, 9-10).

Our jewellery takes on layers of meaning and can form a reflection of identity (Besten, 2011: 12). Throughout this paper there are references to narratives, situating the work within the narrative genre of the field. Jack Cunningham states:

‘...for the makers of narrative work there requires to be both an idea and message and, of equal importance, an audience with whom to communicate the message to.’ (Cunningham, 2007 b)

This body of work looks at how an artwork can instruct a person. What is read from a piece before touch (and after); what actions we perceive, and how a social and corporeal frame can alter the intimate experience. This project expands a specific form of methodology; the use of participatory social research within this practice forming a ‘real world’ dialogue with the subject matter. In this way it contributes towards work addressing the body (or lack of) within the contemporary jewellery field (Kemp, 2015) hoping to add a contribution to knowledge.

CONTEXT/THEORY

THE EVERYDAY IMPACT OF OUR POSSESSIONS

Our possessions inhabit our lives, contributing to our everyday experience of the world, with social behaviours triggered by expectations determined by the 'frames' that we are placed within (Goffman 1959). Our possessions, through their persistent 'there-ness' come to subtly 'frame' habits. Our knowledge of them contributes towards our self-understanding. We learn through them, defining norms with each encounter; they become a form of social instruction, shaping habits we come to live by (Bourdieu, 1977). 'The humility of things', a phrase coined by Daniel Miller, concludes:

'...objects are important not because they are evident and physically constrain or enable, but often precisely because we do not 'see' them.' (Miller, 2005: 5).

In a sense they ensure normative behaviour simply by being unseen, therefore this behaviour goes unchallenged. The power of the 'unseen' object is highlighted by artist Susan Collis, whose work often utilises the everyday 'unseen' object, drawing out value through a combination of precious materials and a refined level of craftsmanship. Collis' work utilises these framed associations, and the behaviours we perceive through them, to distort notions of value and symbolic weight (Butcher et al. 2009).

In relation to this, Sara Ahmed's texts on queer phenomenology are important, specifically her understanding of certain normative ways of interacting with objects and how this then informs our opinions and orientations towards them. If the orientation changes, then perhaps our understanding of the object will too (Ahmed 2006). In a similar vein to Collis' work, objects can take on new meaning if the presentation, or orientation is skewed.

Ahmed also notes how we define failure within objects; that this failure is brought to the object, not something innate to the object itself.

CORPORALITY-A SOMATIC EXPERIENCE

Our social experience of our worlds are defined through the corporeal; it is through our bodies that social context is produced (Jones, 2000: 19). In her article 'Subject-Object Body Art' (1971) Cindy Nemser quotes Merleau-Ponty:

'... we do not move the body as we move an object. We transport it without instrument as if by magic, since it is ours and because through it we have direct access to space... Even our most secret affective movements... help to shape our perception of things.' (Nemser 1971, in Jones 1998, 38)

As Nemser highlights, we confront the world not 'using' our bodies, but as our bodies, the experience is tacit. This experience is active, evolving, accumulating knowledge and developing our sense of person (Anzieu 1989, Margetts in Astrup Bull et al. 2018).

When person meets possessions, it is not just person touching possession, but it reciprocating, activating a dialogue, where a certain hierarchy could be perceived. However, by moving away from a subject/object discourse there is room to develop understanding. Diana Coole in New Materialism, quotes Husserl:

"When I touch my right hand with my left, my right hand, as an object, has the strange property of being able to feel too. In the flesh of my fingers, each digit is both object and phenomenal" (Coole, 2010: 107).

To understand the action occurring, we cannot only

perceive from a person perspective, all actants should be viewed holistically (Latour 1999 in Miller, 2005: 11-12). This non-hierarchical approach is prevalent within Animism, where humans become one form of person, and other matter becomes other persons; persons gain meaning through interaction with others (Harvey, 2005: xi).

In regards to the corporeal relationship between person and possessions we could highlight a materiality exchange; we physically take in something from our possessions (in terms of Anzieu's 'inscribed skin') and they take something back (through wear-and-tear). Both respond when in dialogue. From the human perspective it is important to understand how this sensory dialogue produces social knowledge- the haptic experience building a history of materiality (Ingold, 2013). From a possession perspective, we could consider physical changes during dialogue. In her 1976 work, *Post-Partum Document*, Mary Kelly presents her son's used diaper liners, documenting the changing mother-son relationship. The object alone shows the physical dialogue between mother and son, the repetitive stain documenting the interdependent relationship at play.

Possessions are often described with human-like qualities, personified through language: 'Objects store and possess, take in and breathe out the emotions with which they have been associated.' (Miller 2008, 38). This personification can be seen as reinforcing the hierarchical structures mentioned previously, it is therefore important to focus on changes in the possession's physicality through these interactions. We can only project our own emotions onto these objects, learnt through our personal memory of materiality; for the objects themselves the physical change/wear-and-tear, is the readable language documenting the dialogues occurring (Sorkin, 2001).

JEWELLERY- INTIMACY & SYMBOLS OF SENTIMENT

The intimate nature of corporeality can be developed through the jewellery wearing experience (See Benjamin Woods in Turnbull 2018). Of our possessions, when activated, a jewel tends to sit on the body, touching, warming to our skin temperature without being seen as essential, necessary for survival, as clothing could be (Hughes, 1966: 7). For wearers of jewellery, the relationship is familiar, but at times forgotten, becoming 'absorbed within our body boundary' (Hindle et al., 2016: 12). Our jewellery carries the history of acquisition, inherited, gifted, or a personal choice. Each of which brings with it different framed associations (Besten den, 2011: 24). The wearing of jewellery is an active experience, projecting chosen elements of ourselves outwards, to be read by others (Turnball, 2018), whilst remaining in dialogue with its wearer, developing personal sentiment (The Invisible Woman 2014).

Sentiment in jewellery is a theme that is both historically prevalent and significant within the present day (Evan 2012, The Invisible Woman 2014). Although jewellery of course gains sentiment through significant associations it is also important to highlight certain reoccurring symbols that may act as guiding frames (Besten den, 2011: 12-13, Hindle et al., 2016: 2). Locketts conceal secrets; rings bond one to another and depictions of flora can reference loss and remembrance. This symbolic understanding of jewellery within western culture develops a format that is drenched in connotations and recognisable tropes; it is therefore within this grounding that this project is developed.

I would like to highlight here that although this project could lend itself towards feminist theoretical references (see footnote) through contextual aspects of self-identity

in relation to jewellery, this has not been the main focus of this paper, rather, how a corporeal and a socially framed dialogue can impact and develop the object/person relationship.

METHODOLOGY

An interdisciplinary approach was taken within this project, with a craft practice used in conjunction with qualitative narrative research. A participatory study was used, with participants anonymously sourced through a snowball sampling technique. With the formation of these emotive relationships being highly subject, to gain authentic insight, diverse (age, gender, culture etc.) perspectives were essential. During initial contact an overview of the project was given, along with a breakdown of participatory requirements- ethical consent forms were also distributed. Participants were asked to take part in a narrative study (Riley and Hawe, 2005), undertaking four tasks (during 2016-17). First, to give a personal story relating to an object they considered a possession. Second, to own a piece of jewellery made for them by myself for a two-week period. Third, to record their reaction to this jewellery (through photos, notes, voice memos etc.); which they would return to me, along with the piece. Finally, participants were asked to answer some follow up questions via email. This participatory approach within craft practice builds upon projects like 'Seven Days' (Panjapol Kulp, 2015) as well as, 'Meanings and Attachments' (Mah Rana, Ongoing).

Within a studio practice, each narrative was broken down using narrative analysis tools (Riley and Hawe, 2005) developing themes relating to the theoretical grounding of the project. Each narrative was then assigned a theme and associated jewellery pieces were formed. Throughout the narrative analysis/artwork development phase poetic texts were written, acting as a translating tool between the narrative analysis and myself.

Conceptually, thematic representation is addressed through both *social* and *corporeal* perspectives. From a *social* perspective pieces referenced a combination of symbolic tropes found specifically within western jewellery, and material references taken from the western everyday. A known form (be that symbols within jewellery or an everyday material), gives us clues and instructions in use, enabling behaviour to be projected (Bourdieu, 1977). If the form or placement is disturbed, behaviour may be questioned, developing a new dialogue (Ahmed, 2006). From a *corporeal* perspective, tactility, weight and relation to the body were also defined thematically. Materials were chosen with readability in mind, for example the use of temporal materials that would actively change through interaction, highlighting the exchanges taking place (Sorkin, 2001: 60). By looking at the *social* and the *corporeal* dialogue, the aim is to acknowledge the varying factors that can shape these relationships, whilst offering the participants a differing orientation (Ahmed, 2006) to their narratives. Each piece would then be distributed to their corresponding participant, alongside a text detailing their two-week ownership and a time frame for returning the piece alongside the additional requested information.

By working in relation to the defined theme as opposed to the original possession described, the aim was to expose the new objects to less defined interpretations from participants, realistically exploring the relationships forming. This thematic choice also protected the privacy of the participants, ensuring their original narratives would not be published. It is important here to address the placement of myself within this project. Working with this form of narrative research in conjunction with a studio practice is ultimately a subjective experience. Although break down of narratives has occurred in a systematic way using defined analytical techniques, it does ultimately occur within the spectrum of my

But I can't take it off, it will go cold.

experience and therefore outcomes must be read as subjective (Lumsden, 2018).

² In relation to references to Goffman and Bourdieu, it is important to note Judith Butler's concept of Corporeal Style and the construction of abiding gender norms through the repeated performance of gendered acts (Butler [1956] 1999, 177-179). As referenced in Hindle et al., this 'repetition and ritualization of embodied behaviours leads to a limiting of possibilities... creat(ing) the illusion of an abiding self that is, in reality, nothing more than the performance itself, the playing out of corporeal style.' (Hindle et al. 2016).

IN PRACTICE

Eight participants (based in Europe and South America) took part, sending me their personal narratives. Upon receiving the texts I initially analysed the narratives, looking for segments of description, evaluation and reflection, leading to definition (Riley and Hawe 2005). Similarities between narratives' perceived 'intent' led to the formation of four thematic areas: **loading** (an object being perceived as weighted with sentiment), **loss** (discussing a lost item or an item relating to the loss of a person), **protection** (expressing the desire to keep a valuable safe, or worrying about damage to/loss of it) and finally **portraiture** (objects coming to represent either themselves or a specific person).

LOADING

Prior Engagement

I can see someone else there,
You're no longer clean.
Used,
Owned.

This isn't mine,
There's no space in it for me.
No room left



For the participant *Anonymous I* I made a stuffed white cotton chain, weighted heavily. Lining the inside of the chain were embroidered words in white thread, vaguely visible and concealed in an area only they could view. The chain fit close to the neck, occupying the space between head and shoulder.

The theme of **loading** sentiment is firstly focused here in the placement of embroidered text, referencing European poesy rings (Evan, 2012) whose bands hid secret sentimental messages on their inside. By taking this concept and placing it instead on a chain, this intimate thought becomes less discrete, more cumbersome, a burden perhaps. These symbols become the opening 'framing' devices sculpting the initial **social** perception of the piece (Gofman 1959).

White thread on white cotton is used to trigger a sense of something unknown to the owner. There is an awareness of your own presence in relation to cloth, as Jenni Sorkin notes:

'Cloth holds the sometimes unbearable gift of memory... it does not forget even the benign scars of accident.'
(Sorkin, 2001: 59).

This then acted in a **corporeal** sense; wear imbuing the cloth with the wearers' presence. This action could also have the consequence of revealing the, ever-present, embroidered words.

From an additional corporeal perspective the tight fit and the heavy weight, amplified the pieces presence,

PEACE BUZZARD, A, 2016.
Prior Engagement,
Weighted and Stuffed
Cotton Chain with
Embroidered Detail.
Photo: Artist own image.

But I can't take it off, it will go cold.

perhaps causing the wearer to be more aware of their perceived body boundary (Boultonwood, 2003, 10 & 68). This uncomfortable heaviness intended to reference the possible fullness of a loaded object, and the potential room (or lack of room) for the owners' sense of self.

Anonymous I told me:

"It's like a very quiet voice shouting very loud, but muted. I can't quite hear, but I feel that's the idea. I have to think..." *Anonymous I*.

They focused on the idea of presence within the piece, of the existence of this 'very quiet voice', and their ability (or lack of ability) to access it.

But I can't take it off, it will go cold.

LOSS

Souvenir

It fitted its frame so well.
A memory of an object and an almost copy.
You know how to use it,
But you don't really know.
Repeating a memory,
Familiarizing with the lost.
Keeping it close.
Reminding in its absence.

Why do you lose things and I don't?
How can it mean something to you,
Yet you still let it go?
All these objects escape you.
They wriggle and feel,
They squeeze out,
Push through.
You lose your grip, I remain firm.



PEACE BUZZARD, A, 2016. *Portrait*, Iron, Soap. Photo: Artist own image.

The idea of **loss** was referenced both in the **loss** of an object and the loss of a significant person. Symbolism within historical, western jewellery often references loss: through the 'language of flowers' certain flora symbols suggest remembrance (Reeves, 2016), Memento Mori jewellery mourns the deceased (Phillips, 1996: 102) and hand motifs symbolise 'holding on' amongst other things (The Jewellery Editor 2015).

When something or someone is lost we are left with an imprint of existence, memories we repeat, grasping at what was once tacit. These re-presentations disturb, 'what is lost is never truly lost but retained, not as presence but as loss at the heart of being' (Wolfreys, 2016: 191) they haunt as re-presentations, ever-present doubles 'the spectre of itself' (Wolfreys, 2016: 55). **Corporeally**, this theme could be read as an absence, or a removal, where actions cause repeated loss and degradation, or where presence is felt, not seen.

The narrative relating to *Anonymous II* concerned the loss of possession, the participant being left with a memory. A material/object that evoked a sense of repeated removal was chosen- a bar of soap. The participants' actions could cause loss to the object (through use); the objects' actions back would haunt, scent on skin, lingering but eventually dissipating.

I carved the soap with a floral motif and gave it to *Anonymous II*. The form they recognised and could perceive a potential use (Bourdieu, 1977). The carving, however, was something new, acting as a disturbance; potentially altering perceived actions (Ahmed, 2006). The carving added a value to the soap, beyond the value of function (see Collis). It became up to the participant to decide, to follow through with a perceived action, and risk losing, or to wait, to preserve. They sent me an email:

"Using more than once a day now, is that allowed? Shape seems to be holding form at the moment, thought the flowers would be completely gone by now." *Anonymous II*.

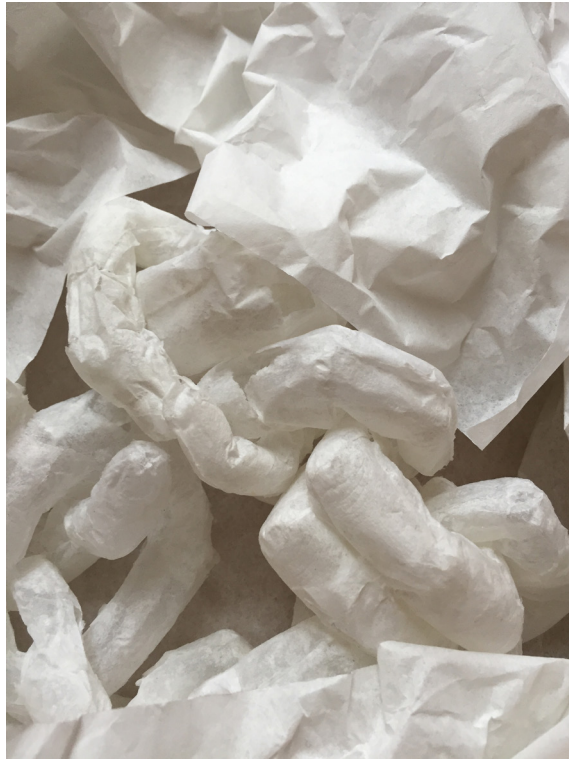
They chose losing, although anticipating the loss through their perceived actions; they chose to continue.

Symbolism in this piece is developed in relation to references to Flora within mourning jewellery (Reeves, 2016), as well as referencing portraiture within Cameo techniques (Untract, 1982: 560 & 591), together they came to form a portrait of loss and remembrance. These jewellery references socially sculpt the work, however, it is perhaps the choice of using a readily readable domestic object that defines projected behaviour most. A bar of soap could be seen as adopting Miller's 'unseen' status, ensuring normative behaviour (Miller, 2005: 5). Through the added carving the normative behaviour is challenged, perhaps allowing participant to reflect upon their active dialogue.

When using a material like soap the **corporeal** dialogue is of the participants' body removing material, physically they understand the object through its repeated loss and their experienced gained. Their actions towards the piece impacts; the object physically reacts. Much like the chain form for *Anonymous I* there are visual marks highlighting the occurring dialogue. Peter Stallybrass, notes this corporeal exchange in cloth: 'the magic of cloth... is that it receives us: receives our smells, our sweat, our shape even' (Stallybrass, 1993: 69) Each material offers variation in physical exchange, and even if the changes are subtle it is still important to consider the 'meaning' gained through these interactions (Harvey, 2005: xi). These interactions stain the objects, marking them as owned. These stains 'function as both a remainder and reminder of what has come to pass: both evidence and memory' (Sorkin, 2001: 60). The stains act as visible reference point to the dialogs occurring.

But I can't take it off, it will go cold.

PROTECTION



PEACE BUZZARD, A, 2017. *Safety Chain/Paper Chain*,
Jewellers Acid Free Tissue Paper. Photo: Artist own image.

Safety Chain

Our jewellery can last a lot longer than us.

Care and attention keeps something safe.

As soon as we start forgetting, the physicality
starts degrading.

Polished silverware- our pride keeps it alive.

Sentiment keeps the story going.

Keep safe, keepsake.

Hold on, wait.

A chain holds onto a pendant,

A woman holds onto a pendant.

Does the chain also, in encircling her neck,
hold on to her?

But I can't take it off, it will go cold.

It is perhaps not surprising that, when discussing significant objects, certain narratives were permeated with a sense of *protection*, a fear of loss of object and a desire to keep the object safe.

Anonymous III received a hollow paper chain. Shells of fingers, cast in jewellers acid free tissue paper, each link holding on to the next. The detail was intricate, the material fragile. In response the participant said:

“...I was struck by the fragility of the chain. I was concerned that I would break it.” *Anonymous III*.

From a jewellery perspective hands come to represent, not only this, previously mentioned, sign of ‘holding on’, but also signs of friendship, giving and protection (The Jewellery Editor 2015). Acid free tissue, used to protect jewels from tarnishing, forms another facet to the work. Here I am most aware of my perspective within the work. It is unlikely that the participant will have knowledge of the significance of this materials use; however, I can perhaps rely on their knowledge of the material within their history to develop an understanding of fragility and therefore impart protection.

It is possibly more within a corporeal dialogue that this work is perceived- in the participant’s consciousness of presence and their concerns over breakage. Their reaction describes almost a lack of physical interaction, a reluctance to enter into a sensory dialogue. Memory of materiality (Anzieu [1989] 2016, 174) defines the participant’s perceived timeline for the object. This response highlights Bourdieu’s theory of habitual object/ social conditioning, where the participant actively projects ‘concern’ over the objects wellbeing, a result of their historically learnt material knowledge (Bourdieu, 1977: 79).

But I can't take it off, it will go cold.

PORTRAITURE



PEACE BUZZARD, A, 2017.
Holding themselves as they would, Gloves in packaging.
White Cotton with Embroidered Detail. Photo: Artist own image

Holding themselves as they would

Every object that someone gives me I
remember.

I remember who gave them to me.

They become so much more.

The object wears the person.

Dressing up in the costume of them.

Putting on their skin.

Holding themselves as they would

Within each narrative there was at some point an element of *portraiture*, with objects coming to represent either the owner or a person known to them. Anonymous IV described the figure of another in their narrative, the possession forming a representation of them. They received a pair of white cotton gloves, embroidered with a white text and stiffened in a gesture, palms upwards, permanently offering. Within western jewellery, hands, as mentioned earlier, can symbolise friendship and giving (The Jewellery Editor 2015). **Socially**, a glove as a framing object directs the owner towards thought of wearing, signalling use (O'Reilly, 2015). The stiffened nature of these gloves, however, inhibits this function, possibly re-orientating the participant (Ahmed, 2006). In this stiffened gesture there is perhaps a sense pre-owned presence, the cloth acting as mediator for memory (Stallybrass, 1993). Anonymous IV told me, "...they seem a bit lost... I found they didn't fit my hands...", this uncertainty suggesting that the inhibited function led to a re-orientation towards confusion.

Corporeally, this lack of access prevents a traditional wearing experience; the piece is unable to establish itself in relation to the participant's body boundary (Boulton, 2003), perhaps creating emotional distance. Much like Anonymous I's chain, white thread on white cotton inhibits full access to texts embroidered, developing the spectral presence within the work. It also emphasizes any new corporeal dialogues taking place, with the work staining through interaction (Sorkin, 2001).

RETURN

When dealing with returned pieces I worked intuitively around the participants' feedback and their objects' physical reformations (their stains of use (Sorkin 2001)). This then prompted further making with 'response pieces', aiming to look at the shades in the relationships developed. I sought to let feedback conversations continue or discontinue naturally. Some completed their tasks, gave responses and discontinued contact; others prompted further discussion of their own accord. The artwork becomes, on one hand, the dialogue between participant, jewel and myself; and on the other, the 'stained' jewellery pieces and developed responses.

RESPONSES/ DISCUSSION

EFFICACY OF SOCIAL OR CORPOREAL APPROACHES

This project started as a way of addressing the value of the possessions we keep close and the sentiment they imbue. Our relationships with our belongings are nuanced; these 'ins-and-outs' offer a reflection on our formation of personhood (Miller 2008). Within this I chose to address the social and the corporeal factors contributing to these relationships, aiming to gain insight into dialogues occurring.

When considering the **social** impact of our surrounding objects, the concept of framed habitus (Goffman 1959, Bourdieu 1977) has been central. I hoped to encourage personal interaction through form recognition and subsequent perception of action. The application of this social framing was developed in two methods, through the use of Jewellery specific symbols and, the integration of the everyday material/form (for example, Anonymous II's piece combined the everyday material/form of soap with references to cameos and flora within jewellery). In reality this layering created, at times, overly complex concepts within the pieces, however the multifaceted nature did allow for various angles of interpretation.

When discussing whether social cues within the pieces actively encouraged engagement and a sense of ownership, I would highlight the dialogues of *Anonymous II* (Image 2) and *Anonymous IV* (Image 4). Both participants took a dynamic stance to their engagement, Anonymous II used the piece actively

as a bar of soap. *Anonymous IV* moved the gloves around their home, trying diverse placements. They said:

"I wanted to get a sense of the gloves, which perhaps had become hands as containers, each 'hand' holding..."
Anonymous IV.

Both pieces were some of the more domestically recognisable forms created and both elicited quite active engagement. We could link this to the participants' own characteristics (being more extroverted perhaps), but it is interesting to think of this in relation to framing objects and their production of learnt behaviour (Goffman 1959, Bourdieu 1977), perhaps recognisability within the pieces elicited freedom in interaction.

Corporeally, it is interesting to look at the proximity of the physical exchange in relation to perceived ownership. There are distinct variations in the 'possessive' language used by participants when mentioning their pieces, possibly indicating attachment. For example *Anonymous I* (Image 1) states:

"After this time with it, I didn't feel it was mine, it was a loan. I felt it was made for me, but I don't own it."
Anonymous I.

There is reference to ownership, but it is distanced. They refer to the piece as 'it', a term that feels unfamiliar. Compare this to *Anonymous II*'s wording, who refers to their piece (Image 3) as "my soap" on multiple occasions- the use of "my" implicating ownership. This could perhaps relate to the corporeal impact within their interactions (Peck & Shu, 2009). The intimate use of soap gains the pronoun "my" instead of "it", perhaps suggesting that the proximity of the corporeal dialogue effects the emotive relationship occurring.

Participants were given two weeks with their piece; I believe that this time frame potentially closed off the work. Knowing that something is being 'loaned' possibly made participants more cautious with interactions. The

object becomes ambiguous, both active for lender and receiver (Jenkins et al, 2014). With *Anonymous III* (Image 3) there was a consciousness of their actions damaging the piece and this reflecting once returned. Their response was emotive, however their engagement prevented possessive ownership- as they said "I was concerned that I would break it" *Anonymous III*, perhaps they did not want to return something 'damaged'.

ETHICS AND DEVELOPMENT OF PERSONAL PRACTICE

Trust has been essential, enabling participants to experience appropriate degrees of confidentiality and anonymity. Consent was developed throughout, with participants initially signing a letter of consent concerning participation and later, publication of any specific texts/documentation provided by them.

Working with others requires dealing with, not only their privacy, but also ideas of authorship (Kelly, 2014: 6). When a participant so readily activates an object (for example with *Anonymous IV*'s diverse interaction with the work), the work changes beyond my control. The artworks become full of energy, imbued with their new owners presence. This co-forming and the value of each actant within dialogues are essential to consider. Although some participants have chosen anonymity, the dialogues are formed in collaboration; their presence is central. Although I have made the pieces physically, the participants have given them a unique shape. Perhaps this comes down to the orientations towards these pieces; some participants would not claim ownership, but to me they have become distinctly theirs. It is therefore, maybe more apt to place my role as that of a facilitator, defining the process, but allowing it to develop organically (Kelly, 2014: 7).

Alongside this adjustment towards co-authorship, the

use of participatory work prompted me to consider my position as a jeweller within the project. By choosing to work with historical jewellery tropes, there was a layer of meaning within the project possibly missed by those not integrated within the field- consequentially certain framing devices failed to function. This is itself interesting to identify in relation to Ahmed's texts on perceived failure within objects, or their inability to function in pre-defined ways, or in this case mine (Ahmed, 2006). The symbols within these pieces then have the scope to perform their own intent, to activate a dialogue unique to participant and object. The participants are encountering something previously unfamiliar to them, their initial narrative acting as anchor. They are orientated, but in a specific way; their original narrative becomes a clue to them when meeting their piece (Ahmed, 2010: 235).

Upon receiving the pieces back (plus additional information), my orientation towards the work was altered. As mentioned, the pieces develop in relation to their participants, therefore so did their themes. Although some responses had clear ties with the themes, and participants behaved in predicted ways (for example protecting something perceived fragile), others were unexpected, developing my perception of the work. Whether the participant came back with similarities to the theme or not is not the focus, rather, what sort of relationship formed and how has it altered the pieces into lived objects?

Within my own practice, the use of narrative research has allowed a real-world understanding of the thematic focus, developing a more informed perspective within the work. This form of mixed methodology has provided consistency in terms of ethical considerations, gaining credibility in that respect; while the interdisciplinary approach has provided access to a broader audience, contributing to a wider field.

Alongside this social development, the lateral translation from textual into physical into textual has provided great insight into my working methodology leading to the integration of poetic text. This textual inclusion acted as a translation device, solidifying the narrative exchange in a new way. The project became like a game of whispers, one narrative being told, then translated into something new, this new thing being reflected back as something else. This ever-changing nature was something that I needed to adapt to, relinquishing sole authorship and accepting what Cunningham (2007 b) sees as the 'contamination' of the wearer and the viewer alongside the maker. This 'contamination' is something to be celebrated within the work, challenging and developing dialogue.

Returned to me, the pieces become like a second-hand object; a container of these stories- unique to the individual. Since return they have taken different journeys: travelled to exhibitions, presented as a group, presented next to the work of others and within publication alongside their participants words. Each rendition re-forms the pieces in a slightly different way, developing upon differing aspects of the project.

CONCLUSION

When someone touches an object, that object takes note. Recording the hands that have formed the space around it, have shaped the air (Ljungberg in Astrup Bull et al., 2018: 115). Perhaps that object becomes imbued with something, allowing you to form a sense of the actants within these dialogues and the dialogue occurring (Stallybrass, 1993: 69). Although certain participants claimed a lack of ownership (see *Anonymous I.*) these pieces have still come to act, from my perspective, as a reference to each participant. Although we have not met, their characters have come through.

With each of the artworks in this project there is a person; someone who, through dialogue has uniquely formed the work. In isolation, the pieces could read as the everyday possession. However, through the scuffs and stains of use they could read as cherished, sentimentalised pieces (Stallybrass, 1993: 69). It could be argued then that a possession takes its importance from the dialogues taking place, from these intimate developments between parties. Much like Anzieu's perception of the skin as an "'inscribing surface' for the marks left by others' (Anzieu [1989] 2016, 174), the pieces within this project become the inscribed palimpsest, documenting intimate dialogues occurred.

The evolution in intimacy formed, and the ways in which our social and corporeal dialogues interact to develop this, encapsulates this project. Through a prior social understanding (for example *Anonymous II* projecting a perceived behaviour on his 'soap' piece), paired with a physical exchange (for example *Anonymous III*'s memory of materiality inhibiting their exchange), the pieces have formed new, independent relationships. These objects are shaped externally, transitioning from anonymous to distinctly personal. For the participant, the association with the original perspective has offered a view that was potentially different from their own, hopefully leaving them with this alternative orientation once artwork was returned.

After the project, *Anonymous III* emailed; stating that their original possession had almost been stolen. They told me: "As well as my initial shock at what had happened to me, I clearly had been struck by the link with what you made and my concern about fragility." *Anonymous III.*

Through their participation their orientation had altered, and much like Ahmed's concept of queer phenomenology

(Ahmed 2006), this re-orientation adjusted their perception of the relationship at play.

Once returned these private pieces offer a paradox between the everyday/overlooked and the valued/attention-given, where the seemingly unimportant object retains a layer of narrative. The project becomes two: this participatory experience and what is left, the lived pieces, documenting their experience. The idea of being materialistic has, for the most part, negative connotations, but it could be seen as adding value to the material- highlighting what we gain through interaction with our material environment (Miller 2008, 1). We digest our worlds through these interactions, forming new knowledge, both physically and socially. Our possessions may form the backdrop to our lives, but they are also vital, inherently part of our formation of self.

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Where fashion, jewellery and wearable technology meet

Author: : *Maarten F. Versteeg, Elise van den Hoven and Caroline C.M. Hummels*

ABSTRACT

In this article we relate the fields of fashion, jewellery and wearable technology to one another in terms of an emphasis on social, personal and instrumental values. Moreover, we describe how the subfields of soft wearables, digital jewellery and fashion jewellery emerge on the intersections of these fields. The main contribution of the article is twofold.

Firstly, we identify and explore the potential of the area at the cross-section of all three fields, which is so far hardly explored in academia. We discuss what it takes for design-researchers in the field of digital jewellery to explore the newly identified design space: broadening their frame of reference and changing their approach of wearable technology. We suggest to broaden the frame of references from Art Jewellery to jewellery in general. We also advocate a shift in the perspective on wearable technology, from criticizing what it lacks to appreciating its merits. Within wearable technology, we find technological- sturdy artefacts, which can be used as a cultural probe in order to explore emergent behaviour, interactions and appreciation.

Secondly, we argue that this overview should not be misunderstood as static and over-simplified. On the one hand, we need to be aware of the heterogeneity of each of the fields. On the other hand, we stress the relativity of the differences between the fields. Therefore, we emphasize the importance of looking at the overview for different levels of detail, cherishing and challenging both similarities and differences of fashion, jewellery and wearable technology, in order to explore the full potential of these three fields and all possible intersections.

INTRODUCTION

Fashion, jewellery and wearable technology are three entities that share a proximity to the human body, yet that are different in terms of - for example - materials used, production techniques, duration of lifecycle and sales platform. From a scholarly perspective, they have been approached as separate fields for a long time. We expect though that the application of electronics on the human body can hugely benefit from a proper understanding of these fields and their intersections. Therefore, we first describe the three fields separately. Then we create an overview that shows how the three fields overlap. In the discussion we describe the different levels of detail in the overview and the importance of being aware of these. From there we explore how the insights gained from the overview could influence future research.

INTRODUCING THE FIELDS OF FASHION, JEWELLERY AND WEARABLE TECHNOLOGY

Before looking at their mutual relationships, we first describe the fields of fashion, jewellery and wearable technology by their most important characteristics.

Fashion

Although fashion has been widely studied and from numerous perspectives, it took until the early 20th century to become a respected field of academic study, referred to as fashion theory. In contrast to what the name suggests, it is not one coherent theory, but an accumulation of concepts and theories. Theorists generally agree that fashion is inherently about change (Lillethun, 2016, p. 117). The constant change of fashion has been explained from different perspectives. From a psychological perspective, Flügel (2016) explains fashion as the constant recalibration of the balance between decoration and modesty. We humans have

the innate tendency to expose and adorn our (naked) body, as can be seen with young children and primitive cultures. At the same time, we feel the need to cover our body and have to restrain from attracting attention. The latter is partly innate – but not as strong as the tendency to expose – and partly based on habits and conventions. Clothing forms the ideal medium to balance modesty and decoration, as it covers the naked body while at the same time offering a canvas to decorate and accentuate certain body parts. Since habits and conventions tend to change over time and differ from place to place, fashion is in constant flux (Flügel, 2016).

From a sociological perspective, Simmel (1957) identifies the concepts of imitation and differentiation as the driving forces behind the constant change in fashion. Humans tend to imitate the social class they belong to or aspire to, striving for social acceptance and upward social mobility. At the same time, social classes tend to differentiate themselves from lower classes: as soon as a lower class starts to imitate a certain fashion, a new fashion is adopted (Simmel, 1957). This spread of fashion from higher to lower social classes is called 'the trickle-down effect'. With the emancipation of diverse minorities and the rise of sub- and youth-cultures throughout the second half of the 20th century, fashion is no longer one-directional, but spreads itself also across (trickle-across) social classes and in upward directions (trickle-up) (Field, 1970).

Building upon the imperative of upward social mobility, that is typical for capitalistic societies, Fallers (1954) uses a socio-economical argument to explain the constant change in fashion. Everyone strives to achieve a higher social status. However, the social ladder is triangularly shaped, which implies that not everyone can eventually reach the next level. Although the aspired status might not be achieved, the trickle-effect provides the social-stayers at least with the aspired status symbols (Fallers,

1954). Contemporary fashion marketing exploits this mechanism by offering brand-accessories (e.g. shoes, bags, perfumes) for those who cannot afford the haute couture pieces.

Next to their explanation of the constant change in fashion, the above-mentioned theories reveal another important aspect of fashion: its meaning in the social context. The clothes people wear, reveal a lot about their social status, beliefs and values. Fashion can therefore be regarded as a sign system that facilitates the social intercourse¹.

Jewellery

Jewellery is a much younger field of study than fashion. Unger (2010) advocates a multidisciplinary approach in the formulation of jewellery theory, taking into account humanities (psychology, sociology and anthropology), art history, economics, literature and fashion theory.

In contrast to the rapid changes and social significance in the field of fashion, jewellery tends to be of a more timeless nature and borne out of personal significance (Unger & Leeuwen, 2017, p. 139). Several authors have described the meanings of jewellery, see for Den Besten (2011, pp. 11–12) and Reinders (2016, pp. 113–114).

In the context of this paper, we present the motives to wear jewellery as formulated by Unger & van Leeuwen (2017), because of the broad scope they adopted: taking into account both historical and contemporary examples and unique pieces as well as designs for the masses. They distinguish *beauty and eroticism, power and politics, property and economics, religion and morality, desire and memory and emotions as motives to wear jewellery*.

Beauty and eroticism: as we have previously seen, humans have the innate tendency to adorn their body. The authors illustrate the importance of proportion and sensorial qualities in jewellery, in relation to the human body and human senses. Moreover, they raise the question whether

beauty is in a piece of jewellery, in the way the piece accentuates certain body parts or in the way the wearer 'only' feels more beautiful when wearing the piece (Unger and Leeuwen, 2017, pp. 323–371).

Power and politics: the wearing of jewellery can underline social stratification. This can be formal and regulated, as we for example see with monarchs wearing a crown, mayors wearing a chain of office and soldiers wearing the decorations fitting their military rank. Yet, also the jewellery that is informally worn on a day-to-day basis expresses social status to the world and confirms and supports the self-esteem of the wearer (Unger and Leeuwen, 2017, pp. 371–407).

Prosperity and economics (Unger and Leeuwen, 2017, pp. 407–439): Precious metals and stones represent an enduring financial value, due to their rarity, as well as their physical and visual qualities. In pre-monetary societies and during wartime, jewellery is a practical and safe way to take care of one's financial wealth. At the same time jewellery can be used to show prosperity. It is interesting though how plain 'showing off' is regulated by social norms. According to 20th century Dutch etiquette books, modesty with regards to the number and kind of jewellery worn to a certain occasion is required (Unger, 2004, pp. 198–199). Throughout the 20th century fine jewellery houses like *Cartier*² and *Van Cleef & Arpels*³ added immaterial value to their pieces by means of signature designs. This branding mechanism is related to the one we see in fashion, yet not as strongly developed.

In the motives described so far, we see resemblances with the topics described in the previous paragraph. This is understandable as jewellery theory partly builds upon fashion theory. At the same time, we like to stress the subtly different accents.

Religion and morality: jewellery can help the wearer to deal with the mysteries and uncertainties of life by

providing psychological protection. Examples of this are primitive talismans and amulets, as well as jewellery containing religious symbols and gemstones that are thought to hold magical powers. (Unger and Leeuwen, 2017, pp. 439–463)

Desire: jewellery often expresses a desire. Unger and Van Leeuwen (2017, pp. 463–497) particularly mention the longing for past times (retro-styles), for other places (jewellery as souvenirs), for the pure beauty of nature (expressed in organic shapes and naturalistic motives) and for simplicity (as expression of the future or to avoid to stand out).

Memory and emotions overarch all preceding motives to wear jewellery. Although often referring to deceased persons or past events, mementos should not be regarded as merely nostalgic artefacts, yet as components of the wearers' current identity. Some mementos are very private: worn invisibly underneath one's clothes, hidden on the flipside of a pendant or within a locket, or simply 'unreadable' for a general observer. Others use shared, archetypical or conventional symbols. Charm bracelets, wedding bands and red remembrance poppies are examples of the latter (Unger and Leeuwen, 2017, pp. 463–499).

Wearable technology

Over the last 2 decades electronics have miniaturized significantly, making electronic devices first portable and later wearable. At the same time storing capacity and the number of integrated functions has multiplied. And lastly, electronic devices no longer stand alone, they are constantly connected to the cloud. These technological developments allowed for the emergence of the new field of wearable technology. This development has opened up many opportunities. The proximity to the human body, for example, allows for the use of unexplored modalities

like warmth and vibration. The constant on-body sensing creates a rich amount of physiological data that has the potential to, for example, monitor our health and reveal behavioural patterns.

In order to get a better understanding of the possible applications of wearable technology we like to refer to the Wearable Technology Application chart as created by the Beecham Group (2018). Silina and Haddadi (2015a) previously referred to a previous version of this chart. The chart divides the field of wearable technology in eight sectors: glamour, communication, lifestyle computing, sport/fitness, wellness, medical, security/safety and business operations. The chart provides examples of applications, functions and products for each sector. In the sector *glamour* we find animated decorative designs. An example of this category is *Gemio* ⁴, a bracelet with dynamic light patterns that sync to music. The designs in the category communication are primarily extensions of the wearer's cell-phone, which prevent the wearer from constantly having to check his or her phone. Incoming calls, messages, activities on social media and notifications are filtered according to rules set by the user. The *lifestyle computing* sector includes applications related to interacting with computing resources, for example heads up displays – glasses and gesture control bands. The sectors *Sport/fitness*, *Wellness and Medical* are all activity trackers and/or physiological monitors, respectively aiming at physical training, daily activity and health monitoring. The sector *Security/safety* encompasses designs that support the work of emergency services as well as the safety of individuals. Emergency bracelet *Safelet* ⁵ is an example of the latter: when activated a text message with GPS-location is sent to relatives, other users nearby and emergency services. The designs in the final sector, Business operations, form an interface to the internet of things (IoT). An example of this sector is *NFC ring* ⁶, that functions as a contactless

identifier for payment, unlocking doors or exchanging contact-information.

The Wearable Technology Application Chart shows a broad variety of applications both in professional and private contexts with a focus on practical functionality. We are especially interested in those that lay closest to the fields of jewellery and fashion in terms of aesthetics, materiality and application.

status	2017	2020
on market	24	19
pre-order phase	11	2
concept phase	7	2
unclear status	2	3
aborted activities	10	27
changed their activities	0	1

Table 1 - Overview of market status of 54 jewellery-like wearable technology designs in 2017 and 2020

In early 2017 we made an overview of 54 wearables that were introduced in the media since 2011. Although we did not formulate any strict selection criteria, we do think that this collection can provide some insights on the market. For each design we listed, product name, company name, website, year of introduction, sector of application, functionalities, used materials, advertisement slogan (positioning) and market status. Table 1 shows their market status back in 2017 and in early 2020. This shows that it is an emerging market, that is quickly changing and constantly searching for applications to

build a sustainable business around. Although quite a number of companies have now aborted their activities some seem to succeed and manage to scale-up. For example, *K ring*⁷, a ring with NFC technology that enables the wearer to pay with his/her ring paired up with *ABN Amro Bank*⁸ so that the banks customers can link the ring to their bank account and pay with it.

INTERSECTIONS OF FASHION, JEWELLERY AND WEARABLE TECHNOLOGY: CREATING AN OVERVIEW

When looking at the foregoing descriptions of the three fields, we see similarities as well as differences. For example: the adorning quality – respectively labelled as decoration, beauty and glamour – is a topic in all three fields. However, each of the fields emphasizes different aspects. Fashion theory makes the connection to modesty and social conventions. Jewellery theory accentuates the relation with the human body and the individual perception of beauty. And within the field of wearable technology the focus is on the dynamic expressive quality of the piece.

We could continue by summarizing all similarities and differences, however, we consider it to be more interesting to move to a higher level of abstraction and explore how the three fields relate to one another. We suggest that seeing the three fields as partly overlapping circles (see figure 1) is advantageous. When compared to the other fields, each field has a dominant emphasis: within fashion its meaning in the social context is relatively important, within jewellery the emphasis is more on personal significance, whereas within wearable technology the instrumental quality is essential. Be aware that these are accents: we do not argue that they are exclusive. So, for example, fashion does have instrumental and personal

meaning but generally spoken these are not as dominant as its meaning in the social context. Likewise, we neither deny the social and instrumental value of jewellery, nor the social and personal meaning of wearable technology.

By their nature, the fields of fashion and wearable technology have a much faster pace than jewellery, due to the constant change and technology push, respectively, whereas the field of jewellery has a slower pace, because of the personal significance and the use of durable materials.



Figure 1 – positioning the fields of fashion, jewellery and wearable technology in relation to each other

We find four subfields in the overlap of the three main fields. The first subfield to emerge was *fashion or costume jewellery*: decorative elements made of ‘a wide range of ordinary and semiprecious materials [...] that have

an ephemeral function, destined to fade away when fashion changes' (Farnetti Cera, 1997, p. 10). Although the making of jewellery from non- and semiprecious materials dates back to at least the 18th century (Phillips, 1996, p. 187), fashion jewellery was most popular throughout the 20th century (den Besten, 2011, p. 22). Fashion jewellery benefitted from new materials (like bakelite) and the department stores, which emerged in the slipstream of the first industrial revolution (Unger and Leeuwen, 2017, p. 615). Gabrielle (Coco) Chanel and Elsa Schiaparelli are the names of two couturiers that have an indissoluble connection to early 20th century fashion jewellery. They convinced their well-to-do clients to leave their 'real jewellery' in the safe and replace them by more fashionable and expressive pieces of fashion jewellery. In his essay 'From gemstones to jewellery' Roland Barthes analyses how fashion jewellery democratized and secularized jewellery, releasing its singular and magical nature.

Because of its redundant nature, Barthes, who interpreted fashion as a sign system⁹, sees fashion jewellery as an important signifier, that is able to give meaning, structure and personality to clothing (den Besten, 2011, pp. 22–23).

Secondly, on the intersection of fashion and wearable technology we see the emergence of *soft wearables*. Tomico and Wilde (2016) wrote that 'Soft wearables include clothing and textile-based accessories that incorporate smart textiles and soft electronic interfaces to enable responsive and interactive experiences. When designed well, soft wearables leverage the cultural, sociological and material qualities of textiles, fashion and dress; diverse capabilities and meanings of the body; as well as the qualities and capabilities afforded by smart and programmable elements.' From this description we see on the one side that soft wearables, because of the close link to textiles, faces very specific challenges in

terms of fitting, integration, sustainability and washability (Seymour, 2008; Toeters, 2019). On the other side it uses a crafts approach to explore the implications of close-to-the-body applications of technology, just like we will see on the third intersection.

Thirdly, on the intersection of jewellery and wearable technology the subfield of *digital jewellery* emerges: design concepts that try to balance the instrumental opportunities of wearable technology and the personal meaning of jewellery. Existing wearable technologies have been criticized for lacking an understanding of the implications of the proximity to the human body in terms of aesthetics and personal significance (Wallace & Dearden, 2005). During the last decade the integration of jewellery and wearable technology has been addressed in the academic world by scholars with a background in technology, interaction design and/or craft, mainly through design explorations (e.g. Miner, Chan and Campbell, 2001; Wallace, 2007; White and Steel, 2007; Werner, Wettach and Hornecker, 2008; Ashbrook, Baudisch and White, 2011; Perrault et al., 2013; Silina and Haddadi, 2015b; Versteeg, van den Hoven and Hummels, 2016; Koulidou, Wallace and Dylan, 2019). Others sketched the field and advocated a specific approach (Wallace and Press, 2004; Kettley, 2005; Wallace and Dearden, 2005; Koulidou, 2018).

And fourth, there is the – in Figure 1 unnamed intersection of the three fields, which we will discuss below.

Discussion

Before taking a closer look at the unnamed middle part, we will address a possible shortcoming of the overview we created.

Like every schematic overview figure1 can easily be

misunderstood as static and over-simplified. We need to be aware that each of the fields is heterogeneous in itself. When we for example zoom in on the field of fashion, we will find that the field exists of haute couture,

ready-to-wear (prêt-à- porter) and mass-produced clothing. Likewise, within the field of jewellery we find art jewellery, studio jewellery and fine jewellery (haute joaillerie). Within the relatively young field of wearable technology the contours of categories are not that sharply defined yet. To make it even more complex we need to

be aware of numerous relations between the categories. For example, each category of fashion is associated with a specific type of costume jewellery (Farnetti Cera, 1997, pp. 10–11).

Zooming in further, brings us to the level of single brands and individual designers. Here we find the subtleties of their design-DNA expressed through autonomous ideas and unique craftsmanship. The diversity on this level is the richest in the fields of fashion and jewellery. Think for example of the corsetry of *Jean-Paul Gaultier*¹⁰, the tweed

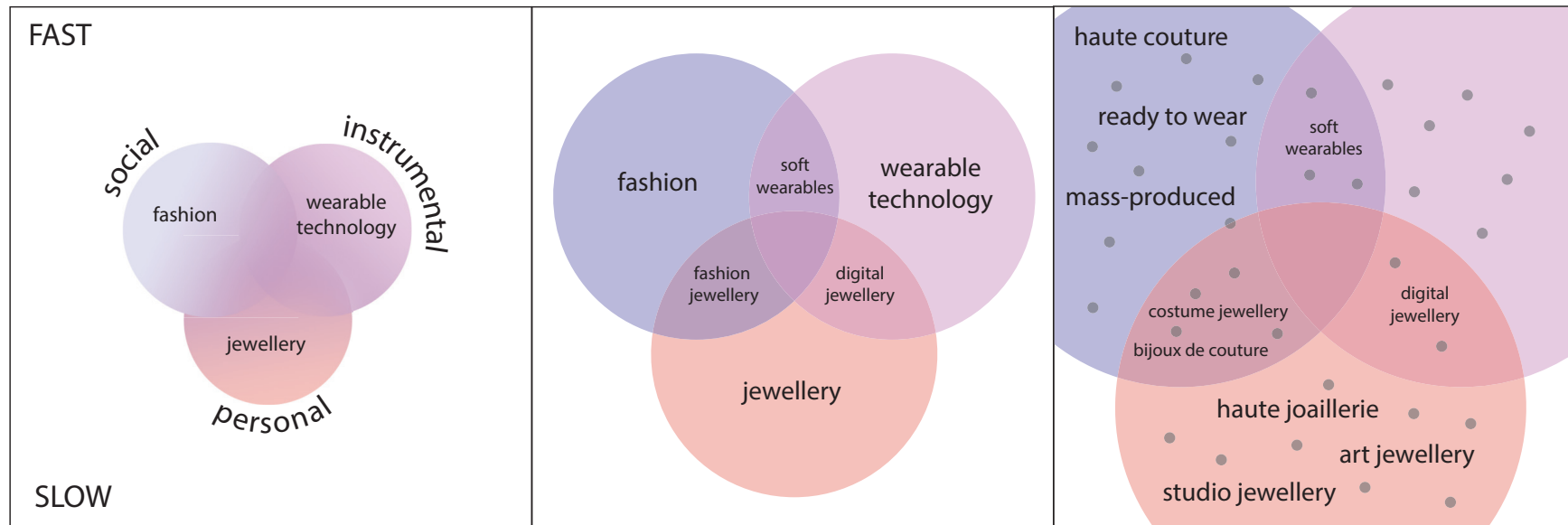


Figure 2 Overview of the fields of fashion, jewellery and wearable technology on different levels of detail. The dots in the far-right - most detailed picture - portray brands and individual designers.

deux pieces of *Chanel*¹¹, the *Panthère* of *Cartier*¹² and the *Spannring* of *Niessing*¹³. Or the signature of individual designers, for example the technology-enabled organic pieces of fashion designer Iris van Herpen¹⁴ and the apparent primitively shaped pieces with piles of stones by jeweller Karl Fritsch¹⁵. We fully agree with authors (Kettley, 2007; Koulidou, Wallace and Dylan, 2019) who have previously argued that awareness and appreciation of this richness of craftsmanship can be beneficial for the development of digital jewellery.

Inspired by Tamminen and Holmgren (2016), we consider it important to not only zoom-in, but also zoom-out and adopt a more holistic perspective. Doing so creates awareness that fashion, jewellery and wearable technology – despite differences in pace and emphasis – in the end share the proximity to the human body. Such a holistic perspective has three benefits. First of all, from a distance the borders between the fields will start to blur, which reminds us that in reality the borders are not as sharp as they seem on paper. For example, the fine jewellery collections of big fashion houses like *Chanel*¹¹ and *Dior*¹⁶ are in terms of materials and applied craftsmanship hard to tell apart from those of the luxury jewellery houses (Unger and Leeuwen, 2017, p. 615). Secondly, in a holistic perspective the apparent contradiction between *technique* – associated with the unique craftsmanship of fashion and jewellery – and *technology* – associated with the industrial mass production of wearable technology – will fade away. In our personal experience, craftsmen often tend to refuse technology either based on anxiety for the unknown or out of a fear that the unique qualities of their craft will get lost. In an earlier study on the value of additive manufacturing for jewellery, the first author concluded that digital technologies broaden the opportunities in terms of complex shapes, dynamic constructions and radical personalisation. Moreover, great potential was

found in a hybrid approach, where digital production technology does not take over existing practice, but merges in and therewith renews it (Versteeg and den Besten, 2014). Fulfilling this potential requires an open-minded and multi-disciplinary approach. Nachtigall (2019) arrives at comparable conclusions in his extensive study into the combination of additive manufacturing and craftsmanship (in this study: shoemaking) for ultra-personalization.

Thirdly, zooming out brings into scope adjacent fields like accessories and wearable aids, which we can learn from as well.

For the above-mentioned reasons, we like to stress that it is beneficial to switch between different levels of detail. In this perspective figure 1, is merely one level.

Let's zoom in further and concentrate on the previously identified design-space in the middle, where fashion, jewellery and wearable technology overlap (see figure 3). Here one would expect to find designs that balance qualities of all fields. This space can be approached from the three adjacent subfields fashion jewellery, soft wearables and digital jewellery.

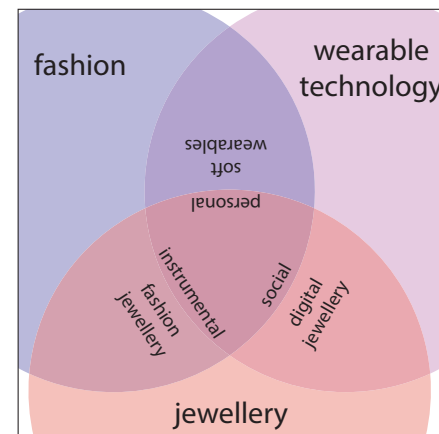


Figure 3 - Further zoomed-in version of previous figure, showing how the space in the middle adds respectively an instrumental, social and personal perspective to the subfields fashion jewellery, digital jewellery and soft wearables.

Each of these subfields already balances elements of two fields. For example, digital jewellery combines the personal value of jewellery with the instrumental qualities of wearable technology. When approaching the middle from the subfield digital jewellery, the social aspect of fashion is added, so we might think of the middle as *social digital jewellery*. Or, coming from soft wearables, as personal soft wearables. Or, coming from fashion jewellery, as *instrumental fashion jewellery*. Each of these perspectives on the design space in the middle is equally interesting to explore. Yet, in this article we will focus on social digital jewellery.

Design-researchers in the field of digital jewellery – including ourselves – so far explored how the personal significance and intimacy of jewellery could be maintained while creating a digital piece. These designs primarily focus on the wearer (White and Steel, 2007; Versteeg, Van Den Hoven and Hummels, 2016; Koulidou, 2018) or on the wearer and a significant other (Silina and Haddadi, 2015b; Koulidou, 2018). Sometimes the pieces are even designed with a specific wearer in mind (Wallace, 2007). Moving to the design space in the middle of figure 3, challenges these researchers to also think about the broader social context. How to design digital jewellery that not only hold value for the wearer, yet also search a connection to other people? Pieces that express the wearers' wish to adhere to or distinguish from a certain social group? Thinking about the social context, forces us to think beyond single pieces and introduces networks of somehow connected designs. This connection can both be expressed by physical means like shapes and materials or be a digital connection through the world wide web. Abandoning single pieces in favour of pieces produced in series fits the realm of (wearable) technology production, with relatively high initial costs and low prices per unit.

This also means that we might have to broaden our frame

of reference. As design-researchers working on digital jewellery, we so far tend to use *art jewellery*¹⁷ as our frame of reference. Art jewellery is the category of jewellery that emerged during the last half of the twentieth century re-imagining what jewellery could be. This led for example to the use and appreciation of non-precious materials and expressive designs with an emphasis on conceptual quality. Yet, its radical approach also created a niche that is only appreciated by a relatively small group of wearers. Or in the words of Lin Cheung et al; 'Contemporary jewellery is not often seen worn by 'ordinary' people going about their daily business' (Cheung, Clarke and Clarke, 2006, p. 21). Introducing the social context requires us to broaden our frame of reference and explicitly include jewellery, fashion and wearable technology. When it comes to jewellery we support the plea of Unger for the appreciation of nondescript jewellery (Unger, 2010, pp. 161–162), as they - despite their modesty – do play an important role in the daily social context. Including fashion in our frame of reference enables us to build up on the previously described fashion theories. Wearable technology has so far been approached with a certain disdain by design researchers in the field of digital jewellery. Yet, within wearable technology, we find serially available, relatively small and technological-sturdy artefacts, which can be used in a cultural probe in order to explore emergent behaviour, interactions and appreciation.

The following example might help to concretise this - In 2015 the Swedish start-up *Pins Collective*¹⁸ introduced Pin One to the market. Pin One is a circular brooch holding a reflective LCD screen, to which the wearer can upload an animated GIF-image via Bluetooth using the accompanying mobile phone application. The app allows one to curate his or her own images and browse, like and wear the images of other members of the Pins Collective Community (see Figure 4).

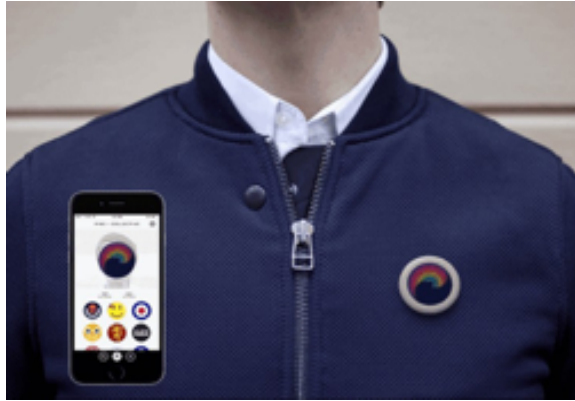


Figure 4 - Pin One by Pins Collective (photo credit: Pins Collective)

We are aware that from a jewellery and fashion perspective comments can be made about the materiality of the piece, yet instead of being critical we like to invite you to look at the opportunities of Pin One. From personal experience we know that wearing Pin One is a conscious act: as a wearer one has to decide what image to wear at a certain occasion. The image can vary from an aesthetic pattern matching the colour of one's clothes to a subtle message or silent activism (like buttons). Depending on the image displayed, the context and the wearers' intention pin One can be closer to (instrumental) fashion jewellery, (personal) soft wearables or (social) digital jewellery. In either case the constantly changing animated Gif-image attracts the attention of others and functions as a conversation-starter and a means to express one's taste, preferences and beliefs. This way Pin One starts to play an explicit role in the social context. Now imagine what could happen if more people wear Pin One. Its social function is further supported by the mobile phone app, which allows wearers to connect to kindred spirits. In our perspective it would be interesting to use the serial availability and technological robustness

of pieces like Pin One to study and iterate on both the experience and behaviour of individual wearers and the behaviour and appreciation that emerges when a larger group wears it in a social context. This study would require a post-phenomenological perspective in which Pin One mediates between the wearer and the world.

Meaning is created in the interaction between the two, which might imply that emphasis can dynamically shift between personal, social and instrumental value.

CONCLUSIONS

The overview created in this article helps to better understand the mutual relations between fashion, jewellery and wearable technology. It not only creates awareness of the different perspectives, but also of the different levels of detail that should be considered. This awareness will help to further explore the design space that we identified on the overlap of the three fields. We propose to use commercial examples of wearable technology, like Pin One, in this process, as they are serially available, relatively small and technologically-sturdy. Writing this article has sharpened our thoughts and challenged us to rethink the limitations of our own perspective. We hope it has a similar effect on you. But most of all we hope that you will enjoy wearing jewellery. In whatever (sub)field it might fall.

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¹³ <https://niessing.com> (on the homepage there is a menu-option 'Spannring')

¹⁴ <https://www.irisvanherpen.com>

¹⁵ <https://www.karl-fritsch.com>

¹⁶ <https://www.dior.com>

¹⁷ This field is also referred to as contemporary jewellery, studio jewellery, research jewellery, jewellery design and author jewellery: see Den Besten (2011, pp. 9–11) for a reflection on nomenclature of this field.

¹⁸ <https://pinscollective.com>

¹ For further readings on meaning creation within fashion see for example Barthes (1990) and McCracken (1986)

² <https://www.cartier.com>

³ <https://www.vancleefarpels.com/eu/de.html>

⁴ <https://gogemio.com>

⁵ <https://safelet.com>

⁶ <https://nfcring.com>

⁷ <https://mykring.com>

⁸ <https://www.abnamro.com> and <https://www.abnamro.com/en/newsroom/press-releases/2019/pay-contactless-with-abn-amro-using-ring-watch-or-bracelet.html>

⁹ See (Barthes, 1990)

¹⁰ <https://www.jeanpaulgaultier.com> (the menu-button 'La Maison' leads to his corsetry, among other signature creations)

¹¹ <https://www.chanel.com> (a short documentary on the tweed deux piece can be found on <https://inside.chanel.com/en/jacket>)

¹² <https://www.cartier.com> (under the menu-button 'The Maison' one can go to a section on the Panthère)

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EXHIBITION REVIEW

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Turrell, 2019, Iron, enamel, paint.
Photo: Stephen Bottomley

The following text is a written review by the San Francisco based curator Mike Holmes, a Director of Velvet Da Vinci Gallery, USA. It was published in a small run of printed catalogues in occasion of the FERROCity exhibition at the Academy of International Visual Arts in Shanghai, 31st October 2019. The exhibition FERROCity was invited to Beijing for the 4th Beijing International Jewellery Art Exhibition at the Beijing Institute of Fashion, 18-28 October 2019.

FERROcity

21 Febraury- 17 March,
Museum Reich der Kristalle,
Munich, Germany

Participating Artists:

Dauvit Alexander, Marianne Anderson, Jivan Astfalck, Stephen Bottomley, Tim Carson, Rachael Colley, Bettina Dittlmann, Christine Graf, Joohee Han, Kirsten Haydon, Jeremy Hobbins, Michael Jank, Bridie Lander, Anna Lorenz, Drew Markou, Toni Mayner, Simone Nolden, Sarah O'Hana, Jo Pond, Jo Pudelko, Rebecca Steiner, Elizabeth Turrell.

Co-curated by Professor Stephen Bottomley and visiting Professor Elizabeth Turrell, the School of Jewellery Birmingham City University.

In February and March of this year, the Museum Reich Der Kristalle (Kingdom of Crystals), the public part of the Mineralogical state collection Munich hosted FERROcity an exhibition of jewelry and objects inspired by the theme of Iron. Iron is considered as mineral, chemical element, building material, a part of every human body. Iron as idea. As part of the 2019 Munich Jewelry Week network of exhibitions the venue proved to be an inspired environment for the objects on display. The jewelry and sculptural pieces were constructed with a variety of materials in addition to iron and steel and their showing alongside mineralogical specimens from the Museum's permanent collection strengthened the theme of the exhibition. Even for the many metalsmithing artists attending the exhibition it was a good reminder of natural occurring examples of metal. In showing the FERROcity pieces at this venue the objects become fellow specimens or artifacts with the minerals of the Museum inviting close observation. Following the Munich display FERROcity will move to the Vittoria Street Gallery, the School of Jewellery, Birmingham City University UK where the objects will be displayed alongside microscopic images capturing the transformative effect iron has on the coloration of gemstones.

Bettina Dittlmann and Michael Jank explore iron in its most raw and pure state with their brutally forged 'FOREVERRINGS'. German blacksmiths call this metal "Butter-Iron" for its ease of use but it is clear that these rings were formed with some strong deliberate force. The hammer marks have forged forms inspired by shapes of uncut raw pyrite and garnet.



*Bettina Dittlmann Magnet, **Black Flower**, 2018,
Magnet, Iron-Firescale, Iron, 8 x8 x4 cm,
Photo: B. Dittlmann*

Dittlmann's 'Black Ephemeral Flower' brooch uses recycled iron particles from a bell foundry reacting to a magnet inside the brooch to form the pattern of the "bloom". The loose iron pieces would fall off the brooch without the magnet... the "petals" reforming in reaction to the magnetic field.

Timothy Information Limited uses the power of magnets with his half-cheery 'The technicolor flies will eat us all' badge. Brightly painted magnetic flies move about a steel box reminding us that no matter how we color it

the flies will get us all in the end. His 'Nostalgia for an even sunnier past' badge looks back at a carefully crafted but now encrusted-in-rust steel circle form that reads "Turned Out Nice Again"... Well, maybe... maybe not.

The idea that steel and iron are permanent and unchanging is challenged by many of the pieces in the FERROcity exhibition. Rust and disintegration is the end for all steel and iron. How long that process can take depends on how much care and maintenance one is willing to give.



Jo Pond, **Glaxo Set**, 2018,
Repurposed steel tin,
steel, iron, silver, gemstone,
Photo: J. Pond

Recycling and repurposing of steel is shown by several of the participants in the exhibition. Jo Pond's poetic printed steel tins reflect Time's passing and an object's history of use or discard. The carefully fabricated brooch groups are formed from domestic bake ware, biscuit and medicine tins that serve as visual references for the feminine domestic role of the wartime wife and mother.

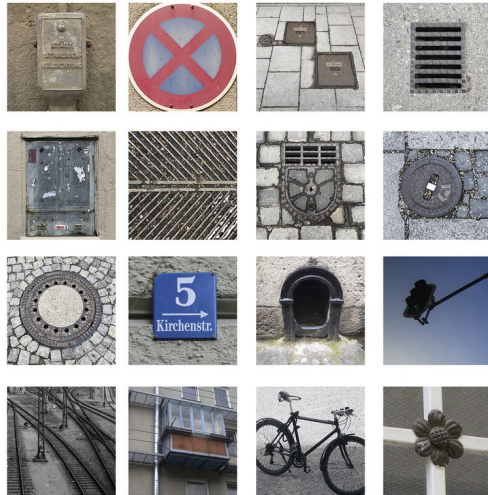
Dauvit Alexander "repairs" broken found steel bolts with cast-in-place sterling silver replacements are studded with gemstones. Elizabeth Turrell's 'Widget' brooches are made from rusty pieces found in scrap yards in Germany



Anna Lorenz, **Stages**, 2019, Steel,
Photo: A. Lorenz

and the United States. Turrell's enamelled reclaimed industrial forms convey a sense of exuberance and movement. Sarah O'Hana's 'Obra VI' building site series transform iron and wood scrap from the reconstruction of an old villa into a reliquary of one life gone. The renovation of the home leads to new life to come.

The processes of construction and decay are the subject of Anna Lorenz 'Stages' objects. The cube crystal structure of iron is fabricated in mild steel and reflects the building blocks of industrialized society. The once perfect cubes become oxidized and corroded.



Christine Graf,
Iron marks, 2019, silver,
paper, ink, stainless steel.
Photo: C. Graf

The ubiquity of steel and iron in our daily lives is shown in Christine Graf's set of 16 small square brooches. Each piece with an identical frame showcase photographs of urban life. Images of drain covers, railway tracks, street lamps, cars and bicycles preserve the urban jewelry of everyday life.

Drew Markou's steel and concrete '3 Towers' remember the grand gasometers of the industrial revolution. Now an anachronism these urban relics now stand functionless except for many as decorative adornments left on the landscape.

Just as iron is vital to the construction of modern life so is iron in the human body. Bridie Lander uses an illustrated diagram of the haemoglobin molecule in her brooches that are a visual link to the body. The iron containing



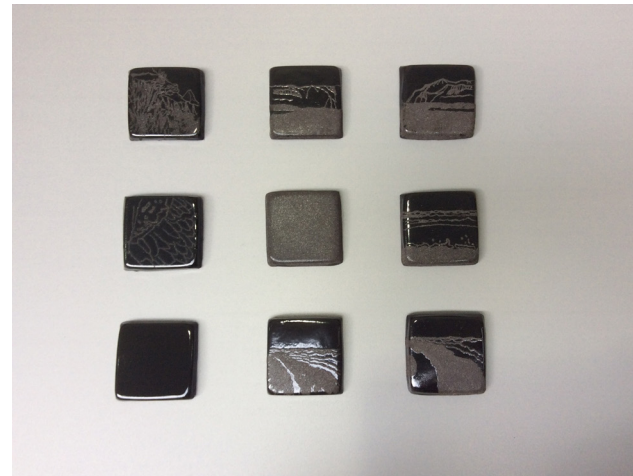
Rachel Colley, Tongues, 2019,
(Necklace) mango stones, he-
matite (iron oxide) pigmented
leather, hematite cabochon,
iron, bamboo
(Ovoid spoon) stainless steel.
Photo: R. Colley

protein is responsible for carrying oxygen throughout the body and gives blood its red color when mixed with oxygen.

Rachel Colley finds non-mineral sources of iron in the food we eat. The mango stones in her 'Tongues' neckpiece are encased with pigmented leather seeking to "re-connect with our internal organ's processes of consuming food... essentially, 'wearing' metals from within." While iron is a necessary mineral for many of the body's functions, including sight, too much iron can be toxic. Stephen Bottomley's 'Watcher' badges illustrate potential loss of vision his Father battles and reflects the crucial part iron has in our blood for sight. The recycled steel watch cases are enamel badges depicting the human eye. The eye's symbolism in art is "a ward from evil, a symbol of surveillance or simply a symbol of a shared humanity".

Jivan Astfalck's 'Of Iron Will and Roses' group of objects looks at the dual nature of iron and ideas of gender. The image of Jeanne D'Arc on the hallmark of a set of knives shows the ultimate warrior wrapped in steel armour. She is strong AND feminine. A brooch featuring a found 1940's photo of an actress playing Jeanne and a plastic rose bring a counter-balance to the iron, both symbolically and also aesthetically to the assemblage.

Kirsten Haydon's 'Studies of Sand : Iron scapes' series of brooches incorporate black iron sand from the Taranaki region of New Zealand. The iron sand formed by volcanic activity 2.5 million years ago creates the black on black enamelled images of beach landscapes.



Kirsten Haydon, Iron scapes, 2019, Mild steel, enamel, stainless steel, Kariotahi iron sand. Photo: K. Haydon



Jivan Astfalck, Of Iron Will and Roses. Assemblage Six knives: iron & horn, 2019, (Brooch) sterling silver & resin (Rose) silk, silicon & white metal (knives) iron & horn. Photo: J. Astfalck

Jo Pudelko's pieces comment on the dangerous sea crossings undertaken by many desperate refugees. The rusted forms recall life-preservers or unseaworthy rafts.

Iron can be strong and unmoving or strong and flexible as in Joohee Han's wire brooches. Inspired by cloud forms or groups of soap bubbles the delicacy of the steel wire pieces belies its strength and lightness. Marianne Anderson intricate iron and gold brooches celebrate traditions of decorative ironwork. As Anderson states "Ornament is not a crime" her pieces referencing wrought iron gates and also the delicacy of Berlin cast iron jewelry of early 19th century Germany.

The FERROcity exhibition is a good reminder and thoughtful exploration of the importance of iron in our lives. Thematic shows like FERROcity are valuable for the variety of ideas artists find in the subject and the wonderful objects born out of it.

Mike Holmes, San Francisco, April 2019



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