Re-contextualised Transcultural Artwork:
Re-imagining Pattern and Symbol of the Nomadic Relic in the Digital Era

A project submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the project is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

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Abstract

My research is a practice-based PhD that investigates how new forms of jewellery and objects can be created by combining traditional and digital technologies. These include the ancient jewellery technique of ‘filigree’ and 3D printing technologies.

In order to produce innovative jewellery and objects, I explore actual and imagined cultural interactions between Sillan (ancient Korean), Bactrian (ancient Persian), and Celtic cultures through their relics. These three ethnic groups have rarely been linked together in the historical or theoretical literature of transcultural discourse. I employ ‘imagination’ as a key method to connect the three different cultures. My application of historical, fictional, and imaginative approaches forms the basis for making artworks in order to address my understanding of transculturality.

1 ‘Filigree is an ancient form of delicate, open or backed wirework, normally of gold or silver, but also other metal’ (Untracht 1985, p. 172).

2 Additive fabrication adds material layer by layer, to create a physical object. Industry and artists refer to additive fabrication technology by many different names, 3D printing, rapid prototyping, solid freeform fabrication, layered manufacturing, and others. The name ‘3D printing’ seems to be the term most commonly used (Mongeon 2015, p. 181, emphasis in original).
Introduction

Background

In this research, I focus on producing new jewellery and objects. I seek to understand how re-contextualised jewellery and objects act as dynamic platforms to engage with transculturality. Transculturality in this project is manifested as artworks which employ diverse visual, and symbolic languages to communicate real and imagined cultural interactions to the viewer. These ideas are embedded in my artwork which encourages viewers to explore how the ideas, symbols, patterns, and colours of Sillan, Bactrian, and Celtic cultures demonstrate the fluidity of transcultural exchange.

The title of the research project is *Re-contextualised Transcultural artwork: Re-imagining Pattern and Symbol of the Nomadic Relic in the Digital Era*. The term ‘re-contextualised’, that I employ for this research will bring to mind various meanings and effects including reinterpretation, transformation, and migration of meaning from ancient to present.

My interest was sparked initially in an informal RMIT University, Melbourne, gold and silversmiths’ students’ discussion group. I had the opportunity to describe my interest in an excavated golden dagger, *Republic of Korea, National Treasure, No. 635* (also known as *Gerim-Ro Golden Dagger*), from the city of Gyeong-Ju in South Korea. In addition, the

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3 ‘The expressive component of the visual language is the creation of visual symbol systems, the making of marks or objects that communicate ideas’ (Eubanks 1997, p. 31).
4 ‘Since its discovery in 1973, the dagger with a resplendent sheath excavated from Gerim-Ro Tomb, No.14 has garnered considerable interest from scholars in Korea and Eastern Europe, where comparable objects have been found’ (Yoon 2013, p. 133).
presentation motivated me to study a particular symbol, the *triskele*, which is embedded in the *Golden Dagger*. This drew me to explore real and imagined interactions between Sillan, Bactrian, and Celtic cultures, all of which use this symbol.

![Boundary of the Three Kingdoms](image)

**Fig. 1** Boundary of the Three Kingdoms
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5 This is an ancient symbol and has been used in many cultures. Please read 1.3 A Shared Symbol: The *Triskele* (page 29) for further information.

6 My use of the *Golden Dagger* refers to the *Republic of Korea, National Treasure, No. 635*.

7 I created this image to demonstrate the geographical distance between Sillan, Bactrian, and Celtic cultures. This was informed by my investigation of their history in this research.
Silla is the name of the ancient Korean kingdom which was introduced to the world by Ibn Khurdadhbih (also spelled Ibn Khordadbeh) through his geography book *Roads and Kingdoms*. It was written in Arabic.

Sillans produced beautiful golden artefacts. ‘In the ancient world, the Korean kingdom of Silla (57 BC–AD 935) was renowned as a country of gold’ (The Metropolitan Museum of Art 2013a, para. 1). In the early period of this research, my study of Korean history led me to explore connections between Silla and nomadic cultures. The New York Metropolitan Museum (2013b) suggests that the treasures from Silla royalty and nobility demonstrate the kingdom of Silla’s ties to the nomadic traditions of Eurasia, particularly during the period from the late 4th to the early 6th century.

Furthermore, Korean art historian Songran Lee (2008) implies that the *Golden Dagger* was fabricated in the Bactrian region, in what is now part of Afghanistan and Uzbekistan. This ancient civilisation provided an important bridge on the Silk Road between East and West in history.

Bactria was especially important between about 600 BC and about AD 600, serving for much of that time as a meeting place not only for overland trade between East and West

He was a Persian geographer (b. 820 AD) and the first scholar to write on world geography in Arabic (Ahmad 2007).


Silla is located to the extreme end of China and is regarded as a white race. Silla people are descendants of Noah’s son Japhet and Japhet’s son Amur ... Silla is a country abounding in gold. Muslims who advanced there, captivated by its congenial surroundings, tend to settle there for good and do not think of leaving the place (Lee 2014, para. 10).
West but also for the crosscurrents of religious and artistic ideas (Encyclopaedia Britannica 2016).

My investigation of the dagger led to my being fascinated by Celtic culture; this has led to the Celts being described as a nomadic kingdom. English writer Caitlín Matthews (1989, p. viii, emphasis in original) claimed:

We should bear in mind that the Celts did not call themselves this, nor did they speak ‘Celtic’. They thought of themselves as Bretons, Irish, British or Gaels. Earlier than the Roman invasion, they probably thought of themselves as ‘the people of such-and-such tribe … We should remember that the Celts are a family of people continually moving through time and adapting to new parameters.

Matthews’ description of the mobility of the Celts enables me to place them in a category of nomadic culture together with the Sillan, and the Bactrian.

My own nomadic lifestyle has inspired me to imagine the three pastoral kingdoms as having cultural similarities, as there may have been contact through travel between them. Since I migrated to Australia, I have felt like a nomad. I have lived in Sydney, and in Adelaide, and have resided in Melbourne since the beginning of 2011.

Coming from a migrant background as a Korean-born Australian, I see my interest in the relics from Sillan, Bactrian, and Celtic culture as transcultural. Thus, transculturality became a central issue in this research. In order to investigate this, I studied relics from the three kingdoms. The decorative symbols on the dagger informed the initial stage of my research as I investigated its interpretations and transformative potential. I explored how this could reveal unexpected similarities and connections with different cultures. I was also
curious about how my imaginative approach to the relics from the three ethnic groups might offer a particular mode for engaging and thinking about transculturality.

**My Understanding of Transculturality**

In 2000, the Xinjiang Archaeological Institute rediscovered an important Bronze Age site, the Xiaohe cemetery. This is located in the Tarim Basin of Northwest China. A DNA study of the mummies found in the cemetery provided significant information of the people in the Tarim Basin. Genetic testing revealed that a rare mixed population had occupied the ancient melting pot since the early Bronze Age; and that the people came from Europe and Asia (Li et al. 2010).

American sinologist Victor H. Mair was one of the researchers in the Xinjiang Archaeological Institute, and he evaluated the excavation of the Tarim Basin. The mummies that were discovered provide evidence of cultural interactions between Eastern and Western cultures in prehistory, but traditional study of cultural transmissions are poor (Mair 2010). Mair thought that ‘too many archaeologists and ancient historians refuse to accept arguments for influences from outside their pet civilization, or even to bother to look across the borders’ (Mair in Rendue 2007, p. 518).

For my research, the excavation of the Tarim Basin and Mair’s view on traditional study of culture offered a vibrant approach as to how my imagination might suggest actual cultural transmissions between different cultures. Outcomes of this imaginative approach could foster a new perspective on existing understandings of transculturality.

The Cuban anthropologist Fernando Ortiz introduced the concept of transculturality in the 1940s. He suggested that:
the word transculturation better expresses the different phases of the process of transition from one culture to another because this does not consist merely in acquiring another culture, which is what the English word acculturation really implies, but the process also necessarily involves the loss or uprooting of a previous culture, which could be defined as a deculturation (Ortiz 1995, p.102).

Scholars including Wolfgang Welsch and American art historian Julie F. Codell have reinterpreted his concept of transculturality. For Welsch (1999, p. 198, emphasis in original) ‘transculturality is a consequence of the *inner differentiation and complexity of modern cultures*. For Codell (2011, p. 2) ‘Even if cultures insist they are unique as an ideological expression, the praxis of existing cultures in a single nation produces constant cross-cultural and subcultural assimilations into new forms on macro (cultural) and micro (individual) levels'.

Welsch and Codell’s notions of transculturality have inspired me to explore my own understanding of transculturality, by finding unexpected overlooked similarities between the different cultures. I am interested in the potential for my understanding of transculturality for creating new jewellery and objects.

Although my artworks are informed by theories of transculturality, I do not want to argue with these existing theories. My intention in studying them is to expand my knowledge of transculturality: so that I may be inspired as an artist to generate original artworks that address the complexities of cultural interactions.
Research Questions

My developing understandings discussed above led me to question the nature of contemporary jewellery and objects and how these may address issues of the composite, complexity, and transculturality. This in turn, resulted in the development of the following research questions:

- How can I create a series of jewellery and objects that utilise old and new technologies, including 3D digital printed objects and the hand-made, in order to generate new forms that evoke the complexity of cultural similarity and difference?

- How can I combine imagery derived from fictional and historical sources in order to generate new artefacts that suggest transcultural interactions?
Overview of Projects

This dissertation is divided into five projects. Each of the projects describe different aspects of the research questions including investigation of specific relics, a fictional approach to understanding cultural interaction, and creation of new artworks.

Project 1, Unexpected Cultural Interactions: Dagger

Project 1 commences with a fictional account. Creating a narrative was an important process. I combine the actual history of the Golden Dagger with my imagination to describe the three kingdoms’ fictitious cultural interactions. This also inspired me to employ the form of the Golden Dagger to represent the value of history in an artwork in this project. My new artwork is a 3D printed dagger, which could be described as a trigger to reconsider cultural interactions not only in ancient times but also in the present day.

The new work derived from my study of the triskele. This ancient symbol is embedded in the Golden Dagger and I found similar interpretations of the symbol across Celtic and Korean cultures.

In order to develop new ideas for my work, in this early part of Project 1, I employed Google Street View. This provided a vehicle for ‘virtual travel’ in the digital era. I was influenced by Italo Calvino, Alain de Botton and Xavier de Maistre’s use of imagination to

10 I chose seven relics for research projects: the Gyerim-Ro Golden Dagger (Korea); the Go-Chang Dolmen (Korea); the Poulnabrone Dolmen (Ireland); the Hwangnam Daechong Golden Crown (Korea); the Republic of Korea, National Treasure, No. 90: a pair golden earrings (Korea); and my last project, Project 5 responds to a Bactrian gold coin and to Roman and Greek glassware.

11 The American digital technology company Google, offers ‘360-degree images of locations as seen from the ground, instead of the usual overhead satellite image and matching map’ (Nizza 2007).
engage with travel. I explored their perspectives of travel to question how my reinterpreted contemporary city views could generate new transcultural symbols. These will be applied to the form of the *Golden Dagger* to create imagery that reflects transculturality in the contemporary world.

In terms of fabrication, I employed the Rhinoceros 4.0\(^{12}\) (3D Computer Aided Drawing program) and 3D printing technology to implant the created transcultural symbols onto the form of the *Golden Dagger*. In doing so, I produced a 3D printed dagger that I titled *3D Printed Cultural Interactions* (Fig. 31, see page 48). In 2013, this was presented in a postgraduate student exhibition called *Close to Hand II* at First Site Gallery, RMIT University, Melbourne.

**Project 2, Imaginary Cultural Interactions: Dolmen**

In Project 2, I focused on examining my fictional account of the three kingdoms as a way of entering into and engaging with the complexities of transcultural interactions. This includes noting the lexical similarities between the English and Korean languages, and the structural similarity of dolmens. A dolmen is a type of prehistoric tomb.\(^{13}\) In particular, I examined the *Go-Chang Dolmen* (Korea) and the *Poulnabrone Dolmen* (Ireland).

I was interested in the linguistic roots of the word, dolmen.

> The term has been applied at different times and in different contexts to various types of tomb. The word *dolmen* comes from Celtic linguistic roots: *men* means stone and *dol_

\(^{12}\) This is a 3D modelling computer program developed and produced by a North American software company, McNeel (Robert McNeel & Associates 2016).

\(^{13}\) Dolmen consists of ‘three or more upright stones capped by a large flat stone to form a chamber and covered by a mound’ (The Concise Oxford Dictionary of Art Terms 2013).
is usually derived from *tol* or *table* (some derive it from *doll* meaning hole); thus ‘stone table’ (Champion 2016, emphasis in original).

The Korean name for the dolmen is *Go-In Dol* (고인돌). The *Go-In* means fixed state on the ground, and the *Dol* means stone. I have been intrigued by the similarities between the two different terms to describe the same artefact. This inspired me to investigate linguistic connections between English and Korean. I found ten pairs of terms. Each pair shares a similar meaning and sound (Chart.1 see page 60).

Project 2 also encouraged me to explore a theoretical aspect of how different cultural groups develop similar culture. I expected that my research would reveal actual cultural interactions between the *Go-Chang Dolmen* (Korea) and the *Poulnabrone Dolmen* (Ireland) and thus account for similarities in construction. However, I came to realise that their natural environments would lead to construction of a similar type of dolmen. My understanding is informed by Julian Steward’s *Theory of Culture Change* (1955) and Devi Prasad Subedi’s case for how rainfall patterns develop religious belief. I was also influenced by the practice, methodology and thinking in Peter Hill’s *Superfictions*.

In his PhD exegesis, Hill speculates on the encounters between illusion and reality, *The Creation of Fictional Situations in International Contemporary Art Practice* (2000). His question of illusion drew me to invent my own observation in the photograph of *Poulnabrone Dolmen* (Fig. 6, see page 64) and enabled me to apply my results of lexical similarities as transcultural symbols onto my 3D printed artwork in Project 2, to create a work entitled *Tomb of a Celtic Man in Korea*. This work describes my imaginary view of the interaction of cultures between Celts and ancient Koreans.
In this section of the dissertation in order to contribute to my understanding of the contemporary jewellery context, I reference Korean-born, Melbourne-based contemporary jeweller Jin-Ah Jo. She represents the cultural experience of relocating from Korea to Australia through use of the Korean alphabet, of colour, and of charm in her jewellery. I have found investigation of her jewellery to be useful for comparing my own use of cross-cultural elements.

In addition, the 3D printed artwork produced in this project led me to explore the potential for the use of colours for transcultural artwork. I experimented with how the five Korean traditional colours engage with my 3D printed artwork in a computer-rendering environment. This became an important turning point for expanding my PhD research. The initial ideas from Project 2 have been fully developed in Project 5: Composite Jewellery and Objects.

14 I use computer software called Keyshot version 3. This program enables me to create photographic images and animations from 3D digital data. Please visit <https://www.keyshot.com/> for further information.
Project 3, *The Unfolding of Content in Time*

In Project 3, I was confronted by the challenge of how a damaged 3D printed artwork could be relevant in, and respond to, utilising slow and fast technologies. In 2012, I produced a 3D printed crown for my graduate exhibition of Master of Fine Art at RMIT University. The work consists of five decorative wings attached onto a rim, but due to unsuitable packaging, three wings broke off from the artwork during the delivery processes.  

This project develops a new approach to making a composite artwork. Utilising new technology and traditional jewellery techniques enabled me to investigate the unfolding of content in time. In order to examine this, I employed a special 3D printing pen and filigree technique.  

I focused on how changing the speed during construction can create a new form of artwork. To discuss the use of fast technologies in jewellery practice, I referenced contemporary jewellers including Sofia Björkman, and Ted Noten.  

The preceding projects commenced with my applying a personal fictional interpretation in order to generate imagery. However, as the project developed I began to employ a pre-

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15 International 3D printing company, Shapeways, produced my artwork. Headquartered in New York, Shapeways has factories and offices in Eindhoven, Queens, and Seattle. They provide a range of materials including nylon, gypsum, and elastic plastic, etc. Please visit [https://www.shapeways.com](https://www.shapeways.com) for further information.  

There are many 3D printing companies in Australia but I gave my 3D printing piece order to Shapeways. During the delivery processes, my artwork normally passes through at least three different countries such as the US, Abu Dhabi, and Germany. In the earlier development of my research, I thought the passage from Eindhoven, Queens, and Seattle to Australia would inspire to me develop ‘virtual travel’. However, the packaging and the delivery route brought unintended outcomes to this Project 3.  

16 This tool enables me to draw a 3D form in the air within a short time. See page 81 for further information.
existing narrative in the form of an imaginary tree called Waqwaq. I combined the Waqwaq tree narrative that derives from Arabic culture, along with an excavated golden crown (Hwangnam Daechong Crown) from Korea to inspire the artwork produced in this project. The stories of Waqwaq in historical texts drew me to reinterpret the golden crown.

My imaginative approach to Hwangnam Daechong Crown from Korea derived from Melbourne based jeweller Robert Baines’ fictitious jewellery. In particular, I examined his bracelet titled Java-La-Grande. India, Goa, Indo-Portuguese, Circa Second Quarter of the 16th Century (?). He constructed a narrative around the jewellery piece. I find his use of narrative encourages viewers to believe its historical deceit.

I used a combination of 3D printing technologies, traditional jewellery techniques and different experiences of time transformed as an artwork, which I called Permeated (2014). In order to test the readings of my work I presented it in a public space. I exhibited it at The Seventh Gallery, Fitzory, Australia from 24 April to 10 August 2014.

**Project 4, Combining Hand- and Machine-made Processes**

In Project 4, I created a pair of 3D printed earrings. This derived from my investigation of a pair of excavated Korean golden earrings. The outcome of my study inspired me to reinterpret the relic. In order to transform my reinterpretation as an actual work, I combined 3D printing technology and filigree. This approach extended my capacity of jewellery making.

Through my investigation of the literature, I became aware that the structure of the pair of golden earrings might not be suitable to wear. This led me to explore innovative ways to wear the earrings including Soon-Seop Ham’s piercing and Kwang-Pyo Lee’s use of a
leather strip. Their reinterpretations of the golden earrings inspired me to invent a new pair of 3D printed earrings.

I used 3D printing technology as the dominant method to produce jewellery and objects within my research. However, I discovered limitations with the machine-made (new technology) throughout the experiments in this project. Consequently, I discussed a role of the hand-made in this digital era by referring to theorists including: Jen Anisef, and jewellers Marian Hosking, Mike Simonian, and Maaike Evers.

**Project 5, Composite Jewellery and Objects**

My reinterpretation of the relics from the three cultures enabled me to create composite artworks. The new jewellery and objects created for Project 5 continue to reveal potential in addressing my research. The work entitled *Unexpected Linkages Series* engages viewers through being worn and so celebrates transculturality.

My understanding of transculturality is articulated through the development and fabrication processes involved in making the series. Each process interacts with selected relics, symbols, patterns, and colours. My use of colours derived from Korean, Bactrian, and Celtic cultures, significantly strengthens the new body of work. Engagements with real and imaginative traditional colours expand my practice in the studio.

In August 2015, *Unexpected Linkages Series (Korean) #2* won the Jewellery Encouragement Award, awarded by Craft Victoria.\(^\text{17}\) This led me to see a humourous aspect of my work and led me to employ humour as a device to engage with cultural difference.

\(^\text{17}\) Craft Victoria is Melbourne-based an organisation for craft and design. Please visit <http://www.craft.org.au/us for further information>.
The dissertation concludes with an overview of the contribution of my research to the field of contemporary jewellery making and transculturality. I discuss how this research project is a useful addition to an understanding of transculturality in terms of jewellery and object practice. My PhD research investigates the potential to produce jewellery from often-overlooked similar relics from Sillan, Bactrian, and Celtic cultures, making interactions between the three different cultures. It is important to be clear that my selection of relics is not intended as simply a bibliographic, historical and theoretical study. Rather, the primary focus of my research is how my application of imagination to practice has the potential to work across different cultures and to open up new possibilities for jewellery-making as a means of transcending authorised history and culture.

**Methodology**

**Heuristic Studio Practice**

In this research, I employ a heuristic studio practice methodology where new composite artworks are developed by combining traditional and contemporary techniques, and by employing structures and juxtaposition of cultural symbols. These are contextualised through field research in museums (Korea and Germany) and libraries (Australia). Within the project, traditional academic research of the historical literature in the field is combined with fictional (imaginative) approaches and online strategies in order to generate new imagery.

The root meaning of heuristic comes from the Greek word *heuriskein*, meaning to discover or to find. It refers to a process of internal search through which one discovers the nature and meaning of experience and develops methods and procedures for further investigation and analysis. The self of the researcher is present through the
process and, while understanding the phenomenon with increasing depth, the researcher also experiences growing self-awareness and self-knowledge. Heuristic processes incorporate creative self-processes and self-discoveries (Moustakas 1990, p. 9).

By applying a heuristic methodology, I am able to learn and discover through my study and experimentations. A heuristic methodology allows for questions, analysis, evaluation, and development in making, and reworking to create new bodies of work. In particular, my comparative study of different cultural relics enables me to find unexpected cross-cultural elements including symbol, language and myth.

Imagination

My use of imagination is a key method applied to this research. In the earlier projects of this research, I created fictional accounts to build my own imaginative cultural interactions between three kingdoms. This approach was inspired by Peter Hill, who explores the notion of what he terms superfections that are employed to describe ‘the use of fiction and narrative within contemporary visual art practice’ (Hill 2000, p. 51).

For example, he demonstrated his use of fiction in his PhD exegesis: Hill created an imaginary character called Jimmy Glenn:

This character was signed in to every class, had mail and parcels delivered to the art school in his name, and gradually began to take on a life of his own. …For a ten year period he would lie shamelessly and unnecessarily about anything and everything – invented holidays; expansive farms owned by relatives in distant English countries (Hill, pp. 24-25).
His use of an imaginary character becomes a device to try and unravel truth from fiction. Following Hill, my use of a fictional account allows me to use cultural differences as a means of expanding my capacity for imagination. Thus, in Project 4, my imaginative approach to a pair of Korean golden earrings enabled me to create an innovative a pair of 3D printed earrings.

For my jewellery and objects, imagination offers a productive approach in how practice operates between real historical and cultural elements and imagination. American philosopher Vernon Howard describes the function of imagination:

(1) Imagination connects ends and means, presenting both in a continuum, allowing us to answer the question: why am I doing this? (2) It is an activity of inquiry, not of mere repetition, that makes us capable of learning from our mistakes; and (3) it supposes the assimilation of what is done and a growth of personal standards (Howard 1982, cited in Alvarez & Merchan 1992).

In addition, in my research, it fosters new possibilities through both practice and writing. Therefore, my imaginative interpretation of the relics generates an approach to transculturality that connects different cultures through inspiration, exploration and fabrication of these into re-contextualised artworks.

**The composite**

A key feature of my use of imagination is its power to produce new jewellery within a given frame. The concept of ‘the composite’ has been central to how I have approached my exploration of the history/culture of the Sillans, Bactrians and Celts.
David Thomas, from the School of Art, RMIT University, Melbourne, paraphrases French philosopher Henri Bergson’s definition of the composite thus:

The composite is a construction/model where things different in kind are reconciled through our experience over time. Differences are reconciled not unified. The composite embraces ideas of complexity and multiplicity, allowing different conventions, materials and contents to coexist in an artwork. It, therefore, permits complexities and relationships of readings to coexist (Thomas 2007).

Transculturality could be described as a composite. I use the term composite in this PhD research to assist with the development of models for artworks that can deal with cultural interactions.

My research investigates how the production of jewellery and objects can open up a new combination of materials, techniques, and methods. It also addresses and explores how jewellery-making as a practice and jewellery and objects as artwork can engage in transculturality.

I explore the transformative potential of my selected relics. By undertaking a comparative analysis of artefacts from Sillan, Bactrian, and Celtic cultures I contribute new formal and technical possibilities for the creation of innovative jewellery and objects in the context of contemporary jewellery. By combining forms and symbols common to the three cultures and by combining traditional and contemporary techniques i.e. filigree and 3D digital printing, and by employing structures i.e. layering and juxtapositioning of relics, processes, and materials I aim to develop original composite artworks. These include new composites of texts and images, composites of materials and composites of symbols.
Project 1,

*Unexpected Cultural Interactions: Dagger*
The word *imagination* occupies the borderland between fiction and history. On the *history* side, there are synonyms like conceptualization, formulation, and originality. On the *fiction* side, are fabrication, invention, and making up. But one word could appear on either side of this divide – *artistry*. As humanistic endeavors, both fiction and history require some artistry (Curtis 2013, p. 192, emphasis in original).

At the beginning of Project 1, I create a tale to intertwine my imaginary cultural interactions and real historical elements. In doing so, I can bring forth a new experience of transculturality.

This will encourage me to pursue possible cultural linkages of the three kingdoms through the combination of a fictional and a historical study of the *Golden Dagger* in Project 1.
1.1 Introduction to Project 1

Journey of the Dagger

The golden dagger was made by a craftsman who had various ancestors such as the Celts, Scythians,18 Gals,19 and Egyptians. He lived near the Black Sea.20 The sea was a melting-pot for the people of the world. His ancestors shared their skills, techniques, languages and cultures around the sea. There were no borders and checkpoints at that time.

The dagger was commissioned by a king of Bactria who wanted to have a diplomatic relationship with Silla. The king of Bactria sent a diplomat to Silla with the dagger. It was the most beautiful ornament in the era. When the diplomat passed the Kizil caves,21 he asked an artist to draw a figure of the diplomat in one of the caves. He wanted to memorialise his great journey permanently.

Eventually, he arrived in Silla and presented the dagger to the Khan of Silla. From the 4th to the 6th century AD, Silla was a nomadic kingdom and the people of Silla called their leader Khan. The last Khan was killed by a Chinese Emperor in 500 AD. After the death of the Khan, the leaders of Silla were called kings.

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18 ‘A member of a nomadic people originally of Iranian stock who migrated from Central Asia to Southern Russia in the 8th and 7th centuries BC’ (Encyclopaedia Britannica Online 2016).

19 ‘The region inhabited by the ancient Gauls, comprising modern-day France and parts of Belgium, western Germany, and northern Italy. A Celtic race, the Gauls lived in an agricultural society divided into several tribes ruled by a landed class’ (Encyclopaedia Britannica Online 2016).

20 ‘Sea between Europe & Asia connected with Aegean Sea through the Bosphorus, Sea of Marmara, & Dardanelles area more than 160,000 square miles’ (Merriam–Webster Dictionary Online 2016).

21 The Kizil caves are a set of Buddhist art sites located in Xinjiang, China.
The Khan of Silla was interested in the symbols on the dagger; it looked very dynamic, harmonic, and balanced. He asked about the meaning of the symbols on it. The symbol was called the triskele. This powerful symbol originated in Egypt. The Egyptians used a symbol which consisted of a single head, with one eye, and three fish bodies to heal their eye diseases. And, the Celts adopted the symbol to use at burial sites to protect their ancestors’ souls from evil. The Khan of Silla ordered the word triskele to be translated into the Sillan language and asked that it be used at the Kameun, the Buddhists’ temple as a charm.

The Bactrian diplomat told the Khan that their ancestor came from far to the west of Bactria. The land was a dense forest, not like it is now – hot, dry and covered with sand dunes. He told him that the mother of us all succeeded in breaking the invisible chain and got out of the forest. That was the moment our history began.

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In the first part of this project, I examine the historical background to the Gerim-Ro Golden Dagger, the symbolic linkage through triskele, and the use of imagination to create transcultural symbols. I also discuss my use of Google Street View to discover contemporary symbolic models. I then go on to describe how, through my imaginative approach, I utilised digital technologies to build the 3D printed artefact that I titled 3D Printed Cultural Interactions. This is based upon the shape of the Golden Dagger as a platform to implant the three transcultural symbols produced for the 3D printed dagger work.

22 A Buddhist temple was founded in 682 AD in Gyeong-Ju, Korea.
During my Master of Fine Art (MFA) studies at RMIT University, Melbourne 2011-2012, I was developing the initial framework for this PhD. I produced 3D printed artworks, which depict contemporary city landscapes. I used forms of ancient nomadic relics such as the rhyton, and also Google Street View, to collect city images through virtual travel. The term ‘nomadic’ has been used to express the free lifestyle of virtual roaming in the digital era. The integration of a traditional pastoral lifestyle together with mobile intelligent devices generate ‘digital nomads’ that have been freed from location and time (Tsugio 2013). In my MFA, this approach encouraged me to employ Google Street View as a method to search for symbolic content for my artworks that could be useful.

From these early experiments, I expected that I could produce a new re-contextualised 3D printed artwork, derived from the Golden Dagger and contemporary everyday symbols. This approach enabled me to use digital navigation technology to present the complexities of cultural interaction.

This led me to examine the utilisation of virtual travel in my PhD. In doing so, I employed imagination to interplay with selected digital imagery, which I harvested from urban environments in virtual space.

Throughout my MFA explorations, investigations and experiments I created a 3D printed dagger which I titled 3D Printed Cultural Interactions (2013). This work demonstrates how I...

---

23 Rhytons were ancient vessels for storing and drinking wine. The word rhyton comes from the Greek rhyta, meaning "to run through". … Rhytons were used by the Minoans and Mycenaeans in the Bronze Age and possibly were exported to other civilizations through sea commerce. Rhytons, in the form of animal heads or horns terminating in animal foreparts, are believed to have originated in Persia. Their spread to other peoples was by the ancient Silk Roads of Central Asia and through Persian military campaigns’ (Soper 2004, p. 1, emphasis in original).
combine imagined cultural interactions and digital technologies to generate my understandings of transculturality and how similar symbols and forms appear in different cultures.

Through my study of substantial relics from Korea, I became interested in understanding the reality of the cultural interactions between Sillan and related foreign cultures. Ancient Korean culture was not isolated, as has often been assumed; it interacted with various cultures.

The Silk Road is an important trade route between East and West but most maps of the Silk Road do not show the Eastern route to Korea. However, my research suggested that ancient Koreans traded goods including silk, glass and jewellery from the fourth to the tenth centuries (Carriere 2006). This encouraged me to investigate the complex history and form of the *Golden Dagger* found in Korea, which forms the basis for the practice-led research produced in Project 1.
1.2 Linkages in the *Gerim-Ro Golden Dagger*

In 1973, a mysterious golden dagger was excavated from Burial No. 14 on Gerim Road, in the city of Gyeong-Ju, Republic of Korea (Fig. 1):

> The handle and sheath are entirely wrapped with gold plates, and smaller pieces of pinwheels. These symbols, patterns and motifs are decorated with red agate and other pieces of unknown gemstones (Gyeong-Ju National Museum 2014, para. 9).

The excavated relic has been designated as *Republic of Korea, National Treasure, No. 635*. Since its discovery, the dagger ‘has garnered considerable interest from scholars in Korea and Eastern Europe, where comparable objects have been found’ (Yoon 2013, p. 133).

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*Fig. 1*
*Republic of Korea, National Treasure, No. 635 (Known as Gerim-Ro Golden Dagger), Early 4th Century, Excavated in Korea, Gold Inlaid with Garnets and Glass, 360 (Height) x 85 (Width) x 20 (Depth) mm, Image Used with Permission, © Gyeong-Ju National Museum of Korea.*
The *Golden Dagger* vastly differs from other Sillan swords (Fig. 2), in terms of its appearance, its technique of manufacture and its methods of wear. Yoon (2013, p. 136) describes the differences:

Firstly, while the Gerim-ro dagger has a double-edged blade, all other extant Silla examples – more than one hundred excavated thus far – are single-edged. Furthermore, the Gerim-ro dagger is also distinguished in its form, the style in which it was worn, and the use of red garnet inlay. Such differences strongly indicate that this unusual and exquisite item is not product of Silla.

![Fig. 2](image)

**Fig. 2**
Sword with Phoenix-Shaped Ring,
Early 6th Century, Excavated in Korea,
Bronze, Gold,
970 (Height) x 65 (Width) x 20 (Depth) mm,
Image Used with Permission,
The appearance of the *Golden Dagger* is similar to a dagger that has been discovered at a burial site in Borovoe, Kazakhstan (Fig. 3), and a mural in Kizil Caves, a site in what is now known as Xinjiang, China (Fig. 4). The mural depicts a nobleman wearing a dagger, which is similar to the *Golden Dagger*.
I became interested in the symbol, which is embedded in the *Golden Dagger* (Fig. 5). This looks like a *triskele* (Fig. 6). Miranda Aldhouse-Green (1997, p. 78) interpreted the *triskele* in the following way: ‘The triskele, or three-armed whirligig, may refer to the sanctity of the number three and was possibly also associated with the sun: and the swastika was a well-known sign of good fortune, like the wheel’. ‘The swastika, like the triskele, was associated not only with good fortune but also with solar energy’ (Diel 1952, cited in Cirlot 1971, p. 105). This symbol is also referred to as *triskelion*, *triaquetra*, or *fylfot* (Venefica 2005).
Similar symbols to the *triskele* appeared in other ancient cultures including the megalithic tomb of *Newgarnge* (Fig. 7) in Ireland built around 3200 BC, and the foundation stones at the *Kameun Buddhist Temple* (Fig. 8) in South Korea built in 682 AD. Green’s interpretation of the *triskele* has parallels to the *Sam-taeguek* at the Buddhist temple. Two Korean scholars, In-Soo Baek and Tae-Sik Kim, claim that the *Sam-taeguek* was used for the calculation of the sun and the moon’s orbits.\(^{24}\)

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24 The *taegeuk* of Kameun temple site has two circles comparing the path of the moon with that of the sun leading to the asymmetry in its emblem (*taegeuk*). The east *taegeuk* of Kameun temple site has one circle representing the path of the sun. The *taegeuks* along with around 30 equilateral triangles representing the north latitude of 35.80° give explicit information of the period of the orbit of the moon and the sun (Baek & Kim 2011, p. 460).
The two symbols not only emerged in ancient times, but have also been used in modern times (Figs 9-11). These include the 1988 Summer Seoul Olympic Emblem; the 1960’s TV Series *Star Trek: The Gamesters of Triskelion*; and the movie *Captain America: The Winter Soldier* 2014 (S.H.I.E.L.D’s Washington D.C. headquarters’ name is *triskelion*).

My study of the *triskele* showed that the symbol has been in use consistently over the ages and even in contemporary products of culture. Moreover, the use of the *triskele* across various cultures became a means for me to begin to think about the complexity of culture.²⁵

I imagined that the *triskele* might have been transformed as *Sam-taegeuk*. This traditional Korean symbol is a representation of air, earth and humans.²⁵

²⁵‘Culture is ‘complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society’ (Tylor 1871, cited in O’Neil 2012).
For example, my ancestors applied red, blue, and yellow onto the *Sam-taegeuk*. These are three of the five Korean traditional colours: red, blue, yellow, white, and black. I have seen the use of *Sam-taegeuk* in various ways including in a traditional Korean house: *Han-Ok* (Fig. 12), paper fan (Fig. 13) and traditional leather drum (Fig. 14).

I imagine that the *triskele* was a universal symbol in ancient times as well. My imagination becomes a method to combine and analyse cultural interactions. ‘Imagination may refer to analytical strategy or goal of the observer to link more concrete, large levels of meaning in the society or culture’ (Denzin 1978, p. 229). This raises issues including how a marriage of different cultures could create a new form of artwork.

Therefore, in order to develop new composites of traditional and contemporary imagery further, I inquired into how to combine imagery derived from ‘virtual travel’ with the *Golden Dagger*. Modern writers including Italo Calvino, Alain de Botton and Xavier de Maistre, inspired me to employ the digital or imaginary virtual voyage.
Italian writer Italo Calvino (1923-1985) investigates the meaning of the 20th century city through the creation of imaginary dialogues between the traveller Marco Polo and the Emperor Kublai Khan in his novel *Invisible Cities* (1972). Polo recounted that each of fifty-five cities appear to be distinct from all the others. However, he was actually describing to Kublai, his hometown, the city of Venice.


The French military man known as the writer de Maistre narrates a new way of travel in his novel, *Voyage Around My Room* (1794). In this autobiographical account, De Maistre confined himself to his house for forty-two days in order to write a grand narrative about a voyage around his room. The expedition enabled him to revaluate the materials in his room such as the furniture, a window, and a mirror. His novel proves it does not matter where you go, it is what you do, how you do it and what you learn from it.

The city of Venice, English tavern, and things in a room expand Calvino, de Botton, and de Maistre’s imaginary travel. In a similar vein, I use ‘virtual travel’ to discover source materials in order to create new transcultural symbols.

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\(^{26}\) Huysmans uses a fictional character to epitomise late 19th-century French elite culture in his book *À Rebours* (1884).
1.4 My Use of Virtual Travel

*Fig. 15*  
Collected Images from My Virtual Travel,  
Image Used with Permission,  
© Google.
I am living in the digital technology era and a field of massive culture exchange due to the World Wide Web. Just a single-click of my mouse can be triggered to provide a worldview. My use of digital technology draws on the notion of digital nomadism. This concept has been developed from the early 1960’s. The term was coined by Canadian philosopher Marshall McLuhan (1964), who predicted the appearance of a digital nomad in his book *Understanding Media: The Extensions of Man*. He argued that all people would be nomads using facilities on the road as they live in a world of increased mobility and technological communication, and they would wander all around the world and have no fixed home. Later Tsugio Makimoto and David Manners (1997) predicted that portable digital technologies would usher in a new nomadic age. French economist Jacque Attali (2003) defined the 21st century as the age of the digital nomad in his book, *L’Homme-Nomade*. He claimed that people who live in today’s society would be digital nomads who ceaselessly scratch around for new ways and information.

I can be a digital traveller by using Google Street View, and I can follow a path to view Machu Picchu in Peru, Petra in Jordan, and the backstreets of New York. Artists would derive new inspiration from real travel, but I employ the digital navigator as a vehicle to search for appropriate imagery for my artwork (Fig. 15, see page 34).

Exploration in the virtual world provided me with a unique perspective for developing Project 1. I started the virtual travel from the computer monitor in front of me and downloaded contemporary city views. My use of virtual travel is an attempt to evoke new narratives regarding cultural interaction that are developed through the interplay between my imagination and digital imagery.
Three narratives are created with the imagery. These have a transformative potential for transcultural symbols. Each narrative highlights the interconnectivity between iconography, symbol, and culture.

1.5 Imaginative Interactions to Generate New Transcultural Symbols: Tyre, Payphone and Graffiti

Among the collected images, I was interested in an image, which depicts a man sitting on a chair next to a pile of tyres (Fig. 16).

When I first looked at the triskele, it generated a spinning wheel and a whirlpool galaxy in my head. This connection came from the images in my memory. Aristotle says:

> located between perception (to aisthetikon) and the intellect (nous), and is made necessary to the latter: ‘the soul never thinks without an image’. Imagination is given even higher status by being linked with memory, both being regarded as direct outgrowths of perception (Aristotle in Casey 1976, p. 16).

The tyres in the image are a trigger to narrate a story. I imagined that the triskele symbolises a whirlpool galaxy. I visualised that people who lived in ancient times could see a whirlpool galaxy everywhere in the night sky, and that the ancient people began to worship the massive group of stars. They started to believe the galaxy could protect their lives. Therefore, the triskele became a symbol of fortune. Despite their different cultural

![Fig. 16](Tyre, Image Used with Permission, © Google.)
backgrounds, many people would be interested in wealth, health, and happiness. These common interests could generate a symbol of fortune.

I have created a narrative about the galaxy and the *triskele*. However, my imaginative approach enabled me to develop a studio-based practice. I drew a whirlpool galaxy on a piece of paper (Fig. 17), and then produced a 3D printed model of the combination of the *triskele* and the tyre (Fig. 18).

![Fig. 17](image1.png)
Sun Woong Bang, *Galaxy*, 2013, Coloured Pencil on Sandpaper, 250 (Height) x 220 (Width) mm.

![Fig. 18](image2.png)
Sun Woong Bang, *Combined Triskele and Tyre*, 2013, 3D Printed Wax, 65 (Diameter) x 20 (Depth) mm.
During the development of this experiment, I found my narrative could share Cirlot’s interpretation of the *triskele*.

In ornamentation, ... triskeles and swastikas are all graphic shapes which, in symbolism, are grouped under the general heading of 'cosmic background’, because they are all in effect symbols of the activity of natural forces and of the four Elements (Cirlot 1971, p. 126, emphasis in original).

In line with his claims, I was encouraged to use the *Combined Triskele and Tyre* for the artwork produced in Project 1. The outcomes are a result of combining my imagination within the imagery of a tyre, and bibliographic investigation of the *triskele*. I have applied a similar methodology in the next work.
This image (Fig. 19) mainly depicts two men looking as if they are using pay phones. However, I was interested in the man with a broom in green clothes who looks like he is smiling. I imagine the amusing shape of the Google Street View Car in Fig. 20 would cause him to smile. The integration of a 360-degree panoramic camera and auto mobility allows us to see foreign street views without physical travel.
I reinterpreted the imagery. I began by drawing the scene in a wide angle. In the image, I included not only the subjects (the two men in phone booths, and the man with a broom) but also the Google Street View Car (Fig. 21). Through the process of drawing, I first realised that my experience with digital technology could trigger an expansion of my imaginative capacity. In 2012, I saw a photograph in *The Times of Israel* (Fig. 22) that depicted people looking at the Google Car with curiosity. This memory enabled me to draw the scene, capturing the moment.

**Fig. 21**
Sun Woong Bang, *My Imaginary Drawing of Expanded View*, 2013,
Coloured Pencil,
180 (Height) x 220 (Width) mm.

**Fig. 22**

Secondly, I became interested in the content. The surroundings in these photographs are often out of focus. At the beginning of an analysis of the imagery, I only focused on the two men (subject). However, I came to acknowledge that the Google Street View Car (content) drew me to think of the relationship between digital technology and travel: and the images collected from the Internet, provided me with a strong sense of cultural experience.

The sense of cultural experience derived from digital technology can be related to Martyn Barrett's idea of intercultural competence. He addresses the four cores of intercultural competence: attitudes, skills, knowledge and behavior. I am particularly interested in his argument regarding skills:

Skills: skills of listening to people from other cultures; skills of interacting with people from other cultures; skills of adapting to other cultural environments; linguistic, sociolinguistic and discourse skills, including skills in managing breakdowns in communication; skills in mediating intercultural exchanges; skills in discovering information about other cultures; skills of interpreting cultures and relating cultures to one another; empathy; multi-perceptivity; cognitive flexibility; and skills in critically evaluating cultural perspectives, practices and products, including those of one's own culture (Barret 2011, p. 3).

My skill in digital technology enables me to engage with foreign content and allows me to have a sense of cultural experience in the virtual world. In doing so, my skill becomes a bridge to connect myself to alien cultures. I have found cultural connections via the use of traditional gold and silversmithing techniques as well.
For example, the *Golden Dagger* is decorated with the cloisonné technique:

This was first developed in Egypt and spread to surrounding cultures ... The Gyerim-ro dagger evidences the merging of a popular Central Asian form and the variant of the cloisonné technique that originated in the Byzantine Empire and was disseminated among European migrants in the fifth century (Yoon 2013, p. 139).

To respond to the cultural interactions: the use of technology, skills, and techniques, I returned to the original imagery of the two payphones (Fig. 19, see page 39). I chose the shape of the phone booth as a metaphor for cultural interactions because it has symbolic strength. In the digital era, the telephone is an old device for making a phone call but ironically, this becomes an icon for a phone call in many digital mobile phones. I developed these ideas through hand drawing and 3D Computer Aided Drawing (CAD) (Figs 23-24, see page 43), and my reinterpreted telephone became another transcultural symbol in Project 1.
Exploring foreign streets in cyberspace reminded me of my actual travel in Australia through laneways. My first impression of Australian urban backstreets was that they are full of graffiti. When I lived in Korea, it was rare to see graffiti. However, I saw many murals in historical sites including those found in a tomb in the city of Yeong-Ju in South Korea (Fig. 25, see page 44).

Although the values of the historic murals and the graffiti are different, I became intrigued to test how a change of background can revalue the graffiti. Thus, I investigated the potential

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27 The traditional ethics and etiquette of Korea, as in the other Confucian-oriented countries of Asia, were based more on the outward behaviour of people than on inner convictions having to do with universal right and wrong or absolutes based on human and antihuman principles’ (De Mente 2012, p. 439).
for the combination of graffiti and the Golden Dagger to evoke a sense of cultural heterogeneity. ‘Heterogeneous means consisting of dissimilar not homogenous, completely different, or incongruous elements or parts’ (Yeboah 2001, p. 102).

Image removed due to copyright reasons

Source from http://luckcrow.egloos.com/2459820

Fig. 25
Murals in the Yeong-Ju Tomb,
Early 6th Century,
Yeong-Ju, Korea.
By using Google Street View, I was able to see contemporary mural artworks on the Berlin Wall (Fig. 26). Many of them are graffiti-ridden. In general, this is regarded as vandalism. However, the views inspired me to use graffiti as symbols to generate a sense of cultural heterogeneity. The graffiti derived from the Berlin Wall (Fig. 27) were then superimposed onto my artwork in Project 1.

**Fig. 26**  

**Fig. 27**  
Graffiti, 3D CAD Expression, 2013.
Fig. 28
Sun Woong Bang, Idea Development Sketch to Produce My 3D Printed Dagger in Project 1, 2013,
Watercolour,
240 (Height) x 260 (Width) mm.
1.6 The Artwork Produced in Project 1

Prior to the commencement of making 3D works, I started drawing in order to develop strategies for incorporating the symbols into the *Golden Dagger* (Fig. 28, see page 46). Using Rhinoceros 4.0 (3D CAD software), I was able to generate a drawing of a virtual object similar in form and dimensions to the *Republic of Korea, National Treasure, No. 635*. I incorporated my new transcultural symbols – three tyres, phone booths, and graffiti, onto the art object (Figs 29-30).

Fig. 30
Three Tyres, Payphones and Graffiti,
2013,
3D CAD Expression.
By combining my imaginary interpretation with digital technologies, I built the 3D printed artefact that I titled *3D Printed Cultural Interactions* (Fig. 31). I used the shape of the *Golden Dagger* as a platform to implant the three transcultural symbols mentioned above to produce the final 3D printed dagger work.

Through evaluations of my transcultural symbols, I began to understand how mundane things such as tyres, phone booths, and graffiti, can generate understandings of transculturality and how one can discover unexpected connections or overlooked similarities between different cultures through them.

Cultural similarities between Sillan, Bactrian, and Celts might have existed from ancient times. However, in general, we believe the three cultures to be different, judging by their race, language, and geography. Institutionalised knowledge places each culture in a separate category. My imaginative methodology questions such distinctions.

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**Fig. 31**
Sun Woong Bang, *3D Printed Cultural Interactions*, 2013,
3D Printable Sandstone,
480 (Height) x 90 (Width) x 30 (Depth) mm,
Photo: Sun Woong Bang.
In 2013, I exhibited my work at First Site Gallery, Melbourne, in a group exhibition called *Close to Hand II* (Fig. 32). Sixteen postgraduate students of the School of Art, RMIT University, exhibited their objects and jewellery for ten days.

This exhibition provided the motivation and opportunity to explore how methods of display can suggest and complement readings of the artefact. I placed my experimentations with a plinth and archive boxes and the artefacts *3D Printed Cultural Interactions* into the exhibition.
My experiment started with grey archive boxes to suggest my imaginative cultural interactions (Fig. 33). The Oxford English Dictionary Online 2016 defines the term *archive* as ‘a collection of historical documents or records providing information about a place, institution, or group of people’. My aim was to find a new type of plinth, which had potentiality and could amplify the strength of my artwork and my notion of transculturality.

My artwork is an amalgamation of history, technology, and imaginative cultural interactions. In this context, the archive boxes became a zone, in which the viewers could engage with real and imagined information.

Fig. 33
Studio and Exhibition Testing Set-up Shots, 2013.
I labelled each archive box with its historical contents (Fig. 34). During the development of Project 1, I studied the history of the *Golden Dagger*, the mummies discovered in the Tarim Basin, the ancient symbols, and the pre-history burials. I used these for the labels.
I exhibited my fictional account (Fig. 35) alongside 3D Printed Cultural Interactions for the final exhibition set-up (Fig. 32, see page 49). The fictional account assisted imaginative cultural interactions through ‘virtual travel’ and led the viewer to recover layers of my work through reading of a faux e-mail. Hill’s use of an imaginary character (see page 17) encouraged me to create a fictional narrative in the form of an e-mail.

The 3D printed artefact, archive box plinth and email sat together to create a composite structure that could generate a fictional narrative that through the use of diverse media questioned and suggested issues of truth, fiction, and transculturality.
1.8 Conclusion: Project 1

Project 1 was the introductory phase of my PhD research. It led me to engage in research, develop processes and raised questions that carry on throughout this research: such as the study of relics, improvement of 3D CAD skills, and revaluation of imagery from ‘virtual travel’ to find new transcultural symbols.

At the beginning of this research, I proposed ‘virtual travel’ as part of my methodology but I realised that travel in virtual space and use of Google Street View are different. Digital navigation is a simple vehicle to find source materials (views of foreign cities) through the Internet. In contrast, ‘virtual travel’ is an outcome of my imagination, which is generated from the imagery of contemporary cities from Google Street View. I discovered that my imaginative approach to the collected imagery was the key to creating the new transcultural symbols. Therefore, I changed my perspective on ‘virtual travel’ to regard it as an aspect of my imagination.

The experiments undertaken in Project 1 were important for developing concepts, processes, methods of display, and the relationship and readings of diverse materials. Media and visual languages for devising questions regarding a 3D miniature art object’s engagement with transcultural interactions were also generated. Through the experiments, issues surfaced that focused the overall research question of how my imagination generates unexpected cultural interactions by using an ancient symbol and urban imagery from ‘virtual travel’.

The potential of the artworks produced in Project 1 to suggest new understandings of cultural interactions between Sillan, Bactrian and Celtic cultures was reinforced. I continued to investigate this in the following project.
Project 2,

*Imaginary Cultural Interactions: Dolmen*
Sun Woong Bang, *Idea Sketch for Project 2*, 2014,
Watercolour,
220 (Height) x 250 (Width) mm,
© Sun Woong Bang.
2.1 Introduction to Project 2

A Man from Aran Islands

There was a group of Celts, who lived on the Aran Islands near Ireland.\(^{28}\) They spoke the Proto-Indo-European language.\(^{29}\) They did not know exactly where the language originated. They had just learned it from their fathers and mothers and the leaders of the group.

One day the great leader died. The people of the group wanted to mourn his achievements together, so they collected big flat stones and built a structure on the burial spot. Also, they wanted to leave his name on the stone, so they made four dents that were like the four birthmarks on his back. They called this a dolmen.

After his death, they started to expand their territories and crossed the sea and another sea and finally they arrived in a huge land. It was an arduous journey to find a new land in which to live. During the journey, some of the old men passed away and one by one they were buried under the dolmens. The natives in the new land looked at the dolmen and started to bury their leaders and members of the family in the same way. Eventually, it became a custom.

The journey continued, but the Celts missed their home in the Aran Islands. Aran means poignant love. The Celts made a song for the homelands and the lyrics expressed sweet sorrow. It is about a girl who is missing her lover who remained in the Aran Islands.

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\(^{28}\) Oxford English Dictionary Online 2016 defines Aran Islands as ‘a group of three islands, Inishmore, Inishmaan, and Inisheer, off the west coast of the Republic of Ireland’.

\(^{29}\) This is the mother tongue of Indo-European languages. Today Indo-European languages are spoken by about three billion people; included are most of the languages of Europe, the Persian language of Iran and Hindi (Anthony 2007, p. 13).
song had a beautiful tune and so it was passed on to others, both in the new land and elsewhere. People also wanted to know the lyrics, so it was translated into their languages. After this, it continued to be passed on to others, again and again.

© Sun Woong Bang

In Project 2, *Imaginative Cultural Interactions: Dolmen*, I further develop my use of narrative as an incubator to expand my understanding of transculturality. I create new fictions to describe unexpected cultural interactions. The narrative above explores the ideas of tomb, language and journey as manifested through the structure of the dolmen. Project 2 is also inspired by my study of the lexical similarities between English and Korean. However, my researches are not formally linguistic but are utilised to suggest possible cultural interactions between the two languages and are employed as a generative strategy to create new artworks.

While developing the proposal for this PhD research, I become interested in the lexical similarities between English and Korean, illustrated here through the tale of *King Midas: Donkey Ears*, and between the existence of similarly structured dolmens in Ireland and Korea. These became sources from which to develop my fictional narratives and resulted in the 3D printed artwork produced in Project 2.

These works and writings are constructions that use components that are different in kind as a composite. The term composite can be used to describe heterogeneous cultural elements in a work of art, where, over time, the viewer can reconcile these components, different in kind, into an ongoing unified experience. I interpret my use of the composite from Henri Bergson’s definition of the composite suggested on page 18 of this dissertation.
In addition I use Julian Steward’s *Theory of Cultural Ecology* to expand my understanding and application of imaginative linkages.

As Project 2 developed I was able to refine and address the following research question:

> How can I combine imagery derived from fictional and historical sources in order to generate new artefacts that suggest transcultural interaction?

As the project developed, the artwork produced led me to experiment with Korean traditional colours. The outcome of my use of Korean colour became a turning point and informed the development of later projects in my research.

### 2.2 Lexical Similarities between English and Korean

From the time I have been living in Australia, I often notice some English words have similar meanings and sounds to Korean words. This led me to explore lexical similarities between English and Korean. The trigger was searching for connections between the Korean word 고을 [goeul] and the English word *Gaul*. Both words mean an area to inhabit.

Moreover, Merriam–Webster dictionary defines *Gaul* as a Celt. This finding drew me to research other Korean words, which have similar meanings and sounds to English (Chart. 1, see page 59). To find the meanings of English words I referred to the *Oxford Dictionary Online* 2016. Korean words are translated by *Naver* (a Korean web portal, http://endic.naver.com/) Korean–English dictionary.
**Chart 1: Outcomes of My Investigation on the Lexical Similarities between English and Korean.**

<table>
<thead>
<tr>
<th>Korean Term/Pronunciation</th>
<th>Meaning</th>
<th>English/Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>고을 /[goeul]</td>
<td>a district (of a province)</td>
<td>gaul</td>
<td>‘an ancient region of Europe, corresponding to modern France, Belgium, the south Netherlands, SW Germany, and northern Italy’</td>
</tr>
<tr>
<td>숯 /[soot]</td>
<td>charcoal</td>
<td>soot</td>
<td>‘a deep black powdery or flaky substance consisting largely of amorphous carbon, produced by the incomplete burning of organic matter’</td>
</tr>
<tr>
<td>색시/ [saeci]</td>
<td>unmarried woman</td>
<td>sexy</td>
<td>‘sexually attractive or exciting’</td>
</tr>
<tr>
<td>방 [bhang]</td>
<td>a room</td>
<td>barn</td>
<td>‘a large farm building used for storing grain, hay, or straw or for housing livestock’</td>
</tr>
<tr>
<td>노래 [no:rae]</td>
<td>a song, music</td>
<td>lore</td>
<td>‘a body of traditions and knowledge on a subject or held by a particular group, typically passed from person to person by word of mouth’</td>
</tr>
<tr>
<td>고비 [gobi]</td>
<td>crisis, crucial moment</td>
<td>corvee</td>
<td>‘a day’s unpaid labour owed by a vassal to his feudal lord’</td>
</tr>
<tr>
<td>시래기[siragi]</td>
<td>dried radish greens</td>
<td>silage</td>
<td>‘grass or other green fodder compacted and stored in airtight conditions, typically in a silo, without first being dried, and used as animal feed in the winter’</td>
</tr>
<tr>
<td>아름[arm]</td>
<td>the span of one’s arms round</td>
<td>arm</td>
<td>‘each of the two upper limbs of the human body from the shoulder to the hand’</td>
</tr>
<tr>
<td>위대[wede]</td>
<td>greatness</td>
<td>wide</td>
<td>‘of great or more than average width’</td>
</tr>
<tr>
<td>똥 [ddong]</td>
<td>excrement</td>
<td>dung</td>
<td>‘the excrement of animals: manure’</td>
</tr>
</tbody>
</table>
These discoveries emphasise my understanding of transculturality. I did not recognise the lexical similarities when I lived in Korea. However, my increasing bilingual skill has led me to find the overlooked lexical similarities between English and Korean, and could be employed to describe real and imagined cultural interactions.

Korean is my mother tongue but I use English in this PhD: ‘Writing cannot express all words, words cannot encompass all ideas’ (Confucius in Wilkinson 2000, p. 45). The style of my writing in English is imperfect and poetic. My limitations of language provide a transcultural zone, where readers are asked to interpret my particular usage of English vocabulary.

The outcome of my lexical investigations drew me to research possible related cultural transmissions. In the introduction to this dissertation, I described the discovery of mummies from the Tarim Basin in China, and Mair’s (2010) notion of cultural transmission. There were cultural interactions between East and West in ancient times (see page 6, para 2).

As my introductory fiction at the beginning of Project 2 suggests, I imagine a group of people that share their language, religion, and history. They would generate a new culture and build an original lifestyle. However, they would mix with external groups of people by meeting, clashing and grappling, i.e., migration, war, and colonisation. These interactions produced new cultural content.

Historical fact also demonstrates the results of transcultural exchange, for instance to name but one, the story of King Gyungmun. This story was based on a real ruler of Silla from 861 AD to 875 AD. The story suggests that he had donkey ears, a secret which only the maker of his crown knew. This became a well-known bedtime story for children in Korea.
believed that this fairy tale only existed in Korea but historical research demonstrates an example of transcultural transmission between West and East. The original story was actually derived from the tale of King Midas. King Midas ruled Phrygia\textsuperscript{30} in the 8th century BC. In the myth, the king’s barber has a problem with shaving the king, due to king’s long, shaggy, grey, donkey ears.

In this first part of Project 2, I have attempted to find examples of cultural transmission between different cultures through language and myth. The outcomes of my investigation may be regarded as a mere coincidence, or subjective imaginary projections of cultural similarities but their real purpose is to develop a sense of shared symbol and language and form between cultures that can be used to develop artworks that have similar intentions.

In the second part of Project 2, I wanted to research actual concrete artefacts – in this case, the Megalithic stone tomb: dolmen. I was intrigued by the elemental simplicity and ruggedness of their forms, materials, and locations.

‘Most of the dolmens have remained untouched since the time of their construction, their present condition being the result of normal processes of decay’ (UNESCO 2016, para. 8). I discuss this in detail in the next section.

\textsuperscript{30} It is ‘an ancient region of west central Asia Minor, to the south of Bithynia. Centred on the city of Gordium, it dominated Asia Minor after the decline of the Hittites in the 12th century BC, reaching the peak of its power in the 8th century under King Midas. It was eventually absorbed into the kingdom of Lydia in the 6th century BC’ (Knowles 2014).
2.3 The Two Dolmens

I was interested in an image of the *Poulnabrone Dolmen* in Burren, Ireland (Fig. 2). The ‘Poulnabrone portal tomb or dolmen is one of the best known ancient tombs in Ireland. Excavations at the site uncovered the objects. Carbon 14 analysis placed the tombs use to between 3800–3600 BC’ (Clare County Library 2016, para. 1).

![Fig. 2](http://irisharchaeology.ie/2013/06/poulnabrone-tomb-life-and-death-in-the-burren)

![Fig. 3](http://jikimi.cha.go.kr/english/search_plaza_new/Directory_Imageall.jsp?VdkVgwKey=13%2C03910000%2C35&queryText=)

The structure of the *Poulnabrone Dolmen* reminded me of a dolmen in the city of Go-Chang in South Korea (Fig. 3). ‘There is considerable diversity in those monument types, but they nevertheless share a number of common characteristics. All consist of a large capstone or capstones supported by a number of smaller upright stones’ (Cummings 2015,
The common characteristics drew me to investigate the potential for cultural interactions between the two dolmens. It could be regarded as an example of cultural ecology.

American anthropologist Julian Steward, suggests ‘a method for recognizing the ways in which culture change is induced by adaptation to environment. This adaptation, an important creative process, is called cultural ecology’ (Steward 1955, p. 5). Robert M. Adams (b. 1937) paraphrased Steward’s theory. ‘Cultural ecology, as used by Steward, refers to the environment not only as a generalized permissive or limiting factor, but also as a constellation of critical local features that necessitate particular adaptations through a genuine “creative process”’ (Adams 1956, p. 195, emphasis in original).

Devi Prasad Subedi, an anthropologist in Nepal, suggests a case in point:

In a drought-prone region, great concern over rainfall patterns meant this became central to everyday life, and led to the development of a religious belief system in which rainfall and water figured very strongly. This belief system may not appear in a society where good rainfall for crops can be taken for granted, or where irrigation was practiced (Subedi, n.d).

After considering Subedi’s example of cultural ecology, I presumed that the two dolmens could be set up in similar landscapes. In order to check my assumption, I investigated the natural surroundings of the two dolmens. The Go-Chang Dolmen is located in a vast basin surrounded by hills: and the meaning of Go-Chang is high–broader (Fig. 4).
Interestingly, the environment of the *Poulnabrone Dolmen* shows similarities, including flat and green land. The only difference would be geologic layers. The Poulnabrone site (Burren) is a massive limestone zone\ref{footnote:landscape} (Fig. 5).

In line with the *theory of cultural ecology*, I imagine the people who built the dolmens lived in analogous environments and developed similar behaviours to adopt to the natural environments. In turn, they built a parallel structure of dolmens.

In summary, my informal study on the *cultural ecology* and the two dolmens encouraged me to use the form of dolmen as a metaphor for cultural interactions. The form’s capacity to produce a new work has been tested within Project 2.

With a focus on the parallel structure of the two dolmens, I could not see other contents in the images. In Project 1, I described how I used the contents in the image of the phone booths. This enabled me to imagine and search for real content, which could interact with the results of lexical similarities.

I was intrigued by the dents on the *Poulnabrone Dolmen* (see the red circle in Fig. 6). This could be a mere optical illusion. However, Hill poses the following question, ‘What happens when illusion slips out of the picture frame and fiction escapes from the pages of the novel?’ (Hill 2000, p. 12).

Thus, I began to investigate certain marks in stone, and found the *Du-Mul-Mer-Ri Dolmen* (Fig. 7) in South Korea. The cup marks on the stone are regarded as referencing a

\begin{footnote}{The landscape of the Burren region is underlain by several different rock types: limestones in the north and east (i.e. the Gort-Kinvarra lowlands and most of the Burren) (McNamara & Hennessy 2010, p. 6).}
\end{footnote}
constellation, *Draco*\(^{33}\) (Cho 2009, para. 10). I then interpreted the marks on both the Irish and Korean dolmens as referencing something in common: the night sky, a cosmic map.

This finding inspired me to imagine applying the twenty English and Korean words from my lexical chart as constellations onto my artwork. The *Draco* became a bridge to connect the lexical similarities and dolmens. In doing so, I was able to use the twenty words as new transcultural symbols. I discuss this further below.

\(^{33}\) *Draco* is ‘a northern circumpolar constellation within which is the north pole of the ecliptic’. (Merriam–Webster Dictionary 2016).
2.4 The Development of Original Artwork in Project 2

My real and imaginative approach to the dolmens engages with the potential for creating a piece of 3D printed artwork. The lexical similarities, structure of the dolmens and the constellation become visual languages for the creation of a composite artwork. Through developing this research my use of the composite is an important method to present my understanding of transculturality as an artwork.

In this section, I demonstrate how the outcome of my study is transformed into a 3D printed artwork. This begins with my hand drawing of the two dolmens (Fig. 8).

Fig. 8
Sun Woong Bang, Idea Development Drawing of Project 2, 2013, Watercolour, Pen, 250 (Height) x 270 (Width) mm.
I drew the two dolmens facing each other and saw that they are connected through their parts. From my understanding of the ideas suggested by cultural ecology, I saw the parallel structure of the two dolmens would be regarded as a linking of similar environments. When I was satisfied with the design for my artwork, I started 3D CAD drawing to make a 3D printed dolmen (Fig. 9). I then superimposed Korean and English words onto the 3D CAD model.

Fig. 9
Combined Dolmens and the Lexical Similarities, 2013, 3D CAD Expression.
2.5 Evaluation of the Artwork Produced in Project 2

Fig.10
Sun Woong Bang, *Tomb of a Celtic Man in Korea* (Front View and Side View), 2013, 3D Printed Black Plastic, 110 (Height) X 140 (Width) X120 (Depth) mm, Photo: Sun Woong Bang.
The form of the *Poulnabrone Dolmen* and the dolmen in the city of Go-Chang have been combined together and becomes a vehicle to present new transcultural symbols (Fig. 10 and Fig. 11, see pages 68-69). My observation of the lexical similarities between the English and Korean languages suggested that I developed new symbols: they were embedded in *Tomb of a Celtic Man in Korea* (2013).

Language cannot be ignored when we consider the transcultural art object. My 3D printed dolmen examines how cultural interactions can be suggested through language and text. The lexical simiarites between English and Korean, which I observed, open up a new direction to engage with overlooked and unexpected cultural similarities.

The structure of the English language certainly differs from Korean. However, the indistinctly presented texts on my 3D printed dolmen describe unexpected linguistic connections. This could be a product of my imagination but it can also encourage the viewer to reconsider transcultural connections.

The use of language became a sign of cultural interactions in this Project 2. This drew me to explore Jin-Ah Jo, a contemporary Korean-born jeweller. Jo migrated to Australia in 2003. She draws on her awareness of Korean culture, combining Korean calligraphy and the alphabet in her jewellery. Both the calligraphy and the alphabet celebrate the beauty of brush strokes.
For instance, *In My Mother Tongue-Reflection-Pendant*, is a circular form made from mild steel, silver, Korean traditional paper and transparent acrylic (Fig. 12). Her use of mild steel is an essential material for Jo as it allows her to explore and create a new form. By using traditional paper a sense of Korean cultural heritage can be introduced.

Her work visually interpretes cultural connections and differences between Australia and Korea. I am interested in her use of acrylic. This allows the audience to see through the back of the pendant. Jo’s use of acrylic could be described as a lens to focus her cultural background clearly in her work. She employed Korean alphabets to invite the audience to engage with Korean cultures through interpretation of the translation (Reid 2010).

Jo combines her unique cultural background with new cultural experience to create a new form of cross-cultural artwork. Although I use Korean cultural elements, I continually supplement these with imagery from external (foreign) cultures to extend my work.

**2.6 Experiments with the Five Korean Traditional Colours**

The 3D printed dolmen is printed in black: it presents the traditional colour for mourning in general Western culture. In contrast, Koreans traditionally wear a white cloth as funeral attire. My background in Korean culture inspired me to explore how the traditional colours of Korea affect the readings of the 3D printed dolmen.

The Korean traditional colour code is an array of five colours and incorporates many different aspects of Korean daily life.

Korean traditional colour symbolism is based upon the five elements and the five basic colours are blue, white, red, black and yellow. Traditionally, blue symbolises creativity, immortality and hope; white symbolises chastity, truth, innocence and death; red
symbolises the sun, fire, production, creation, passion and love; black symbolises existence; yellow symbolises light and essence of vitality (Shin et al. 2014, p. 50).

I was inspired by Shin's interpretation of the Korean traditional colour, I began by using Keyshot (3D computer-rendering program) that allowed me to apply each of the five colours onto my artwork in virtual space (Figs 13-17).
The results above depict my use of separate Korean traditional colours. I then combined the separately coloured dolmens (Fig. 18).

**Fig. 18** Experiments with Korean Traditional Colours, 2013.
Through these experiments, I have discovered some important readings. It is hard to recognise a sense of Korean culture without having a harmonised, balanced, and appropriate combination of these particular five colours. If they are used without this harmonic relationship, they can simply suggest the basic Western colour design palette of 3 primary colours and 2 tones, black and white. When saturated at an intense level of chroma, and used with balance and in context, they suggest Korean colour symbolism.

These are used in Korean cultural contents including *Han-Bok* (Korean traditional cloth), *Bo-Ja-Gi* (Korean traditional wrapping) and *Dan-Chung* (Korean traditional multi-coloured paintwork on wooden buildings). Therefore, the colours become a symbol communicated amidst the visual language of Korea.
2.7 Conclusion: Project 2

Throughout Project 2, I created a 3D printed dolmen object. This work provides a new perspective to engage with transculturality through form text and colour. I gathered knowledge through comparative study, which included the research of lexical similarities, analysing the myths and the locations. I aimed to convert my knowledge into a visual language. Thus *Tomb of a Celtic Man in Korea* (2013) encompasses entangled cultural interactions.

In order to intertwine different cultural sources my use of imagination was crucial. It offered to me a freedom to create fictional connections between Celts and ancient Koreans.

However, I realised my project at this stage had limitations. Linguistically my narrative lacked the sense of cultural diversity that my visual language had. For instance, I only researched lexical similarities between English and Korean languages because it derived from my bilingual experience. In contrast, I could not investigate to find connections between English, Bactrian and Korean language. This is beyond my capacity. Thus, in Project 3 I become interested in how I could use an existing tale to create new works and how other artists employ a narrative to develop their artwork. In Project 3, especially, I refer Robert Baines, Emeritus Professor of RMIT University.

In Project 2, in terms of fabrication, I improved my 3D CAD skill, so that I could create the 3D printed dolmen. My knowledge of Rhino CAD was informed through YouTube. I watched teaching video clips of other 3D CAD users to build the work.

In addition, the 3D dolmen that was printed in a black colour encouraged me to experiment with Korean traditional colours. I did not consider using colour as a method at the beginning
of this research project. However, my new engagement with colour and processes resulting from the experiments in Project 2 would expand my practice and understanding of processes, leading to the development of a broader range of artworks in Project 3.
Project 3,

*The Unfolding of Content in Time*
3.1 Introduction to Project 3

Project 3 is a bridge for connecting Project 1 and Project 2, and for engaging with time, and traditional and digital technologies. This investigation commences with components of my broken artwork. During the reconstruction period, I was able to compare slow and fast processes. This allowed me to experiment with a contemporary craft technology, and unpacked the potential for jewellery and objects making. My experiments in the studio produced an artwork I titled *Permeated*, which was inspired by a legendary tree in Arabic myth.

The reconstructed artwork, in Project 3, initially was a result of experiments with my damaged 3D printed work. In 2012, the *Republic of Korea, National Treasure, No. 191* (golden crown) inspired me to build a reinterpretated 3D printed crown. Unfortunately, the 3D printed work was damaged during delivery from the Netherlands but this encouraged me to use a traditional jewellery technique, filigree, and a 3D drawing pen to generate a new composite artwork.

In Project 3, I found that the damage provided a means to generate new forms. In particular, I focused on the utilisation of old and new technologies. This enabled me to experiment with suggesting differing times and speeds through an artwork.

This project continued to test imagination as a method to create artwork. I became interested in creating a fictional article, which describes a mystery tree or a land called *Waqwaq*. This inspired me to create new content and forms to be added to the damaged crown.
Within this project, I shift my prime focus to the use of an imaginative approach. This concern had arisen from my investigation of Robert Baines’ jewellery practice. I studied the use of narrative in his work in order to demonstrate cultural interactions. In doing so, I refined the use of my imaginative approach to relics from the three kingdoms.

3.2 Integration, Layering and Juxtaposing of Slow and Fast

When I saw the damaged crown (Fig. 1), I considered using an industrial glue to fix it. Throughout Project 1, I had experimented with the artworks that were damaged in the
accident and how learned how this could lead to the discovery of new content, i.e. the imagery of phone booths. This experience led me to see the damage as a new opportunity.

I employed filigree to make new decorative wings for the damaged crown (Fig. 2). My aim was to investigate how an old technique engages with new technology in order to generate innovative ways to reconstruct damaged artwork.

I began by making filigree components for the decorative wings but I found that it was becoming too time-consuming to complete the three wings. This increased my interest in

![Fig. 2](image)

A 3D-Rendered Image of Filigree Decorative Wings, 2013, 3D CAD Expression.
how technique and methods of fabrication embody a sense of time not only in their making but also in the perception of the viewer.

At a similar time I attempted to make a filigree shoe (Figs 3-4), which was inspired by a pair of golden shoes ornaments excavated from a Celtic burial site in Hochdorf, Germany (Fig. 5). However, I could not finish it. English jeweller Elizabeth Bone (2011, p. 156) points out that ‘filigree can be a time consuming process that requires a lot of patience’.

In response to this problem, I began to employ the 3D printing pen. This new tool enabled me to create a 3D form with my hands in a short amount of time. The 3D printing pen technology can draw 3D objects in the air. I see this 3D printing pen as a bridge between hand-made and machine-made objects. The tool is called the 3Doodler. It was developed by Peter Dilworth, Maxwell Bogue and Daniel Cowen. The 3Doodler is a handheld version
to extrude heated plastic thread that cools almost instantly into a solid, allowing for the creation of freestanding, three-dimensional objects in the air (3Doodler 2016).

The tool enabled me to complete a pair of linear-structured shoes in two hours (Fig. 6). After completion, I was able to wear them as a brooch (Fig. 7). I would not have been able to achieve this timeframe if I had attempted to do it with filigree.

**Fig. 6**
Sun Woong Bang, *A Pair of 3D Pen Shoes*, 2014,
Plastic,
210 (Height) x 40 (Width) x 30 (Depth) mm.

**Fig. 7**
*A Pair of 3D Pen Shoes Worn on My Body.*
The pair of shoes can be presumed to represent a new understanding of hand-made. Although the 3D drawing pen is a new tool, the shoes that were produced retain a sense of a filigree (linear structure) and hand-made structure.

I was fascinated by the speed of this technique and this provided me with the confidence to make a decorative wing for the damaged crown (Fig. 8). I made two further decorative components using the filigree technique. These were superimposed onto the broken crown (Figs 9-10). This helped me to understand how to employ fast and slow techniques and readings in a single piece of jewellery and object.
Throughout Project 3, I engaged with the notion of changing speeds and of making objects speedily by using the 3D hand drawing technology in combination with traditional jewellery techniques. Brazilian jeweller Sofia Björkman uses the 3D hand drawing pen to build her jewellery (Figs 11-12). In her interview with Susan Cummins on the Art Jewelry (note American English spelling) Forum website, she describes the general features of the tool:

Cummins: How do you make the new pieces? Where did you find the technique?

Björkman: A while ago I got a three-dimensional pen as a birthday gift. It took me a while to figure out how to work with it. I had some days off during a vacation recently and started to make three-dimensional drawings with it. I got hooked and worked like crazy the whole vacation through. The material is PLA (polylactic acid), an organic plastic material made of cornstarch, which I explored in another project with a totally different outcome. So the techniques and ideas I use come and go. I melt the material with the pen, make the drawing, and then shortly after it gets hard again (Art Jewelry Forum, 2015, para. 9)

34 The USA-based non-profit organisation is an advocate for the field of contemporary jewellery (Art Jewelry Forum 2016).

35 See the whole interview <https://www.artjewelryforum.org/node/7138>.
As a contemporary jeweller, I wish to adopt a new technique which would enable me to generate a new approach to jewellery practice. This interest drew me to explore notions of speed. The works of Dutch art historian Liesbeth den Besten and contemporary jeweller Ted Noten were relevant to my thinking at this time.

In den Besten's article, 'Fragment', she described how craftspeople are known as slow people, and she wanted to see how craftspeople use 3D printing technology. However, she focused on mass production by speed, rather than on how speed can intertwine with craftsmanship, and combine with 3D printing technology in creating a new form of art (Den Besten 2009).

Ted Noten employed the 3D printing technology to produce his Miss Piggy (ring series) in various materials including plastic, silver, nylon, and more. The combination of craft and new technology can create an energetic synergy. Den Besten described Noten's new strategy of fabrication: 'The artist now has to make important decisions about editions: 1 or 2, 3 or 7, 25 or 25,000? His craft's practice has changed into a design practice, he will get used to the velocity of the design world soon' (ibid. p. 20).

The outcomes of the Miss Piggy project were exhibited during Tokyo Design Week in 2010 (Fig. 13). His project title Wanna Swap Your Ring? was where he arranged 500 piggy rings in the shape of his gun icon on a wall, offering the viewers the opportunity to swap their own ring for one of Noten's rings.
3.3 Outcome of Project 3

The work, *Permeated* (Fig. 14), is the outcome of my experiments in Project 3.

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**Fig. 14**

Sun Woong Bang, *Permeated*,
2014,
3D Printed Sandstone, Plastic, Brass Wire, Paint,
200 (Diameter) x 130 (Height) mm,
Photo: Sun Woong Bang.
The term *permeated*, is used to express transculturality metaphorically. The process of cultural interactions between different cultures might occur very gradually.\(^{36}\)

In 2014, I exhibited this artwork at *The Seventh Gallery*, Melbourne. This opportunity enabled me to present the work in a public space and viewers could engage my utilisation of old and new technology during the two-week exhibition period.

I employed a fold-up chair as a plinth for the work. I wanted to investigate the relationship between my artwork and appropriate ways by which the work could be displayed, in turn activating a sense of interplay between cultural signs and nomadic life through the symbolic order and readings generated by everyday objects such as the chair. In this context, the chair acts as a vehicle of cultural interactions.

To place *Permeated* on the fold-up chair, I used a humble black cushion. This derived from seeing how the crown jewels of the United Kingdom were carried. I saw an image that depicts the crown sitting on a red velvet cushion (Fig. 15). The combination of the splendid

\(^{36}\) For instance, Carl Zuckmayer describes transculturality through his published book:

Just imagine your line of ancestry, from the birth of Christ on. There was a Roman commander, a dark type, brown like a ripe olive, he had taught a blond girl Latin. And then a Jewish spice dealer came into the family, he was a serious person, who became a Christian before his marriage and founded the house's Catholic tradition. – And then came a Greek doctor, or a Celtic legionary, a Grisonian landsknecht, a Swedish horseman, a Napoleonic soldier, a deserted Cossack, ..., and – oh, whatever – just look in the encyclopaedia. They were the best, my dear! The world's best! And why? Because that's where the peoples intermixed. Intermixed – like the waters from sources, streams and rivers, so that they run together to a great, living torrent (Zuckmayer 1963, cited in Welsh 1999, p. 199).
crown and the red colour of the cushion deliver a strong visual impression. In contrast, my use of black describes unrevealed cultural interactions to the viewers.

The majority of viewers were interested in the new fabrication methods, which derived from the fast technologies – 3D printing and 3D hand-drawing pen. My use of the slow process (filigree) was not recoverable to most. Some audience members inquired about the 3D hand-drawing pen’s instruction, material, and availability in Australia. These responses encouraged me to reconsider the balance between the two different elements. Although the combined slow and fast processes enabled me to reconstruct the 3D printed crown, I investigate the relationship between these processes further in Project 4.
3.4 Inspiration for *Permeated* (2014)

Fig. 16
Coloured Pencils, Watercolour, 250 (Height) x 210 (Width) mm.
As stated previously, I was inspired by *Waqwaq* (Fig. 16, see page 88) to reconstruct the damaged 3D printed crown. The name *Waqwaq* appeared in the *Book of Roads and Kingdoms*:

Ibn Khurradadhibhīh clearly thought Waqwaq was a real place. He mentions it twice more: ‘East of China are the lands of Waqwaq, which are so rich in gold that the inhabitants make the chains for their dogs and the collars for their monkeys of this metal. They manufacture tunics woven with gold. Excellent ebony wood is found there.’ And again: ‘Gold and ebony are exported from Waqwaq’ (Lunde 2005, p. 22, emphasis in original).

*Waqwaq* is also the name of an unusual tree. ‘The earliest reference to it (though without the name) occurs in a Chinese source, the *T'ung-tien* of Ta Huan, written before 801’ (ibid, emphasis in original). Ta Huan proclaimed the following story:

On the tree had grown a number of little children; they were six or seven thumbs in length. When they saw the men, they did not speak, but they could all laugh and move. Their hands, feet and heads were fixed to the branches of the trees (ibid, emphasis in original).

The above descriptions inspired me to imagine that *Waqwaq* could be another Sillan name. My inspiration for this was derived from the excavated Sillan golden crown (Fig. 17). The golden crown is decorated by ‘J’-shaped jades with one hole, each looking like a curled up baby, and fruits on a tree (Fig. 18). Through exploration of the decorative filigree components of *Waqwaq*, I was able to connect Sillan and Arabic culture and create new imaginary symbols to suggest my sense of cultural interaction.

Fig. 17
*Hwangnam Daechong Crown*,
Second Half of 5th Century, Excavated in Korea,
Gold, Jade,
180 (Diameter) x 273 (Height) mm,
Republic of Korea, National Treasure, No. 191,
Image Used with Permission,

Fig. 18
A Close View of Jades on the *Hwangnam Daechong Crown*. 
My imaginative approach to *Waqwaq* further encouraged me to explore Robert Baines’ jewellery and his use of the fake. I was interested in his imaginative interpretations of a relic as a real key to questioning authentic history and building fictitious jewellery, and his use of a fictional account as a tool for confusing viewers and readers.

Baines produced a bracelet (Fig. 19) called *Java-La-Grande. India, Goa, Indo-Portuguese, Circa Second Quarter of the 16th Century (?)*. He described this work as the material evidence of the Portuguese discovery of Australia. In his fictional account he states: ‘The Australian discovery by the Portuguese is quite possible and various findings and fragments support this. There is evidence of a Portuguese caravel wrecked on Australia’s most rugged southern coastline a hundred miles west of Cape Otway in Victoria’ (Baines 2009, p. 33).

Baines utilises the fake, the symbols and jewellery practice to pose questions about authenticity and about the bogus. I found it often challenging and confusing to unlock faux historical codes in his fictional account. However, it encouraged me to reflect on his use of playfulness with a serious intent (Baines 2012).

For instance, he often employs recoverable cultural icons including the kangaroo in *Java-la-Grande*. When I first saw the kangaroo on the bracelet, I immediately engaged with Australian culture. However, the full title of his bracelet, *Java-La-Grande. India, Goa, Indo-Portuguese, Circa Second Quarter of the 16th Century (?)* confused me in terms of the relationship between Portugal and Australia.
3.5 Conclusion: Project 3

In Project 3, I experimented with slow and fast processes to reconstruct my damaged 3D printed crown. This enabled me to combine the use of a 3D hand-drawing pen with traditional jewellery techniques. The outcomes of the interaction of the old techniques and the new technology were not resolved. The new technology was overused in the artwork produced. Therefore, I will reinvestigate this issue in Project 4.

In addition, the symbols created were inspired by the unusual tree Waqwaq and present my imaginary interpretations between Silla and external cultures. This process was my first attempt to create transcultural symbols without my fictional account and I found imaginary cultural interactions could be generated from other sources. This would enrich my imagination as a method to create an artwork within the next project.

Through the exploration of Baines’ works I realised my artworks needed to employ recoverable cultural elements from Sillan, Bactrian, and Celtic cultures. Although I have used their relics: including the dagger, dolmen, and language for the artworks created in Projects 1-3, the outcomes were not articulated clearly enough in their evocation of transculturality. Therefore, Baines’ use of the faux the relics, and faux jewellery practice led me to investigate a pair of Silla’s mysterious earrings.
Project 4, *Combining Hand- and Machine-made Processes*
4.1 Introduction to Project 4

I commence Project 4, by discussing an ancient pair of golden earrings which were excavated in Korea. I continue by discussing the limits of current 3D printing technology and the role of hand-made jewellery in the digital era.

In the second part of this chapter, I go on to discuss how I researched the balanced use of old and new techniques in practice in order to create innovative jewellery. Further, I discuss how I built a pair of earrings, thus demonstrating my capacity to combine filigree with 3D printing technology.

4.2 Idea Development

As stated during the course of this project, I investigated an excavated pair of golden earrings in South Korea that relate, through concept and technique to my research. In particular, I was interested in the methods of wearing the earrings. Korean historians suggest various possibilities as to how these earrings were worn due to their impractical structure. During this part of the project, I developed a new way to wear the earrings through a practice-based method of trial and error.

The pair of earrings demonstrates 6th century Sillan gold and silversmithing technique and artistry. The golden earrings consist of the three connected parts: the uppermost ring, middle loop, and spangles (Fig. 1). For Soyoung Lee, curator of the Metropolitan Art Museum, ‘the gold earrings, particularly the ones with the fat and hollow top ring, are too impractical to be worn’ (Lee 2003).
In his short essay, Korean historian Soon-Seop Ham, refers to the Sillan ear reels (Fig. 2) and provides suggestions as to how one could wear the golden earrings.

Due to the relatively large size, it was once thought that a separate band was worn around the ear to fasten the earrings. However, the discovery of the 7th century ear reels from the pagodas of the Buddhist temples in Korea, has led to the realisation that such thick uppermost earrings had been worn through the earlobe, similar to the ear reels. Measuring some 2.5 centimetres in diameter and 1 centimetre in width, the disc-shaped ear reel is structured to be worn only after the piercing of the earlobe was stretched enough for it to fit (Ham 2013, p. 53).

However, Korean journalist Kwang-Pyo Lee (2002) of Dong-A newspaper suggests that the earrings could be worn by using a leather strap (Fig. 3).
Ham’s description of possible ways of wearing the golden earrings inspired me to create a new pair of earrings. I decided to use 3D printing technology to fabricate this work in order to replicate the forms of the original golden earrings. In October 2015, I visited the National Gyeong-Ju Museum in Korea and I was able to study the structure of the disassembled golden earrings at the museum (Fig. 4).

Fig. 4
Disassembled Display of the Republic of Korea, National Treasure, No. 90, 2015,
Image Used with Permission,
Photo: Sun Woong Bang,
Looking at the actual earrings at the museum I was captivated by the craftsmanship of the ancient goldsmithing techniques. Both visually and technically the golden earrings provided a clear illustration of a way to make earrings.

Through the study of the earrings at the museum, I was intrigued by the gap in the thick uppermost ring (Fig. 5, see the red circle) and sought a way of making it in my artwork. I saw the potential for creating a new way of wearing the golden earrings. This was achieved by using 3D printing technology.

4.3 My Use of Digital Technology: 3D Printing

A new technology requires complex technical skills to reveal its full potential. In order to access 3D printing technology I practised using a 3D CAD program for one year. This program became a tool to enable me to produce my artworks. According to Canadian artist Jen Anisef (2010, p. 3, emphasis in original): ‘Some traditionalists do not believe production aided by digital technology qualifies as craft practice because the “making process” is mediated by technology.’

By using sterling silver wire, I can make filigree jewellery but the wire is actually produced by an auto jewellery wire-drawing machine. Without jewellery-making tools, my hand cannot make any gold and silver jewellery. My hand is a bridge between my ideas and physical materials.

For Glenn Adamson:

Craft is almost always a matter of triangulation between maker, tool and material (after all, the naked hand might be considered a tool), and there is no obvious reason why any particular type of tool should be considered ineligible for this relation (Adamson 2010, cited in Anisef 2010, p. 3).

The above discussion provides a licence to use 3D printing technology as one of the range of jewellery-making tools at my disposal.

To create a reinterpreted version of the excavated golden earrings, I start to draw the uppermost ring (Fig. 6) of the golden earrings using Rhino CAD. Then, I embedded a short pole (Fig. 7) in the gap in order to hang an inserted flat component (Fig. 8). This component can be rotated a full 360 degrees and the little hole is for an earring hook (Fig. 9).

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Fig. 6
Uppermost Ring, 2014, 3D CAD Expression.

Fig. 7
Embedded a Short Pole, 2014, 3D CAD Expression.

Fig. 8
Inserted Flat Component, 2014, 3D CAD Expression.

Fig. 9
Earring Hook Hole, 2014, 3D CAD Expression.
My use of 3D printing technology enabled me to produce the movable component in the uppermost ring. I could not have built it using my knowledge of traditional jewellery techniques. The 3D printing technology created a three-dimensional object from a digital file by layering successive slices. In doing so, I was able to achieve a resolved outcome (Figs 10-11).

Fig. 10
3D Printed Outcome of the Uppermost Ring, 2014, 3D Printed Nylon, 30 (Diameter) mm.
Fig. 11
3D Printed Nylon, Paint, Sterling Silver,
86 (Height) x 30 (Width) x 22 (Depth) mm,
Photo: Sun Woong Bang.
4.4 Discussion: My Use of the Traditional Technique of Filigree with Digital Technology

My initial design of the 3D printed earrings was to the same dimensions as the actual golden earrings (87 mm, Height). As a result, I made small, thin rings to interlock with the decorative leaves in the bottom parts (Fig. 12).

Fig. 12
Decorative Leaves of 3D Printed Earring, 2014,
3D CAD Expression.
My initial design was unsuccessful as the 3D printed interlocking rings were too thin, and they were all broken (Fig. 13). This encouraged me to employ filigree to interact with the 3D printing technology.

According to the 3D printing company Shapeways, the minimum wall thickness for 3D printable nylon powder is 0.7 mm, which allows the product to be successfully printed. Walls that are too thin often break when the product is being used.

Fig. 13
Broken Interlocking Rings, 2014.

38 Shapeways, a Dutch-founded and New York-based company provides a 3D printing service. Please visit https://www.shapeways.com
The broken small ring’s thickness is 0.7 mm but in reality, it was not strong enough. Therefore, I employed sterling silver wire to make the interlocking ‘O’-shaped rings and fine leaves by using filigree technique (Fig. 14) because: ‘It is suitable for making lightweight, intricate jewellery and can easily be combined with other techniques, such as stone setting and married metals’ (Bones 2011, p. 156).

For the last several years, I have generated a body of artwork that marries the ancient techniques of filigree with a contemporary sensibility. Filigree creates both transparency and capacity (volume and space). It is also metaphor for linkage and metaphor for transformation. The small components in filigree give flexibility and can build up a sense of developing forms. I can use this potential in order to generate new forms in miniature 3D art. These can be combined with other techniques to generate new composites.

My use of the traditional gold and silversmithing technique complements and highlights the limits of 3D printing technology today and celebrates the beauty of hand-made in the 3D printed piece. The interaction of new and old technology brings attention to the future of hand-made craft.
Many commercial jewellery trades employ 3D printing technology to build an intricate jewellery model in wax. This has to go through a traditional metal casting process to become robust jewellery.

The development of 3D printing technology is unavoidable and it will be capable of producing delicate metal work soon. In 2016, researchers at Harvard’s Wyss Institute for Biologically Inspired Engineering and the John A. Paulson School of Engineering and Applied Sciences announced that they had invented the following: ‘The laser-assisted direct ink writing method prints microscopic metallic, free-standing 3-D structures in one step, without auxiliary support material’ (McAlpine 2016, para 3). This recent 3D printing technology allows us to create a metal linear structure in the air (Fig. 15).

I imagine that technology will ‘somehow provide solutions to whatever problems we are encountering’ (Noble 1986, cited in Harvey 2003, p. 3). This raises the issue of what is the future of traditional technique (hand-made) in craft? My answer at this stage of the project was to integrate traditional techniques and 3D printing technology in jewellery and objects.

American art historian Ezra Shales noted that in traditional crafts, people produced objects that engaged with society’s chaos and complexity. ‘Conversely, while the modern-day craftsperson may have a website, and a blog, his or her approach and attitudes toward technology in the studio often lag behind’ (Shales 2008, cited in Anisef 2010, p. 3).

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40 Encyclopaedia Britannica Online 2016 definition: ‘Lost-wax process. also called cire-perdue, method of metal casting in which a molten metal is poured into a mould that has been created by means of a wax model. Once the mould is made, the wax model is melted and drained away. A hollow core can be effected by the introduction of a heat-proof core that prevents the molten metal from totally filling the mould’.
In contrast, Melbourne-based jeweller Marian Hosking states: ‘Today’s craftsperson draws on both traditional craft practice and new technologies, with an understanding of historic and social precedence’ (Hosking in Murray 2015, para. 25). An example of this was, *The New Materiality: Digital Dialogues at the Boundaries of Contemporary Craft* exhibited at the Fuller Craft Museum in the US in 2010. This aimed to present fourteen artists whose work combines traditional craft with 21st century technologies.

The exhibition posed a number of questions including: ‘if craft is endearingly tied to the skill of the hand, then how do we judge the skill with which a craft artist and maker uses digital technology and incorporates it into their work?’ (Anisef 2010, p. 6).

Among the artists who participated in the exhibition, Mike Simonian and Maaike Evers’ *Stolen Jewels Series* (2007, Fig. 16) could be an answer to the question. ‘At a distance these pieces sparkle and read as what they are: big, flashy, “look-at-me” knockouts. Closer examination reveals how low-resolution images taken from Google’s image search engine—(something that many of us use every day), were doctored and transferred to scored leather’ (Simonian & Evers 2016, emphasis in original).

Simonian and Evers used the Internet to look up Imelda Marcos, the widow of the former president of the Philippines, who allegedly owned 3000 pair of shoes. Her expensive jewellery collection included the *Hope Diamond*. They recreated the collected imagery of her jewellery as a part of their neckpieces.

In summary, by using Rhino CAD I was able to design earrings in my studio and to employ filigree to overcome the limitations of current 3D printing technology. In doing so, the 3D printed earrings which I produced present a new visual language that transcends the expectations of new technology, and the conventions of traditional technique.
4.5 Conclusion: Project 4

Technology brings many benefits to our lives. In terms of jewellery-making, 3D printing technology becomes a tool to expand one’s capacity to make a piece of jewellery. How? It enables me to make artefacts that are technically complex, or unachievable, by hand. However, the advanced technology can deprive us of a certain aesthetic pleasure of the hand-made which derives from direct use of physical tools and materials. From my perspective, the hand-made filigree components become precious. As 3D printing technology becomes more advanced, that role of the hand-made remains consistently valuable.

My use of 3D printing technology enabled me to invent a new method to make wearable earrings. This derived from the original uncertainty around how the Korean golden earrings were worn. I was fascinated by the capacity of jewellery and objects to generate questions and ambiguities. As stated in Poetry Beyond Text (2012) ‘ambiguity is so important to art and literature in that it offers us the chance to be innovative in our interpretations’.

The interaction of hand-made and machine-made has enabled me to create a new type of jewellery. I have found also that an unexpected result is valuable in that the 3D printing technology did not provide a satisfactory outcome. The broken 3D printed interlocking rings led me to find an alternative method to represent the spangles of the Korean golden earrings.

My use of traditional gold and silversmithing techniques and 3D printing technology helped me to consider and reinforce my feeling for the beauty of traditional hand-made techniques. They demonstrate how the hand-made can manifest the felt: the human
sensitivity/sensibility affecting material form. The combination of these offered much potential for further exploration, investigation, and experimentation.
Project 5, Composite Jewellery and Objects
5.1 Introduction to Project 5

In Project 5, I commence by discussing the historical background of the Greek and Roman glassware, discovered in Korea. I then describe how my reinterpretation of an excavated glass cup is used to create a jewellery object entitled *Headpiece*. This outcome became a trigger from which to generate original jewellery and objects that I titled *Unexpected Linkages Series*. Each work in the series consists of twelve wearable jewellery pieces combined as a set, which culminates in the form of a robot figure. I then describe my use of real and imagined traditional colours of Korean, Bactrian, and Celtic cultures in the artworks: *Unexpected Linkages Series (Korean) #2, (Celtic) #3, and (Bactrian) #4*. In the last part of Project 5, I evaluate the use of humour as a tool to blur the boundaries between the different cultures.
All the previous projects in this PhD have led to this point. Project 5: *Composite Jewellery and Objects* is the final part of my research. In this project, I address the innovative processes, and strategies that I employ to make new jewellery artefacts. The works that followed, and that are discussed in this section were successfully developed from the understanding gained through the construction of the pair of 3D printed earrings in Project 4.

The robot figure jewellery and objects produced in Project 5 are informed by my childhood memory of super robot animations including *Robot Taekwon V* (1976), 41 *Mechander Robo* (1977)42 and *Astro Boy* (1963).43 I was fascinated by the robots and their transformation. To complement the influence of the animations, I investigated an excavated Roman glass cup. This encouraged me to continue to explore related relics, patterns, symbols, and colours from ancient Korean, Bactrian, and Celtic cultures.

My experiments with colours became of particular importance. In Project 2, I experimented with the application of traditional Korean colours onto 3D printed dolmen. The outcomes of these experiments led me to consider how I could employ Korean, Bactrian, and Celtic traditional colour codes in the artworks produced in Project 5.

41 ‘Robot Taekwon is a robot that was built by a super-heroic team so it could help them fight monsters that have been destroying the world’ (IMDb 2016).

42 TV Tokyo animation series (Anime News Network 2016a).

43 The first animation series on Japanese TV, directed by Osamu Tezuka (Anime News Network 2016b).
5.2 Excavated Greek and Roman Glassware from Korea

Korean archaeologist, Insook Lee (2013, p. 115) states that ‘glass and golden artefacts are the most ubiquitous materials discovered from the tombs of Silla royalty, and the relics could be traces of Silla’s cultural interactions throughout Eurasia’.

Silla was not an isolated kingdom. The people of Silla communicated with other regions:

Glass, particularly that produced in the eastern reaches of the Roman Empire, was one of the most valued and prized foreign luxuries in the ancient world. Examples of late Roman glass produced on the eastern coast of the Mediterranean have been excavated in some numbers in Korea, and even as far East as Japan (ibid. p. 124).

Lee says that nomadic tribes such as the Xianbei (proto-Mongols) made contact with Koreans throughout the 3rd and 4th centuries. Thus, the Sillans could adopt nomadic cultures and could import Greek- and Roman-style glassware throughout the Roman Empire (ibid. p. 131). ‘Cultural exchange took place by means of both the importation of manufactured goods (that is, bearing some form of cultural stamp) and the interaction of the individual’ (Miller 2004, p. 65).
Lee (2013, p. 126) provides a clear example (see Figs 2-3).

The moulded and inflated technique is used in the decoration of a blue beaker that was excavated from the Cheonma-Chong Tomb in Korea. The ribs on the upper part of this glass and the honeycomb pattern on the base parallel those found in a fourth- or fifth-century example which have been recovered in Cologne, Germany, another centre for glass working in the Roman Empire.

**Fig. 2**
An Excavated Beaker in the Tomb of Chun-Ma, Late Roman Style, 4th-5th Century, Excavated in Gyeong-Ju, Korea, 74 mm (Height) x 62 (Width) mm, Image Used with Permission, © Gyeong-Ju National Museum, Korea.

**Fig. 3**
Beaker, Late Roman Style, 4th-5th Century, Excavated in Cologne Region, Germany, 70 mm (Height) x 61 (Width) mm, © The Metropolitan Museum of Art, New York.
Among the Greek- and Roman-style glassware discovered in the royal tombs of Silla, I was particularly captivated by a glass stem cup (Fig. 4). By viewing these upside down, I can see the illusion of a human head.

Fig. 4
Stem Cup,
Late Roman Style,
5th Century, Excavated in Hwangnam Daechong Tomb, Gyeong-Ju, Korea, 70 (Height) x 70 (Width) mm,
Image Used with Permission,
During this study, which was undertaken in my 2004 undergraduate degree, I was inspired by the movie *Moulin Rouge* (2001) which was directed by Baz Luhrmann. An image of an English top hat and a walking stick led me to make *Hat & Cane Brooch* (Fig. 5). However, one of my classmates interpreted the brooch as a teapot. She held the piece upside down (Fig. 6). It was a defining moment which encouraged me to revaluate my artwork. Although my intention in making this brooch was to represent the characteristics of the movie, my friend read the brooch in a different way.

This experience of understanding how a work can generate multiple readings inspired me to investigate how the glass cup, and contemporary jewellery in general, can transform our perceptions and readings.
5.3 The Development of Composite Jewellery and an Object: *Headpiece*

At this stage of Project 5, I designed a work called *Headpiece* (see page 119). This would look like the head of a human. I began by creating a 3D CAD drawing of an ancient glass cup (see Fig. 7) on my computer screen. This process enables me to engage with the relic in different angles, levels, and colours (Fig. 8). Throughout these experiments the form of the glass cup revealed its potential to be a piece of jewellery.

The 180 degree-rotated shape (Fig. 9) is evocative of a human head with a traditional Korean hairstyle (Fig. 10). This manipulation and combination of viewpoints provides me with a new perception of the objects and offers me a new way of presenting readings of the relics, symbols, and patterns from the three kingdoms. I became able to see unexpected visual elements of relics by looking at different perspectives.

*Fig. 7*  
Tracing of Glass Cup, 2014, 3D CAD Expression.

*Fig. 8*  
Experiments with Various Angles, Levels, and Colours, 2014, 3D CAD Expression.

*Fig. 9*  
Upside-Down View of Glass Cup, 2014, 3D CAD Expression.

*Fig. 10*  
Sun Woong Bang, *Traditional Korean Hairstyle*, 2014, Pencil, 100 (Height) x 100 (Width) mm.
Contemporary Swiss artist Markus Raetz has been making installations, graphics, sculptures that question our way of looking. Raetz’s work enables the viewer to become aware of his/her acts of perception in space and time. ‘What matters to me is the movement we do around the work, we have different perceptions according to our evolution in space’ (Miessner & Cadot 2012, p. 1).

For example, in his Nichtpfeife, (Two Views of the Same Sculpture) 1990-1992 (Fig. 11). He referenced René Magritte’s The Treachery of Images. Raetz is concerned with what people perceive from moving around an artwork according to their positions in space. ‘As you move around it, you see that it is a somewhat flat, twisted piece of cast iron. Not only is it not a pipe, it is not even an illusion of a pipe except from one particular spot’ (Crown Point Press 1962).

![Image removed due to copyright reasons](http://www.monicadecardenas.com/media/attachments/old/20134965108.pdf)

Fig. 11
Markus Raetz, Nichtpfeife (Two Views of the Same Sculpture), 1990-1992.
Cast Iron Treated with Acid and Linseed Oil,
162 (Height) x 35 (Diameter) cm.

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44 Magritte painted The Treachery of Images when he was thirty. The picture shows an image of a pipe (Rene Magritte 2009, para. 1).
The cast iron pipe allows the viewers to read the object subjectively, framing the ways they may contemplate their own sense of being between illusion and reality. Raetz's approach influenced me to read the Sillan glass stem cup from various viewpoints. In doing so, I was able to generate the form of my upside-down cup (Fig. 9, see page 114).

Raetz has had a significant influence on structural considerations of new works within Project 5. My shift of perspective on the glass cup triggered experimentation with the unexpected visual languages, which are embedded in a Bactrian relic.

I commenced by searching for appropriate symbols to depict eyes and eyebrows, which can characterise the Headpiece to look as if it is a human face. With this in mind, in April 2013, I visited an exhibition, at the Melbourne Museum, *Afghanistan: Hidden Treasures from the National Museum, Kabul*. The show presented the treasures of Afghanistan from the 3rd century BC to the 1st century AD, reflecting the beginning of Silk Road culture (Hiebert 2008, p. 57).

Among the relics in the exhibition, I was especially absorbed by the image of the Indian medallion (Fig. 12). This relic was excavated from one of the tombs at *Tillya Tepe*:

More than 21,000 individual gold artifacts were found in the six burials excavated at the hill appropriately named ‘Hill of Gold’ (Tillya Tepe) in 1978. When the discovery was first made it was headline news around the world. The elaborate designs of the artifacts tell the story of a sophisticated group of nomads who were an essential part of the Silk Road – in contact with a vast array of people across Asia with goods both from Rome and from China (ibid. p. 63).
Archaeologist Veronique Schiltz (2008, p. 276) investigated the symbols in the medal and stated: 'It is possible that we have here the oldest representation of the Buddha, a forerunner of traditional Buddhist iconography.' This symbol is called *nandipada* (Fig. 13). Apart from archaeological and semiotic findings, from my perspective, the *nandipada* looks as if it is a human eye and eyebrow.

![Image removed due to copyright reasons](source from (Hiebert 2008, p. 63))

**Fig. 13**  
A Close View of Nandipada Embedded in Indian Medallion.

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45 Schiltz says: 'in front of the lion is the Buddhist symbol called the nandipada (a circle with a trident above); behind it, at top of right of the field, is an inscription in Kharoshthi: “Sih [o] vigatabhay [o]”, meaning “the lion has driven away fear” (2005, p. 276, emphasis in original).
By using the 3D CAD program, I drew the *nandipada* and superimposed the symbols onto *Headpiece* on my computer screen (Fig. 14).

**Fig. 14**
Superimposed *Nandipada* onto *Headpiece*,
2014,
3D CAD Expression.
In my artwork, the human head incorporates the style of Greek and Roman glass, representations of Buddhism, and a Korean traditional hairstyle. My imaginative interpretations combined different cultural elements and this became a composite artwork.

I have employed ancient visual languages to describe the complexities of cultural interactions in the present day. American sociologist Slimbach Richard (2005, p. 205) points out: ‘Today, who we are (by birth) and where we are (by choice) is not as relevant as it once was. More persons than ever before are pursuing lives that link the local and the global.’ Also, Welsch ‘proposes transculturality as an appropriate means to articulate contemporary cultures’ (Welsch 1999 cited in Connolly 2007, p. 37).

The understanding of cultural interactions, similarities, and differences are more complicated than ever and it is useful for us to attempt to understand this. Jewellery can describe transculturality and remove boundaries between different cultures.

For instance, according to Den Besten, cultural symbols in jewellery can interact with external cultures and raise issues of understanding composite cultural symbols. She refers to the Maori, the original inhabitants in New Zealand as an example:

The symbols that the Maori use in their jewellery are even adapted by non-Maori in New Zealand. This evokes discussions about the symbolic use of and symbols used in jewellery, as it is culturally defined. What meaning is given to a symbol in jewellery when an intercultural crossover of symbols is taking place? (Den Besten interview with Goudsmit 2012, p. 11).

Freelance journalist Lisa Goudsmit suggests an answer for Den Besten’s question:

Borders are not only being crossed in the use of symbols in jewellery: cultural aesthetics are also being adopted between cultures. These crossovers between the
different worlds are for instance happening because of students studying in countries other than their homeland (ibid, para 3).

For instance, in 2003, I came to Australia as an international student to study a jewellery design course. During my time at the Adelaide College of the Arts, South Australia TAFE, I engaged with the Australian lifestyle and practised contemporary jewellery-making. These early experiences in Australia made me to think about how to use cultural differences to make jewellery and objects.

Swedish jeweller Hanna Hedman travelled to Colorado in the US, was there for two years, and spent seven years in New Zealand, Mexico, and Chile. She was captivated by distant cultures, rituals, and traditions. Her jewellery tells stories that Swedish society cannot. ‘Sweden is still under the influence of its social history ... Swedish community showing aggression or sadness is still sometimes a taboo’ (Current Obsession 2015, para 5). ‘So maybe this is why I looked for something that was the opposite of my own country, something that could give me what my own culture can't provide’ (ibid, para 6).

She made a necklace series called Human Tree (Fig.15). Hedman was inspired by a traditional belief in Mexico that jewellery can be used for healing purposes. She presented her own understanding of the traditional beliefs of the Mexicans. The artworks that were produced are examples of syncretism. She believes that this is one the most important factors in the evolution of culture and that the many traditions that exist in Sweden today are created from the fusion of customs.

The artworks created for this PhD research align with Hedman’s use of foreign cultures as a vehicle to describe a taboo in her own society. My imagined cultural interactions between Sillan, Bactrian, and Celtic culture could be controversial issues in Korea. ‘Older Koreans

![Image removed due to copyright reasons](http://www.current-obsession.com/inner-rooms-hanna-hedman/)

**Fig. 15**
Haana Hedman, *Human Tree*, 2010, Necklace. Oxidised Silver, Copper, Paint, 390 (Height) x 220 (Width) x 50 (Depth) mm, Photo: Sanna Lindberg.
will sometimes recall being instructed in their schooldays in the importance of their “pure blood”, which purportedly came from a single, 5000 year-long unbroken family tree originating with the first Korean’ (Tudor 2012, p. 260). Argument with the ‘pure-blood’ belief is taboo in Korea. In contrast, my jewellery and objects describe a proposition from my imagination that Korea’s cultural identity is the fusion of several different waves of cultural interactions since ancient times.

5.4 Juxtaposition of Different Cultural Relics, Symbols, and Patterns

Juxtaposition is an artistic strategy that provides artists with the opportunity to present contrasting elements in a composition. It is the state of being close together or side by side, to compare or contrast. Juxtaposition is the careful positioning of compositional components that can provide a wide range of meanings that vary from humour to spiritual insight. It is a creative way to present two unrelated concepts or objects, that when united, create new meaning (South Florida Cultural Consortium 2009, p. 1).

The juxtaposition of diverse components and codes is a simple method to generate unexpected artworks. It has much potential for jewellery and object making. Although Headpiece was ultimately created by superimposition, at this stage of Project 5, I employed juxtaposition as a method to engage with cultural interactions.
My *Headpiece* became a trigger to develop a collage (Fig.16). I juxtaposed the image of the ancient Korean golden earrings next to the headpiece. The earrings looked as if they could be arms and hands. I then continued to find symbols, patterns and relics, which could represent knees, feet, and torso. In doing so, my use of juxaposition generated the unexpected robot figure.
My investigation of the relics of the three kingdoms is proof of an understanding of the ‘historical reality’ of their cultural differences. My re-interpretation of their relics generated the illusion of a robot. This derived from my memory of watching a Korean animation titled *Robot Taekwon V* (1976), which was directed by Cheong-gi Kim. I was fascinated by a supporting character called Tin Robot in the animation. The character is a young boy who built armor by using a kettle, a tin bucket, and stovepipes (Figs 17-18). This inspired me to create a ridiculous-looking robot figure in Project 5.

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**Fig. 17**
Making of a Tin Robot,  
A Scene from the Animation *Robot Taekwon V* (1976),  
© Cooperation of Robot Taekwon V.

Image removed due to copyright reasons  
Source from [http://thetaekwonlab.tistory.com/99](http://thetaekwonlab.tistory.com/99)

**Fig. 18**
Wearing of the Tin Robot,  
A Scene from the Animation *Robot Taekwon V* (1976),  
© Cooperation of Robot Taekwon V.

Image removed due to copyright reasons  
Source from [http://thetaekwonlab.tistory.com/99](http://thetaekwonlab.tistory.com/99)
The robot figure became a fusion of symbols and ideas from the three cultures and formed a new thing, a new identity. It consisted of wearable jewellery including a brooch, a pair of earrings and ten rings. Each jewellery piece depicts ancient symbols and patterns. I started with a Bactrian pattern that I used to depict the knees of the robot figure (Figs 19-20).

Fig. 19
*Volutiform Appliqués,*
1st Century AD,
Gold.
Excavated in *Tillya Tepe,* Afghanistan,
11 (Height) x 10 (Width) mm,
© National Museum of Afghanistan.

Fig. 20
*Knee Ring,*
2014,
3D CAD Expression,
Finger Size: L.
The pattern in the Celtic cross was copied and superimposed onto the feet rings (Figs 21-22).

Image removed due to copyright reasons

Source from
http://gnosticwarrior.com/celtic-cross-images.html

Fig. 21
Broken Cross of Kells,
County Meath, Ireland.

Fig. 22
Feet Ring,
2014,
3D CAD Expression,
Finger Size: K.
The one-eyed–three-bodied fish\textsuperscript{46} symbol embedded in the centre of the robot figure (Figs 23-24).

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{fig23}
\caption{Bowl with Fish and Lotus Motif, 3000 BC, Excavated in Egypt, © Agyptisches Museum and Papyrussammling, Berlin, Germany.}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{fig24}
\caption{Torso Brooch, 2014, 3D CAD Expression.}
\end{figure}

\textsuperscript{46} This ancient symbol has appeared in Egyptian, Celtic and Korean cultures.
The completed design was created from the three different ethnic groups (Fig. 25).

Fig. 25
Assembled Robot Figure, 2014, 3D CAD Expression.
The conglomeration of visual languages is arranged into a composite artwork. Henri Bergson’s conception of a composite is useful in framing the processes of the combination. The notion of composite is encouraged through the act of juxtaposition. This has the capacity to create innovative artworks. There are numerous potential mixtures of visual languages from the relics of Celtic, Bactrian and ancient Korean. My use of the composite assists with the development of models for jewellery and objects that can engage with differences in cultures, materials and techniques. These are capable of generating new transcultural content that can be recovered over the period of engagement with the work.

As understood from the above description, the jewellery and the object that has been designed is a model that is made up of components that are different in kind. This was an important finding that I became more aware of throughout the processes involved in generating the robot figure. The use of juxtaposition enabled me to consider and suggest transcultural experience in an artwork. By collecting and combining heterogeneous relics, symbols, and patterns into composite artworks I demonstrate how imagined artworks can present new readings of transculturality today.
5.5 3D Printed Relics, Symbols, and Patterns of Sillan, Bactrian, and Celtic Cultures as Composite Jewellery

The 3D CAD drawing (Fig. 25, see page 127) was printed as actual 3D printed pieces (Fig. 26). The set of 3D printed pieces consists of all wearable jewellery including Headpiece. In Project 4, *Combining Hand- and Machine-made Processes*, I made a pair of 3D printed earrings. This piece is parallel in form and dimension to the Sillan golden earrings. The dimensions of the 3D printed pair of earrings were utilised as the criteria to determine the dimensions of the other jewellery pieces in the robot figure.
The brooch (Torso) is 60 (Height) x 49 (Width) x 30 (Depth) mm (Fig. 27). The height of the brooch is shorter than that of the 3D printed earrings: approximately 88 (height) mm. The legs and feet consist of ten wearable 3D printed rings including six hexagonal symbol rings, two Bactrian symbols, and two Celtic pattern rings (Figs 28-30).

Fig. 27
3D Printed Brooch with an Egyptian Symbol (Torso), 2014, 3D Printed Nylon, 60 (Height) x 49 (Width) x 30 (Depth) mm.

Fig. 28
Leg Ring, 2014, 3D Printed Nylon, Finger Size: L.

Fig. 29
Knee Ring, 2014, 3D Printed Nylon, Finger Size: L.

Fig. 30
Foot Ring, 2014, 3D Printed Nylon, Finger Size: K.
Hexagonal symbols are embossed in the six leg rings. ‘The even numbers and forms (for example: four, six, eight, the square, the hexagon, the octagon) are characterised by the qualities of stability, firmness and definition’ (Cirlot 1971, p. 307).

The six hexagonal rings can firmly be inserted into the top of the headpiece (Figs 31-32). This is a surprising ring among the pieces of the jewellery and object if viewers find the simple way of assemblage. The connection of leg ring and the headpiece is a metaphor for overlooked similarities between different cultures.

My first piece in the *Unexpected Linkages Series* was a robot figure, convertible jewellery and object in grey colour (Figs 33-34, see page 132). The title acknowledges real and imaginative cultural interactions. I applied a grey colour onto the work to make it look like a tin robot. ‘Grey is suspended: no longer white but not yet black’ (Batchelor 2010, p. 64). Grey becomes a platform from which to explore the readings and use of other colours in the following series of works: *The Unexpected Linkages Series.*
Fig. 33
Sun Woong Bang, *Unexpected Linkages Series #1*, 2014,
3D Printed Nylon, Sterling Silver, Ink,
144 (Height) x 96 (Width) x 35 (Depth) mm,
Photo: Sun Woong Bang.

Fig. 34
Sun Woong Bang, *Unexpected Linkages Series #1* (Back).
In addition, I produced the robot figure in a different medium. In 2014, I participated in the RMIT University, School of Art Gallery exhibition, *Lightscape Projects*, at Knox Lane, Melbourne Central. This was the first project to convert the busy public lane into an art gallery. For this project, I printed *Unexpected Linkages Series #1* on a 2D, 841 x 1189 mm. This work was displayed in a light box (Fig. 35). The project allowed me to engage with screen-based imagination.

47 *Lightscape Projects* is an exhibition of thirteen light boxes installed in and around RMIT Building 2, Rodda Lane and Knox Lane at the Melbourne Central Shopping Mall, Melbourne, Australia.
The ‘robot figure’ was placed on a green background, which is my representation of the chroma key (Fig. 36, see page 133). That is a ‘filming technique whereby the background of a filmed scene is altered or replaced without affecting the foreground’ (Danesi 2009, p. 58). We see this particularly in newscasting, TV dramas, movies, and videogame industries.

The Unexpected Linkages Series #1 became the bridge to the next section of work, Unexpected Linkages Series (Korean) #2, which examines my use of Korean traditional colours that began in Project 2: Experimentations with the Five Korean Traditional Colours.

5.6 My use of Korean Traditional Colours: Unexpected Linkages Series (Korean) #2

At this stage of Project 5, I will describe my use of the Korean traditional colours in the second outcome of the Unexpected Linkages Series.

In August 2015, I successfully applied for and became the recipient of the Victorian Craft Award–Jewellery Encouragement, Melbourne, Australia. My application contained the Unexpected Linkages Series (Korean) #2 (Figs 37-38, see pages 135, 136). The ‘robot figure’ in the form of a 3D printed artwork acts as a transmitter of cultural interactions but as a result of the brightness achieved with the Korean traditional colours employed, I draw attention to both the piece of jewellery and its wearer. The brightness of this colour code makes both the work and its wearer stand out.

48 The Victorian Craft Award is a biennial event facilitated by Craft Victoria to present and celebrate excellence in crafts.
Fig. 37
3D Printed Nylon, Sterling Silver, Ink,
10 Rings, 1 Brooch, 1 x Pair of Earrings,
Dimensions: Varying.
Photo: Sun Woong Bang.
Fig. 38
Sun Woong Bang, *Unexpected Linkages Series (Korean)* #2 as a Robot Form, 2014, 3D Printed Nylon, Sterling Silver, Ink, 144 (Height) x 96 (Width) x 35 (Depth) mm, Photo: Sun Woong Bang.
My work generates a transcultural zone in which different cultural elements can be linked: including symbols, patterns, and colours. In particular, the highly saturated red, yellow, blue, black and white colours of the work aim to pull the viewer into real and imaginary cultural interactions.

The five colours construct a vehicle that investigates visual understandings of Korean culture, especially Korean shamanism. The combination of colours, in the *Unexpected Linkages Series (Korean) #2*, is derived from a Korean shaman’s tog (Fig. 39). British blogger Seamus Walsh (2009) describes shaman clothes thus:

> Shaman clothes are generally bright in colour, often strongly featuring the colours that are used in East Asia to identify the five cardinal directions, which all have a representative great spirit. These colours are blue, the colour of the eastern direction and dragon spirit; red, the colour of the south and the tortoise spirit; white for the West and the spirit of the tiger; black for the north and the crow, and yellow for the centre.

Apart from the traditional interpretation of the five colours, I have reinterpreted the colours from my memory of their use in Korea. I will describe this later in this Project 5. Each jewellery piece was carefully hand-coloured by using ink, acrylic paint, and brush. The combination of differently coloured pieces creates contrasts in tone and temperature, with some colours harmonising while others clash. The creation of effects and moods by my interpretations of colour alone can be described as the very essence of the five colours.

My use of the Korean traditional colours in the *Unexpected Linkages Series (Korean) #2* provides a new cultural context to engage with transculturality. According to Thomas (2009, p. 35) ‘Colour meaning is elusive. Its readings are complex and contradictory depending on culture and context.’
For example, in the 1920s, Dutch painter Piet Mondrian (1872-1944) began to create ‘a higher reality through his sensitive use of geometry’ (Thomas 2004) in the compositions of his paintings (Fig. 40). ‘He limited his palette to white, black, gray, and the three primary colours, with the composition constructed from thick, black horizontal and vertical lines that delineated the outlines of the various rectangles of colour or reserve.’ (The Art Story 2016, para. 4).

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**Fig. 40**
Piet Mondrian, *Composition with Large Red Plane, Yellow, Black, Gray, and Blue*, 1921, Oil on Canvas, 95 (Height) x 95 (Width) cm.

**Fig. 41**
Bo-Ja-Gi (Covering Cloth), Late 19th-Early 20th Century, Korea.
Bo-Ja-Gi is a Korean traditional wrapping cloth used for covering items so that they can be transported safely (Fig. 41). According to Virginia Moon (2014) at the Los Angeles County Museum of Art;

Popularly used by all classes of Korean society, these square- or rectangle-shaped textiles were made from various materials such as silk, ramie (a linen- or silk-like fabric made from ramie, a perennial plant from the nettle family native to eastern Asia), gossamer, and cotton. Although historical records like the Samguk sagi (Annals of the Three Kingdoms) indicate the use of Bo-Ja-Gi as early as the Three Kingdoms period (57 B.C. – A.D. 668), extant examples are largely from the Joseon period (1392–1910).

Mondrian's composition painting and the traditional patchwork Bo-Ja-Gi are visually similar in terms of colour arrangements, and use of shapes: square and rectangle, but their intentions are different. However, I do not consider that the Korean wrapping cloth influenced Mondrian because he placed his notion of ‘composition’ in the context of abstract painting and the then popular metaphysical ideas including ‘theosophy’.

‘Mondrian decided that only primary colours and shapes based on vertical and horizontal meridians could achieve the purity he was seeking’ (Salcman 2014, p. 449).

The Unexpected Linkages Series (Korean) #2 depicts real, and my imaginative cultural linkages between ancient Korean, Bactrian and Celtic culture. In this work, I wanted to acknowledge the harmony of traditional Korean colours and their symbolic meanings. Therefore, I employed the colours in particular ways in order to affect the viewers’ perceptions. Within a particular Korean cultural context, blue, red, yellow, white, and black
can symbolise traditional ideas of harmony, values and nature. These colours are complex and readings can vary depending upon the contexts.

I wished to develop a new method to depict my interpretations of Korean traditional colours carefully.

Yongsun Suh is a Korean painter (b. 1951) who uses narratives, fables, and the issues of society in a rough, direct, expressive manner. In particular, in his painting *On the Way to the Execution Ground* (2014), Suh reconstructed the myth through his utilisation of Korean traditional colours (Fig. 42). Suh does not intend to show a simple historical painting but to reveal history through a personal re-interpretation of the energy of the Korean five traditional colours – red, blue, white, yellow and black.

![Image removed due to copyright reasons](source from [www.suhyongsun.com](http://www.suhyongsun.com))

**Fig. 42**
Yongsun Suh, *On the Way to the Execution Ground*, 2014, Acrylic Paint on Canvas, 480 (Height) x 750 (Width) cm.
Suh has a different perception of Korean traditional colours from me. Even though he uses vivid Korean traditional colours, the hue of light is much darker than my understanding of the five colours. He experienced difficult times in his life through witnessing the Korean War (1950-1953), the poverty of his family, and the Gwangju Massacre by South Korean dictator General Doo-Hwan Chun in 1981. These events would influence his use of colours.

Although I employ traditional Korean colours, my interpretation of these colours is much brighter. My use of the five colours applied in the artworks derives from my memories of Korea. My generation is blessed. I watched the 1986 Seoul Asian Games, the 1988 Seoul Olympics, and the 2002 Korean and Japan Football World Cup. My perception of Seoul is that it is saturated with colour and vibrant energy.

Therefore, each jewellery piece, in the Unexpected Linkages Series (Korean) #2 reflected this. Each piece was hand painted by brush with acrylic paint to achieve the desired quality. The paints were applied to the 3D printed nylon surface, layer by layer, providing a strong visual impression. My use of the Korean traditional colours creates atmosphere, surface, and richness.

Under spotlights, my use of the glossy five colours, was likely to attract the viewers from a distance (Fig. 43, see page 142). When the viewers look closely, my work enables them to discover that the robot figure consists of pieces of jewellery that reveal signs of cultural interactions (Fig. 44, see page 143).

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Suh experienced difficult times in his adolescence. When he was a middle school student, his family went bankrupt and this adversity created an interest in working class people (Lee 2011, para. 7).
Fig. 43
Sun Woong Bang, *Unexpected Linkages Series (Korean)* #2 in a Distant View, Photo: Sun Woong Bang.
Fig. 44
Interactions and Pieces of Jewellery.
This work reflects my interest in the phenomena of colour: the experience of colour perception. This provided a means by which to emphasise my work’s visual impact. (Fig. 45, see pages 144, 145).

In the following works: the Unexpected Linkages Series (Celtic) #3, and Unexpected Linkages Series (Bactrian) #4, I express my understanding and interpretation of transculturality through colour and symbol as well as demonstrating the range of processes and qualities associated with my preferred 3D printed material (nylon).
Fig. 45
Sun Woong Bang, My Experimentations with Putting Korean Traditional Colours onto the Robot Figure, 3D CAD- and 3D Computer-Rendered Expression, 2014.
5.7 Source, Development and Outcome of *Unexpected Linkages Series (Celtic) #3 and (Bactrian) #4*

About a century ago, the English writer Gilbert K. Chesterton (1908) argued: ‘Who were the Celts? I defy anybody to say. Who are the Irish? I defy anyone to be indifferent, or to pretend not to know.’ Holly Burton (1979) theorised: ‘Celtic was initially a linguistic concept, used solely to refer to the Celtic language.’ In the introduction to this dissertation, I referred to Matthews’ description of the Celts. They would not be understood as a singular tribe.

My PhD does not aim to identify the Celts. I have investigated their remaining cultural and historical traces as inspiration and sources from which to make artworks within my research project. In doing so, their symbols can add another range of symbols for my artworks. ‘It has taken a long time for Celtic culture to gain the accolades it deserves. For years, it was regarded as the poor relation of the classical world, its art forms denigrated as sterile, geometric, and barbaric’ (Zaczek 1996, p. 7).

In this section of Project 5, I address how my investigation of actual cultural traces, generates the potential for a new transcultural symbol.
I had the opportunity to visit the Egyptian Museum of Berlin in 2014. Among the exhibited items I was fascinated by a symbol drawn inside the Egyptian blue bowl (Fig. 46) because the motif is visually parallels to a Korean symbol (Fig. 47). This symbol is called in Korean ‘일목 삼신어’, which is translated as *Three Fish with One Eye Among Them*. Director of Gahoe Museum, in Korea, Yealsu Yoon (2012) interprets it thus: ‘traditionally Koreans believe the sacred fish charm has the spiritual power to heal eye disease.’

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50 My PhD project presentation/work was accepted for the 2014 Image Conference at the Freie Universität, Berlin, Germany. This travel was funded by RMIT University.
The Egyptian motif and the Korean sacred fish charm are visually similar to the *triquetra* (Figs 48-49, see page 147):

A tripartite symbol composed of three interlocked *vesica pisces*, marking the intersection of three circles. It is most commonly a symbol of the Holy Trinity (Father, Son, Holy Spirit) used by the Celtic Christian Church, sometimes stylized as three interlaced fish (Symbol Dictionary 2012, para. 1).

My investigation found that the motif in the Egyptian bowl, the Korean charm, and the *triquetra* shares a group of pictorial codes: fish, eye, and triangle. At the same time, they depict slightly different symbolic codes and readings. The Egyptian motif consists of fish and a lotus, but the Korean symbol does not include the lotus. *Triquetra* is interlaced with three fishes or three *vesica pisces*.

These findings inspire me to express their slight differences as a symbol. By using a 3D CAD drawing I created a new symbol which consists of zigzagged bold lines (Fig. 50, see page 149). The lines in the symbol look as if they are all different, but they are actually all the same lengths (Fig. 51, see page 149). I curved, enlarged, and rotated through the processes to make a new transcultural symbol (Fig. 52, see page 149). This symbolises how a singular culture interacts, reinterprets, and develops with contact with external cultures.

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51 The Merriam–Webster Dictionary Online 2016 defines it as a pointed oval figure typically composed of two intersecting arcs; specifically: an aureole of this shape surrounding a representation of a sacred personage.
Fig. 50
Transcultural Symbol Inspired by Egyptian, Korean, and Celtic Culture (Completed), 2015, 3D CAD Expression.

Fig. 51
Transcultural Symbol Inspired by Egyptian, Korean, and Celtic Culture (Beginning), 2015, 3D CAD Expression.

Fig. 52
Transcultural Symbol Inspired by Egyptian, Korean, and Celtic Culture (Developing), 2015, 3D CAD Expression.
The new transcultural symbol was superimposed onto the centre of the *Unexpected Linkages Series (Celtic)* #3 (Fig. 53). I painted the work green, orange, and white, referencing the national flag of Ireland (Fig. 54, see page 151).

**Fig. 53**
3D Printed Nylon, Sterling Silver, Paint,
144 (Height) x 96 (Width) x 35 (Depth) mm,
Photo: Sun Woong Bang.
‘The green represents the older Gaelic tradition while the orange represents the supporters of William of Orange. The white in the centre signifies a lasting truce between the Orange and the Green’ (Department of the Taoiseach 2013, para.3, emphasis in original). I chose the Irish tricolours for my jewellery and object because Celtic culture survived longer in Ireland. ‘The Romans never occupied Ireland, nor did the Anglo-Saxons who invaded Britain after the Romans withdrew in the 5th century, so Celtic culture survived more strongly in Ireland than elsewhere’ (Shoreline Community College 2016, para. 3). My use of the tricolours is one of the means of generating readings of Celtic culture within my work.

After my use of Korean and Irish colours it seemed logical for me to study traditional Bactrian colours. However, this was problematic because as Edward Shils reveals: ‘Tradition can be understood as a set of beliefs or practices that are passed from one generation to the next and which affect the practice and interpretation of life’ (Shils 1981, p. 120 cited in Eyerman 1999).

However it was difficult to find reference to Bactrian colour application including cloth, textile, and painting due to the fact that their history has morphed into legend (Holt 2012, p. 16). ‘Nearly seven hundred years ago, Bactria existed as a more or less mythical land kept alive by the imagination of Renaissance poets’ (ibid. p. 135) including ‘Chronica Polonorum (“Polish Chronicles”), … De Casibus Illustrium Virorum (“On the Misfortunes of Famous Men”’) (ibid, p. 26). This imaginative method to describe the ancient kingdom led me to experiment with a pebble from the land once ruled by Bactrians.
Fig. 55
Sun Woong Bang, *Unexpected Linkages Series (Bactrian) #4*, 2015,
3D Printed Nylon, Sterling Silver, Ink, Gold Leaf,
144 (Height) x 96 (Width) x 35 (Depth) mm,
Photo: Sun Woong Bang.
The colours painted onto *Unexpected Linkages Series (Bactrian)* #4 (see page 152, Fig. 55) were derived from a pebble. In 2012, I received it from Judith MacBean who is an art history academic in the College of Design and Social Context, RMIT University. She brought it from Tajikistan which in the past was part of the Bactrian kingdom (Fig. 56).

![A Pebble from Tajikistan.](image)

By using Chinese ink stones\(^{52}\) I translated the colours of the pebble into my work. The colours were subtle shades of light brown, purple, and dark red. I consider these colours are a new colour code representing Bactria. The Bactrian colours could also be seen as a mixture of Celtic and Korean colours as I used the five traditional colours of Korea and the tricolours of Ireland to make a colour that was similar to those in the pebble (Figs 57-60, see page 154).

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\(^{52}\) The ink stones provide a similar sense of materiality to the pebble.
Fig. 57
A Pebble from Tajikistan, Traditional Celtic and Korean Colours.

Fig. 58
Development of Making the Colours in the Pebble #1.

Fig. 59
Development of Making the Colours in the Pebble #2.

Fig. 60
Outcome of Mixture of Celtic and Korean Colours.
The Encyclopedia Britannica Online 2016 suggests that the Bactrian culture possibly interacted with Buddhist, White Hun, and Islamic cultures over one thousand years ago. For this reason, I decided to use the colours in the pebble as a symbol for the Bactrian culture. Although the pebble could be regarded as a little thing, it might be a silent observer of the cultural interactions between Bactrian and external cultures. Gold leaf was also added to present the strong connections of Bactrians with goldsmithing.

My Bactrian robot is an example of my application of the fictional imagination method, as discussed in the introduction to this dissertation. I created a symbol of the reality of transcultural exchange without evidence of empirical historical fact. This fictional symbol suggests a greater truth.

### 5.8 Humour in *Unexpected Linkages* Series

Melbourne-based writer Mark Holsworth (2015) commented on my work, which was exhibited at Craft Victoria, Melbourne in 2015. ‘Sun-Woong Bang’s *Unexpected Linkages* robot figure made of 3D printable polyamide, alcohol ink, acrylic paint and sterling silver is funny. Maybe that’s why it was the winner of the Jewellery Encouragement Award.’

Initially, I did not plan to create humour and joy through the work. Thus, I cannot explain why the robot figure looks funny. However, I was inspired by Holsworth’s comment on my work and I realised that humour serves a purpose. In the experience of viewing, it immediately removes the awkwardness of readings of my works by the audience. ‘When our humor making is successful, we are drawn closer to other people and share a bonding emotional experience. We enjoy life more and our troubles seem to lessen instantly’ (Franzini 2012, p. 12).
I became intrigued with the capacity for my jewellery and object to create humour. Humour could be a means of questioning orthodoxies. Donald Cuccioletta (2001/2002, p. 2) states: ‘Throughout history, the misrepresentations of cultures, the hatred of different cultures, coupled with an ignorance of cultures have always been the underlying reasons for human conflict.’ My use of humour allows contradictory ideas to be presented as a composite artwork (Fig. 61).

I juxtaposed the Unexpected Linkages Series (Celtic) #3 with (Bactrian) #4 and this becomes a couple. My representative of Celtic culture wears a filigree ornament on its head. I put a filigree ring on the head of Unexpected Linkages Series #4 (Bactrian). These relationships amplify my use of humour and generate a metaphor for the marriage of different cultures. This new composite artwork is titled Just Married. Titles in these works can offer new conceptual even paradoxical readings that exist in the work. Humour offers a sage space for the viewer to discover their own interpretation of the content.
I was captivated by the use of humour as a tool to embrace complexities in transculturality. This influenced me to produce a humorous pendant (Fig. 62). In order to make it, my experiment commenced with creating a headpiece from my *Unexpected Linkages Series*. I drilled a hole in the middle of the headpiece (Fig. 63, see page 158). The hole allowed me to put a thread of about 80 cm throughout the headpiece together with a filigree component (Fig. 64, see page 158). The thread can sit under a hollow space of the headpiece (Fig. 65, see page 158).

Viewers can pull out the knot of thread (on the top of the headpiece), and then the headpiece transforms into a pendant that can be worn on the body (Fig. 66, see page 159).

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*Fig. 62*
Sun Woong Bang, *Untitled* (Pendant), 2016. 3D Printed Nylon, Paint, Thread, Sterling Silver, 700 (Length) x 30 (Diameter) mm. Photo: Sun Woong Bang.
Fig. 63
Thread Goes through a Hole, 2016.

Fig. 64

Fig. 65
Fig. 66
5.9 Conclusion: Project 5

Project 5 was the most significant phase of my PhD. Through it I was able to investigate how new composite forms of jewellery could be created that evoke the complexity of cultural interactions.

The artworks created for this project present the interaction between culture, imagination and humour. I realised that humour is an important device to remove tension between different cultures and provides a joyful moment to viewers. People smile, laugh and giggle at my *Unexpected Linkages Series*. Successful humour draws us closer to each other and enables us to share experiences.

I was able to re-contextualise relics, symbols and patterns from the three kingdoms into convertible jewellery and objects. My use of real and imagined traditional colours within the works became a pivotal force to engage with the culture of the three kingdoms. Each jewellery piece illuminates how colour and relics can be reinterpreted through my methodology. This has provided me with a way of attempting to understand and present the complexity of transculturality.

The development of the use of juxtaposition and superimpositions were important methods to reconcile cultural differences and enabled my re-imagining of cultural interactions between ancient Korean, Bactrian and Celtic cultures. Juxtaposed relics, symbols and patterns allowed me to create works with multilayered readings. One can view the robot as a singular object but also as a composite of different pieces of jewellery. It reveals complexity. One angle shows Celtic pattern, another angle shows Korean traditional colours and yet another Bactrian symbols.
6. Conclusion

At the conclusion of this dissertation, I consider that my findings and outcomes have contributed to the practice of contemporary jewellery.

My primary contributions are:

– the combination of historical research with my imaginative fiction in order to amplify the idea of transcultural interactions,

– in the studio, practice-based experiments that developed new combinations of old and new technologies,

– the creation of new, composite jewellery artefacts.

These are evidenced in the final presentation.

This research does not open new arguments with existing theories of cultural interactions. The primary intention has been described throughout this dissertation. I have explored and examined the methods I use to create transcultural jewellery and objects. By evaluating these works, I have discovered that my research could suggest new ways to celebrate transculturality. The jewellery and objects produced in this research address our interconnected lifestyles beyond cultures, history, and national borders.

At the beginning of the PhD, my focus was on how I can combine fictional and historical sources to generate new artworks. I began to examine this question through Project 1, Unexpected Cultural Interactions: Dagger. The examination resulted in 3D Printed Transculturality (2013). This is an elaborate artwork, which derived from my fictional account, a study of triskele, and my use of virtual travel.
The role of imagination in history and fiction is evident in the artwork. My short fictional accounts inspired me to create linkages between different cultures and provided the freedom to use historical sources. The results of my investigation of the historical evidence assisted and clarified my imaginary cultural interactions between Celtic, Bactrian, and Sillan culture.

I used ‘virtual travel’ for creating new transcultural symbols, aiming to emphasise cultural exchanges in the digital world. By using the Internet technology, I accessed rich, image sources from street views. Through analysis of the collected images I was able to engage with cultural interactions through symbol, skill, and iconic code.

Initially, I found that my use of Google Street View as a research tool was useful in providing sources for my artwork. At the beginning of Project 1, I intended to use Google Street View as a methodological tool to lead this research, but in time I realised that my own subjective imaginary travel enabled me to create new symbols just as easily.

Project 1 has provided me with the opportunity and a means to think through the complexities of transculturality. The work created then opened up unlimited possibilities for the creation of jewellery and objects.

The work, 3D Printed Transculturality (2013) further elaborates on the cultural interactions at a deeper and wider level. Through these I became interested in the ways that my use of the composite can create artwork.

Through Project 2, Imaginative Cultural Interactions: Dolmen, I continually examined my research questions.
How can I create a series of 3D artworks that utilise old and new technologies including 3D digital printed objects and the hand-made in order to generate new forms that evoke the complexity of cultural similarity and difference?

How can I combine imagery derived from fictional and historical sources in order to generate new artefacts that suggest transcultural interactions?

The fictional account drew me to explore questions of connection, lexical similarities and cultural transmission through the study of two dolmens from different cultures. *Tomb of a Celtic Man in Korea* (2013) is my answer to the questions. The artwork provided possibilities for presenting subjective interpretations of cultural interactions. The work created for this project presents a composite of cultures and languages. At the end of Project 2, I engaged with traditional Korean colours. This was an important turning point in the research. Originally, I did not mean to investigate the use of colours for my jewellery and objects but the influences from the West led me to investigate the potential of employing the traditional colours of the three kingdoms to suggest identity and interactions.

By investigating and experimenting with the five colours through a computer rendering program, I realised that I could use the colours to suggest the visual languages of Korean culture. This finding was unexpected but became critical to the development of future projects in this research.

As stated, Project 3 is a bridge between the earlier projects and the projects that follow, Project 4 and Project 5.

My research questions are intertwined in Project 3, *The Unfolding of Content in Time*, and so I address them simultaneously. The answer for the research questions is manifest in an
artwork, *Permeated* (2014). This work is an outcome of combining different time perspectives: a fast technology (3D printing) and a slow technique (filigree). I have reconciled a story, the filigree, and 3D printing technology in the form of a new composite work. The reconciliation generates synergy and the viewers can have a direct experience of their own perception at the exhibition space.

The outcomes of Project 3 led me to investigate how to bring hand- and machine-made processes tighter in a singular work. The work produced in Project 4, *Combining Hand- and Machine-Made Processes* is development of these methods.

Using the 3D printing technology enabled me to invent a new way to wear the replica of the Korean golden earrings. The earring created for this project became a significant piece and assisted in the resolution of my research in Project 5.

The final project, *Composite Jewellery and Objects*, can be considered an overall conclusion to the PhD. I described various methods to make composite jewellery and objects. The use of composite, especially, enabled me to demonstrate the function of imagination in the project in the creation of new formal and symbolic relationships. By employing multiple relics, symbols, and patterns in a juxtaposed and layered ‘robot figure’ in jewellery and objects, I have been able to actualise my imaginative cultural interactions between the three kingdoms.

The *Unexpected Linkages Series* shows itself as a singular ‘robot figure’ that consists of twelve jewellery pieces. Transculturality cannot be addressed without acknowledgement of other cultures.
The humour in my works would provide amusement for all ages and cultures when we celebrate cultural interactions together. The function of humour in these works enables serious content to become non-threatening and to unfold slowly over the experience and time of viewing.

The investigations, experiments and outcomes of this research have provided me with valuable time to develop a new body of work, which has brought about poetic forms of jeweller (Fig. 1, see page 166).

Excavation of a relic could be described as a rebirth of ancient artefacts. From this perspective, the artworks created throughout this PhD reflect this.

I aim to produce a new context for the relics of the three kingdoms. Robert Baines says that relics cannot be freed from their cultural, archaeological, and technological contexts (Art Jewelry Forum 2016). Therefore, I reinterpret the existing contexts of relics to bring a new sense of excavation within my transcultural jewellery.

I was captivated by the discovery of the Golden Dagger in 1973 (Fig. 2, see page 166). The picture is powerful. This depicts antiquity, material story and cultural interactions. As this PhD project neared completion I realised that it has provided me with an ongoing methodology and content to develop future composite jewellery.

My PhD projects may be at an end but my research through the making of transcultural jewellery and objects is ongoing and suggests potential for generating innovative ideas for contemporary jewellery practice and transcultural understandings.
Fig. 1
Sun Woong Bang, *Excavation of Forgotten Transculturality*, 2016,
2 x Rings, 1 x Brooch,  
3D Printed Nylon, Ink, Paint, Silver, 18ct Yellow Gold,  
Dimensions: Approx. 60 x 45 x 25 mm (Each Piece),  
Photo: Sun Woong Bang.

Fig. 2
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Boundary of the Three Kingdoms,
© Sun Woong Bang.

Project 1, *Unexpected Cultural Interactions: Dagger*

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*Republic of Korea, National Treasure, No. 635,*

Fig. 2 27
Sword with Phoenix-Shaped Ring,
Photo: Sun Woong Bang.

Fig. 3 28
The Upper Section of the Borovoe Dagger Sheath,
Image Source (Yoon 2013, p. 135, Figure 7.3).

Fig. 4 28
A Mural of a Dagger,
Image Source (Yoon 2013, p. 137 Figure. 7.5).

Fig. 5 29
Three Identical Symbols in the *Gerim-Ro Golden Dagger.*

Fig. 6 29
*Triskele,*
Ancient Symbol,
Fig. 7
Entrance Stone with Megalithic Art at the Tomb of Newgarnge,

Fig. 8
Foundation Stone of Kameun Buddhist Temple with Sam-taeguk (in red circle),
Image Source (Baek & Kim 2011, p.463, Fig. 3).

Fig. 9
The 1988 Summer Seoul Olympic Emblem,

Fig. 10
Triskelion Arena Floor,

Fig. 11
S.H.I.E.L.D's Headquarter,

Fig. 12
Traditional Korean House: Han-Ok,

Fig. 13
Traditional Korean Paper Fan,

Fig. 14
Traditional Leather Drum at Chung-Ju Airport in Korea,

Fig. 15
Collected Images from My Virtual Travel,
Fig. 16
Tyre,
Image Source <https://www.google.com.au/maps/@-23.5512443,46.6376034,3a,75y,301.73h,77.41t/data=!3m6!1e1!3m4!1swCfQX9ozGeZUKtRgMS5BWw!2e0!7i13312!8i6656>.

Fig. 17
Sun Woong Bang, *Galaxy*.

Fig. 18
Sun Woong Bang, *Combined Triskele and Tyre*.

Fig. 19
Two Payphones,
Image Source <https://www.google.com.au/maps/@-23.5462405,46.6448601,3a,75y,193.1h,71.79t/data=!3m6!1e1!3m4!1sjQOneYSylBgnfUQgAtQXQg!2e0!7i13312!8i6656!6m1!1e1>.

Fig. 20
Google Street View Car,

Fig. 21

Fig. 22
Captured in Jerusalem: The Google Street View Car,

Fig. 23

Fig. 24
Payphones.

Fig. 25
Murals in the Yeong-Ju Tomb,
Fig. 26
Graffiti on Dimitry Vrubel's Mural of *Brezhnev Kissing Honecke* in the East Side Gallery in Central Berlin, Image Source, [https://www.google.com.au/maps/place/East+Side+Gallery/@52.5039033,13.4428865,3a,90y,214h,88t/data=!3m8!1e1!3m6!1s-r9yqiSQgKlw%2FVew6IQ1WV-%2FAAAAAAAD8%2FSA9Kwtlj4yMqMC9v9MPFryhUVQvWEUEIACLIB2e4!3e11!6s%2F%2Flh5.googleusercontent.com%2Fr9yqiSQgKlw%2FVew6IQ1WV-I%2FAAAAAAAD8%2FSA9Kwtlj4yMqMC9v9MPFryhUVQvWEUEIACLIB%2Fw203-h101-n-ko%2F7i5376!8i2688!4m5!3m4!1s0x47a847a6f5edaf4b:0xde9be97b4a912818!8m2!3d52.505022!4d13.4396953!6m1!1e1>.

Fig. 27
Graffiti.

Fig. 28
Sun Woong Bang, *Idea Development Sketch to Produce My 3D Printed Dagger in Project 1*.

Fig. 29
3D CAD Drawing of the *Republic of Korea, National Treasure, No. 635*.

Fig. 30
Three Tyres, Payphones and Graffiti.

Fig. 31
Sun Woong Bang, *3D Printed Cultural Interactions*.

Fig. 32
Exhibition Image at First Site Gallery, RMIT University, Melbourne.

Fig. 33
Studio and Exhibition Testing Set-up Shots.

Fig. 34
A Studio Shot of Labelled Archive Boxes.

Fig. 35
*Hello Guys in November 2011*.
Project 2, *Imaginary Cultural Interactions: Dolmen*

Chart. 1  
Outcomes of My Investigation on the Lexical Similarities between English and Korean.

Fig. 1  

Fig. 2  
*Poulnabrone Dolmen,*  

Fig. 3  
*Go-Chang Dolmen,*  
Image Source,  

Fig. 4  
*Go-Chang Dolmen* Site, Korea,  
Image Source,  

Fig. 5  
*Poulnabrone Dolmen* Site, Ireland,  
Image Source <https://www.google.com.au/maps/@53.0480455,-9.1419205,3a,75y,52.91h,87.24t/data=!3m6!1e1!3m4!1s8Xso7nkFRvhVbeSEztQufQ!2e0!7i13312!8i6561!6m1!1e1>.

Fig. 6  
*Poulnabrone Dolmen* (Dents),  

Fig. 7  
*Du-Mul-Mer-Ri Dolmen,*  

Fig. 8  
Fig. 9
Combined Dolmens and the Lexical Similarities.

Fig. 10
Sun Woong Bang, *Tomb of a Celtic Man in Korea*.

Fig. 11
A Close-Up of *Tomb of a Celtic Man in Korea*.

Fig. 12
Jin-Ah Jo, *In My Mother Tongue-Reflection-Pendant*,

Fig. 13
Blue.

Fig. 14
Yellow.

Fig. 15
Red.

Fig. 16
Black.

Fig. 17
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Fig. 18
Experiments with Korean Traditional Colours, 3D CAD and 3D-Rendered Expression.

Fig. 19
Children's *Hanbok*,
Project 3, *The Unfolding of Content in Time*

Fig. 1
An Image of My Broken 3D Printed Crown.

Fig. 2
A 3D-Rendered Image of Filigree Decorative Wings.

Fig. 3
A Progress Shot of Shoe Mock-Up.

Fig. 4
A Progress Shot of Shoe Mock-Up with Filigree.

Fig. 5
Hochdorf Chieftain’s Grave, *Golden Shoes’ Ornaments*,

Fig. 6

Fig. 7

Fig. 8
3D Hand Drawing Pen-Decoration Wing.

Fig. 9
Filigree-Decorative Wing 1.
Fig. 10
Filigree-Decorative Wing 2.

Fig. 11
Sofia Björkman, What Has Bird Done?,
Image Source <https://www.artjewelryforum.org/node/7138>.

Fig. 12
Sofia Björkman Wears One of Her 3D Pen-Made Brooches,
Image Source <https://www.artjewelryforum.org/node/7138>.

Fig. 13
Ted Noten, Wanna Swap Your Ring?,

Fig. 14
Sun Woong Bang, Permeated,
Photo: Sun Woong Bang.

Fig. 15
Toby Melville, The Imperial State Crown,

Fig. 16
Sun Woong Bang, Drawing of Waqwaq Tree.

Fig. 17
Hwangnam Daechong Crown,

Fig. 18
Project 4, Combining Hand-and Machine-made Processes

Fig. 1
Republic of Korea, National Treasure, No. 90,

Fig. 2
Ear Reels,
Image Source (Ham 2013, p. 54, Fig 3. 11).

Fig. 3

Fig. 4
Disassembled Display of Republic of Korea, National Treasure, No. 90.

Fig. 6
A Close View of Republic Korea, National Treasure, No. 90.

Fig. 6
Uppermost Ring.

Fig. 7
Embedded a Short Pole.

Fig. 8
Inserted Flat Component.

Fig. 9
Earring Hook Hole.

Fig. 10
3D Printed Outcome of the Uppermost Ring.

Decorative Leaves of my 3D Printed Earring.

Broken Interlocking Rings.

A Close View of Filigree in *My 3D Printed Earring.*


Mike Simonian and Maaike Evers, *Stolen Jewels* (Series of Six), Image Source <http://www.mikeandmaaike.com/content/MANDM/11_stolenjewels05.jpg>.

**Project 5, Composite Jewellery and Objects**

Greek and Roman Glassware, Image Source <http://www.mei.edu/content/1500-years-contact-between-korea-and-middle-east>.


Beaker, Image Source (Lee 2013, p. 127, Figure 6.8).

Fig. 5

Fig. 6
*Hat & Cane Brooch* (Upside-Down View).

Fig. 7
Tracing of Glass Cup.

Fig. 8
Experiments with Various Angles, Levels, and Colours.

Fig. 9
Upside-Down View of Glass Cup.

Fig. 10
Sun Woong Bang, *Traditional Korean Hairstyle*.

Fig. 11
Markus Raetz, *Nichtpfeife (Two Views of the Same Sculpture)*.

Fig. 12
*Indian Medallion* (Front and Back).
Image Source (Hiebert 2008, p. 63).

Fig. 13
A Close View of *Nandipada* Embedded in *Indian Medallion*.

Fig. 14
Superimposed *Nandipada* onto Headpiece.

Fig. 15
Haana Hedman, *Human Tree*.
Fig. 16
A Collage of the Robot Figure.

Fig. 17
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Wearing of the Tin Robot,

Fig. 19
_Volutiform Appliqués_,
Image Source (Schiltz 2008, p. 238).

Fig. 20
_Knee Ring_.

Fig. 21
_Broken Cross of Kells_,

Fig. 22
_Feet Ring_,
2014,
3D CAD Expression,
Finger Size: K.

Fig. 23
_Bowl with Fish and Lotus Motif_,
Image Source (Florence 1988, p. 113).

Fig. 24
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Fig. 25
Assembled Robot Figure.
Fig. 26
3D Printed Jewellery and Components for a Robot Figure.

Fig. 27
3D Printed Brooch with a Egyptian Symbol (Torso).

Fig. 28
Leg Ring.

Fig. 29
Knee Ring.

Fig. 30
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Fig. 31
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Fig. 32
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Fig. 33
Sun Woong Bang, Unexpected Linkages Series #1.

Fig. 34
Sun Woong Bang, Unexpected Linkages Series #1(Back).

Fig. 35
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Fig. 36
Sun Woong Bang, Unexpected Linkages Series #1 on Green Background.

Fig. 37
Sun Woong Bang, Unexpected Linkages Series (Korean) #2 as Pieces of Jewellery.
Fig. 38
Sun Woong Bang, *Unexpected Linkages Series (Korean) #2* as a Robot Form.

Fig. 39
Use of the Korean Five Traditional Colours onto a Shaman Tog,

Fig. 40
Piet Mondrian, *Composition with Large Red Plane, Yellow, Black, Gray, and Blue*,

Fig. 41
*Bo-Ja-Gi* (Covering Cloth),

Fig. 42
Yongsun Suh, *On the Way Execution Ground*,

Fig. 43
Sun Woong Bang, *Unexpected Linkages Series (Korean) #2* in a Distant View,
Photo: Sun Woong Bang.

Fig. 44
Interactions and Pieces of Jewellery,
Photo: Sun Woong Bang.

Fig. 45
Sun Woong Bang, *My Experimentations with Putting Korean Traditional Colours onto the Robot Figure*.

Fig. 46
My photo of *Bowl with Fish and Lotus Motif*.

Fig. 47
*일목삼선어 (Three fish and One Eye Among Them)*, Image Source,
<http://www.culturecontent.com/content/contentView.do?search_div=CP_THE&search_div_id=CP_THE002&cp_code=cp0320&index_id=cp03201213&content_id=cp032012130001&search_left_menu=>.
Fig. 48
*Triquetra*,

Fig. 49
*Three Interlaced Fish*,

Fig. 50
Transcultural Symbol Inspired by Egyptian, Korean, and Celtic Culture (Completed).

Fig. 51
Transcultural Symbol Inspired by Egyptian, Korean, and Celtic Culture (Beginning).

Fig. 52
Transcultural Symbol Inspired by Egyptian, Korean, and Celtic Culture (Developing).

Fig. 53
Sun Woong Bang, *Unexpected Linkages Series (Celtic)* #3.

Fig. 54
Irish Flag.

Fig. 55
Sun Woong Bang, *Unexpected Linkages Series (Bactrian)* #4.

Fig. 56
A Pebble from Tajikistan.

Fig. 57
A Pebble from Tajikistan, Traditional Celtic and Korean Colours.

Fig. 58
Development of Making the Colours in the Pebble #1.

Fig. 59
Development of Making the Colours in the Pebble #2.
Fig. 60
Outcome of Mixture of Celtic and Korean Colours.

Fig. 61
Sun Woong Bang, *Just Married*.

Fig. 62

Fig. 63
Thread Goes through a Hole.

Fig. 64
A Piece of Filigree Component.

Fig. 65
A Headpiece Sits on Entangled Thread.

Fig. 66
A Headpiece Becomes a Wearable Pendant.

6. Conclusion

Fig. 1
Sun Woong Bang, *Excavation of Forgotten Transculturality*.

Fig. 2
*Excavation of the Golden Dagger in 1973*,
Image Source (Min 2015, p. 68, Figs 121-122.).
Appendices

Appendix 1: Documentation of Original Work

Sun Woong Bang, 3D Printed Cultural Interactions, 2013, 3D Printable Sandstone, 480 (Height) x 90 (Width) x 30 (Depth) mm Photo: Sun Woong Bang.
Sun Woong Bang, *Tomb of a Celtic Man in Korea*, 2013,
3D Printed Black Plastic,
110 (Height) X 140 (Width) X 120 (Depth) mm,
Photo: Sun Woong Bang,
A Close View of Tomb of a Celtic Man in Korea, 2013.
3D Printed Black Plastic,
110 (Height) X 140 (Width) X 120 (Depth) mm,
Photo: Sun Woong Bang.
Plastic,
210 (Height) x 40 (Width) x 30 (Depth) mm,
Photo: Sun Woong Bang.
Sun Woong Bang, *Permeated*,
2014,
3D Printed Sandstone, Plastic, Brass Wire, Paint,
200 (Diameter) x 130 (Height) mm,
Photo: Sun Woong Bang.
A Close View of *Permeated*, 2014, 3D Printed Sandstone, Plastic, Brass Wire, Paint, 200 (Diameter) x 130 (Height) mm, Photo: Sun Woong Bang.
Sun Woong Bang, *My 3D Printed Earring*, 2014, 3D Printed Nylon, Paint, Sterling Silver, 86 (Height) x 30 (Width) x 22 (Depth) mm, Photo: Sun Woong Bang.
Sun Woong Bang, *Unexpected Linkages Series #1*, 2014, 10 x Rings, 1 x Brooch, 1 x Pair of Earrings, 3D Printed Nylon, Sterling Silver, Ink, 144 (Height) x 96 (Width) x 35 (Depth) mm, (Robot).

Photo: Sun Woong Bang.
Sun Woong Bang, *Unexpected Linkages Series (Korean) #2*, 2014, 3D Printed Nylon, Sterling Silver, Ink, 144 (Height) x 96 (Width) x 35 (Depth) mm, Photo: Sun Woong Bang.
Sun Woong Bang, *Unexpected Linkages Series (Korean) #2*, 2015, 10 x Rings, 1 x Brooch, 1 x Pair of Earrings, 3D Printed Nylon, Sterling Silver, Ink, Dimensions: Varying, Photo: Sun Woong Bang.
Exhibition of Unexpected Linkages Series (Korean) #2, 2015, Photo: Sun Woong Bang.
Sun Woong Bang, *Unexpected Linkages Series (Celtic) #3*
2015,
3D Printed Nylon, Sterling Silver, Paint,
144 (Height) x 96 (Width) x 35 (Depth) mm,
Photo: Sun Woong Bang.
Sun Woong Bang, *Unexpected Linkages Series (Bactrian) #4*, 2015,
3D Printed Nylon, Sterling Silver, Stone Ink, Gold Leaf,
144 (Height) x 96 (Width) x 35 (Depth) mm,
Photo: Sun Woong Bang
Sun Woong Bang, *Just Married*, 2016, 3D Printed Nylon, Paint, Sterling Silver, Stone Ink, Gold Leaf, 144 (Height) x 96 (Width) x 35 (Depth) mm, Photo: Sun Woong Bang
Sun Woong Bang, *Untitled (Pendant)*, 2016,
3D Printed Nylon, Acrylic Paint, Sterling Silver, String,
30 (Diameter) x 700 (Length) mm,
Photo: Sun Woong Bang.
2 x Rings, 1 x Brooch, 3D Printed Nylon, Ink, Paint, Sterling Silver, 18ct Yellow Gold, Dimensions: Varying,
Photo: Sun Woong Bang.
Appendix 2: Research Outcomes: Exhibition, Conferences, and Awards

Exhibitions
2016 Hero Worship, Craft Victoria, VIC
2015 Victorian Craft Award, Craft Victoria, VIC
2015 Attitudes as Form, Touring Exhibition Including Gallery Gaffa: Sydney, Gallery Artisan: Brisbane
2014 Herstory, Seventh Gallery, Fitzory, VIC
2014 National Contemporary Jewellery Award, Griffith Regional Gallery, NSW
2014 Six Lightscape Projects, Melbourne Central Shopping Mall, VIC

Conferences
2015 Researching the EU: Critical Perspectives for Critical Times, ANU University, Canberra
2014 The Image, Freie Universität, Berlin, Germany

Award
2015 Victorian Craft Award–Jewellery Encouragement, Craft Victoria, VIC
Appendix 3: Curriculum Vitae

First name: Sun Woong
Surname: Bang
E-mail: nox4102@hotmail.com

Education

2013- Currently enrolled in Doctor of Philosophy (Art) program, RMIT University, Melbourne, Victoria
2012 Master of Fine Art (course work), RMIT University, Melbourne, Victoria
2005 Bachelor of Visual Arts and Applied Design, Adelaide College for the Arts, SA TAFE
2003 Certificate IV Jewellery, SA TAFE, South Australia

Domestic Professional Development

2009-10 Jam Factory independent studio artist residency, Adelaide, South Australia
2007-08 Associate Position/Jam Factory Career Development Scheme, Adelaide, South Australia
2007 Selected for Optus-Helpmann Academy Emerging Artist Mentorship, Adelaide, South Australia
2006 Gray Street Workshop residency, Adelaide, South Australia

International Professional Development

2014 The Image, Conference, Freie Universität, Berlin, Germany
2009 Artist Residency, Bluecoat Gallery, Liverpool, UK
Solo Exhibitions

2014 Herstory, Seventh Gallery, Fitzroy, Melbourne, Victoria
2010 S+S=infinity, Gallery Nexus, Adelaide, South Australia

Recent Group Exhibitions

2016 Hero Worship, Craft Victoria, Melbourne, Victoria
2015 Victorian Craft Award, Craft Victoria, Melbourne, Victoria
2015 Attitudes as Form Touring Exhibition Including Gallery Gaffa: Sydney, Gallery Artisan: Brisbane

International Exhibitions

2009 Northern Lights; Southern Stars, Bluecoat Display Centre, Liverpool, UK
2007 Mani Mini Fun Store Craft Arts fair, Gana Arts Space, Seoul, Korea
2007 Catch on 2, COEX Convention and Exhibition Centre, Seoul, Korea

Grants & Awards

2015 Victorian Craft Award – Jewellery Encouragement, Craft Victoria
2014 School of Art Fund, RMIT University, Melbourne, Victoria
2014 Higher Degree by Research Conference Grant, RMIT University, Melbourne, Victoria
2009 Arts SA Independent Makers Presents Grants Residency Allowance
2008 1st prize, Helpmann Academy & Adelaide City Council Performing Art Award
2007 NAVA Janet Holmes à Court Artists' Grants, Sydney
2007 Adelaide Fringe Festival, Best Visual Arts Awards Exhibition
2006 Arts SA, Project Assistance Grants
2006 The Peter Walker Fine Art Award, Peter Walker Gallery, Adelaide

**Featured in the following Publications**

‘South Korea and Beyond’, Garland Magazine, 2015, first issue, Melbourne

Australia Network (International TV service of ABC), 2011, interviewed by video – Art Show, Ep. 9

*Silversmithing for Jewellery Makers*, 2011, Search Press UK, Authored by Elizabeth Bone

*500 Silver Jewellery Designs*, image, Lark Books, New York, USA (p. 321, p 363) collected by Talya Baharal