

MAKING KOREAN ONGGI POTTERY IN NORTH CAROLINA:
CLAY BODY, GLAZE, FIRING AND AESTHETIC APPROACH

By

Joogab Kim

May 2024

Director of Thesis: Jim Tisnado, MFA

Major Department: School of Art and Design

ABSTRACT:

Onggi is a traditional style of Korean utilitarian pottery. Potters have been using the Onggi traditional building, glazing and firing techniques to make pottery for storing and fermenting food for thousands of years. Although no longer relevant as the main storage vessels for food in Korea, Onggi jars have become an art form in recent times. As a potter still tied to traditional building and firing techniques, I am making large vessels based on the Korean tradition of Onggi, and infusing them with an artistic interpretation. Making the transition to an American pottery environment posed four avenues of research necessary to produce large vessels: clay body, glaze, firing environment, and the artistic elevation of traditional Onggi jars. My research shows how traditional Onggi building methods can be used to make large vessels using the materials, equipment, and atmosphere in North Carolina and how these same circumstances enhance the artistic evolution of the simple Onggi storage vessel.

MAKING KOREAN ONGGI POTTERY IN NORTH CAROLINA:
CLAY BODY, GLAZE, FIRING AND AESTHETIC APPROACH

A Thesis

Presented to the Faculty of the School of Art and Design
East Carolina University

In Partial Fulfillment of the Requirements for the Degree of
Master of Fine Arts

By

Joogab Kim

May 2024

Director of Thesis: Jim Tisnado, MFA

Thesis Committee Members:

Beth Blake, MFA

Dan Elliott, MFA

Gerald Weckesser, MFA

© Joogab Kim, 2024

DEDICATION

To my lovely wife, Songa and three kids, Jaeyoon, Hayoon, and Jiyeon who sacrificed a lot while I was studying ceramics.

ACKNOWLEDGEMENTS

I would like to thank my professor and committee chair, Jim Tisnado, who attempted to understand my broken English as far as he could and guided me in the right direction throughout my time in this program. I would also like to thank the rest of my thesis committee, including Beth Blake, Dan Elliott, and Gerald Weckesser, who graciously advised and encouraged me to fulfill this project. Additionally, I would like to thank all professors who taught me, and administrators who supported me while I stayed at ECU.

TABLE OF CONTENTS

DEDICATION	iii
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES.....	viii
LIST OF PLATES	ix
INTRODUCTION.....	1
ONGGI CLAY BODY	2
Onggi Clay Body from Commercial Raw Materials.....	2
Onggi Clay Body from Recycled Clay.....	4
ONGGI GLAZE	6
Onggi Glaze using Korean Traditional Method	6
Onggi Glaze using Commercial Raw Materials.....	9
FIRING ONGGI POTTERY	14
Firing in Wood Kiln	14
Firing in Gas and Electric Kilns	15
Firing in Soda Kiln	15
AESTHETIC APPROACH.....	17
Sculptural Shape of Onggi Pottery	18
Decorative Motif Found in Nature	20
Description of Pieces.....	21
CONCLUSION	39
GLOSSARY	40

REFERENCES.....	41
APPENDICES.....	43
Appendix A: Result Tables	43
Appendix B: Financial Stability as an Onggi Potter	45
Appendix C: Onggi Tools	50

LIST OF TABLES

Table 1: Mineral composition of raw materials from Gangjin, Yeosu, Ulsan, Yesan, and Jeju	3
Table 2: Tile test of Greenville soil and soybean stalk ash	7
Table 3: Chemical composition analysis of natural Onggi glaze in Korea	9
Table 4: Comparison of each composition between Redart and Yacto (local soil).....	10
Table 5: Composition of three raw materials and comparison to ash	11
Table 6: Tile test of artificial Onggi glaze	12

LIST OF FIGURES

Figure 1: Tile test results of Greenville soil and soybean stalk ash	7
Figure 2: Tile test results of Greenville soil, soybean stalk ash, and felspar	8
Figure 3: Tile test results of artificial Onggi glaze.....	13
Figure 4: A diagram and a real image of a typical Onggi jar decorated with intaglio and plants.	17
Figure 5: The images of Daniel Johnston (left) and Kate Waltman (right)'s sculptural jars	19

LIST OF PLATES

Plate 1: <i>Ivy on Stone Wall</i>	21
Plate 2: <i>Maple Leaves</i>	22
Plate 3: <i>Dogwood (The State Flower of North Carolina)</i>	23
Plate 4: <i>Trunk of Longleaf Pine in Southeastern North Carolina</i>	24
Plate 5: <i>Being Together with Nature</i>	25
Plate 6: <i>Fish & Turtle</i>	26
Plate 7: <i>Scenery with Pine Trees</i>	27
Plate 8: <i>Vine</i>	28
Plate 9: <i>Bamboo Trees</i>	29
Plate 10: <i>Hydrangea Blossoms</i>	30
Plate 11: <i>Plum Blossoms</i>	31
Plate 12: <i>Flow 1</i>	32
Plate 13: <i>Flow 2</i>	33
Plate 14: <i>Natural Spring</i>	34
Plate 15: <i>Flower & Drop</i>	35
Plate 16: <i>Tea Jar 1</i>	36
Plate 17: <i>Tea Jar 2</i>	36
Plate 18: <i>Tea Jar 3</i>	36
Plate 19: <i>Tea Jar 4</i>	36
Plate 20: <i>Image of Exhibition</i>	38

INTRODUCTION

Onggi, a type of Korean traditional pottery, has been used by most Korean households to store fermented foods dating back thousands of years. Unlike other distinctive types of Korean ceramics such as brilliant jade-green celadon, pristine white porcelain, and Buncheong-sagi, *Onggi*, the aged-old stoneware, is used as utilitarian storage vessels. As Korean culture developed, *Onggi* has evolved over the years as a significant part of Korean culture.

As a master's candidate at East Carolina University, I have researched and explored making Korean *Onggi* pottery in North Carolina. As *Onggi* pottery was born on the Korean peninsula, potters used clay that they easily found around their community, and later they used factory-made clay. It is challenging to find acceptable clay in North Carolina to make *Onggi* pottery. Glazes used for *Onggi* pottery in Korea are produced in the local areas. The recipe for *Onggi* glaze and technique to prepare it have been passed down verbally. Like clay, it is not possible to find the exact materials to formulate the *Onggi* glaze in North Carolina. I studied the specific temperature ranges and firing environment in the four typical kiln types (electric, gas, soda and wood) located at East Carolina University.

Furthermore, since *Onggi* pottery is utilitarian, its shape is practical, and decoration is simple. I have approached making *Onggi* jars with aesthetic considerations beyond its utilitarian features.

ONGGI CLAY BODY

Onggi clay body is called, 'Jeomto or Jill' in Korean. It has a brownish tint because of a high iron content, and it is very sticky. It is usually found in specific local areas in Korea. In the past, most Onggi potters prepared Onggi clay by themselves with their assistants. Song, Min-sun describes the six steps needed to make Onggi clay in her book, 'Onggi' (Song 31-45) as labor intensive. She says that this process may also likely be detrimental to the surrounding environment. Thusly, contemporary Onggi potters do not prefer the traditional preparation for making Onggi clay. Instead, commercial clay factories and pottery suppliers provide clay to anyone who wants to build Onggi pottery in Korea. Clay factories use materials found in their local areas, so they can easily distribute their finished products. It is reasonable that today's Onggi potters in Korea no longer need to make Onggi clay by themselves, but they can purchase it from their local clay providers.

Onggi Clay Body from Commercial Raw Materials

Research data about the composition of Korean Onggi clay was necessary to make a similar workable clay in North Carolina. Four scientists in the *Journal of the Korean Ceramic Society* provided a research paper where they analyzed the mineral composition of raw materials in Onggi clay used in five different regions in Korea (Kim; Roh; Kim; Cho). These five regions are the main Onggi production sites in Korea, so the analyzed data is critically important to reproduce Onggi clay in North Carolina. Interestingly, the data shows that each region has their own proportion of raw materials but doesn't show that each region has the common proportions even though all Onggi clay body consists of three main materials – feldspar, clay, and silica (see table 1).

Table 1:

Mineral composition of raw materials from Gangjin, Yeosu, Ulsan, Yesan, and Jeju

%	Gangjin	Yeosu	Ulsan	Yesan	Jeju
Feldspar	18.31	20.90	34.93	28.99	34.64
Clay	49.47	33.42	32.30	32.04	37.65
Silica	32.20	45.68	32.77	38.97	27.66
Total	100.00	100.00	100.00	100.00	100.00

Source: Journal of the Korean Ceramic Society, *Study of the Relationship between the*

Characteristics of Regional Onggis and Fermentation Behavior: (1) Scientific Analysis of Regions
Onggis in Korea, Journal of the Korean Ceramic Society, Vol. 52, No. 1, pp. 33-40, 2015.

Note: a. Clay on the table usually includes Ball Clay, Stoneware clay, Kaolin, and Redart.

Table 1 shows that Gangjin has 18.31 percent of Feldspar while Jeju has 34.64 percent. For Clay, Yesan has 32.04 percent, but Gangin's Onggi clay consists of almost 50 percent.

Furthermore, Yeosu has 45.68 percent of Silica, while Jeju has only 27.66 percent, which is almost double the difference between them. There is no specific portion of raw materials that are consistent in Onggi clay commonly used in Korea, but Onggi potters use any clay made in local clay factories in their regions. If the formulated clay is suitable to build large vessels and can withstand firing to Cone 8 (2305°F), then the clay will be good for making these same vessels. In this point, Robert Tichane mentions that clay is the material in ceramic formulation which provides plasticity and refractoriness (Tichane 9). Thus, to make ceramic objects, the main requirements for clay are plasticity and refractoriness.

Based on the research data and Tichane's research, I assumed that Onggi clay can be formulated from commercial raw materials if the clay has enough plasticity to build large vessels and refractoriness to fire at a certain temperature. In addition, Korean Onggi pottery is much closer to stoneware even though many documents categorized it as earthenware (Sayer 19-21; Song 7). Onggi pottery is usually fired between Cone 7 and Cone 8, which is included within the firing temperature range of stoneware (around 2192°F-2372°F) rather than earthenware (around 1742°F-2102°F).

In Tichane's book, 'Clay Bodies,' stoneware clay can easily be synthesized by combining fireclay with ball clay plus some silica and feldspar of an appropriate particle size and contaminant level (Tichane 29). He provides 18 formulas to make stoneware clay used with commercially available raw materials (Tichane 275-278). These formulas consist of four major compositions which are the same as the main compositions of traditional Onggi clay in Korea.

With Tichane's instructions and plenty of practical experiments, the suitable Onggi clay body can be achieved with commercial raw materials, and the formula shown in Table A in Appendix A.

Onggi Clay Body from Recycled Clay

Recycled clay left after other students' use is another method for Onggi clay in an educational institution where left-over clay is found. We can use it if it retains plasticity and refractoriness. Because most clay that ceramic students use is stoneware clay, adding major raw materials - fire clay, ball clay, and feldspar - at the same proportions of the formula in Table A with 10 percent of both mullite and grog is a good approach to make Onggi clay body in North Carolina.

Furthermore, there are three benefits for using recycled clay. First, since most left-over clay is usually soaked in water before being recycled, it allows an aging process that improves plasticity in clay. Second, using recycled clay left after educational activities in schools and workshops is environmentally friendly. Finally, using recycled clay is economical and can reduce production costs because it is free.

ONGGI GLAZE

Like other ceramic forms, traditional Korean Onggi pottery is fired after coating with glaze made of various ash and local soil. According to Song, the glazing activity is called ‘Jaetmulchida’ or ‘Jaetmuliphinda’ and the substances of the glaze are a mixture of pine leaf or grass ashes, and local soil. The ratio of the mix for good colors depends on the kind of local soil (Song 81). Furthermore, Go, Sung-guang defines the special glaze as *Yacto*, which is local soil containing a lot of iron ingredients and ash from any of these plants: pine trees, oak trees, soybean stalks, and rice straw, etc. (Go 12).

In addition, Yoon, Young-yeo also talks about an Onggi glaze that is called *Jetmul*, because it is made with ash (Korean sound *Jet* for ash and *mul* for water). To make Jetmul, *Yakto* and ash are mixed with water in portions usually one to one, but the proportion varies according to the circumstances (Yoon 55). Then, the Onggi glaze is made with the two substances, local soil called *Yakto* and ash of a specific plant, mixing in the same proportion of 50 to 50 percent.

Onggi Glaze Using Korean Traditional Method

When I started the master’s program in Fall 2021, I attempted to make Onggi glaze with the Korean traditional method. In traditional and contemporary glazing practices in Korea, mixed glazes need to stay outside six or more months to age. This aging process allows the harmful chemicals in soybean stalk ash to become mild enough to be used for utilitarian storage vessels.

In my first attempt, I collected local dark soil at a nearby farmland and made soybean stalk ash. With these two substances, I made a glaze and tested on test tiles. For the test method, I adopted the line blend test which is a way to change one or more of the ingredients in a systematic way to determine their properties in the glaze melt (Britt 66-67). Table 2 shows the proportions of changing ingredients for the glaze tests: Greenville soil and soybean stalk ash. Even though the

appropriate proportions between dirt and ash are one to one in Yoon's book, it is not clear whether he uses weight or volume in his glaze formulations. In my experience making Onggi glaze in Korea, I learned it is not weight, but volume. Because Greenville soil was almost two times heavier than ash, I set double the weight of Greenville soil equivalent to the single weight of ash. The tiles were fired to Cone 8 (2305°F) in an electric kiln.

Table 2:

Tile test of Greenville soil and soybean stalk ash

Tile #	A	B	C	D	E
Greenville Dirt	20	18	16	14	12
Soybean Stalk Ash	10	12	14	16	18

a. Note: Unit is gram.

As seen in Figure 1, the color is similar to Korean Onggi but the surface of each tile is sandy. The reason is that Greenville soil contains a large percentage of silica (sand). The resulting glaze did not melt to Cone 8 (2305°F) although I sifted out most of the sand from the soil. Therefore, the tiles tested with Greenville soil and soybean stalk ash show that the glaze is not appropriate to be used as Onggi glaze unless the sand is entirely removed from the soil.

Figure 1:

Tile test results of Greenville soil and soybean stalk ash



Onggi glaze is a kind of ash glaze that has been used in pottery fields for a long time, so adding feldspar to the soil and ash compound might help fuse them together. On this point, Daniel Rhode agrees, saying, “If a sufficiently high firing temperature is employed, a very durable and satisfactory glaze can be made from wood ashes, feldspar, and clay, in about equal part” (Rhode 83). Then, I attempted to experiment with the second tile test by adding feldspar to the compound of the first tile test. In this case, I used the triaxial blends test that is a method of mixing three ingredients in systematic proportions to each other (Britt 67).

My second test result was not sufficiently different from the first tile test (Figure. 2). All glaze compounds of each tile melted, but still the silica (sand) composition did not melt. Even though potash feldspar worked as a flux, it was not able to help the silica in the Greenville soil to fuse to be used as Onggi glaze. Thus, if the silica composition is eliminated from the Greenville soil completely or another local soil which doesn't contain the silica is used, it could be used for Onggi glaze after calculating the ideal proportion of the three components: local soil, ash, and feldspar.

Figure 2: Tile test results of Greenville soil, soybean stalk ash, and felspar



Onggi Glaze Using Commercial Raw Materials

The first step in recreating Onggi glaze with commercial raw materials is to know the specific compositions of Korean Onggi glaze. One research paper named, ‘The Study on Systematic Analysis for Development of Natural Glaze in Korean Traditional Pottery Onggi’ by Kang, Sung-Gon and two other researchers, provides an analysis of the traditional components of Onggi glaze used in Korea (Kang; Kim; Kim). They collected Onggi glaze from three different regions where different Onggi potters work, and analyzed pine tree ash that was commonly used for Onggi glaze in Korea (Kang; Kim; Kim 13-14). Table 3 shows the chemical composition analysis of traditional Korean Onggi glaze.

Table 3:

Chemical composition analysis of natural Onggi glaze in Korea

Compositions	Yakto (Local Soil)	Ash (Pine Tree)	Others
Al ₂ O ₃	14.48	7.1	
CaO	0.37	26.3	
Fe ₂ O ₃	5.69	2.8	Total Fe
K ₂ O	2.28	3.2	
MgO	1.06	4.0	
MnO	0	0.8	
Na ₂ O	0.64	1.8	
P ₂ O ₃	0.07	2.1	
SiO ₂	67.45	24.3	
TiO ₂	0.98	0.1	
Total	100.15 (%)	94.9 (%)	

Source: Journal of Korean Craft, *The Study on Systematic Analysis for Development of Natural*

Glaze in Korean Traditional Pottery Onggi, Korea Research & Science, 2002, Table 1.

a. Note: Unit is Percentage.

Redart, a popular raw material to make red clay and glazes, has almost the same compositions as Yacto. Even though the percentage of each composition is a little different, it does act as a substitute for Yacto. Table 4 indicates the compositions of Redart (Digitalfire.com), and each composition can be compared to Yacto on the right columns.

Table 4:

Comparison of each composition between Redart and Yacto (local soil)

Compositions	Redart	Yacto (Local Soil)
AL ₂ O ₃	15.51	14.48
CaO	0.26	0.37
Fe ₂ O ₃	7.05	5.69
K ₂ O	4.15	2.28
MgO	1.59	1.06
MnO	0	0
Na ₂ O	0.38	0.64
P ₂ O ₃	0.22	0.07
SiO ₂	64.95	67.45
TiO ₂	1.09	0.98
Total	100	100.15

Source of Redart: Digitalfire.com, <https://digitalfire.com/material/redart>, accessed on October 2nd, 2022

a. Note: Unit is percentage.

For ash substitution, three raw materials might be equivalent to ash. Even though percentages of each composition are not the same, suitable proportions of each material can be achieved through a tile test. As these raw materials - Potash Feldspar, Calcium Carbonate, and Ball Clay - are used for all sorts of glaze in pottery fields, it is easy to purchase them at any pottery supplier in America. Table 5 indicates the comparison between ash and three raw materials.

Table 5:

Compositions of three raw materials and comparison to ash

Compositions	Ash (Fine Tree)	Raw Materials	
K ₂ O	3.2	16.92	Potash Feldspar
*Al ₂ O ₃	7.1	18.32	
*SiO ₂	24.3	64.72	
CaO	26.3	56.1	Calcium Carbonate + Carbon Dioxide 43.9%
Fe ₂ O ₃	2.8	1.3	Ball Clay
MgO	4.0	0.5	
Na ₂ O	1.8	0.2	
TiO ₂	0.1	2	
*Al ₂ O ₃	7.1	26.3	
*SiO ₂	24.3	59.7	
**MnO	0.8	1.00	Manganese Oxide
***P ₂ O ₃	2.1	42.3	Bone Ash
Total	94.9(%)	(%)	

Source: Digitalfire.com, <https://digitalfire.com/material/potash+feldspar>,

<https://digitalfire.com/material/calcium+carbonate>, <https://digitalfire.com/material/ball+clay>,

<https://digitalfire.com/material/manganese+oxide>, <https://digitalfire.com/material/bone+ash>,

Accessed on October 2nd, 2022

a. Note: unit is percentage

b. Note: one star (*) means that Potash Feldspar's Aluminum Oxide (Al₂O₃) and Silicon Dioxide (SiO₂) are the double compositions of Ball Clay. Two stars (**) indicates that Manganese Oxide (MnO) is not included in making the intended artificial Onggi glaze because its quantity is too small as well as it is noted as a toxic material that is not suitable for utilitarian purposes (Bloomfield 62). Three stars (***) shows that Phosphorus Pentoxide (P₂O₃) exists in both Bone Ash and Redart, so it is not necessary to add Bone Ash to the artificial Onggi glaze again.

For the glaze test, a triaxial blend method is a way of mixing three ingredients in systematic proportions to each other (Britt 67). Redart as a substitute for local soil, is used in the same amount of all tiles and the three ingredients - Calcium Carbonate, Potash Feldspar, and Ball Clay - vary according to each proportion. The proportions for the test of chosen materials are shown in table 6.

Table 6:

Tile test of artificial Onggi glaze

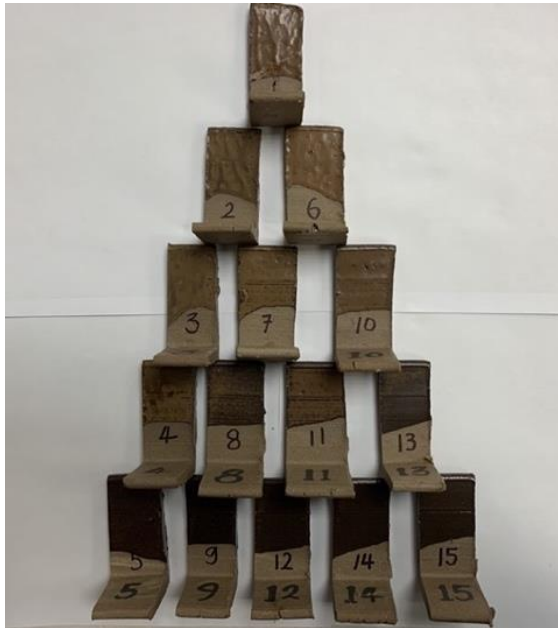
Tile #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Redart	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
C-Carbonate	40	35	30	25	20	35	30	25	20	30	25	20	25	20	20
P-Feldspar	5	10	15	20	25	5	10	15	20	5	10	15	5	10	5
Ball Clay	5	5	5	5	5	10	10	10	10	15	15	15	20	20	25

a. Note: Unit is gram.

As shown in the tile test results of the artificial Onggi glaze in figure 3, all glaze compounds are fused on each tile. Most of all, the best results of all tiles are the numbers 5, 9, 12, 14, whose colors and textures are similar to the typical Onggi glaze. Furthermore, these five test tiles do not contain more than 20 percent Calcium Carbonate, and they do not show a big difference depending on the amount of Potash Feldspar and Ball Clay.

Figure 3:

Tile test results of artificial Onggi glaze



Through this experimental research, it is clear that Onggi glaze can be formulated with commercial raw materials. The tested proportions of each composition are detailed in table B in Appendix A. Any chosen formula from the five options can be reasonably used to make any utilitarian Onggi pottery after doing an individual glazing test and can be changed depending on preference. In addition, for a darker color, Red Iron Oxide can be added to the artificial Onggi glaze at 1 to 5 percent of the 100 percent total weight of the composition.

FIRING ONGGI POTTERY

Onggi pottery is fired as greenware (not bisqueware) in a kiln that needs to be heated up very slowly for the first stages to prevent cracking in large vessels (Song 216-219). If the firing is not carefully managed, slowly and steadily, the pottery tends to crack or blow-up during the firing.

For Onggi pottery, the outcome of wood firing is distinctive compared to gas firing and electric firing. It is thrilling to see the unpredictable patterns created by a wood kiln. However, firing in wood kilns has dramatically decreased because the operation cost is prohibitively expensive in the highly competitive Onggi markets in Korea. Most Onggi potters in Korea tend to choose gas kilns or electric kilns which are more affordable.

Managing the temperature and the atmosphere inside gas kilns and electric kilns is the same anywhere in the world. The only difference is the way they are managed by either an automatic controller or hand-operated controller. Through research and experimentation, I discovered that I prefer to keep my work fired in an oxidation or neutral environment similar to that of the traditional Korean Onggi pottery.

Firing in Wood Kiln

Onggi pottery is fired between Cone 7 and Cone 8, which is equivalent to the range of 2264°F-2305°F. When it comes to wood firing, potters should be extra careful to increase the temperature slowly in the first stage (0-1400°F) since the firing temperature is entirely controlled by the amount of wood stoked into the wood fired kiln. Once at the second stage, the temperature should be increased rapidly for the vitrification to occur (1400°F-2100°F). In the third stage, the kiln is held in a light reduction for a few hours to allow glazes to melt and flow, and to add color to the pots. At the fourth stage (around 2300°F), all openings in the kiln are closed, the damper is pushed in, and the kiln is allowed to cool naturally.

I have participated in five wood firings with other colleagues at East Carolina University since Fall semester 2021. The wood kiln at ECU is Anagama style, and it is 25 feet long and 4.5 feet wide. This wood kiln has a wide range of different temperatures inside the kiln. Between the front of the kiln and back of the kiln, the temperature range varies from Cone 13 to Cone 8 (2455°F-2305°F). My experience firing the ECU wood kiln confirms that the wood firing for all large pottery should be slow and steady, increasing the temperature at a certain very slow rate during each firing stage. In addition, the temperature of the kiln should be around Cone 10 at the highest temperature.

Firing in Gas Kilns and Electric Kilns

There are two gas kilns available at ECU. They are the Bailey Gas kiln (Model: Shuttle Pro 32, Stack space: 32 Cu.Ft) and the Geil Kiln (Model: DLB 16, Stack space: 27 Cu.Ft). They use natural gas as fuel, and the valves need to be controlled manually. There are also nine electric kilns for small pottery. Among the 9 electric kilns at ECU facilities, my preference is Tucker's Cone Art electric kiln (Model: BX2827D, Stack space: 10 Cu.Ft). This kiln has an automatic controller to set the program to run the entire firing process. Since Onggi pottery needs to follow the specific stages of firing even in gas kilns and electric kilns, it is necessary to be careful when firing more than other glaze wares. Table C in Appendix A shows the details for each stage and its temperature for firing Onggi pottery at ECU.

Firing in Soda Kiln

Soda or salt firing is similar to gas firing in terms of operational fuel and the kiln's atmosphere, but spraying soda (soda ash) needs to be applied into a kiln at a peak temperature. Pots can be put into the kiln in the raw state and glazing will occur in the kiln when soda ash is introduced, most commonly at around Cone 8 through Cone 9. According to Surl, Hayun, there are

four types of Onggi pottery to be used for utilitarian wares in Korea, and the two Onggi pottery, *Ban Onggi* and *Phu-rea Onggi*, are not Onggi glazed, but salt glazed (Surl 4-5). Traditionally Korean Onggi artisans have also practiced making salt glazed Onggi pottery for some functional and aesthetic purposes like Western potters. When reaching the peak temperature in the kiln, they put some amount of salt into the kiln, and close the door of the damper for reduction cooling to get dark and shiny Onggi ware.

Because pottery does not need to be glazed in soda firing, applying decorations with colored slips on the surface is preferable way to add artistic design to the pottery. In addition, the Iron content in the clay reacts to soda ash, the color becomes a deep mahogany brown or metallic black depending on the amount of iron in the clay body (Tudball 16). A higher amount of iron content in clay can affect the pots' color or shade quite dramatically. Table D in Appendix A suggests six steps of soda firing due to a combination of both experiments at ECU facilities and John Teiser's test instructions (Tudball 21-25).

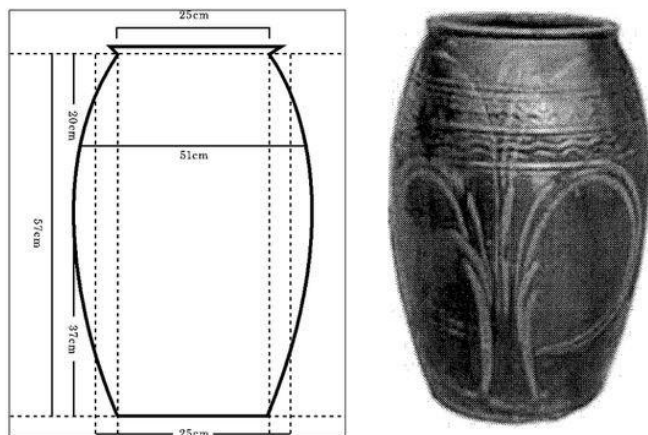
AESTHETIC APPROACH

Since moving to North Carolina, I have been making Onggi pottery including large jars. My jars are made using traditional Onggi building techniques and can be interpreted through a lens of the original function of Onggi ware. These Onggi jars are different in terms of their shapes and decorative approaches.

Traditionally Korean Onggi jars have been used as utilitarian vessels to store fermented food. The shape of Onggi jars tends to focus on its practical purposes rather than aesthetics. As figure 4 shows, most rims of Onggi jars are wide so food can be easily stored and accessed. In addition, Korean Onggi artisans usually try to draw some simple decorative patterns such as plants, flowers, or spontaneous patterns on the surface of Onggi jars during glazing (Yoon 50-51, 98-99). These approaches for making Korean Onggi pottery are purely pragmatic. Unlike these Korean Onggi features, I feel my Onggi jars are more aesthetically pleasing and decorative in form.

Figure 4:

A diagram and a real image of a typical Onggi jar decorated with intaglio and plant



Note: Unit of sizes in the diagram is centimeter.

Sculptural Shape of Onggi Pottery

Korean ceramics such as Goryeo celadons, Choson porcelain, and Buncheong-sagi have a distinctive beauty of each decorative feature and their curvy outlines stand as an aesthetic feature. According to Yanagi Soetsu, who was a Japanese art critic in the early 20th century, summarized his view on Korean ceramics that ‘Korean line (outline)’ of ceramics is shown everywhere in Korea, particularly, in Korean sculptural ceramics (Yuko 84). He continues that a wide shouldered shape with a narrow base adds tension and drama, and the jar form is fully realized as a sculptural shape (Yuko 84).

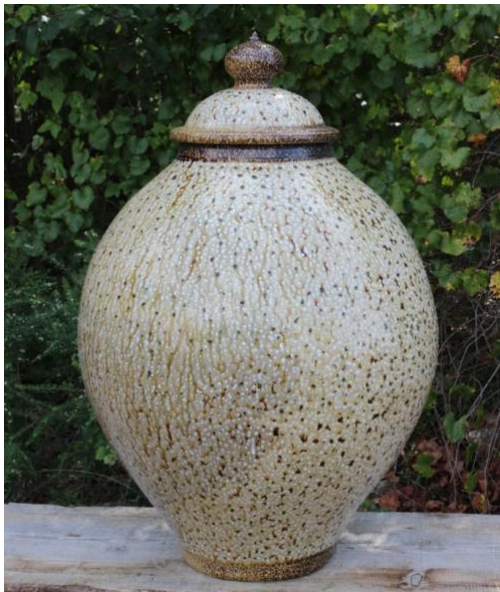
As a native Korean, I have been influenced by what Yanagi called the ‘Korean line’ of Korean sculptural ceramics to make my Onggi shape. When making my Onggi jars, I use wheel throwing or *Tareumjil*, which is a traditional way of building big jars, where I attempt to make the base and the rim’s circumferences narrow enough compared to the shoulder. If the base circumference is too wide, the connecting line between base and shoulder is not curvy enough to define the beauty of sculptural objects, according to Yanagi. Likewise, if the rim is too wide, the connecting line between the rim and the shoulder is not curvy enough to express this same sculptural beauty. As the connecting lines between the rim and the base create sculptural beauty, I chose to create my Onggi jars with the “Korean line” for an aesthetic form.

I have figured out this kind of sculptural shape from grand-scaled jars in North Carolina pottery. For example, Daniel Johnston, a Seagrove resident in North Carolina, created huge sculptural jars with pronounced curves, wide shoulders and narrow-based shapes. Even though his technique to build large jars is not the same as mine, I have attempted to apply his sculptural shape to my jars. As another ceramic artist in North Carolina, Kate Waltman’s workshop at ECU opened my eyes to the sculptural opportunity for my big jars. The majestic, wide shoulder line flowing throughout her large jars gave me great inspiration to improve my big jars’ shape.

As utilitarian pottery, Onggi jars are always accompanied by their lids. Most lids of traditional Onggi jars are simple and have no aesthetic decoration. They cover the shoulder and rim, and most do not have handles. Since the lids of big jars are important in their sculptural beauty as well, I have attempted to make lids different rather than the traditional Onggi style. Matching the curvy shoulder line with the lid line, attaching the stylish handles, and adding real botanic branches on lids are my attempts to make them sculptural. In addition, I broke with the Onggi tradition of a lid that covers the rim, and some of my lids are made as inset lids that fit inside my jars. This inspiration has been influenced by these two North Carolinian ceramic artists. The big jars in figure 5 show that they have a sculptural beauty with a curvy line between the base and the rim with lids placed inside the rims.

Figure 5.

The images of Daniel Johnston (left) and Kate Waltman (right)'s sculptural jars



Source: a: www.themahlerfineart.com/product/880/

b: www.katejohnstonpottery.com/gallery-2/large-vessels/

Decorative Motif Found in Nature

I have experimented with various methods and motifs to decorate my Onggi pottery during the master's program, and finally I have concluded that the best stylistic approach, for my purposes, can be found in nature. Many objects found in nature are beautiful examples to use in decorating the surface of Onggi pottery instead of using the simple patterns of typical Korean Onggi.

The book, 'Korean Traditional Patterns 2: Ceramics,' introduces the many traditional patterns found in Korean ceramics that are from natural objects such as flowers, plants, trees, leaves, branches, along with animals and natural phenomena such as waves and rocks (Kim 9-19). These natural objects have been applied to Korean ceramics throughout history. Even though Onggi pottery is also decorated with natural objects like plants, shown in figure 4, the decorations are very simple, often drawn with fingers right after glazing. In my jars, I use a more detailed approach with natural objects.

To decorate my Onggi jars, I used white slip and black terra sigillata instead of colorful pigment. This is a traditional Korean way of painting where all objects are expressed and drawn with black ink on white paper. To create contrast in the paintings on the jars' surfaces, I carved the lines like a sgraffito technique and filled the lines with black terra sigillata or white slip like the Mishima technique. One Korean decorative style uses real leaves to express vibrant natural beauty. Above all, most of the works shown were fired in a soda kiln with a reduction atmosphere, where soda-solution created a dark brown hue as well as orange peel texture for decorative purposes.

With this aesthetic approach, I attempted to make my Onggi jars more aesthetically pleasing following the Korean line as well as sculptural shapes of North Carolina pottery. For the decoration, I applied natural objects for their decorative motifs. My goal using these techniques is to make ceramic objects that can be appreciated by diverse audiences while keeping their identity as utilitarian pottery.

Description of Pieces

Ivy on Stone Wall



Plate #1: *Ivy on Stone Wall*

This Onggi jar has not only a wide shoulder but also a narrow base and rim to emulate the Korean sculptural ceramics making deep-curved outlines. The lid has an arch handle and is more formally designed to fit the narrow rim. It expresses the scenery of ivy on a stone wall pattern. When the body was half-dried, real ivy leaves and branches were attached with slip, and coated with Onggi glaze. These leaves and branches were removed. Soda-firing made a green hue which is

a little bit different from the dark brown of typical Onggi pottery. The marks of leaves and branches created a glassy glaze where the soda-solution settled.

Maple Leaves



Plate #2: Maple Leaves

This piece was made by emulating the shape of a Moon jar, which is one example of Korean sculptural ceramics from the Chosun dynasty. The lid is roundly shaped to be harmonized with its body, and two handles are attached for a convenient purpose as a utilitarian jar. A Japanese maple leaf in the middle is expressed as a falling leaf from the sky while others are hanging on the shoulder like a maple tree.

Dogwoods (The State Flower of North Carolina)



Plate #3: Dogwoods (The State Flower of North Carolina)

This Onggi jar was decorated with Dogwood flowers and branches made of clay attached around the shoulders. The base is narrow, the shoulder is wide, but the rim is wider than the base, which creates a beautiful outline. The lid does not cover the outside of the rim but sits inside. Soda firing in reduction and reduction cooling created a dark brown hue and heavy soda-solution also created orange peel texture on the entire surface.

Trunk of Longleaf Pine in Southeastern North Carolina



Plate #4: Trunk of Longleaf Pine in Southeastern North Carolina

The surface of this Onggi jar expresses the wooden trunk of longleaf pine trees growing naturally in Southeastern North Carolina. The longleaf pine trees are seen everywhere in Eastern North Carolina along the highways or native habitats in state parks. The unique pattern of its trunk is exhibited by using Redart slip and carved patterns. It was fired in a wood kin in an oxidation atmosphere.

Being Together with Nature



Plate #5: *Being Together with Nature*

Even though we are not all conservation ecologists, we should coexist with nature which gives us everything we need. This Onggi jar is decorated with Korean language ‘공존하다,’ meaning ‘being together with nature’ The four calligraphic Korean words were carved and coated with Onggi glaze, and it was fired in a Soda kiln. Like my other Onggi jars, this has a wide shoulder, and a narrow base and rim for an aesthetic purpose.

Fish & Turtle



Plate # 6: *Fish & Turtle*

This Onggi jar is the only one that I decorated with animal motifs, a fish in the front and a turtle in the back. Two different species are looking at each other in the same space covered with rope, having the intension of ‘co-existing harmoniously’ along with ‘Being Together with Nature’ of Plate # 5. This is shaped like a round moon jar with typical Onggi handles attached on both sides. The lid has an arch style handle for a decorative purpose. The two species were drawn with an inlaying technique filled with white slip. It was fired in a soda kiln with light reduction.

Scenery with Pine Trees



Plate #7: Scenery with Pine Trees

‘Scenery with Pine Trees’ references a ‘Se-Han-Do’ painting, a Korean masterpiece, by Kim, Junghee from the early 19th century. The painting covers the jar. Then I carved and filled it with black Terra Sigillata for a clear contrast. The outline of the round lid is harmoniously connected to the shoulder outline, and a real pine branch was attached to it for a decorative effect. It was fired in a soda kiln with reduction cooling for two hours. Heavy soda-solution created orange peel texture on the entire surface.

Vine



Plate #8: *Vine*

Vine is one of the most famous decorative motifs in many cultures because it symbolizes abundant life. The round shoulders of the Onggi jar suggest abundance. The big rectangular lid seen from the front, which doesn't match the body outline, offers a masculine image. Vine is drawn on the jar, carved, filled with black terra sigillata, and then, fired in a soda kiln with reduction cooling for two hours. Orange peel texture was made by heavy soda-solution.

Bamboo Trees



Plate #9: *Bamboo Trees*

As one of the “Four Gentlemen” along with the plum, the orchid, and the chrysanthemum, the bamboo has been depicted in Korean paintings throughout history. The bamboo stalk is hollow, which came to symbolize tolerance and open-mindedness, but its flexibility and strength also come to represent the human values of cultivation and integrity in which a noble man yields but does not break. The bamboo trees were depicted with black terra sigillata on the Onggi jar, and a real bamboo stick was attached to the round lid for a decorative purpose. It was fired in a soda kiln with light reduction. The surface shows some variation between light and heavy soda-solution.

Hydrangea Blossoms



Plate #10: *Hydrangea Blossoms*

There are some hydrangea plants in a small garden around my house where I was fascinated by these attractive flowers. I attempted to depict them in the Onggi jar with white slip and black terra sigillata. The flowers were painted with white slip using a brush to spot and overlapping each other, and leaves were scrapped off for detailed leaf patterns right after painting them. This jar has a wide shoulder but also narrow base and rim to mimic the Korean sculptural ceramic outlines, holding an intentionally round lid to match the body outline. A small amount of soda and light reduction were applied to the firing process.

Plum Blossoms



Plate #11: *Plum Blossoms*

The plum tree is one of the “Four Gentlemen” in company with the others. It is renowned for bursting into a riot of blossoms in the dead of winter. The demeanor and character of the plum tree and its blossoms serve as a metaphor for inner beauty and is a humble display under adverse conditions. The plum tree and blossoms were depicted in the Onggi jar with white slip and black terra sigillata. The shape is not like the typical Onggi jars, but like Korean sculptural ceramics. The small and round beauty of the lid matches the outline of the shoulder flowing down. It was fired with a small soda ash in light reduction.

Flow 1



Plate #12: *Flow 1*

The flow pattern as a natural phenomenon like a waterfall is depicted on this Onggi jar using white slip and black terra sigillata. The base is very narrow compared to the wide shoulder, which shows off the deep-curvy outline of the jar. The rim is rather wide, and the lid is made of wood with a handle stretching the whole diameter of the lid. As a utilitarian Onggi jar, it is used as a grain storage vessel since fermented food with liquids may damage the wooden lid. A soda-solution and light reduction were applied.

Flow 2



Plate #13: *Flow 2*

This Onggi bottle was made for storing liquid fermented food. A bottle mouth rather than wide rim is preferred. A cork is used to prevent evaporation of liquid. Ash glaze made from wood ash and soil was coated on it and fired in a soda kiln in light reduction. The ash glaze created another flow pattern running through the whole body. The soda-solution settled down on the ash glaze and made a rather dark brown color of the flow pattern.

Natural Spring



Plate #14: *Natural Spring*

This Onggi pot was made as a water vessel to store and supply water from a faucet. The overall body is round, and the base is narrow for more sculptural form. The handle on the lid is shaped like a water drop. The signature of the Onggi pot, ‘옹기장’ in Korean, means ‘Onggi and Fermented Food,’ It was Onggi glazed and fired in a soda kiln with an oxidation atmosphere.

Flower & Drop



Plate #15: *Flower & Drop*

The Onggi jar was created to function as a water sealed storage vessel holding water between inside and outside rims with the lid closed. This jar is effective in blocking the smell of food inside. The water can be drained through a hole in the center rim and blocked the hole with a branch. The outside rim is shaped like a flower petal, and the lid handle is shaped like a flower stigma. It was coated with Onggi glaze and fired in a soda kiln with an oxidation atmosphere.

Four Storage Jars for Tea



Plate #16: *Tea Jar 1*



Plate #17: *Tea Jar 2*



Plate #18: *Tea Jar 3*



Plate #19: *Tea Jar 4*

Tea ceremony has been practiced in Asian countries including Korea as their unique traditional forms. Etiquette for tea or tea rite has been kept among Korean people from which they attempt to find relaxation and harmony in the concept of yin and yang. Yin and Yang describe opposite but interconnected, mutually perpetuating forces in nature. The most representative yin and yang concepts that exist in nature are male and female.

These four Onggi storage jars were made for storing tea leaves to be used for tea ceremonies. Their sizes are less than a gallon and made in the aesthetic concept of male and female. Tea Jar 1 on the top left resembles a woman's body with an overall round and voluptuous shape. Its lid depicts a female breast representing fertility and abundance. In contrast, Tea Jar 2 on the top right shows a masculine appearance. The shoulder is wide and the outline flowing upward has a deep angle rather than a soft curve. The base also shows a relatively wide sense of stability. We can see broad shoulders, stable, and sturdy masculine look on the jar. They were fired in a soda kiln and treated in reduction cooling for more than five hours. Heavy soda-solution created orange peel texture on the entire surface.

Tea Jar 3 on the bottom left shows feminine beauty compared to masculine roughness in Tea Jar 4. The outline, starting with the shoulder and continuing to the narrow base, resembles the soft and glamorous beauty of a woman. The stylish rim and relatively round and large handle of the lid can be said to be feminine features sensitive to fashion. It was glazed with Mino and fired in an electric kiln. Tea Jar 4, with its not too ostentatious outlines and rough-tan hue, has a strong masculinity. The unvarnished rim and handle, like a somewhat ordinary Onggi pot, show masculine features. It was glazed with artificial Onggi glaze having 5 percent Iron Oxide in an electric kiln.

Image of Exhibition



Plate 20: *Image of Exhibition*

CONCLUSION

As a candidate for an MFA in ceramics at East Carolina University, I have researched and explored making Onggi pottery in North Carolina for the past three years. There are four important considerations in Onggi pottery in North Carolina: clay body, making glaze, firing environment, and artistic approaches beyond its utilitarian features.

My clay body is a stoneware clay, and it was made using recycled clay. Through research and experimentation, I found a suitable substitution for Onggi glaze developed with commercial raw materials. I established the correct firing environment for my pottery in ECU facilities. For my aesthetic approach, I chose “Yanagi’s Korean line” of Korean sculptural ceramics and aesthetic shapes of North Carolina pottery. I also decorated with natural objects using various techniques on my jars.

My own Onggi pottery is made to be appreciated by diverse audiences beyond its functional and cultural features. In my effort, I have tried to exemplify how traditional Korean ceramics have evolved in Western society.

GLOSSARY

Buncheong-sagi: one of Korean stoneware ceramics, with blue-green tone. Pieces are coated with white slip, and decorative designs are added. This style originated in the 15th century and continues in a revived form today.

Chosun Dynasty: was the last dynastic kingdom of Korea, lasting just over 500 years just before the end of the 19th century.

Flux: an oxide which causes ceramic fusion when combined with other oxides and heated. A substance that causes or promotes melting, that helps lower the melting point of a glaze.

Mishima: a way of drawing by inlaying a slip of contrasting color into lines incised in leather-hard clay.

Oxidation: a chemical reaction caused by heat in which oxygen atoms combine with other molecules or atoms.

Plasticity: the property of clay that allows it to change shape without rupturing when force is applied to it.

Reduction: a chemical reaction in which oxygen is removed from oxide molecules. May occur in either a glaze or a clay body.

Refractoriness: it is a measure of its ability to withstand exposure to elevated temperatures without undergoing appreciable deformation.

Sigraffito: a technique where potters can put a layer of glaze or slip on a piece of pottery, let it dry, then use a pottery carving tool to scratch at it to show the base layer of color.

Tareumjil: it is the unique way of making Korean Onggi vessels. The vessels are formed using a paddle and anvil, stretching and shaping the vessel while it spins on a kick wheel that is set in a pit in the floor (an electric wheel is used instead nowadays).

Terra Sigillate: mixing a suitable clay with water and a deflocculant and leaving it to stand until the heavier particles of clay settle out

The Four Gentlemen: it is a collective term referring to four plants: the plum blossom, the orchid, the bamboo, and the chrysanthemum. The term compares the four plants to Confucian *junzi*, or "gentlemen". They are commonly depicted in bird-and-flower paintings, a broad category of classical East Asian art, and they are particularly popular subjects for ink wash painting.

Vitrification: the term refers to the fired state of a piece of porcelain or stoneware. Vitrified ware has been fired high enough to impart a practical level of strength and durability for the intended purpose.

REFERENCES

- “American Demografia” <https://uscanadainfo.com/korean-population-in-united-states/>.
Accessed 1 October 2023.
- Bloomfield, Linda. *Science for Potters*. The American Ceramic Society.
Westerville, Ohio, 2017.
- Britt, John. *The Complete Guide to Mid-Range Glazes: Glazing & Firing at Cones 4-7*.
An Imprint of Sterling Publishing Co., Inc. New York, 2014.
- “Ceramic Monthly.” <https://ceramicartsnetwork.org/ceramics-monthly/ceramics-monthly-article/>
Working-Potter-Kurt-Anderson. Accessed 1 September 2023.
- Choi, Bonghyun. *Constancy and Change in Korean Traditional Craft 2017: Between Serenity and
Dynamism; Korean Ceramics*. Korea Craft & Design Foundation. Seoul, Korea, 2017.
- “Digitalfire”. <https://digitalfire.com>. Accessed 1 August 2023.
- Go, Sungkwang. *Onggi: Natural Ware*. Todam Media. Seoul, Korea, 2012.
- Goins, Jeff. *Real Artists Don’t Starve: Timeless Strategies for Thriving in the New Creative Age*.
Nelson Books. Nashville, Tennessee, 2017.
- Kang, Sung-gon, Kim, Kwang-gil, Kim, Jung-pyung. *The Study on Systematic Analysis for
Development of Natural Glaze in Korean Traditional Pottery ‘Onggi’*.
Korean Assembly Library. <http://www.nanet.go.kr/main.do>. Accessed 1 September 2023.
- Kim, Hyohyung. *Korean Traditional Pattern 2: Ceramics*. Nolwa, Co., Inc. Seoul, Korea. 2008.
- Kim, Soomin, No, Hyunggoo, Kim, Ungsoo, Cho, Seok. *Study of the Relationship between the
Characteristics of Regional Onggis and Fermentation Behavior: (1) Scientific Analysis of
Regional Onggis in Korea*. Journal of the Korean Ceramic Society. Vol. 52, No. 1, pp.
33-40, 2015.

Rhodes, Daniel. *Clay and Glazes for the Potter (Revised Edition)*. Chilton Book Company.

Radnor, Pennsylvania, 1974.

Sayer, Robert. *The Korean Onggi Potter*. Smithsonian Folklife Studies. No.5, Washington D.C:

Smithsonian Institute Press, 1987.

Seo, Gyeonghee, Chung, Sunkyung, An, Ducksoon, Lee, Dongsun. *Permeabilities of Korean*

Earthenware Containers and Their Potential for Packaging Fresh Produce. Food Science and Biotechnology. Vol. 14, No. 1, pp 82-88.

“Smartsrapers” [https://rentechdigital.com/smartscraper/business-report-details/united-states/](https://rentechdigital.com/smartscraper/business-report-details/united-states/korean-restaurants/)

[korean-restaurants/](https://rentechdigital.com/smartscraper/business-report-details/united-states/korean-restaurants/). Accessed 1 October 2023.

Song, Min-sun. *Onggi*. National Research Institute of Cultural Heritage. Daejun, Korea, 2010.

Surl, Hayun. “Onggi Through the Ages”. [https://ceramicartsnetwork.org/ceramics-monthly/](https://ceramicartsnetwork.org/ceramics-monthly/ceramics-monthly-article/onggi-through-the-ages)

[ceramics-monthly-article/onggi-through-the-ages](https://ceramicartsnetwork.org/ceramics-monthly/ceramics-monthly-article/onggi-through-the-ages). Ceramic Monthly.

Accessed 1 August 2023.

Tichane, Robert. *Clay Bodies*. The New York Glaze Institute. New York, 1990.

Tudball, Ruthanne. *Soda Glazing*. University of Pennsylvania Press, Philadelphia, 1996.

Yoon, Yonghee. *Onggi: Korean Traditional Earthenware*. Korea Craft & Design Foundation.

Seoul, Korea, 2015.

Yuko, Kikuchi. *Yanagi Soetsu and Korean Crafts within the Mingei Movement*.

Korea: The Past and the Present. Selected paper from the British Association for Korean studies BAKS paper series, 1991-2004. 2 vols. 80-91. Folkstone, Kent: Global Oriental, 2008.

APPENDICES

Appendix: A

Result Tables

Table A:

Onggi clay formula made of commercial raw materials

Harthorne Bond (Fireclay)	Old Mine #4 (Ball Clay)	Custer Feldspar (Feldspar)	Redart (Red Clay)	Mullite (Silica)
30	20	15	25	10

a. Note: Unit is percentage.

b. Note: 10 % of fine and 5 % of medium grogs are added

c. Note: For a body lacking in plasticity, add 5 - 10 % ball clay more or some vinegar for biological aging process.

Table B:

Five artificial Onggi glaze formulas

Formular #	1	2	3	4	5
Redart	50	50	50	50	50
Calcium Carbonate	20	20	20	20	20
Potash Feldspar	25	20	15	10	5
Ball Clay	5	10	15	20	25

a. Note: Unit is percentage.

Table C:

Firing stages to control for gas kiln and ramp setting for electric kiln

Gas Kiln			Electric Kiln		
Stage	Temp. Scale	Temp. / Hour	Ramp	Temp. Scale	Temp. / Hour
Pilot	- 200°F	12-24 hr.	Warm-up	- 100°F	12-24 hr.
Stage 1	200°F - 900°F	100°F/h	Ramp 1	100°F - 900°F	100°F/h
Stage 2	900°F - 1400°F	150°F/h	Ramp 2	900°F - 1400°F	150°F/h
Stage 3	1400°F - 2100°F	250°F/h	Ramp 3	1400°F - 2100°F	250°F/h
Stage 4	2100°F - 2305°F	30 min/holding	Ramp 4	2100°F - 2305°F	30 min/holding

- a. Note: Medium size grogs need to be put between kiln shelves and big Onggi jars' bases to reach heat under the base while firing.

Table D:

Firing stages to control soda or salt kiln and specific stages for reduction and spraying soda

Stages	Temp. Scale	Temp. /Hour	Actions
Pilot	- 200°F	More than 24 hours	
Stage 1	200°F - 900°F	50°F/h	
Stage 2	900°F - 1400°F	150°F/h	
Stage 3	1400°F - 1800°F	200°F/h	Soaking the kiln for an hour
Stage 4	1800°F - 2100°F	250°F/h	Reduction for an hour when cone 06 bended
Stage 5	2100°F - 2305°F	2 hours Holding temperature	Spraying soda every 10 mins for 2 hours

Note: a. Soda liquid formula: one gallon of warm water + one pound of Soda Ash

- b. If needed to have light dark color, oxidation can be proceeded instead of reduction.

Appendix: B

Financial Stability as an Onggi Potter

Financial stability is a big challenge not only for any graduate students in the art field, but also ceramic artists who want to be self-employed. I am not unconstrained from the questions, “How do you make a living as an Onggi potter in the material world?”

I would take several approaches to make a profit by selling Onggi pottery in North American society where diverse ethnic communities and cultures exist. As a Korean potter, first, I would approach Korean audiences who are more familiar with Onggi pottery and its uses. I would look for other audiences through social media, art and craft fairs, and nearby pottery shops and galleries. More importantly, I would focus on the Onggi’s uniqueness as a functional storage vessel which is effective to help the fermenting process. I would look for prospective business partners who plan to launch fermented food business with Onggi vessels.

Despite these strategies, the most important thing is that I should keep making my own Onggi pottery with confidence, then the audience would recognize me and my work. Kirk Anderson seems to agree with me mentioning the following statement in *Ceramics Monthly*:

“Making pots is easy. The hard part is finding your voice and creating pots that are unique and truly express who you are... Believe in your vision and find a way to keep making your pots. Eventually, if you work hard at it for long enough you will find your audience and then you are on your way” (Anderson)

A. Korean immigrant community in North America

As per the United States Census Bureau 2020, the Korean population was 1,445,315 and Korean alone or any combination was 1,962,184. The estimated population of Koreans in the United States as of 2023 is 2 million (American Demografia). As for Onggi pottery alone, these Korean immigrants are familiar with it much more than any other ethnic group. They may know not only how it is effective to preserve Korean food, but also how it has influenced Koreans' life socially and culturally. This would be a good starting point to attempt to target Korean immigrants.

First, almost all Korean immigrants are engaged in their churches for religious as well as community purposes. They regularly meet in the same spatial areas to do religious activities, to communicate in the same language, and to share their cultural homogeneity. So, it would be a good way to contact their leaders to initiate Onggi exhibitions to revive their cultural reminiscence or Korean fermentation food workshops using Onggi pottery for their church members. This approach would help introduce handmade Onggi pottery to other Korean communities later on.

Second, there are around 8,000 Korean restaurants in America (Smartsrapers). Koreans cannot eat Korean food without eating fermented food, then, Onggi, also known for the natural pottery for fermenting process, can be the best serving kitchen and dining wares in the Korean restaurant. Plates, serving dishes, rice bowls, noodles bowls, and various sizes of pots having Onggi texture and color go with Korean food very well. Contacting each owner of Korean restaurants by mail or email marketing will be a good way to establish potential business partners together.

Finally, participating in Korean cultural fairs hosted by each Korean association in big cities such as New York, Los Angeles, Atlanta, and Chicago, etc., would be another strategic way to promote Onggi pottery to Korean immigrants. For example, there is an annual Kimchi festival in Atlanta, Georgia. As the first Korean native Onggi potter in America, giving a demonstration of

Onggi pottery making to the audiences while showing the pottery in the booth would be a fascinating approach to meet Korean audiences directly, and this effort will surely link to favorable market purchase in the near future.

B. Social media

Unlike art and craft workers in the past, making a profit through social media such as Facebook, Instagram, and Pinterest have increasingly become omnipresent and critical in recent decades. Furthermore, social media platforms have also become the preferred method. We are living in a time when connecting with audiences and other artists through social media is the most important determinant to moving forward.

As a Korean Onggi potter, social media is the place where I would become a professional and learn how this works in the real world. This is where I would network and advertise unique pottery and talents of mine to the masses beyond Korean ethnic boundaries. Furthermore, some ceramic artists and potters who have tons of followers are actively accomplished successful business models who have used social media. But these thriving models were not made in a short time. They require patience, time and energy, and something unique to attract audiences all over the world.

C. Art & craft fairs, galleries, and pottery shops

Planning to move into the big metro area and setting up a Korean Onggi pottery workshop is another strategic approach. The most critical reason to move into an urban area is that there are plenty of opportunities to promote Onggi pottery and to listen to the voices of potential customers in person. Jeff Goins quotes what the novelist George Sand said that “it is the duty of all artists ‘to find

an adequate expression to convey (their art) to as many souls as possible” and keeps quoting Austin Kleon’s words, “In order to be found, you have to be findable” (Goins 124). It is important to present my work in front of the people who will react to it.

There are 105 art & craft events, 51 art galleries, and 230 craft shops including pottery shops across North Carolina (Fair & Festival.net; Art-collecting.com; Craftstoreusa.com), and almost half of them are located in big cities in North Carolina. It is not possible to participate in all of them, but it is meaningful to relocate there and to put my Onggi pottery in the places where opportunity is greatest.

Beyond North Carolina, participating in the top art and craft fairs which are highly selective by juries will be a potential challenge as a ceramic artist. The better the show, the better chance I have of connecting with fascinating audiences and selling my work. Furthermore, this goal keeps reminding me of what the intrinsic value is of a contemporary Onggi potter, who makes not only Korean utilitarian pottery, but also reevaluated ceramics artforms as well. This goal, eventually, makes me move to new heights by constantly challenging myself. Artfaircalendar.com provides the listings of America’s best juried art fairs (Artfaircalendar.com).

D. Partnerships with fermented food manufacturers

As a final approach, having a business partnership with those who attempt to make various kinds of fermented foods with Onggi jars will be the right direction to go. Not only are Onggi jars highly effective in the fermenting process because of their permeable properties (Seo; Chung; An; Lee), but also they can be made by hand as big as possible for those who want to manufacture a large amount of natural and organic foods through the fermenting process.

Even if a variety of Western culinary culture has landed in Korea, Koreans are still eating soy sauce, hot pepper paste, soybean paste, and kimchi regularly, and this culinary culture,

noticeably, has led to the popularity of Korean food around the world along with Korean culture. Indeed, these Korean foods are produced in huge manufacturing facilities without an authentic fermenting process and are sold on any market shelves at a cheap price. However, many customers who care for better taste and healthful foods have been looking for fermented foods made from a traditional way. For instance, one entrepreneur named Ki, Soon-do, started this business with a few Onggi jars decades ago in Korea, but she is doing it with 1,200 jars now (ksdo.co.kr). Her Korean foodstuffs made in a traditional way have been exported to China, Europe, and even sold in Amazon online marketplace. She might recognize that the best way to make food is sincerity, time, and nature.

Other than Korean fermented foods, any fermented foods from different cultural backgrounds can be made using Onggi vessels. There are many fermented foods that everyone enjoys in their daily diet, so any fermented food business using Korean Onggi vessels will be a highly potential business model to launch for the sake of people, tradition, and partnership.

Appendix: C

Onggi Tools



Note: Surae & Dogae - These are tools to softly pound in and outside of Onggi after stacking each slap.



Note: Bangmangyi - It is used for making the bottom of Onggi and there are some patterns designed not to stick to the clay.



Note: Geungae - They are tools for smoothing and shaping the surface of Onggi after paddling.



Note: Gasae knives – They are used for trimming the bottom of Onggi for finishing up.



Note: Mulgajuk – It is fabric to be used for making the rim of Onggi.



Note: A storage jar for shaping tools – Onggi tools should be in water of storage jar since they need to be heavy to pound the clay with weight.

