

**Design Guidelines for Applying Regional Folktale Elements to Current Tableware Design**

by

*Cunxia Han*

A thesis submitted to the Graduate Faculty of  
Auburn University  
in partial fulfillment of the  
requirements for the Degree of  
*Master of Industrial Design*

Auburn, Alabama  
May 7, 2017

Keywords: regional culture, folktale, tableware material  
tableware design

Approved by

Tin-Man Lau, Graduate Chair, Professor of Industrial Design  
Rich Britnell, Professor of Industrial Design  
Christopher Arnold, Associate Professor of Industrial Design

## **ABSTRACT**

The study is about how to apply the regional folktale elements to tableware design.

Research is conducted to analyze and group cultures, and study five different regional cultural folktales. Folktales are summarized and categorized the folktale by symbols, which can be used as design inspiration and with it's own cultural characteristics.

After the research, a set of guidelines is developed to design the tableware with the regional folktale elements. The tableware's shape, pattern, texture, color, balance, repetition and materials are inspired by folktales to some degree. Furthermore, material features are considered during application of materials to folktale symbols.

A sample tableware set is built to show the effect of the guidelines of designing the tableware. The deliverable of designing a set of sample tableware will include concepts computer model and final physical models.

The folktale featured tablewares are good conversational pieces during dining time. To illustrate, it is fun that parents teach their children about their cultural folktale during dinning time. Thus, it is a good way for preserving cultural heritage. Furthermore, it is a good channel for shearing culture with friends, with different cultural backgrounds.

## ACKNOWLEDGEMENTS

I would like to thank Professor Tin Man Lau for his kindness and paternal support in the past three years, for his guidance and encouragement through the whole thesis writing process. You have set an example of excellence as a researcher, mentor, instructor, and role model. Also, thanks to Professor Rich Britnell and Professor Christopher Arnold for always being available and willing to provide advice whenever requested. Your discussions, ideas, and feedback have been absolutely invaluable. I would like to thank Ms. Elizabeth Topping for her kindness and high-efficiency help with the logic, flow, and grammar of this thesis. I would like to thank Mr. Lynn Brown for his kindness and patient help with the grammar of this thesis.

I would like to thank all the professors and all my friends for their support and help during this research process.

Finally, I want to express my gratitude to my parents, Guozhong Han and Xiuting Han, for always being my best support.

## TABLE OF CONTENTS

ABSTRACT .....	ii
ACKNOWLEDGMENTS .....	iii
CHAPTER 1. INTRODUCTION .....	1
1.1 Background .....	1
1.2 Problem Statement .....	1
1.3 Need for Study .....	2
1.4 Objectives of Study .....	3
1.5 Assumptions .....	4
1.6 Scope and Limits .....	4
1.7 Procedure of Study .....	4
1.8 Anticipated Outcomes .....	4
CHAPTER 2. LITERATURE REVIEW .....	6
2.1 Culture .....	6
2.1.1 Major Cultures .....	9
2.1.2 Culture and Design .....	13
2.2 Folktales .....	14

2.3 Motivation .....	15
2.4 Procedure of Analysis .....	16
2.4.1 Folktale Symbolism .....	16
2.4.2 Folktale Features .....	17
2.4.3 Categorization of Symbols .....	19
CHAPTER 3. DESIGN GUIDELINES .....	29
3.1 Design Inspiration Analysis .....	29
3.1.1 Identify Quantity of Tableware .....	29
3.1.2 Design Inspirations .....	29
3.2 Material Analysis .....	33
3.2.1 Materials .....	33
3.2.2 Material Features .....	39
3.2.3 Identify Material for Each Design .....	42
3.3 Design Procedure .....	44
3.3.1 Form and Pattern .....	46
3.3.2 Texture, Color and Decoration on Tableware .....	52
3.3.3 Balance and Repetition .....	57

CHAPTER 4. DESIGN GUIDELINE APPLICATION .....	59
4.1 Identify Design Category .....	59
4.2 Design Process .....	59
4.3 Design Development .....	62
4.3.1 Design Style Identification .....	62
4.3.2 Concept Ideation .....	62
4.4 Molding Making .....	65
4.5 Summary .....	75
CHAPTER 5. CONCLUSIONS AND FUTURE STUDY .....	76
5.1 Conclusion .....	76
5.2 Recommendation for Future Study .....	76
REFERENCES .....	78

## LIST OF TABLES

Table 2.4.1 The White Snake . . . . .	20
Table 2.4.2 The Year of the Rat to the Year of the Pig . . . . .	21
Table 2.4.3 The Fox and Hare in Winter . . . . .	24
Table 2.4.4 The Tale of The Cat and Dog . . . . .	25
Table 2.4.5 The Horse of Seven Colors . . . . .	27
Table 3.2.1 Material Advantages and Disadvantages . . . . .	40
Table 3.2.2 Material Manufacture Features . . . . .	41
Table 3.3.1 Lists Shapes of Items Mentioned From Table 2.4.1 to table 2.4.5 . . . . .	46
Table 3.3.2 Summarized Descriptions Related to The Colors, Texture and Decoration from Table 2.4.1 to Table 2.4.5 . . . . .	53
Table 3.3.3 Lists The Repetitions Described Directly from Table 2.4.1 to Table 2.4.5 . . . . .	57

## LIST OF FIGURES

Figures 2.1. Culture Map . . . . .	8
Figure 2.2 Eastern Agriculture Tools . . . . .	10
Figure 2.3 Latino Dances . . . . .	11
Figure 2.4 Middle East Cultural Elements . . . . .	12
Figure 2.5 Some Characteristics of African Culture . . . . .	13
Figure 3.1 Fine China Tableware Examples . . . . .	34
Figure 3.2 Stoneware and Earthenware Examples . . . . .	35
Figure 3.3 Glass Examples . . . . .	36
Figure 3.4 Vitrified Glass Examples . . . . .	36
Figure 3.5 Plastic Tableware Examples . . . . .	37
Figure 3.6 Wood and Bamboo Tableware Examples . . . . .	38
Figure 3.7 Stainless Steel Tableware Examples . . . . .	39
Figure 3.8 The Design Procedure Flowchart . . . . .	45
Figure 3.9 Religion and Regional Culture influenced on serving dishes . . . . .	52
Figure 3.10 The border Ornaments . . . . .	56
Figure 3.11 Examples of Balance and Repetition in Tableware . . . . .	58

Figure 4.1 Design Process Flowchart . . . . .	61
Figure 4.2 The Water Waved Texture and Water Drop Shaped Plate in This Study . . .	62
Figure 4.3 Form Layouts . . . . .	62
Figure 4.4 Decoration Layouts . . . . .	63
Figure 4.5 Evaluation and Refinement Layouts . . . . .	64
Figure 4.6 Best Possible Solution Layouts . . . . .	65
Figure 4.7 The Ox and Rat Models . . . . .	66
Figure 4.8 The Tiger Models . . . . .	67
Figure 4.9 The Dragon and Rabbit Models . . . . .	68
Figure 4.10 The 3D Print Plates Layouts . . . . .	69
Figure 4.11 The Primer Test Models Layouts . . . . .	69
Figure 4.12 The Painted Ox and Rat Test Plate . . . . .	70
Figure 4.13 The Painted Tiger Test Plate . . . . .	70
Figure 4.14 The Painted Dragon and Rabbit Text Plate . . . . .	71
Figure 4.15 The Ox and Rat Plate . . . . .	72
Figure 4.16 The Tiger Plate . . . . .	73
Figure 4.17 The Dragon and Rabbit Plate . . . . .	74

Figure 4.18 The Final Design Layouts ..... 75

## **CHAPTER 1. INTRODUCTION**

### **1.1 Background**

There is an old saying goes “ Bread is the staff of the life.”, which relates to the fact that food is a basic human physiological need. Another saying goes “delicious food is less enjoyable than beautiful articles,” reflecting the aesthetic contribution that tableware makes to food consumption. In different historical periods, different regions and different cultures, tableware has differed in material, form, use and name. Regardless of the historical, regional, or cultural setting, tableware is a very important element in food presentation and consumption.

Fyodor Dostoyevsky, in 1848 said: “But how could you live and have no story to tell?” meaning that the story makes life splendid. An elegant experience is to be had when tableware has a story to tell . This thesis will focus on the use of folktales, a story style that differs among cultures, as a source of the inspiration for tableware design.

### **1.2 Problem Statement**

With the rapid development of the economy and technology, life has become more convenient. People can communicate and share information without delay through the internet, can go anywhere on the earth by airplane, and get fresh food everyday from the supermarket. However, it also brings a negative effect on regional culture (Naor, Linderman & Schroeder, 2010). To illustrate, some traditional cultural elements are fading in some areas. For example, cattle were used in the past to help farmers cultivate rice fields in some eastern countries (e.g. China, Korea, Japan, etc.) This work style has been inherited by generations in those eastern countries for hundreds of years, and was a element of traditional regional culture. However, the use of cattle for this purpose has diminished, and after several decades, our children will not know how their ancestors used cattle in rice production.

Another problem is that there exists a drawback with the folktale. Most folktales are inherited orally over generations (Russell, 1991), which can bring some negative effect on the stories themselves. To explain, a tale, that which gains favor in one collection is taken over into others, sometimes intact and sometimes with changes of plot or characterization. One old folktale goes through the hands of both skilled and bungling narrators and improves or deteriorates at nearly every retelling. However well or poorly such a story may be written down, it always attempts to preserve a tradition, remaining an old tale with the authority of antiquity to give it interest and importance. However, some original elements still may be missed or changed during the process of inheritance.

### **1.3 Need for Study**

The function of money is distinguished as a medium of exchange. Money plays the role of a medium in trading. Likewise, designers can potentially play a role in the application of the cultural elements to consumer products. For this study, tableware is the fine designed product with folktale elements. During the mealtime, this kind of tableware is a good conversational piece, which can pass folktales from generation to generation and share cultures with different cultural background friends.

Culture is a term widely used in many areas including knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society (McCullagh, 2007). Defining culture is difficult, and culture differs widely from area to area. For example, diet and costume customs differ significantly from Western countries to Eastern countries. This study addresses culture and the diversity that culture includes. The capacity of culture is wide, but this study focuses on folktales, and researches the features of folktales. Specific regional folktales are included as examples.

Material is a medium to present the form, pattern, texture, and color of a design, making materials selection an important element in the design process. Researching material is, therefore, a focus of this study. Material is an element which includes hundreds of different items. There are several common materials used in the tableware industry, such as ceramics, glass, plastic, wood, bamboo, and stainless steel.

#### **1.4 Objectives of Study**

The objective of this thesis is to provide designers with a method for refining design elements from regional cultural folktale, and to apply them to current daily use tableware design. The following is a summary of what this research study will entail:

- Study the definition of culture
- Study culture grouping
- Study the culture map (Welzel & Inglehart, 2008) see Fig.1.1
- Study the features of five outstanding regional cultures including the Western, Eastern, Latino, Middle Eastern, and African cultures
- Study the relationship between folktale and culture
- Study the features of folktales
- Define the methodology to identify aesthetic elements in the regional folktales, which inspire tableware design.
- Study and research five folktale examples
- Group and summarize folktale symbols
- Study design inspiration source of folktales
- Study common tableware material features and summarize the advantages and disadvantages
- Identify material for design inspiration source

- Apply the design inspirations to form, pattern, texture, color, decoration, balance and repetition
- Propose the design procedure
- Apply the design guideline to tableware design

### **1.5 Assumptions**

In this study, it is assumed that designers could use cultural inspiration in tableware design by summarizing symbols of folktales, which are characters, objects, settings, plots, and themes. All collection of relevant resources are assumed to be reliable workout further verification.

### **1.6 Scope and Limits**

For this study, the culture research is focused on the general Western, Eastern, Latino, Middle Eastern, and African cultures. Other cultures were not researched. The five folktale examples listed are from China, Germany, Syria and Venezuela and roughly represent the Western, Eastern, Middle Eastern and Latino cultures. Examples of African folktales were not researched in this study because Africa has various tribal culture and it was difficult to find a representative folktale.

Aluminum, silver, gold, plant leaves, and paper have been used for making tableware in the past. However, these materials were not discussed in the thesis because of their notable shortcomings, which vary from poisonousness, expensiveness, and fragility. Instead, the thesis focuses on porcelain, wood, bamboo, plastic, stoneware, stainless steel, glass, and vitrified glass, common materials in modern tableware production.

### **1.7 Procedure and Methods**

Before conducting design, literature research was conducted, in literature review part, in which the relationships between religion and culture, culture and design, culture and folktale were explored. During the research process, studied five major cultures based on the Culture

Map (Welzel & Inglehart, 2008); studied folktale feathers; and studied five folktale examples. Then design guidelines were introduced. During this period, design inspirations were analyzed; common tableware materials were analyzed; and material identification methods were provided. In the end, a set of tableware was designed by following the design guidelines.

### **1.8 Anticipated Outcomes**

The primary outcome of this study is to provide a new design guideline for designers to design tableware with regional cultural folktale features. Five major cultural groups are studied and five examples of folktales will be researched. Flowchart 3.3 is the guide for the designer to apply this design guideline. This study will use the Chinese folktale “The Year of the Rat to the Year of the Pig” to apply the design guideline and a set of practical tableware will be developed.

## CHAPTER 2. LITERATURE REVIEW

### 2.1 Culture

Culture is a commonly used word in many areas that includes language, costumes, architectures, foods and furnitures. People coming from different regions of the world would be expected to have different conceptions of culture. Consequently, the definition of culture varies very widely. There are many different definitions, but the most widely accepted is that by Kroeber and Kluckhohn (1952):

Culture consists of pattern, explicit and implicit, of and for, behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, and on the other as conditioning elements of further action (p. 37).

From this definition of culture, it is easy to determine that culture is complex and mixed of many constituents. To demonstrate, the term ‘culture’ is always associated with a mix of public and private institutions like museums, libraries, schools, cinemas and musics. Furthermore, culture is also highly related to values, beliefs, religious practices, and the concept of the universe. As Pokhariyal (2015) said “*Religion* can be described as a set of beliefs in a Creator or Ultimate Reality, its attributes, and various ceremonies as well as rules of worship followed by humans during their life span” (p. 42). Consequently, religion influences people’s beliefs and values consciously and unconsciously, which is one of several elements that shape culture.

### ***Exploration of Religion and Culture***

Five major religions exist in the world today and each of them has a history hundreds of years. Hinduism developed first, then Buddhism, Judaism, Christianity, and finally Islam (Smith & Marranta, 2009). The large body of research on the relationship between religion and human personality shows that beliefs and values are shaped by religion (Hoover & Lundby, 1997). Culture is related with human's value and belief. Thus, religion has an impact on culture and can be used to divide the world's cultures generally into major groupings.

In this thesis, the author's purpose is to develop guidelines to apply culture elements to products for designers with different cultural backgrounds. Because of the cultural complexity, it is difficult to measure cultural identities directly, and it is almost impossible to tell exactly how many different cultures exist in the world. Therefore, grouping the different cultures becomes the initial task for this research. According to the researches, religion influenced the cultural grouping, explained as follow:

Political scientists Ronald Inglehart of the University of Michigan and Christian Welzel of Luephana University in Germany analyzed data and plotted countries on a "culture map" (see Fig.2.1). Their cultural map lists nine cultures, including Protestant Europe, Catholic Europe, Orthodox, English Speaking, Confucian, South Asia, Islamic, African, and Latin America cultures.

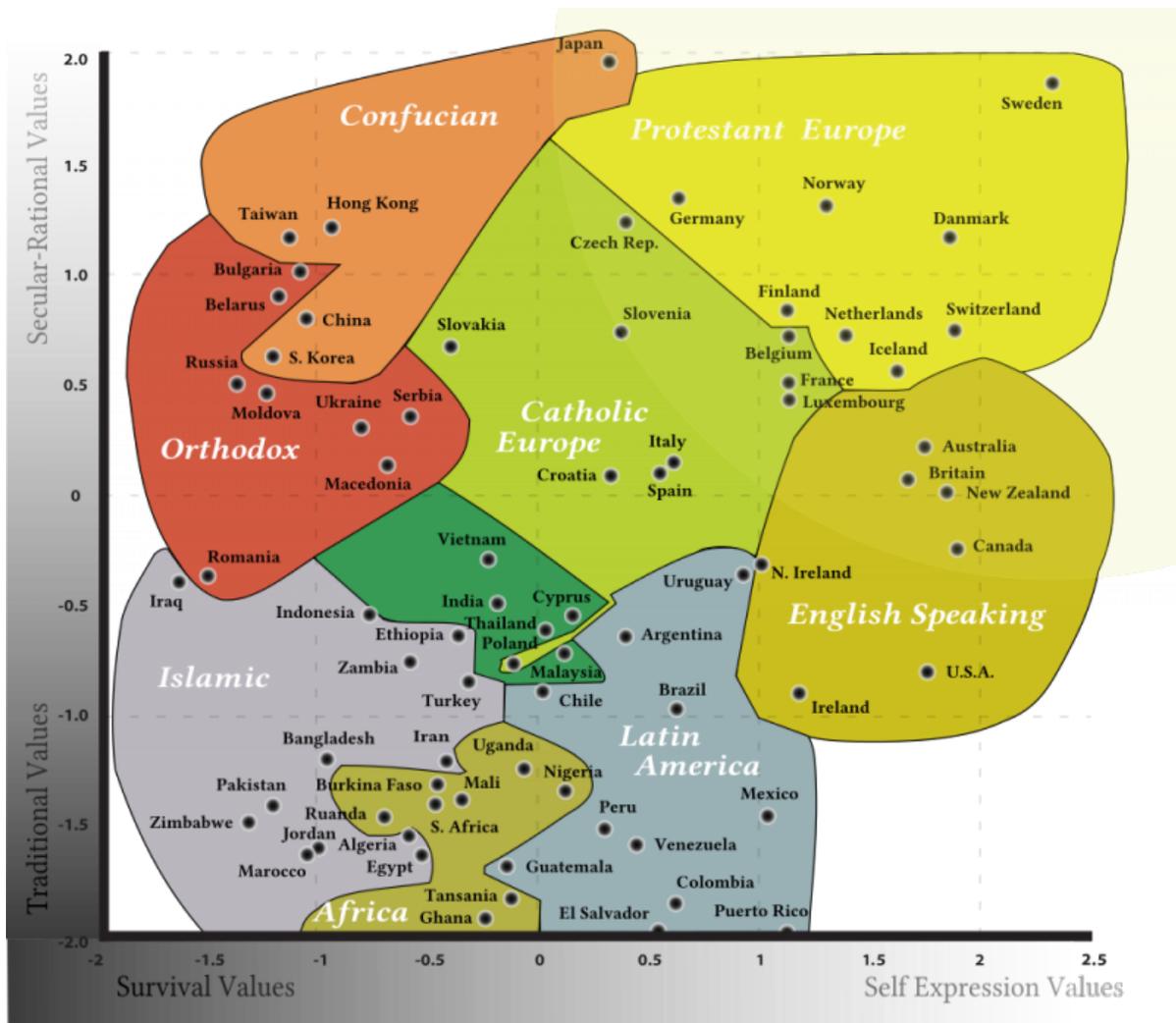


Figure 2.1 Cultural Map (Welzel & Inglehart, 2008)

Welzel and Inglehart (2008) proposed this group culture concept based on the World Values Survey (WVS), the largest "non-commercial, cross-national, time series investigation of human beliefs and values ever executed." Welzel and Inglehart (2008) grouped cultures fundamentally based on religions, languages, and geographical locations. According to this figure, it shows that people with different religions would have different traditional values, secular-rational values, survival values, and self-expression values. It also explains how religion impacts values and influences cultures. For instance, Sweden, a Protestant country, has highly secular-rational and

self-expression values. Conversely, Morocco, an Islamic country, has very high survival and traditional values.

This “culture map” also suggests that people sharing the same culture would have almost the same values. For example, the United States, Canada, New Zealand and Australia are all heavily influenced by European immigration and share almost the same culture; Welzel and Inglehart (2008) named this culture English Speaking in the cultural map. A majority of these citizens have high self-expression values and almost no influence from traditional values or secular-rational values.

Based on the Welzel-Inglehart cultural map, it is evident that cultural categorizations are consistent with religion distributions to some degree. Additionally, language and geographical location also shape culture in some degree.

### **2.1.1 Major Cultures**

Gaston-Johansson (1990) pointed out that culture is constantly changing and has roughly grouped it into five categories according to religion and geographical location, including Western culture, Eastern culture, Latin culture, Middle-Eastern culture, and African culture.

In summarizing Welzel and Inglehart (2008)’s and Gaston-Johansson (1990)’s culture groups, this thesis will characterize cultures as follows.

#### ***Western Culture***

The term ‘Western culture’ has come to define the culture of European countries (i.e. Protestant European countries, Catholic European countries, and Orthodox countries) as well as the English-speaking countries which have been heavily influenced by European immigration, such as the United States, Canada , New Zealand , and Australia (Gaston-Johansson, Albert, Fagan & Zimmerman, 1990). Generally speaking, Western culture has its roots in the Classical

Period of the Greco-Roman era and the rise of Christianity in the 4th century (Gaston-Johansson et al., 1990). Due to the influence of Christianity, people there believe that there is just only one God and people are accountable to him. Other factors influencing Western culture include Latin, Celtic, Germanic, Jewish, Slavic, and Hellenic ethnic groups (Gaston-Johansson et al., 1990). Today, the impacts of Western culture can be seen almost everywhere in the world.

### ***Eastern Culture***

Eastern culture includes Confucian (e.g. China, S. Korea, Japan, etc.) and South Asia (Vietnam, India, Thailand, etc.) (Welzel & Inglehart, 2008). Like the West, Eastern culture was heavily influenced by religion during its early development. Hinduism and Buddhism are Eastern religions, both of which arose in India. Thus, Eastern culture is characterized by Hinduism and Buddhism with adherents believing that individuals are not important and that there is no meaning to human life (Haskins, 1991). Eastern culture was also heavily influenced by the growth and harvesting of rice (Gaston-Johansson et al., 1990). Hence, lifestyles and modes of production are influenced by the growing, harvesting, and consumption of rice. For example, unlike other areas, chopsticks are widely used. Zongzi( 粽子 ) and sushi are two kinds of eastern food based on rice. Furthermore, in the process of growing rice, people employed some highly distinctive tools like the lipa ( 犁耙 ) and the Niuli(牛犁). as shown in Fig. 2.2 :



Lipa



Niuli



Mode of growing rice

*Figure 2.2 Eastern Agriculture Tools (稻米的种植过程, n.d.)*

### ***Latino Culture***

Many Spanish-speaking countries are included in Latin culture, countries of which the geographic location is spread widely (Gaston-Johansson et al., 1990). According to the Welzel-Inglehart cultural map, Latin America is typically defined as parts of Central America, South America and Mexico where Spanish or Portuguese is the dominant language. Those areas were dominated by Spanish or Portuguese colonies, so cultures there were influenced by Spanish and Portuguese. Latino culture is characterized by several traits. 1). Family is the most important aspect of Latino lives. Thus, Latinos have a very high level of responsibility for their other family members. 2). Music and dance are very important parts of a Latino's everyday life. Examples include the Baile, the Samba and the Tap dance (Hede, 2013) as shown Fig. 2.3:

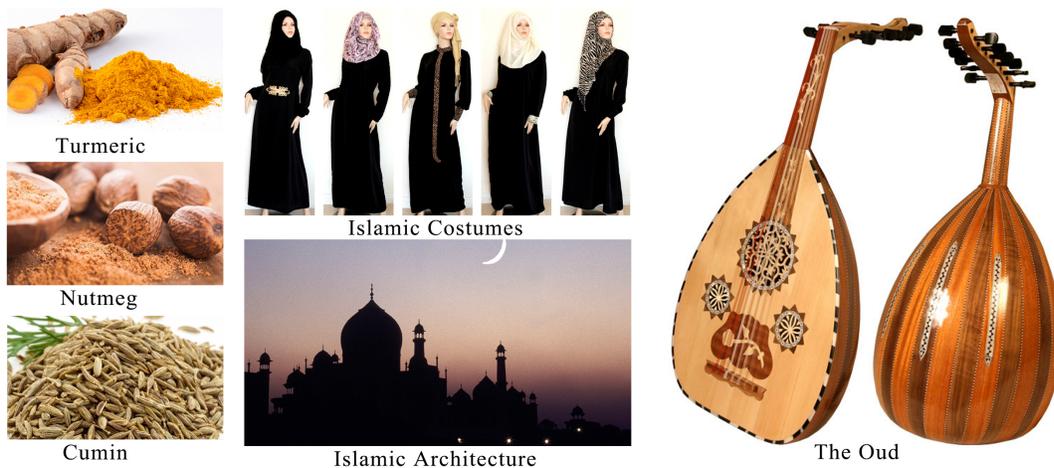


*Figure 2.3 Latino Dances (Cheesman, 2014; Darling Harbour Fiesta, 2012; & Tuna, 2014)*

### ***Middle Eastern Culture***

The culture of the Middle East is diverse and varied. This fact is not surprising, since the area consists of approximately 20 countries such as Syria, Iraq, and Saudi Arabia, according to PBS (Gaston-Johansson et al., 1990). It has been influenced by many different historical movements and civilizations and is richly diverse and intricate (Goldberg, 1996). The Middle East is the birthplace of Judaism, Christianity and Islam; however, Islam is the predominant

religion today. As a consequence, certain rules of Islam stipulate many aspects there. Cuisine in the Middle East also varies by area. Since most countries in the Middle East are Islamic, alcohol is prohibited in many countries and so are pork products. Typically, Middle Eastern food is flavorful and aromatic, and uses spices such as cumin, nutmeg, turmeric and caraway to achieve strong flavors. Middle Eastern music tends to have strong melodies and complex rhythms and combines the use of modern Western instruments with classic instruments. For instance, the “Oud,” which is a wooden stringed instrument thought to be the inspiration for the European lute, is widely used in many Middle Eastern songs (Goldberg, 1996).



*Figure 2.4 Middle East Cultural Elements (Fayed, 2017; Abaya UK, n.d.; Team HealthIndian, 2016; & Arab Instruments, n.d.)*

### ***African Culture***

Africa is home to a number of tribes, ethnic and social groups. One of the key features of this culture is the large number of ethnic groups throughout the 54 countries on the continent. Nigeria alone has more than 300 tribes (Nussbaum, 2003), for example.

Currently, Africa is divided into two cultural groups: North Africa and Sub-Saharan Africa (Caldwell & Caldwell, 1987). Northwest Africa has strong ties to the Middle East, while

Sub-Saharan Africa shares historical, physical and social characteristics that are very different from North Africa, according to the University of Colorado research. The harsh environment has been a large factor in the development of Sub-Saharan Africa culture, as there are a number of languages, cuisines, art and musical styles that have sprung up among the far-flung populations.



*Figure 2.5* Some Characteristics of African Culture (SAOGA. n.d.; Salingaros, 2014;Acta, n.d.; BABA THE STORYTELLER, n.d.; & African American Traditions, 2014)

### 2.1.2 Culture and Design

All aspects of human life are affected by culture (Hofstede, 2001). To illustrate, the cow is the sacred animal in India because of the Hindu religion culture. Zongzi is a staple food in China due to the Dragon Boat Festival culture. The work of product designers is highly influenced by their own culture (Press & Cooper, 2003), notably in the way designers structure a product in the early stages of concept development.

The International Council of Societies of Industrial Design [ICSID] considers culture to be a significant issue in industrial design. Defining design as a “crucial factor of cultural and economic exchange,” the Council emphasizes that one of the tasks of design is promoting ‘cultural ethics’, or ‘supporting cultural diversity despite the globalization of the world’ (ICSID,

2002). Furthermore, the ICSID Code of Professional Ethics for Designers (ICSID, 2001) highlights the enrichment of cultural identity, stipulating in Article IV that:

Industrial designers acknowledge that the environments, objects and services created as a result of the design process both reflect and help to define the cultural identity of their nations and distinct societies within nations. Designers shall strive to embody and further the cultural traditions of their national societies while incorporating the best characteristics of international design principles and standards (p. 3).

## **2.2 Folktales**

According to the research cited earlier, culture is like a huge container, which holds every aspect of human life and greatly impacts the work of designers. In this study, the author has selected the folktale as a representative element of culture to examine.

Folktales (or folk tales) are stories passed down through generations, usually orally. Although the term "folk tales" is commonly used in English to refer to "family stories" or "fairy tales" such as "Cinderella" or "Snow White," it is also widely used to cover other forms of literature like narratives, written or oral, which are passed down through the years (Thompson, 1946). Obviously, these tale-telling arts would not be bound to one continent or one civilization. Stories may differ in subject from area to area, the conditions and purpose of tale telling may change as we move from land to land or from country to country, and different religions also have an influence on folktales. Therefore, folktales are diverse depending on geographic locations to some degree.

The folktale is a part of culture and represents its own culture in certain circumstances. Folktales have many different structural forms, topics, and significances related to the diversity

of cultures. In other words, the five major cultures described earlier would have different folktales with their own cultural features.

### ***Folktales All Over The World***

It is a fact that storytellers are everywhere and easily find their desired audiences. Whether the story is a recent report, a legend from long ago, or a well-designed novel, people are drawn to the storytellers' words, for incitement to heroic conduct, for religious enlightenment, or for release from the overpowering boredom of their lives (Thompson, 1946). This explains how folktales attract people.

Different folktales occur almost everywhere in the world. In villages of central Africa, in outrigger boats on the Pacific, in the Australian bush, and within the shadow of Hawaiian volcanoes, tales of present and of the mysterious past, of animals and gods and heroes, and of men and women like themselves, hold listeners in their spell or enrich the conversation of daily life. So it is also in Eskimo igloos under the light of seal-oil lamps, in the tropical jungles of Brazil, and by the totem poles of the British Columbian coast, and by the coastal areas of the Baltic and Mediterranean Seas, and in the Alps Mountainside, and on the Siberian Plain, and by the drainage area of the Tigris and Euphrates. In Japan too, and China and India, the priest and the scholar, the peasant and the artisan all join in their love of a good story and their honor for the man who tells it well (Thompson, 1946).

As Thompson said, folktales occurred everyday and everywhere, which is a precious cultural relic, and for designers it is a good source for design inspiration.

### **2.3 Motivation**

Most folktales are commonly inherited by generations orally, which would bring some negative effect on stories themselves (Russell, 1991). To explain, a tale, which gains favor in one

collection, is taken over into others, sometimes intact and sometimes with changes of plot or characterization. One old folktale goes through the hands of both skilled and bungling narrators and improves or deteriorates at nearly every retelling. However well or poorly such a story may be written down, it always attempts to preserve a tradition, an old tale with the authority of antiquity to give it interest and importance, but some original elements still may be missed or changed during the inheriting processing. Everyone has the duty to protect folktales, and designers could record folktales by products, especially focusing on older versions to avoid missing important original elements.

## **2.4 Procedure of Analysis**

In general, heroic tales, illustrative legends, and animal anecdotes are the major topics of folktale, and present everywhere. Other fictional patterns are limited to specific cultural areas (Thompson, 1946). The study of such limitations has not been of concern so far in this research.

### **2.4.1 Folktale Symbolism**

Folktale tellers usually wants to give readers or listeners a symbolic impression, and the story was often heard from some great storytellers or elderly people. That is the symbolism of a story. In general, a symbol is an object representing another to give it an entirely different meaning that is much deeper and more significant. Symbolism comes in many different forms, from many areas such as ornament, architecture, clothes, language, and sometimes, an action, an event or a conversation. The possibilities are endless.

There are several steps in examining symbolism, which can be used as inspirations in tableware design. As to the development of a folktale, there exists a story line and several points of emphasis. The first step is to explore the points of emphasis, when listening to or reading the folktale, which will help one to move forward and garner a general impression. This is an early

stage of symbolism searching processing, so one should not commit to a particular source of inspiration. Before arriving at the final sentence, a number of different subjects should be considered. It is better to have varied source materials along with the in-depth study.

After listening or reading the entire folktale, designers execute two tasks to analyze the symbolism. Task one is to group the descriptions of settings, characters, objects and plots. Task two is to summarize the invisible symbolism behind the whole story, which would be the folktale theme. For instance, “Dayu Controlling the Flood” is a widely known folktale in China. During the processing of flood control, Dayu passed his home three times but never entered it. The first time, his wife was in childbirth; the second time, his son was waving to him; the third time, his son was 10 years old, but he still did not go home. Dayu put all his efforts to battle the flood and never considered his personal life. In this story, social responsibility has a deep meaning, and is also a kind of symbolic value, which could be an inspiration for design. The visible and invisible symbolisms are both good inspirations for product design.

#### **2.4.2 Folktale features**

The majority of folktales are passed down by oral tradition though some of them were recorded in writing as a kind of literary form. Regardless of the transmission method, they usually have some features in common. The most familiar characteristics of folktale are the setting, character, plot, theme and conflict, and style (Russell, 1991). These features provide good method for designers to search for design inspirations. Russell (1991) collected these features in *Literature for Children: A Short Introduction*. This study summarized the folktale features, shown as follows:

### ***Setting***

The settings are usually not described in detail (e.g., “Long ago in a land far away...” and “Once upon a time in a dark forest...”). Some settings reflect the typical features of the tale’s culture, for instance, medieval Europe with its forests, castles, and cottages, Africa with its jungles, India and China with its splendid palaces. Also, the majority of folktale settings are not from the real world, taking us to a time and place where animals talk, witches and wizards roam, and magic spells are common (Russell, 1991).

### ***Character***

The characters in folktales are usually flat, direct and simple. They are typically either completely good or entirely evil and very easy to identify. Motivations of characters always tend to be singular. The characters are usually motivated by one desire such as love, fear, greed and jealousy. The characters in tales are usually stereotypical, such as evil stepmothers, weak-minded uncles, jealous brothers and sisters, and loyal friends. Physical appearance often already defines the characters. The heroes or heroines are often isolated and usually abandoned to the open world. Evil, on the other hand, seems overwhelming. Therefore, the hero/heroine will always be supernatural forced to fight against evil forces (Russell, 1991).

### ***Plot***

Plots of folktales are generally shorter and simpler than other written literary types. The action trends are often formulaic. A journey is commonly utilized in tales. Repetitious patterns are common also. Events often occur in sets of three (e.g., three pigs, three bears, three sisters, three wishes). The action is direct, without lengthy explanations and descriptions. Conflicts are always quickly established and events move swiftly to their

ends. The action never slows down. Endings are almost always happy (“They lived happily ever after”) (Russell, 1991).

### ***Theme***

Themes in folktales are usually quite simple, but solemn and powerful. The themes of folktales usually put the merits of compassion, generosity, and humility above the vices of greed, selfishness, and excessive pride(Russell, 1991).

Beyond the setting, character, plot, theme features, the folktale still has several style features (Russell, 1991), which could help designer to search for the inspirations.

Folktales usually have powerful visualized descriptions that we can easily identify, such as a glass slipper, a long white snake body, a horse with seven colors, a red riding hood or a blue bird. Furthermore, the powerful visualized description usually describes the emphasis content and these vivid visual elements give the folktales enduring strength. Folktales often enhance their heroes and heroines to higher and more refined levels, and they remain beautiful, noble, and pure through the process of sublimation.

### **2.4.3 Categorization of Symbols**

In this thesis, the author read five different folktales, which come from Eastern, Western, Middle Eastern and Latino cultures. Following the provided lists of folktales’ features, the author listed the settings, characters, objects, plots and themes in Table 2.4.1 to Table 2.4.5.

From *Traditional Chinese Folktales*, edited by Yin-Lien (1996), the author selected “The White Snake” as an example to explore design inspirations. “The White Snake” is an old Chinese folktale from the Song Dynasty, and is widely spread in China. The story is about a white snake that falls in love with a human. Both snake and human take care of each other, but a monk broke their happy life.

Table 2.4.1

*The White Snake*

<b>Category</b>	<b>Unit/Symbolism</b>	<b>Invisible symbolic value /Description</b>
Settings	West Lake(place)	Tall, slender-leafed willow tress lined the shore; Surface was dotted with flat-bottomed boats filled with red and white canopies.
	Golden Mountain Temple(place)	Carved into a bluff rising steeply above the sea
	Mountain (place)	High on a craggy mountain veiled in wisps of trailing clouds
Characters	White snake body	Her long, graceful body wore a million scales that sparkled and gleamed like precious pearls.
	Green snake	Whose skin was greener than the emerald fields of spring
	Syu Syan	Handsome young man holding an umbrella on his lap
	Fa Hai	A monk, dressed with wide sleeve, renowned for his power to ferret out evil.
Objects	Gown	Shimmering white gown embroidered with gold thread
	Flat-bottomed boats	Flat-bottomed boats filled with red and white canopies
	Blouse	Dainty green blouse
Plots	Transformation (Snake to human)	Uncoiled to full length, stretched head upward; skin began to crack open and slowly peel away from the topmost point; emerging as from a cocoon, appeared the maiden head; body was in exquisite proportion from the gently sloping shoulders to the delicately shaped legs.

Theme	Three pool' marring the moon	“When the moonlight strikes the rocks, three shimmering orbs may be seen floating on the water.”
	Dragon Boat Festival	It was a custom to drink a bit of wine
	Flooded Golden Mountain Temple by water	“Churning up wild foamy sprays, they sent waves crashing against the mountain. The water rose, fell, spun around in wild eddies. through it all the mighty mountain and the temple withstood the onslaught.”
	The struggle to achieve autonomy or to break away from present life	

The second folktale example is “The Year of the Rat to the Year of the Pig” from *Traditional Chinese Folktales* (Yin-Lien, 1996) The author lists folktale elements of this example in Table 2.2. Every Chinese has an animal sign, which is typically part of Confucian culture in Asia. This folktale explained why cats pursue rats in a special way.

Table 2.4.2

*The Year of the Rat to the Year of the Pig*

Category	Unit/Symbolism	Invisible symbolic value / Description
Setting	Time	Many centuries ago...
Characters	Rat	Puniness: scrambled up the side of the huge beast as best he could; Ungrateful: the wily rat jumped on the ground in front of ox, pushed cat off the ox's rump into the river; Over-confident: chided the tiger, “those who depend only on their physical strength are doomed to failure.”

	Ox	Simple and honest: whose brain was far smaller than his belly; even before daybreak, the ox appeared on their doorstep; the absence of the cat puzzled the ox;
	Cat	Smart and insistent: “Don’t give up so easily”; “what if we talk to the ox”
	Tiger	Jade Emperor asked: “with your reputation for fleetness, how is it you were so late?”
	Rabbit	Hardworking: To his own delighted surprise, the rabbit earned fourth place.
	Dragon	Helpful: moved rain clouds for the people who have had no rains for many weeks; raise a helpful breeze for rabbit to blow him ashore
	Snake	The unruffled snake, waving to the right and to the left, flicking his forked tongue in and out of his mouth, sped ahead.
	Horse	“With a clattering of hoofs, the horse made his appearance in the midst of a cloud of blinding dust. he shook his head, switched his tail smartly.”
	Sheep	“The sheep had recently been shorn and looked naked, and was comical with his large, curled horns sticking out of his bald head”
	Monkey	Jumped, sprang, clambered up a nearby tree
	Rooster	“He crowed raucously, shaking his head to show off his elegant comb”
	Dog	“Shivering in the cool air, the dog shook himself, spattering water in every direction. His tongue hung loosely from”
	Pig	The disgruntled black pig came waddling along
Objects	Exposed stone in the river	The rabbit had started to cross the river, hopping from one exposed stone to another.
	Log	The rabbit clung to the log, paddling furiously with his forelegs until it washed up to the sand.

	Raft	The rooster invited the sheep and monkey on board.
Plots	Rat and cat stay on ox's back to cross the river	“With one leap, the cat was on the ox's back, while the rat scrambled up the side of the huge breast as best he could. Snorting and panting, the ox lumbered toward the river and stepped cautiously into the water.”
	Rat push cat into the water	As the cat turned her head, the rat, with little effort, pushed her off the ox's rump into the river. The rat last saw the cat looking at him, incomprehension and fear in cat's eyes.
	Ox moves toward the shore with rat on the back	Blowing bubbles out of his nose with each wheezing breath, the ox exerted himself to the utmost of his strength. with a final burst of energy, straining every muscle, he reached the opposite shore and pulled himself up on the sandy beach.
	Tiger in the swift current	“Tiger was swimming strongly and making good headway when he got caught in the swift current. It carried tiger downstream, and in seconds tiger was off course. The tiger tried to reverse his direction but was pulled into a whirling eddy that spun him round and round and dragged him downward.”
	Dragon helped rabbit to cross the river	The dragon noticed the rabbit struggling to cross the river on a log on his way to destination, and he stopped to raise a helpful breeze to blow him ashore.
	Rooster, sheep and monkey cross the river	The rooster saw the monkey and the sheep standing near the river, looking dejected, and invited them on board. The raft, caught in tall weeds, was difficult to free. The monkey pulled, the sheep pushed, the rooster stirred up a few waves with his wings, and they were off.

	Celebration	The ox lowed, the tiger leaped into the air, while the rabbit hopped up and down. The dragon belched fire, the snake hissed, the horse whinnied. The sheep, the monkey, and the rooster joined in, chattering, and crowing. When the dog added his bark and pig her oink, the din became unbearable.
	Cat ran the thirteenth	Bedraggled, her wet, tousled fur standing on the end, the cat sprang before the Jade Emperor.
	Cat regards rat as enemy	The cat stormed and raged. She lunged for the rat whose treachery she vowed to repay. The rat sensed he was in mortal danger. Scurrying in and out among the grasses, he managed to elude the cat's grasp.

The third story is “The Fox and Hare in Winter,” which is a German folktale from the *Folktales of Germany* (Ranke, 1966). After reading this story, analysis revealed there is an invisible symbolic value behind the whole story, that honesty is important.

Table: 2.4.3

*The Fox and Hare in Winter*

Category	Unit	Invisible symbolic value / Description
Setting	Time	One cold winter,
Characters	Hare	Hare is satisfied with the buds he finds in hedges and shrubs. But, he still has a dream for a better life. Smart: told fox the way to get eggs and easily cheat fox to fish on ice
	Fox	Ungrateful: nothing left for hare after gets eggs; Naive & greedy: But he continued to sit there, just as the hare had told him to do.
Objects	Basketfuls eggs	As to the hare, it's enough food for a whole week.

Table: 2.4.3

*The Fox and Hare in Winter*

Plots	Hare's way to get egg	“There are women coming with basketfuls of eggs that they are taking to market. When the hare sees a woman coming, he lets himself fall flat on the ground before the woman, in order to tempt the woman to catch him. However, never lets the women catch him, the hare keeps lying down and running. At an uncatchable distance, the hare takes the baskets of eggs into the wood.”
	Fox lied on hare	“There is nothing left for you,” was the answer from fox.
	Hare's way of fishing	“The hare stand on the ice and put his little tail into the hole, and after some time, he draws it out and there are plenty of fish hanging on his tail.”
	Fox sit on ice hanging tail in the hole	After a while fox tried pulling and found that his tail was getting heavy, but he continued to sit there. The fox could not get his tail out, although he pulled as hard as he could, but the tail was frozen fast in the ice.
	The hare beats the fox	Now the hare approached with a stick, hit the fox over the head from the right side and from the left, until the fox fell down dead.
Theme	The importance of integrity	

The fourth story is “The Tale of the Cat and Dog,” an old Middle East folktale, from *Folktales from Syria* (Rugh, 2004). This is the story of the lazy dog, who didn't satisfy his desire for the good life, and a cat is converse of the dog.

Table 2.4.4

*The Tale of the Cat and Dog*

Category	Unit	Invisible symbolic value / Description
Characters	Cat	Clever, energetic cat who could cross the street with one leap

Table 2.4.4

*The Tale of the Cat and Dog*

	Dog	Cat's lazy friend, the dog, who spends all his time playing
Objects	All the decorations on cat	Rewards for clever and energetic person
Plots	Cat went to vizier's house	Get bathed, comb the hair and get perfumed
	Cat went to prince's house	Get dressed in silk
	Cat went to sultan's house	Cat was decorated in pearls and coral.
	Cat went to king's palace	Was adorned with earrings, a necklace, a ring, an anklet and a bracelet; Her paw were decorated with henna and endowed with great strength
	Cat lifted her eyes to God	The eyes were lined with kohl and all-seeing
	Dog went to vizier's house	The dog was locked up, beaten, and finally thrown out
	Dog went to prince's house	The dog was locked up, beaten, and finally thrown out
	Dog went to sultan's house	The dog was locked up, beaten, and finally thrown out
	Dog went to king's palace	The dog was locked up, beaten, and finally thrown out
	Dog lifted her eyes to God	Dog lost his sight and no longer knew his way
Dog reached his paw to the window	The dog stumbled and fell into the abyss and died and was immediately wrapped in seven layers of cloth	
Theme	Teaching children to not be lazy.	

The fifth story, “The Horse of Seven Colors” is a folktale recorded in Venezuela, from the Latin American culture from *Latin American folktales: Stories from Hispanic and Indian traditions* (Bierhorst, 2002). Elements are listed in Table 2.4.5. The horse of seven colors is the dominant symbol of the story, which is a good resource for tableware design.

Table 2.4.5

*The Horse of Seven Colors*

<b>Category</b>	<b>Unit</b>	<b>Invisible symbolic value / Description</b>
Characters	Eldest son	Instead of watching he dozed off
	Second son	Lay down to sleep after finishing his supper bag
	Youngest son	Bought a guitar and set a packet of pins on the field, when he rolled over, the pins pricked him, forcing him to stay wakefully
	Multi-colored horse	With wings and changing colors
Objects	Wand	As a gift for nice and responsible person “Use this wand to call me. No matter where you are, I’ll be there in a moment”
	Horse manure	As a punishment for bad guys; The purchasers opened the grain sacks and found horse manure
	Stones	As a punishment for bad guys; The dealers opened the grain sacks and found stones
	High quality wheat	As a reward for nice guys; When he opened the sacks and showed them wheat of the highest quality
Plots	Watch the wheat field	The eldest son dozed off; The second son lay down to sleep; The youngest son pushed him awake for whole night by pins
	Sell wheat	The eldest and the second sons didn’t help old woman and got no pay; The youngest son did give the old woman a hand and was well paid

Table 2.4.5

*The Horse of Seven Colors*

	Brothers are turning against little brother	The brothers lifted the little boy to hear out; The elder brothers plucked out his eyes and lifted him blind and stumbling in the middle of the road; They decided to make their youngest brother their cook and housekeeper
Theme	The discovery of loneliness on a journey to maturity; Industrious kindness and integrity is important	

According to the folktale features (Russell, 1991) researched earlier, the author summarized the descriptions about settings, characters, objects, plots and themes in each table. These tables provide the design inspirations and symbols. Different folktales have different emphasis sections and symbolisms, so the author would pick one folktale to continue this study in Chapter 4. These five folktales are examples for how to collect and categorize the folktale symbolisms, and African folktale was not collected so far in this study because Africa has various tribal culture and it was difficult to find a representative folktale.

## **CHAPTER 3. DESIGN GUIDELINES**

This chapter will develop the design guidelines for tableware by summarizing folktale symbols of characters, objects, plots and themes as well as analyzing material features. Cutlery, glassware, serving dishes and tableware accessories are four major tableware categories (Andrews, 2013) in markets today. The design guideline will be based on these four categories.

### **3.1 Design Inspiration Analysis**

#### **3.1.1 Identify Quantity of Tableware**

According to folktale symbolisms analysis in Chapter 2, several components (characters, objects, settings, plots, and themes) can be sources of design inspirations.

Before designing, designers should have an overall idea of how much folktale details to display in how many pieces of tableware. Designers should decide what symbols to use in tableware design. If designers want to display a folktale through an individual tableware piece, they are advised to search for the most significant visual symbols in one aspect of themes, characters, settings, objects and plots of stories. If designers want to design a tableware set with more folktale details displayed, they can broaden their search of the symbols to settings, characters, objects, plots and themes.

#### **3.1.2 Design Inspirations**

Originally, all folktales were transmitted orally. Consequently, folktales should have the characteristics of oral literature. As discussed in Chapter 2, Russell (1991) pointed out the features of a folktale in *Literature for Children : A Short Introduction*. Therefore, designers have several ways to discover the design inspiration symbols based on their theory.

### ***Powerful Visualized Descriptions***

Powerful visualized description, directly detailed described elements (e.g., characters, objects, or settings), are the most direct design inspiration symbols in folktales. Powerful visualized descriptions usually have detailed features, including colors, texture, pattern, etc. For example, the “crystal slipper” in the folktale *Cinderella* is a powerful visual image design symbol for designers. In another example, “her white graceful body wore a million scales that sparkled and gleamed like precious pearls” is a sentence from *The White Snake*, which directly describes the white snake body in detail. Those words are directly described in stories, and provide good inspirations for designers. Furthermore, Russell (1991) pointed out that the powerful visual image description is a literary feature of folktales. Therefore, in order to find the design symbols, the most significant way is searching for the powerful visual imagery and words of the entire tale.

### ***Characters***

According to Russell (1991)’s points, there are two features of folktale characters. First, the characters in folktales are usually flat, direct, and simple. They are typically either completely good or entirely evil and very easy to identify. Second, the characters are usually stereotypical with physical appearances often already defined for them. Designers can easily define the positive characters, heroes or heroines, and the negative characters, the villainous evil doers. In the Chinese folktale, “The White Snake,” the white snake is the heroine and Fa Hai monk is the villain. In the German folktale, “The Fox and Hare in Winter,” the hare is the hero of the story and the fox is the villain. In the French folktale “Cinderella,” Cinderella is the positive character while the stepmother and two sisters are evil. Usually, the heroes/heroines and major villain roles are described as powerfully visual. Thus, heroes/heroines are good inspiration sources for

tableware design, as they directly tell the story behind the design. However, some folktales with many characters have no specific boundary line of positive characters and negative characters. In the Chinese story “The Year of The Rat to The Year of The pig”, based on the Chinese chronological system, every character represents a year with equal rank. These kinds of folktales characters are still good sources for tableware design, because multiple characters could be used in designing tableware as a set.

### ***Objects***

Objects are important elements in folktales and are good design symbols for designers. The objects with symbolic meanings could vary from characters’ apparel and accessories, furniture or equipment to weapons or tools. Some objects are described in powerful visual images but the descriptions of most items are usually flat, direct, and simple (Russell, 1991). The “shimmering white gown embroidered with gold thread” describes the white snake’s gown and the “Dainty green blouse” describe the green snake’s blouse in the Chinese folktale *The White Snake*. These descriptions are not fully enough visualized, but are good sources of inspirations for designers.

### ***Settings***

According to Russell (1991), settings are the least important descriptions in folktales, and are usually described by vague terms such as “long long ago in a dark forest...” or “once upon a time in a land far away...”. Most folktale settings are not powerful visual images, but they enhance creative thinking. They move the stories from the real world to a magic land, where animals speak, witches or wizards exist, and magic appears commonly. Although these folktale settings are not powerfully visualized, they place no limits on the reader’s imagination and provide good sources of inspiration. Also, some settings reflect cultural backgrounds (e.g., forests, castles, and cottages reflective of medieval Europe, jungles for Africa, and splendid

palaces for India and China). In summary, the majority of settings descriptions are not powerful visual images, but are also good sources of inspiration. Settings could be applied in designing overall images, represented by colors, patterns and textures.

### ***Plots***

The plots of folktales are usually shorter and simpler than other types of literature. Some of them are powerfully visualized which could be good inspirations, but most are not. Additionally, repetition is a common characteristic of folktale plots (Russell, 1991). For example, in the Syrian folktale “The Tale of the Cat and Dog,” a plot-“The dog was been locked up, beaten, and finally thrown out” was repeated four times to enhance the image of the misery of the dog. In many folktales, the repetitious patterns appear commonly in sets of three, such as three pigs, three bears, three sisters, three wishes. Repetition has a significant function in emphasizing and establishing rhythm. Designers can apply important plots in tableware design by using repetition techniques.

### ***Theme***

Folktales are usually direct, without much explanation and description. Conflicts are always quickly established and plots move swiftly to their ends (Russell, 1991). Therefore, themes in folktales are usually simple and easy to understand, but solemn and impressive. Folktales often lift their heroes and heroines to higher and more refined levels where they remain beautiful, noble, and pure at the end. The themes of folktales usually put the merits of compassion, generosity, and humility above the vices of greed, selfishness, and excessive pride. Hence, most themes are not powerful visualized, but designers could still regard them as good design inspiration symbols.

In conclusion, the visible symbols (characters, objects, and settings) and the invisible

symbolic meanings (plot and theme) of folktales all could be inspirations for tableware design. The designer's task is to apply symbols to the product and thus give the product a story to tell.

### **3.2 Material Analysis**

In today's tableware market, cutlery, glassware, serving dishes and accessories are four of main categories (Andrews, 2013), and different materials have different features. Material utilization is a way to put inspiration into practice. Thus, analyzing the features of materials is important.

#### **3.2.1 Materials**

Aluminum, silver, gold, plant leaves and paper have been used for making tableware in the past. However, these materials will not be discussed in the thesis because of their notable shortcomings, which vary from poisonousness, expensiveness, and fragility. Instead, the thesis will focus on porcelain, wood, bamboo, plastic, stoneware, stainless steel, glass, and vitrified glass, common materials in modern tableware production.

Each commonly used material is described as follows.

##### ***Porcelain and China***

Porcelain and china are both made of fine-grained clay (usually composed with feldspar, kaolin, and quartz), which are fired at a high temperature (Galos, 2011) (shown in Figure 3.1). It makes tableware extremely durable and non-porous. The high temperature process also allows the body to be thinner and more delicately constructed, which gives it a translucent appearance, as well as for shaped details to be incorporated into the design of the body. Because of the plasticity of clay, porcelain and china can be sculpted easily, and it is also very easy to color porcelain and china. Thus, porcelain tableware often has a more upscale appearance and lends itself to more formal dining occasions, but it can also be used every day to make any meal a little more elegant.



Fine china tableware

*Figure 3.1* Fine China Tableware Examples (Villerory & Boch, n.d.)

### ***Stoneware and Earthenware***

Stoneware and earthenware are both fired ceramic tablewares as shown in Figure 3.2

Earthenware is often less expensive than other types of tableware material.

Stoneware is glazed earthenware and earthenware is usually not glazed. It has a thick, heavy and rustic appearance and feel. It is not as durable and strong as other types, and is prone to chipping (Rice, 2015). Also, it is often porous, which means it could stain or absorb liquid.

Stoneware is usually a little more durable than earthenware because the clay has vitreous (glass) material added for strength. The body of stoneware is thicker and more opaque than porcelain and china, and can be finished with a variety of glaze textures, such as shiny, satin or matte. It should not be exposed to sudden or extreme temperature changes. Earthenware is another type of stoneware. Like porcelain, stoneware and earthenware are easily sculpted and colored.



Earthenware example

Stoneware example

*Figure 3.2 Stoneware and Earthenware Examples (Mrida, n.d. & Art Mediums, n.d.)*

### ***Glass and Vitrified Glass***

Glass is a clear, non-crystalline amorphous solid that is often transparent, clear and fragile. Shaping glass requires in a high temperature and the sculpting process is not difficult (Tsai, Hung & Hung, 2008). Today, glass usually appears on the table as glassware. Lowball glasses or rocks glasses, also called old-fashioned glasses, are two kinds of ordinary glasses on the market. Another glass style in daily use is the goblet, which includes champagne, brandy, liqueur, cocktail, red wine and white wine glasses as shown in Figure 3.3. Glass is a fantastic material as containers for wine or juice, because it is clear and transparent. It is also very common to see glass plates, bowls and other serving dishes. All glass products suffer a strong drawback, which is that they are all extremely fragile.



*Figure 3.3 Glass Examples (Glassware, n.d.)*

Vitrified glass, which is usually opaque, is another type of glass tableware on the market (See Figure 3.4). This kind of tableware has been fired at an ultra-high temperature so that it is non-porous and extremely durable (Laughlin & Howes, 2012). The vitrified glass tableware appears like fine porcelain, but is virtually indestructible and will not break or chip even if dropped on a hard floor. Additionally, vitrified glass can be colored very easily, but is not easily sculpted.



Vitrified glass tableware

*Figure 3.4 Vitrified Glass Examples ( Corelle, n.d. )*

## ***Plastic***

Plastic material is lightweight but has a sturdy and inflexible feel. Polypropylene (PP) and melamine are two common materials currently in use in tableware industry, as they are relatively stable in daily use(see Figure 3.5). PP is mechanically tough and has a high impact resistance. However, PP is usually not glossy on the surface and not stable at high temperature. Also, it is not easy to wash oil stains from PP. Melamine is mechanically tough with a glossy appearance and is easily colored during production, but it is also unstable at high temperature(Lv, Wang, Hu, & Fan, 2005). Thus, Melamine and PP are not suggested for microwaveable tableware. Additionally, those plastic products are usually monotonously shaped, reducing the possibility of complexity.



Polypropylene and melamine tableware

*Figure 3.5* Plastic Tableware Examples (QVC, n.d.; Foodservicedirect, n.d.; & Melamine Product, n.d.)

## ***Wood and Bamboo***

Wood and bamboo are natural materials, enhancing their environmental friendliness and

also providing natural texture as shown in Figure 3.6, The natural texture has the value of an artistic decorative effect. However, as tableware, the wood and bamboo materials are easily susceptible to microbial contamination (Paulus, 2005). Also, tableware made from wood and bamboo are commonly painted during production, which may have a negative health effect. Today, wood and bamboo are commonly used materials for tableware accessories, but should possibly be avoided as serving dish pieces.



Wood and bamboo tableware

*Figure 3.6 Wood and Bamboo Tableware Examples (Marais, n.d.)*

### ***Stainless Steel***

Stainless steel is a kind of steel alloy with a minimum of 10.5% chromium content by mass (Davis, 1994), and this material is notable for its corrosion resistance. Stainless steel is relatively stable at high temperatures. Also, it is extremely tough mechanically. However, stainless steel tableware has several drawbacks. First, this kind of tableware is not suitable for storing strong acids and alkalis (Davis, 1994). Stainless steel is not recommended for use in vinegar containers. Second, steel usually gives a cold, metallic feel because steel is commonly used in industrial production (e.g. tools). See stainless steel tableware examples in Figure 3.7.

Stainless steel tableware



*Figure 3.7 Stainless Steel tableware examples (Abir, n.d.)*

### **3.2.2 Material Features**

Understanding the materials advantages, disadvantages, and manufacture features are important while applying them to product, so the commonly used materials were summarized as follow.

Table 3.2.1 summarizes advantages and disadvantages of the physical and aesthetic aspects of these commonly used materials.

Beyond the material advantages and disadvantages, there still exist some other material features. Design inspiration features and manufacturing complexity is important for designers to apply these materials Table 3.2.2 summarizes other features, such as special texture and thermal stability, which could bring extra design inspiration for designers, and also material manufacture features. The table also provide suggestions for designers to apply materials to different categories of tableware.

Table 3.2.1

*Material Advantages and Disadvantages*

<b>Material</b>	<b>Advantages</b>	<b>Disadvantages</b>
<b>Porcelain &amp; China</b>	Durable; Non-porous; Delicately constructed; Easily sculpted; Crisp, exquisite and glossy texture; Upscale appearance; makes life elegant; Heat and Corrosion resistance; High Hardness; Easy to clean	Very fragile; Not portable; Some colorful decoration may contain heavy metals
<b>Stoneware &amp; Earthenware</b>	Usually cheap; Easily sculpted; Heat and Corrosion resistance; Variety of textures: Shiny, satin, matte; Durable; Stoneware easy to clean	Very fragile; Heavy; Can not sustain in sudden or extreme temperature change; Earthenware is often porous
<b>Glass</b>	Usually extremely clear; Transparent; Glossy; Corrosion resistance; Easy to clean;	Not easy to shape due to heat forming; Extremely fragile; May go mouldy (chemical reactions $\text{Na}_2\text{SiO}_3$ , $\text{H}_2\text{O}$ and $\text{CO}_2$ may result in white precipitates) (Howse & Rawson, 1971)
<b>Vitrified glass</b>	Extremely durable; Non-porous; Usually light; Appears like porcelain, but very indestructible; Easily colored; Easy to clean; Corrosion resistance	Not easy to sculpt; Not as glossy as fine china; May melt or explode if microwaved
<b>Plastic</b>	Usually lightweight; Mechanical toughness; Melamine is easy to be colored; Acid and alkali resistance	Weak thermal stability; Not easy to clean; Usually monotonously shaped (Stamping molding); Cheap feel (High-volume product)
<b>Wood &amp; Bamboo</b>	All natural environmentally friendly; Beautiful natural texture; High value of art and collection; Some are exquisitely carved	Easily susceptible to microbial contamination; Some are painted during production, which is unhealthy; Not durable
<b>Stainless steel</b>	Metal corrosion resistance; Extreme mechanical strength; Durable; Variety of shapes; High temperature resistance	Cold feel of metal; Not stable in strong acid and alkali; Can not contain salt, soy sauce nor vinegar for a long time

Table 3.2.2

*Material Manufacture Features*

<b>Material</b>	<b>Design inspiration Features</b>	<b>Manufacture Complexity</b>
<b>Porcelain &amp; China</b>	Shiny; Crisp exquisite and glossy texture; Upscale appearance; Makes life elegant	Easily sculpted; Three ways to be colored
<b>Stoneware &amp; Earthenware</b>	Various textures: Shiny, satin, matte porous and opaque; Usually thick and rustic appearance	Easily sculpted; Stoneware is glazed earthenware; Stoneware is more colorful than earthenware
<b>Glass</b>	Usually extremely clear; Transparent; Glossy; Grand glass is opaque	Modeling in a real high temperature; Usually used for drinking
<b>Vitrified glass</b>	Usually opaque; Glossy, shiny and appears like porcelain	Easily to color; Not easily sculpted
<b>Plastic</b>	Melamine is glossy; Polypropylene is a somewhat transparent	Usually monotonously shaped (injection molding); Cheap feeling (High-volume product); Easily colored
<b>Wood &amp; Bamboo</b>	Beautiful natural texture; High value of art and collection	Could be exquisitely carved; Suitable for making chopsticks, spoons, and other small items
<b>Stainless steel</b>	Metallic luster	Good material for forks and knives

Table 3.2.1 and 3.2.2 summarizes the characteristics and possible applicable situations of each commonly used material.

### 3.2.3 Identify Material for Each Design

Combining the material features and symbolic inspirations is the key point when selecting different materials. In this section, the author will identify materials for designs according to the earlier research. Combining the folktale features with material characteristics, five principles are proposed.

1. Folktales usually have powerful visual images (Russell, 1991) that may help designers to identify materials. Furthermore, every folktale symbol has features (such as color, texture, pattern et al.). For example, “The crystal slipper” is an object of the folktale *Cinderella*, and is a powerful visual symbol, which induces designers to pick glass as the material. “Her white graceful body wore a million scales that sparkled and gleamed like precious pearls” is a sentence from the Chinese folktale *The white snake* to describe the character. The key words “white” “sparkled” and “gleamed” easily guide designers to pick fine porcelain. Some plots are also powerfully visualized. For instance, “A white fox sits on the ice hanging his tail in the hole” is a plot from the German folktale *The Fox and Hare In Winter*. In this plot, the white fox and the frozen lake are powerful visual symbols. So white fine porcelain and glass might be proper materials. The powerful visual images can induce designers to select material with proper features.
2. Form follows function is a principle of industrial design, which should be taken into consideration when identifying material process. For example, there are many weapons and equipments in folktales such as the ax, sword, rake, shovel, mace, etc. These types of symbols are good design inspirations for table cutleries

such as forks and knives. In order to achieve the functions, stainless steel is a superior for these items. For lowball, highball, goblet or any glassware for drinking wines or any other soft drinks, glass is the superior material. In sum, if designers conceptualized some symbols to cutlery or glassware, stainless steel and glass would be the superior materials.

3. Mass production is a common phenomenon for the tableware industry, so choosing material based on manufacturing complexity is important. To illustrate, porcelain, stoneware or earthenware would be the superior materials in the situation that when designers want to design serving dishes based on complex symbols, and they want to show the symbols in detail. The reason is that these materials are easily sculpted and engraved.
4. The appearances of materials are different, such as glossy, textured, rustic, metallic, and transparent. Different ideas may require special material textures. Some texture features were provided in some folktale settings, such as medieval Europe with its forests, castles, and cottages and Africa with its jungles. Designers can consider wood, bamboo or stoneware to present these symbols' natural texture features, and for wood and bamboo, the natural texture also adds value of aesthetics. For other specific symbols, the transparent glass, porous earthenware and textured stoneware would be good choices.
5. Besides the powerful visual images, the form follows function principle, the manufacturing complexity, and the material texture features, other features are also need to be considered when selecting proper materials. For instance, mechanical toughness is a point which should be considered when designing

tableware for children, and the material's thermal stability is an important point when designing tableware for using in microwaves.

### **3.3 Design Procedure**

After completing the design inspiration analysis, material research and identification steps, applying them to the design process is the next task. This study will continue with a flowchart for this step.

Figure 3.8 concluded the detail process of tableware design with folktale features. Content in blue summarized the detailed process of how to get inspiration from folktale symbols, while content in orange summarized how to apply materials.

In the tableware design process, form, pattern, texture, color, decoration, balance and reputation (Anwar, Abidin & Hassan, 2015) are the major design aspects. The design procedure continues with those aspects.



### 3.3.1 Form and Pattern

In the initial design period, the essential step is to confirm shapes or forms of the design objects. According to the previous research, shapes or forms could be collected from the visualized descriptions in folktales. For example, in the German folktale *The Fox and Hare In Winter* the sentence “A white fox sits on the ice hanging his tail in the hole” shows the shape of the fox and the hole on the ice. Shape and form inspiration can be derived from folktale characters, objects, settings, plots, and themes.

Table 3.3.1

*Lists Shapes of Items Mentioned From Table 2.4.1 to Table 2.4.5.*

<b>Category</b>	<b>Symbols</b>	<b>Description</b>
Settings	West Lake(place)	Tall, slender-leafed willow trees lined the shore; Surface was dotted with flat-bottomed boats fitted with red and white canopies. (“The white snake”)
	Golden Mountain Temple(place)	Carved into a bluff rising steeply above the sea (“The white snake”)
	Mountain(place)	High on a craggy mountain veiled in wisps of trailing clouds (“The white snake”)
Characters	Fa Hai	A monk, dressed with wide sleeves (“The white snake”)
	Syu Syan	Handsome young man holding an umbrella on his lap (“The white snake”)

	White snake	Her long, graceful body (“The white snake”)
	13 animals	Rat, ox, tiger, rabbit, dragon, snake, horse, sheep, monkey, rooster, dog, pig and cat (“The year of the rat to the year of the pig”)
	2 animals	Fox and Hare (“The fox and hare in winter”)
	Horse	With wings and changing colors (“The horse of seven colors”)
	Cat	Clever, energetic cat who could cross the street with one leap; All the decorations on cat (“The tale of cat and dog”)
	Dog	Cat’s lazy friend, the dog, who spend all his time playing (“The tale of cat and dog”)
Objects	Flat-bottomed boats	Flat-bottomed boats filled with red and white canopies. (“The white snake”)
	Dragon Boat	Dragon Boat (“The white snake”)
	Exposed stone in the river	The rabbit hops from one exposed stone to another. (“The year of the rat to the year of the pig”)
	Log	A rabbit clings to a log (“The year of the rat to the year of the pig”)
	Raft	Rooster, sheep and monkey on board. (“The year of the rat to the year of the pig”)
	Basket	Basketfuls eggs, as to the hare, it’s enough food for a whole week. (“The fox and hare in winter”)
	Wand	As a gift for nice and responsible person “Use this wand to call me.No matter where you are, I’ll be there in a moment” (“The horse of seven colors”)

	Horse manure	As a punishment for bad guys; The purchasers opened the grain sacks and found horse manure (“The horse of seven colors”)
	Stones	As a punishment for bad guys; The dealers opened the grain sacks and found stones (“The horse of seven colors”)
	High quality wheat	As a reward for nice guys; When he opened the sacks and showed them wheat of the highest quality (“The horse of seven colors”)
Plots	Three pool marring the moon	“When the moonlight strikes the rocks, three shimmering orbs may be seen floating on the water.” (“The white snake”)
	Flooded Golden Mountain Temple by water	“Churning up wild foamy sprays, they sent waves crashing against the mountain. The water rose, fell, spun around in wild eddies. through it all the mighty mountain withstood the onslaught, and the temple.” (“The white snake”)
	Rat and cat stay on ox’s back to cross the river	“With one leap, the cat was on the ox’s back, while the rat scrambled up the side of the huge breast as best he could. Snorting and panting, the ox lumbered toward the river and stepped cautiously into the water.” (“The year of the rat to the year of the pig”)
	Rat push cat into the water	As the cat turned her head, the rat, with little effort, pushed her off the ox’s rump into the river. The rat last saw the cat looking at him, incomprehension and fear in cat’s eyes. (“The year of the rat to the year of the pig”)

	Ox towards to the shore with rat	Blowing bubbles out of his nose with each wheezing breath, the ox exerted himself to the utmost of his strength. with a final burst of energy, straining every muscle, he reached the opposite shore and pulled himself up on the sandy beach. (“The year of the rat to the year of the pig”)
	Tiger in the swift current	“Tiger was swimming strongly and making good headway when he got caught in the swift current. It carried tiger downstream, and in seconds tiger was off course. The tiger tried to reverse his direction but was pulled into a whirling eddy that spun him round and round and dragged him downward.” (“The year of the rat to the year of the pig”)
	Dragon help rabbit to cross the river	The dragon noticed the rabbit struggling to cross the river on a log on his way to destination, and he stopped to raise a helpful breeze to blow him ashore. (“The year of the rat to the year of the pig”)
	Rooster, sheep and monkey cross the river	The rooster saw the monkey and the sheep standing near the river, looking dejected, and invited them on board. The raft, caught in tall weeds, was difficult to free. The monkey pulled, the sheep pushed, the rooster stirred up a few waves with his wings, and they were off. (“The year of the rat to the year of the pig”)
	Celebration	The ox lowed, the tiger leaped into the air, while the rabbit hopped up and down. the dragon belched fire, the snake hissed, the horse whinnied. The sheep, the monkey, and the rooster joined in, baa-ing, chattering, and crowing. When the dog added his bark and pig her oink, the din became unbearable. (“The year of the rat to the year of the pig”)

Cat ran the thirteenth	Bedraggled, her wet, tousled fur standing on the end, the cat sprang before the Jade Emperor. (“The year of the rat to the year of the pig”)
Cat regard rat as enemy	The cat stormed and raged. She lunged for the rat whose treachery she vowed to repay. The rat sensed he was in mortal danger. Scurrying in and out among the grasses, he managed to elude the cat’s grasp. (“The year of the rat to the year of the pig”)
Hare's way fishing	“The hare stands on the ice and put his little tail into the hole, and after some time, he draw it out and there are plenty of fish hanging on his tail.” (“The fox and hare in winter”)
Fox sit on ice hanging tail in the hole	After a while fox tried pulling and found that his tail was getting heavy, but he continued to sit there. The fox could not get his tail out, although he pulled as hard as he could, but the tail was frozen fast in the ice. (“The fox and hare in winter”)
Cat went to vizier’s house	Get bathed, combed the hair and get perfumed (“The tale of cat and dog”)
Cat went to prince’s house	Get dressed in silk (“The tale of cat and dog”)
Cat went to sultan’s house	Cat was decorated in pearls and coral. (“The tale of cat and dog”)
Cat went to king’s palace	Was adorned with earrings, a necklace, a ring, an anklet and a bracelet; Her paw were decorated with henna and endowed with great strength (“The tale of cat and dog”)
Watch the wheat field	The eldest son dozed off; The second son lay down to sleep; The youngest son pushed him awake for whole night by pins (“The tale of cat and dog”)

Themes	The struggle to achieve autonomy or to break away from present life	The white under the leifeng tower(雷峰塔) (“The white snake”)
	The importance of integrity	The hare beaten the fox: Now the hare approached with a stick, hit the fox over the head from the right side and from the left, until the fox fell down dead. (“The fox and hare in winter”)
	Teaching children do not be lazy	The lazy dog was been locked up, beaten, and finally thrown out; The lazy dog stumbled and fell in to the abyss and died and was immediately wrapped in seven layers of cloth (“The tale of cat and dog”)
	The discovery of loneliness on a journey to maturity; Industrious kindness and integrity is important	The little horse leaves the happy standing price standing next to this bride (“The horse of seven colors”)

Both shapes and patterns can inspired by folktale symbols. Also, drawing shapes on paper is a way to create patterns. Thus, these shape inspiration informations listed in table 3.3.1 could also be regarded as pattern inspirations.

According to Flowchart 3.1, china stoneware and earthenware are appropriate media for any complex formed tableware, because clay is a versatile material, which can be shaped into almost any form. Wood and bamboo could also be any shapes as accessories. Glass, plastic and stainless steel would not be the proper material for some complex concepts. Patterns can be applied to almost any material to enhance the final design.

Forms and patterns could also be influenced by regional culture and religion. For example, lotus petals are usually associated with Buddhism and prunus was a popular motif on Chinese decorative arts. Both of them are commonly applied to tableware (Figure 3.9).



Lotus form and prunus pattern

*Figure 3.9 Religion and Regional Culture Influenced on Serving Dishes (Chinese Antique Net, n.d.)*

### **3.3.2 Texture, Color and Decoration on Tableware**

Different materials have different textures, so different material textures lead to different effects. The suitable surface texture could enhance the design. With the highly developed industry, color can be applied onto materials easily, especially onto clay. The color of an object can strengthen the forms and patterns of the design. In tableware design, decoration is a common method for enhancing the aesthetics of objects, especially in serving dishes and accessories (Chiang, 2012). These symbols can also be found in folktales.

Table 3.3.2

*Summarized descriptions related to the colors, texture and decoration from Table 2.4.1 to Table 2.4.5*

Category	Symbols	Sub-feature	Description
Setting	West Lake(place)	Color	Tall, slender-leafed willow trees lined the shore; (“The white snake”)
Characters	Fa Hai	Texture	A monk, dressed with wide sleeves (“The white snake”)
	Syu Syan	Decoration	Handsome young man holding an umbrella on his lap (“The white snake”)
	White snake	Color Texture Decoration	Her long, graceful body wore a million scales that sparkled and gleamed like precious pearls. (“The white snake”)
	13 animals	Color Texture	Rat, ox, tiger, rabbit, dragon, snake, horse, sheep, monkey, rooster, dog, pig and cat; The natural color and texture features of animals (“The year of the rat to the year of the pig”)
	Horse	Color	Seven changing colors (“The horse of seven colors”)
Objects	Flat-bottomed boats	Color	Flat-bottomed boats filled with red and white canopies (“The white snake”)
	Gown	Color Texture	Shimmering white gown embroidered with gold thread (“The white snake”)
	Blouse	Color Texture	Dainty green blouse (“The white snake”)

	Exposed stone in the river	Texture	One exposed stone to another (“The year of the rat to the year of the pig”)
	Basket	Texture	Basket natural texture (“The fox and hare in winter”)
	Horse manure	Color Texture	Horse manure natural color and texture (“The horse of seven colors”)
	High quality wheat	Color Texture	High quality wheat natural color and texture (“The horse of seven colors”)
Plots	Three pool marring the moon	Color Texture	“When the moonlight strikes the rocks, three shimmering orbs may be seen floating on the water.” (“The white snake”)
	Flooded Golden Mountain Temple by water	Texture	“Churning up wild foamy sprays, they sent waves crashing against the mountain. The water rose, fell, spun around in wild eddies. through it all the mighty mountain withstood the onslaught, and the temple.” flood texture (“The white snake”)
	Tiger in the swift current	Texture	“Tiger was swimming strongly and making good headway when he got caught in the swift current. It carried tiger downstream, and in seconds tiger was off course. The tiger tried to reverse his direction but was pulled into a whirling eddy that spun him round and round and dragged him downward.” Swift current texture (“The year of the rat to the year of the pig”)
	Dragon help rabbit to cross the river	Texture	The dragon noticed the rabbit struggling to cross the river on a log on his way to destination, and he stopped to raise a helpful breeze to blow him ashore. Breeze texture (“The year of the rat to the year of the pig”)

	Cat ran the thirteenth	Texture	Bedraggled, her wet, tousled fur standing on the end, the cat sprang before the Jade Emperor. Wet cat feather texture (“The year of the rat to the year of the pig”)
	Hare's way fishing	Color	“The hare stands on the ice and put his little tail into the hole, and after some time, he draws it out and there are plenty of fish hanging on his tail.” (“The fox and hare in winter”)
	Fox sits on ice, hanging its tail in the hole	Color	After a while fox tried pulling and found that his tail was getting heavy, but he continued to sit there. The fox could not get his tail out, although he pulled as hard as he could, but the tail was frozen fast in the ice. (“The fox and hare in winter”)
	Cat went to vizier's house	Decoration	Get bathed, combed the hair and get perfumed (“The tale of cat and dog”)
	Cat went to prince's house	Texture Decoration	Get dressed in silk (“The tale of cat and dog”)
	Cat went to sultan's house	Texture Decoration	Cat was decorated in pearls and coral. (“The tale of cat and dog”)
	Cat went to king's palace	Decoration	Was adorned with earrings, a necklace, a ring, an anklet and a bracelet; Her paw were decorated with henna and endowed with great strength (“The tale of cat and dog”)
Themes	The importance of integrity	Color	The hare beat the fox: Now the hare approached with a stick, hit the fox over the head from the right side and from the left, until the fox fell down dead. White iced lake (“The fox and hare in winter”)

	The discovery of loneliness on a journey to maturity; Industrious, kindness and integrity is important	Color	The little seven colored horse leaves the happy standing price standing next to this bride (“The horse of seven colors”)
--	--	-------	--

This table lists texture, color, and decoration features described in folktales. Designers could apply the different textures, colors, and decorations to their objects based on this information. Furthermore, designers could also combine the material merits with Figure 3.8 to apply materials.

Additionally, another common ornamentation on the tableware is enclosed by a border. The most popular border was a squared spiral used in a narrow band placed well below the lip of the bowl or plate, shown in Fig. 3.10.



*Figure 3.10 The Border Ornaments (Wanelo, n.d. & Rechi, n.d.)*

### 3.3.3 Balance and Repetition

Balance, the essential component of any design work, is the equal distribution of visual weight (Anwar, Abidin & Hassan, 2015). Visual weight is the relative visual impact or importance of art elements and their characteristics in a composition. There are three types of balance: symmetric, asymmetric and radial balance (Arnheim, 1956). In tableware design, repetition is usually a kind of balance. Also, repetition is a folktale feature (Russell, 1991).

Table 3.3.3

*Lists The Repetitions Described Directly From Table 2.4.1 to Table 2.4.5*

Category	Symbols	Description
Characters	Three sons	Eldest son, Second son, Youngest son (“The horse of seven colors”)
Objects	Three grain sacks	The purchasers opened the grain sacks and found horse manure; The dealers opened the grain sacks and found stones; The dealers opened the grain sacks and found high quality wheat (“The horse of seven colors”)
Plots	Three pool marring the moon	“When the moonlight strikes the rocks, three shimmering orbs may be seen floating on the water.” (“The white snake”)
	The cat was decorated four times	Cat went to vizier’s house; Cat went to prince’s house; Cat went to sultan’s house; Cat went to king’s palace (“The tale of cat and dog”)
	The dog was been locked up, beaten, and finally thrown out four times	Dog went to vizier’s house; Dog went to prince’s house; Dog went to sultan’s house; Dog went to king’s palace (“The tale of cat and dog”)

According to research found in Chapter 2, repetition is a feature of folktales (Russell, 1991), so designers can obtain inspiration from repetition in folktales. In tableware design,

repeating a single object is a common method to enhance the aesthetic value (Arnheim, 1956). Figure 3.11 shows balance and repetition in tableware design.

Additionally, some special needs must be considered during the design procedure. To demonstrate, consideration of material durability is important in designing tableware for children and the material heat resistance should be considered in designing tableware for use in a microwave.



Balance and repetition in tableware design

*Figure 3.11 Examples of Balance and Repetition in Tableware (Royal Copenhagen, n.d.; The Dancing Rest, 2017)*

Furthermore, dietary habits differ from area to area as does tableware. To illustrate, people use forks and knives in Western countries. By contrast, people use chopsticks more in Eastern countries. Designers should be aware of different dietary habits of different target customers during the design guidelines applications.

## CHAPTER 4. DESIGN GUIDELINE APPLICATION

The guidelines and design flowchart (figure 3.8), developed in previous chapters, will be demonstrated in this chapter. This chapter will focus on following the design flow chart and applying folktale symbols in order to achieve a design result that satisfies the product function and contains cultural folktale features. In this thesis, the folktale “The Year of Rat to the Year of Pig,” Found in *Traditional Chinese Folktales* (Yin-Lien,1996), will be the example to continue the design process.

### 4.1 Identify Design Category

In today’s markets, tableware is generally divided into four categories: cutlery, glassware, serving dishes and accessories (Andrews, 2013). The term cutlery usually refers to forks and knives, and the term glassware usually refers to water, juice and wine containers. Bowls, plates and some other ceramic serving for dishes constitute the serving dishes category. Accessories include any other small items such as chopsticks, spoons, salt and pepper shakers. In this thesis, serving dishes are the selected category to demonstrate the guidelines; other categories may be included in future studies.

### 4.2 Design Process

The following procedures and methods were used to conduct the study (Figure 4.1):

In the research step, a folktale is chosen first. The Chinese folktale “The Year of rat to the Year of Pig” was chosen in this section, since it has a strong relationship with the Chinese culture and social environment.

When reading or listening to the selected folktale, the designers should explore many different areas and collect all the valuable information that will provide more inspirations to designers. After reading or listening to the entire tale, the inspired descriptions are categorized

into a number of groups. Next, the design guideline is developed. Finally, design symbols are selected. Based on Figure 3.8, materials are identified for symbols.

Then, the designers should determine how many tableware items would be appositely to explain the chosen folktale. This study will develop one set of tableware to tell the story of “The Year of Rat to the Year of Pig” to consumers. Significant folktale symbols from the story will be used. According to the folktale’s powerful visualized plots descriptions, this study will use five animals (rat, ox, tiger, dragon, and rabbit) symbols to develop three plates.

Next, the design development will take place. Before concept creation, the designer should set the entire design style. In the concept development phase, designers should utilize the design guidelines to create the concept draft of the product. All of the concepts were evaluated based on folktale. The better solutions are selected for further refinement. After refining, the best possible solutions are prototyped to validate the effectiveness of the design guideline.

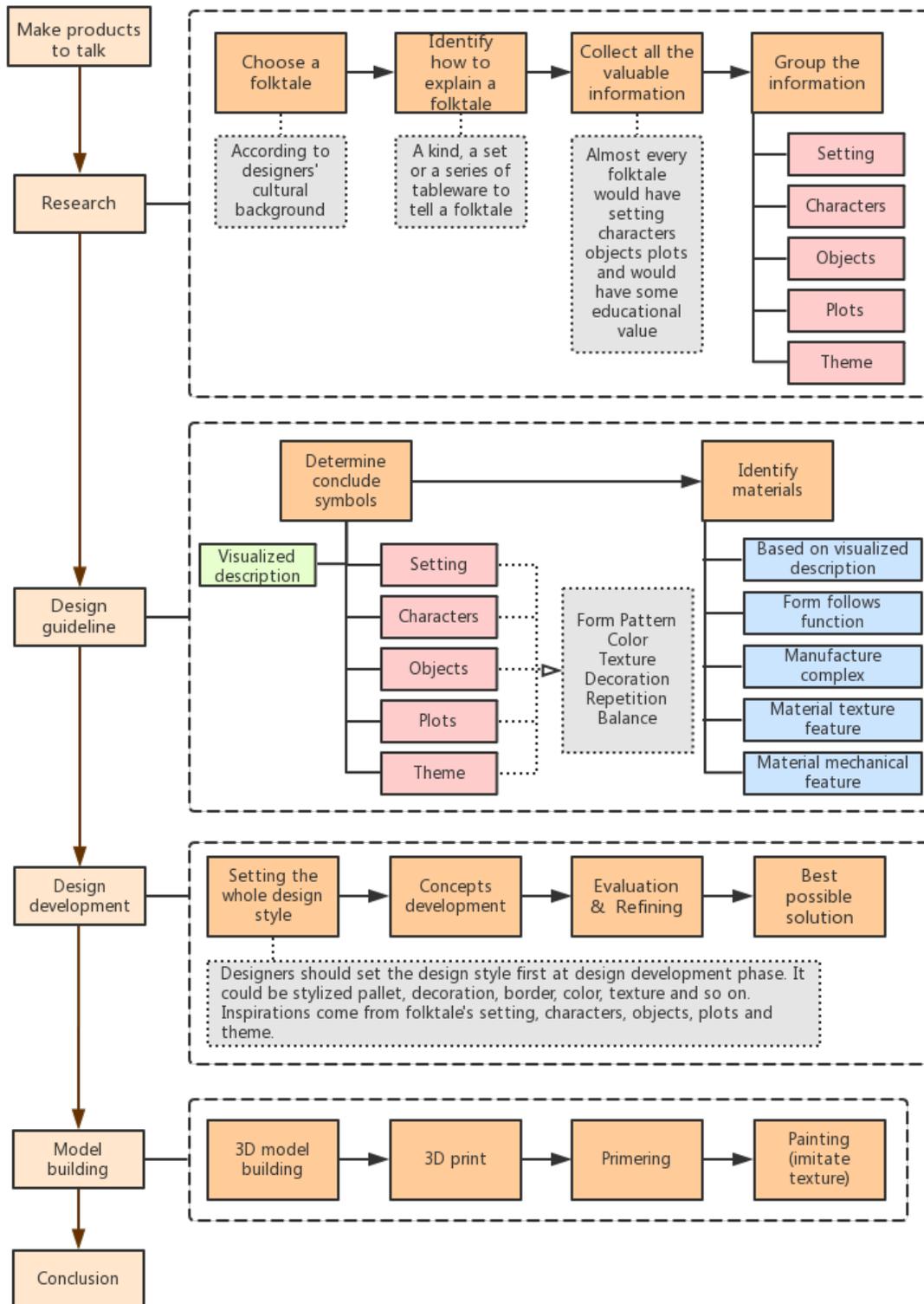


Figure 4.1 Design Process Flowchart

## 4.3 Design Development

### 4.3.1 Design Style Identification

In the plot of the folktale “The Year of Rat to the Year of Pig”, every animal tried to cross a river. Based on the plot, the water wave inspiration was used as the style identification element in this study. Furthermore, this water drop shaped outline is also inspired by the plot.



Figure 4.2 The Water Waved Texture and Water Drop Shaped Plate in This Study

### 4.3.2 Concept Ideation

#### *Form Development*

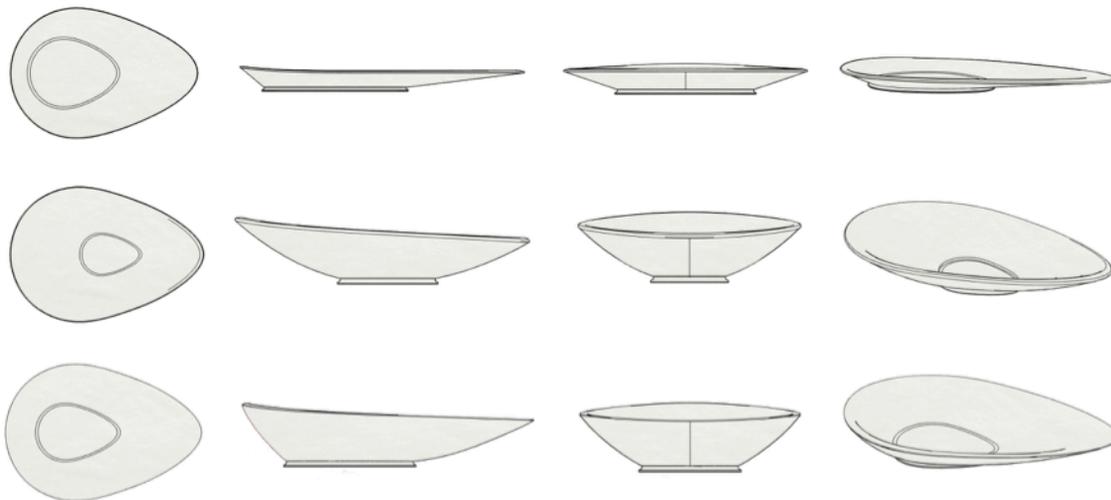


Figure 4.3 Form Layouts

Each row in Fig. 4.3 represents the top view, front view, right view, and perspective view, from left to right, of the three plates developed.

**Texture and Decoration**

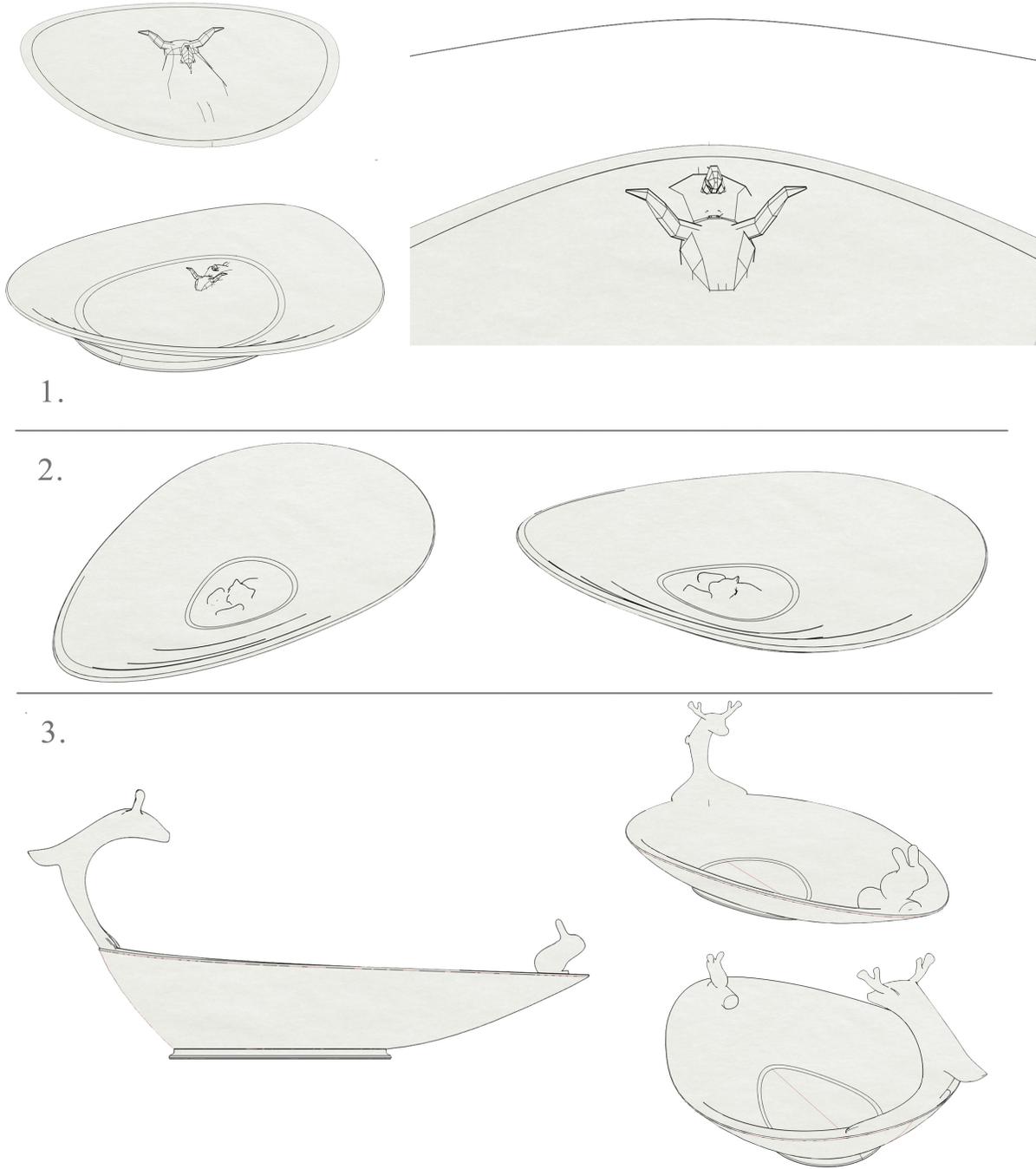


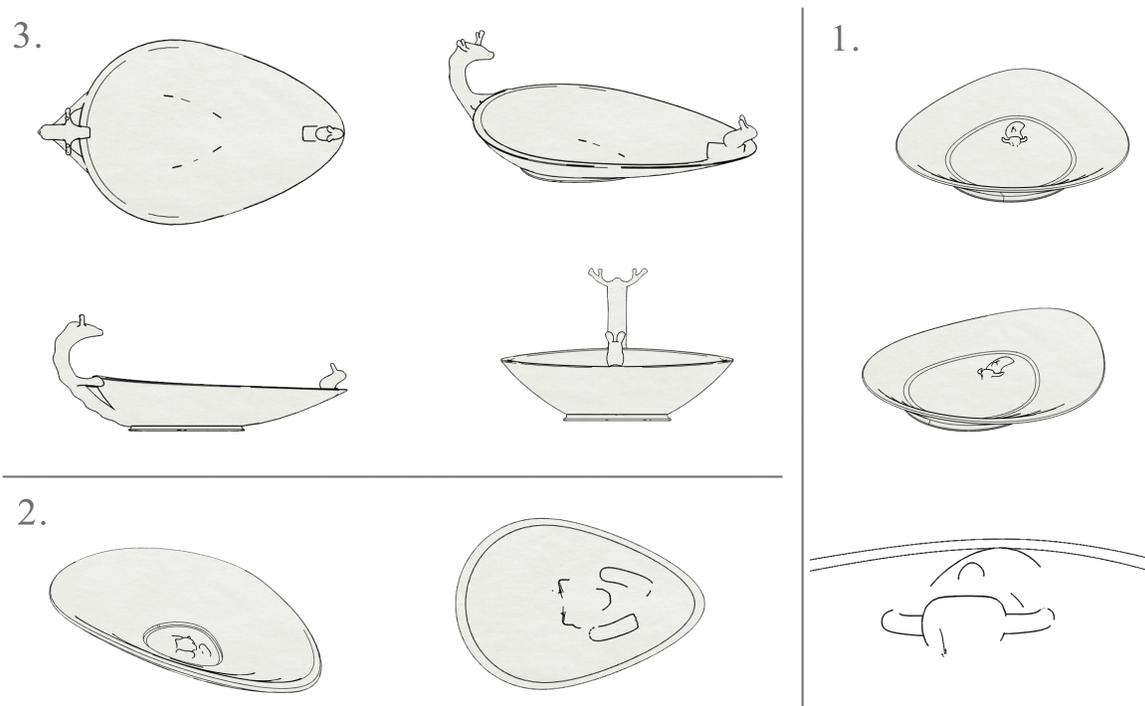
Figure 4.4 Decoration Layouts

According to the folktale symbols studied in the previous chapter, the following symbols were selected:

1. The ox swam across the river with a rat on his back.
2. The tiger struggled in the swift current while crossing the river.
3. The dragon raised a breeze to help the rabbit cross the river on a log.

The animal figure decoration as well as water wave texture on the plates are inspired by the folktale.

### *Evaluation and Refinement*

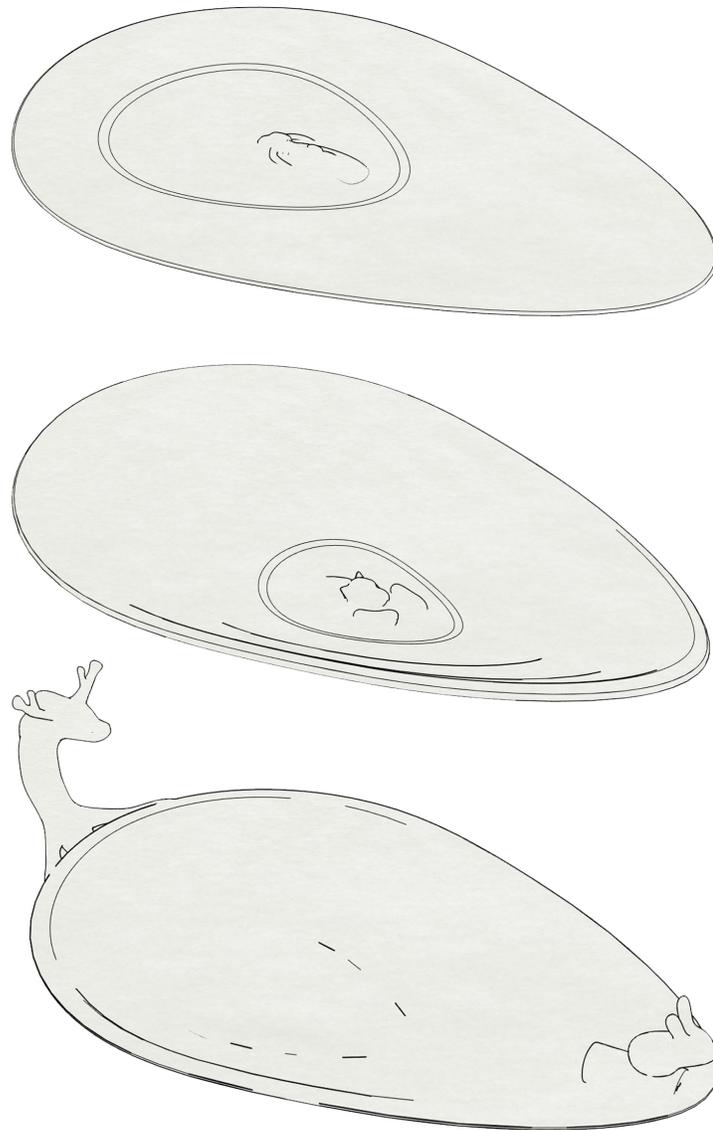


*Figure 4.5* Evaluation and Refinement Layouts

In consideration of practical functions, the animal figures were modified. The Dragon's body was thickened; the ox's horn was modified close to water, which represents the plot in the

study. The tiger remained the same.

### ***Best Possible Solution***



*Figure 4.6 Best Possible Solution Layouts*

Figure 4.6 shows the best possible solution layout, which represents symbols (i.e. water, animal figures, and plots) in the folktale and provides practical function.

## **4.4 Molding Making**

### ***Computer Model Building***

Based on the concept ideation, the folktale featured plates will be built in 3D computer

models in this section.

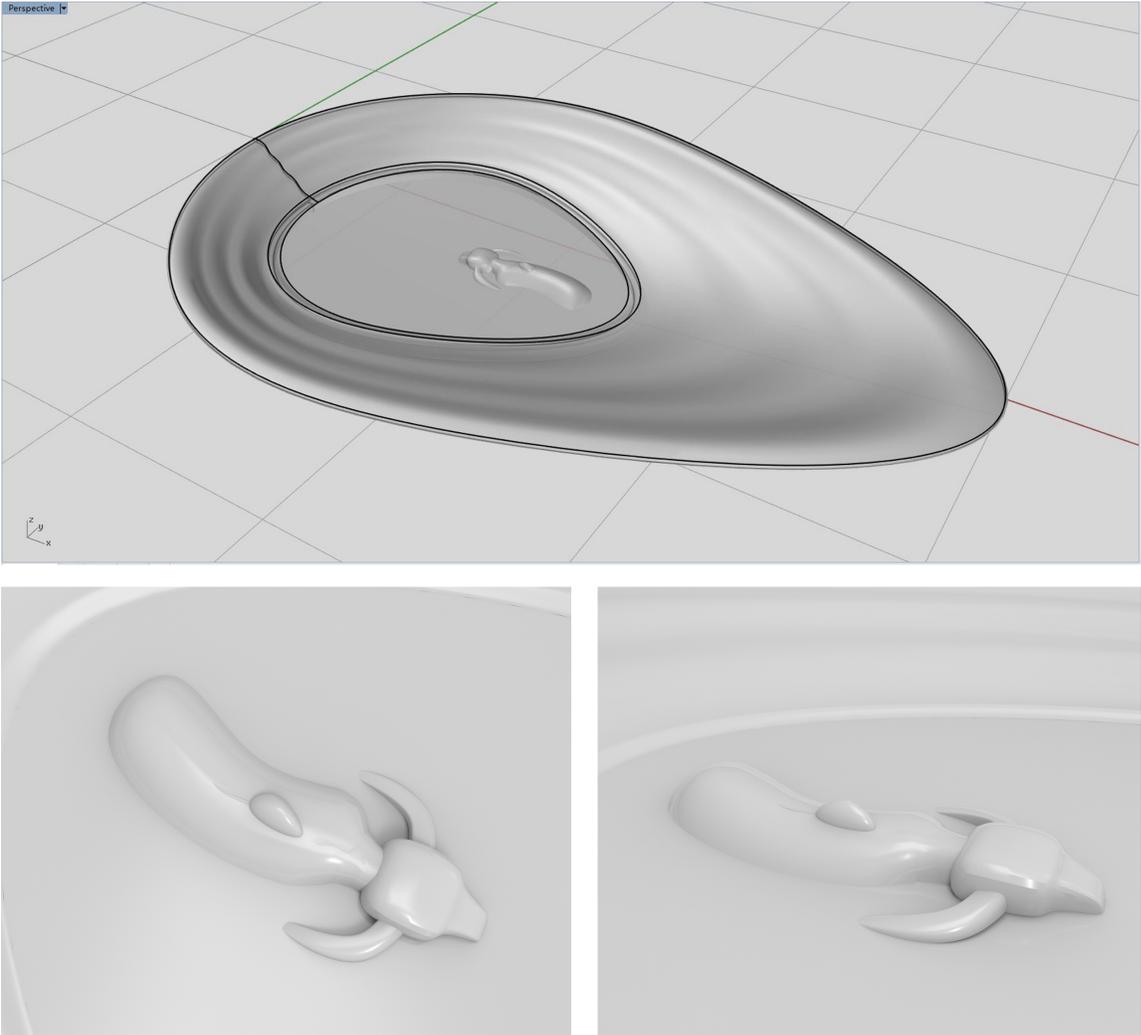
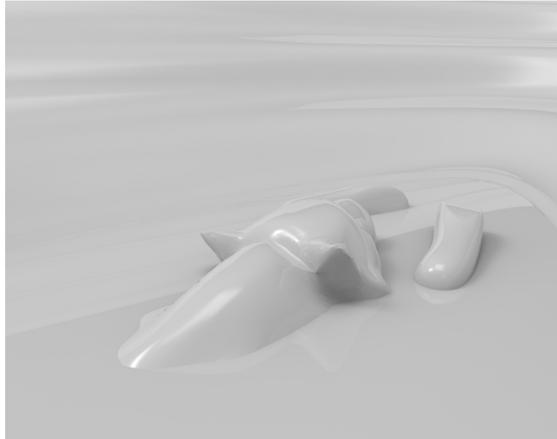
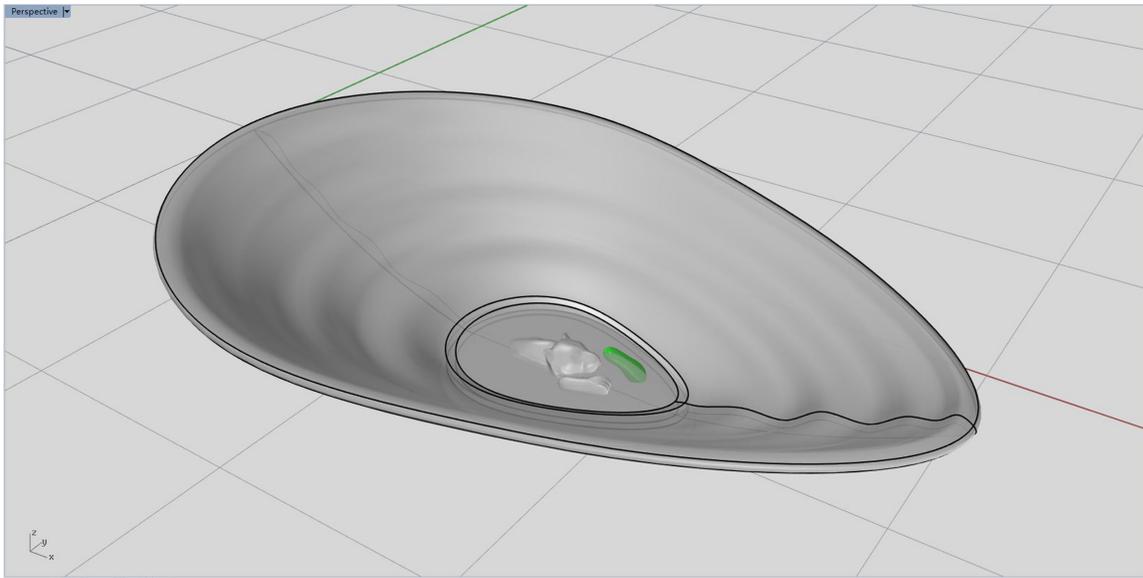
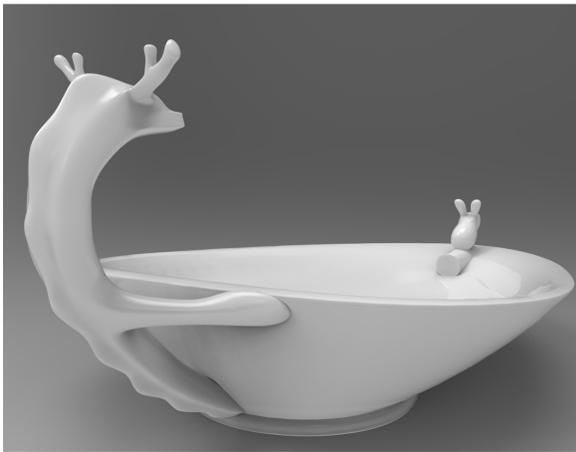
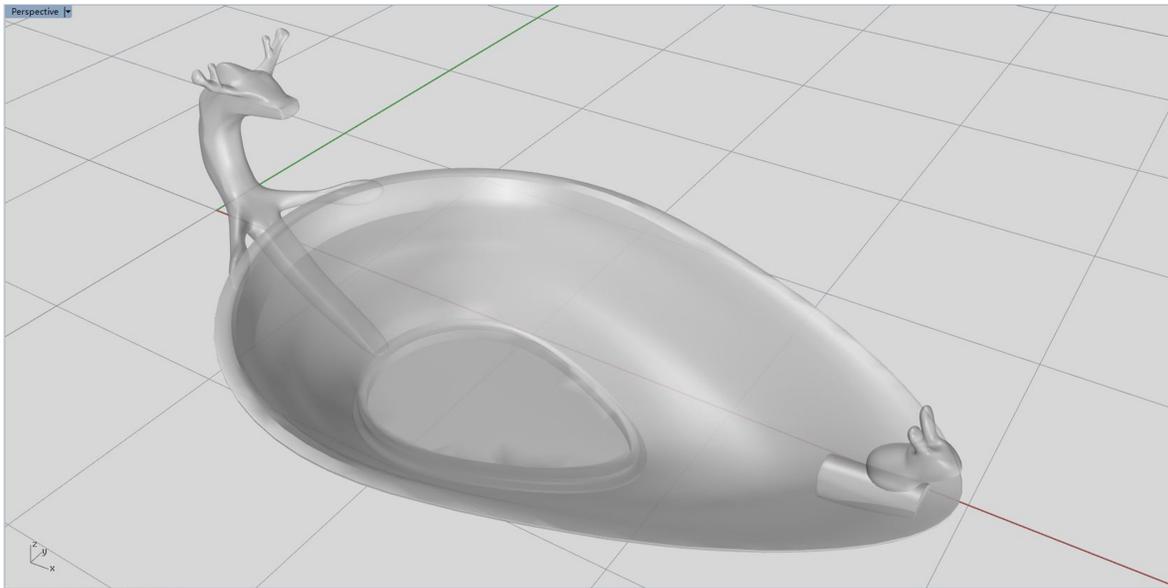


Figure 4.7 The Ox and Rat Models



*Figure 4.8* The Tiger Models



*Figure 4.9* The Dragon and Rabbit Models

### ***3D Print Test Model***

The 3D print was chosen to making physical model instead of ceramic work.



*Figure 4.10* The 3D Print Plates Layouts

### ***Primer and Paint Test Model***

Porcelain was chosen because of complicated shape of animal and white glossy appearance of plates. Ceramic glossy paint was chosen to achieve the white glossy texture.



*Figure 4.11* The Primered Test Models Layouts



*Figure 4.12* The Painted Ox and Rat Test Plate



*Figure 4.13* The Painted Tiger Test Plate

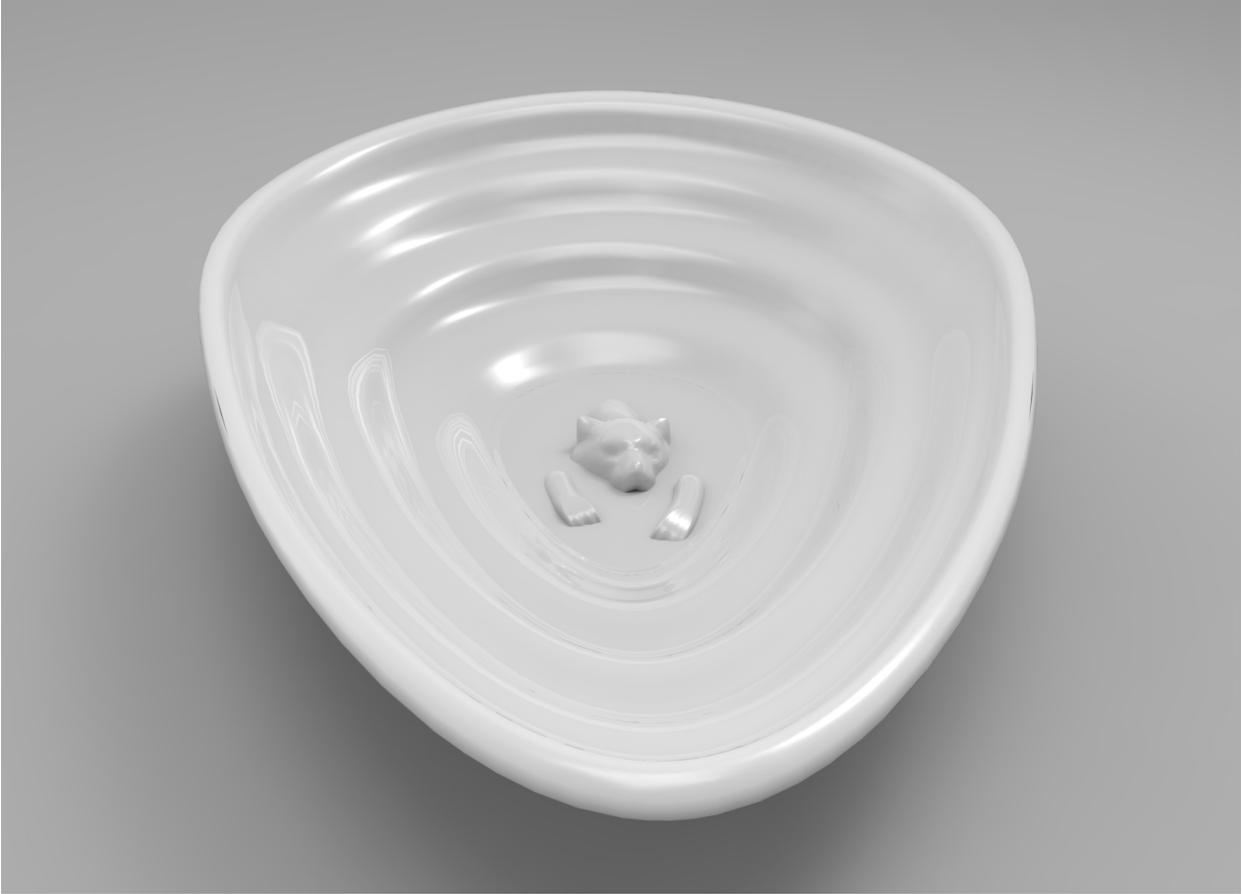


*Figure 4.14* The Painted Dragon and Rabbit Test Plate

*Final Design*



*Figure 4.15* The Ox and Rat Plate



*Figure 4.16* The Tiger Plate



*Figure 4.17* The Dragon and Rabbit Plate



*Figure 4.18* The Final Design Layouts

#### **4.5 Summary**

This set of tableware successfully followed the design guidelines in this thesis. The tableware has a strong relationship with the Chinese folktale “The Year of the Rat to the Year of the Pig” and is created by applying the aesthetic features in Chapter 2. The designed tableware shows exploration of the design guideline.

## **CHAPTER 5. CONCLUSION AND FURTHER STUDY**

### **5.1 Conclusion**

The objective of this thesis is to propose a design guideline to apply regional folktale elements into current daily-use tableware design. The results of the study of literature review chapter shows that the folktale is an element of regional culture, and differs from area to area. Furthermore, design inspiration comes from the setting, character, object, plot, and theme of the folktale, and the significant symbols are usually described as powerfully visualized. The aesthetic elements, such as shape, pattern, texture, color, balance, and repetition, are also inspired by the folktale. The common materials of tableware industry are studied and analyzed. Material identification can also be inspired by folktales.

To create tableware with characteristics of folktales, the sample work is to demonstrate the application of the design guidelines. Designers can apply part of the design guidelines to the product design. It is not necessary to consider all the guidelines, depending on how many tablewares pieces to be designed and how many folktale details to show in the products.

In design guidelines application chapter, the Chinese folktale “The Year of Rat to the Year of Pig” was chosen as an example to explain the design guidelines. These design guidelines help the author to create four plates with water wave style and water drop outline. Furthermore, the activity symbols of ox, rat, tiger, dragon, rabbit, sheep, rooster, and monkey are also inspired by the folktale. The designed products bear the Chinese cultural influence of Chinese classic folktale literature.

### **5.2 Recommendation for Further Study**

More aspects can be further investigated in the next phase. These design guidelines can be changed with the development of manufacturing technique and society, and feedback from users. The African folktale is not researched in this study because Africa consists of various tribal cultures and it was very difficult to find a representative folktale. The African folktale is recommended for future study. Furthermore, of the five folktales researched in the previous chapter, “The Year of the Rat to the Year of the Pig” was chosen to demonstrate the design guidelines in the design guidelines application chapter. Other folktales are recommended for future study.

## REFERENCES

- Abaya UK. (n.d.). *The online boutiques of the Abayas*. Retrieved from <https://abayaukonlines.wordpress.com/tag/abaya-uk/>
- Abir. (n.d.). Stainless steel dinner set. Retrieved from <https://www.indiamart.com/abir/stainless-steel-dinner-set.html>
- Acta. (n.d.). Diamano coura west African dance company. Retrieved from <http://www.actaonline.org/content/diamano-coura-west-african-dance-company>
- African American Traditions. (2014). Student portfolio. Retrieved from <http://aatraditions.blogspot.com/p/student-portfolio.html>
- Andrews, S. (2013). *Food and beverage service: A training manual*. India: Tata McGraw-Hill Education.
- Anwar, R., Abidin, S. Z., & Hassan, O. H. (2015). A framework of empirical study through design practice for industrial ceramic sanitary ware design. In *International Colloquium of Art and Design Education Research (i-CADER 2014)* (pp. 683-694). Springer Singapore.
- Arab Instruments. (n.d.). *The OUD musical instrument*. Retrieved from <http://www.arabinstruments.com/the-oud-instrument>
- Arnheim, R. (1956). *Art and visual perception: A psychology of the creative eye*. California, CA: Univ of California Press.
- Art Mediums. (n.d.). Ceramics. Retrieved from <http://www.webpages.uidaho.edu/midl2441/indexceramicsv2.html>
- BABA THE STORY TELLER. (n.d.). The ancient craft of jaliyaa. Retrieved from <http://babathestoryteller.com/the-ancient-craft-of-jaliyaa/>

- Bierhorst, J. (2002). *Latin American folktales: stories from Hispanic and Indian traditions*. New York, NY: Pantheon Books.
- Caldwell, J. C., & Caldwell, P. (1987). The cultural context of high fertility in sub-Saharan Africa. *Population and development review*, 409-437.
- Cheesman, J. (2014, May 1). *How to make the most of carnival in Brazil*. Retrieved from <http://stunningplaces.net/how-to-make-the-most-of-carnival-in-brazil/>
- Chiang, W. M. (2012). 'UN healthy tableware design. Retrieved from [http://scholarworks.rit.edu/cgi/viewcontent.cgi?article=1684&context=theses&sei-redir=1&referer=https%3A%2F%2Fscholar.google.com%2Fscholar%3Fq%3DChiang%252C%2BW.%2BM.%2B%25282012%2529.%2B%25E2%2580%2598UN%2Bhealthy%2Btableware%2Bdesign.%26btnG%3D%26hl%3Den%26as\\_sdt%3D0%252C1#search=%22Chiang%2C%20W.%20M.%20%282012%29.%20%27UN%20healthy%20tableware%20design.%22](http://scholarworks.rit.edu/cgi/viewcontent.cgi?article=1684&context=theses&sei-redir=1&referer=https%3A%2F%2Fscholar.google.com%2Fscholar%3Fq%3DChiang%252C%2BW.%2BM.%2B%25282012%2529.%2B%25E2%2580%2598UN%2Bhealthy%2Btableware%2Bdesign.%26btnG%3D%26hl%3Den%26as_sdt%3D0%252C1#search=%22Chiang%2C%20W.%20M.%20%282012%29.%20%27UN%20healthy%20tableware%20design.%22)
- Chinese Antique Net. (n.d.). Retrieved from [http://www.gucn.com/Service\\_CurioStall\\_Show.asp?Id=14358419](http://www.gucn.com/Service_CurioStall_Show.asp?Id=14358419)
- Corelle. (n.d.). Dinnerware set. Retrieved from <http://www.corelle.com/corelle-sets/>
- Darling Harbour Fiesta. (2012). *Baile Mexicano*. Retrieved from [https://darlingharbourfiesta.wordpress.com/2012/10/07/baile-y-musica/20121006\\_144052-mexican/](https://darlingharbourfiesta.wordpress.com/2012/10/07/baile-y-musica/20121006_144052-mexican/)
- The Dancing Rest. (2017). Origamigeschirr- The origami tableware by Moij design. Retrieved from <https://thedancingrest.com/2017/02/09/origamigeschirr-the-origami-tableware-by-mojj-design/>
- Davis, J. R. (Ed.). (1994). *Stainless steels*. ASM international.
- Fayed, 2017. *Top commonly used Middle Eastern spices and herbs*. Retrieved from <https://www.thespruce.com/middle-eastern-spices-and-herbs-2355845>

- Foodservicedirect. (n.d.). Retrieved from  
<http://www.foodservicedirect.com/product.cfm/p/15088/Carlisle-Heavy-Duty-Melamine-Traditional-Style-Oval-Platter-9-1/4-x-6-1/4-inch.htm>
- Galos, K. (2011). Composition and ceramic properties of ball clays for porcelain stoneware tiles manufacture in Poland. *Applied clay science*, 51(1), 74-85.
- Gaston-Johansson, F., Albert, M., Fagan, E., & Zimmerman, L. (1990). Similarities in pain descriptions of four different ethnic-culture groups. *Journal of pain and symptom management*, 5(2), 94-100.
- Glassware. (n.d.). In Merriam-Webster. Retrieved from  
[http://www.visualdictionaryonline.com/food-kitchen/kitchen/glassware\\_2.php](http://www.visualdictionaryonline.com/food-kitchen/kitchen/glassware_2.php)
- Goldberg, H. E. (1996). *Sephardi and Middle Eastern Jewries: history and culture in the modern era*. Indiana University Press.
- Haskins, J. (1991). *Religions of the World*. New York, NY: Hippocrene Books.
- Hofstede, G. (2001). *Culture's consequences: comparing values, behaviors, institutions, and organizations across nations*. Sage Publications, Thousand Oaks
- Hoover, S. M., & Lundby, K. (1997). *Rethinking media, religion, and culture* (Vol. 23). Sage.
- ICSID. (2001). ICSID code of professional ethics. *International Council of Societies of Industrial Design*, Helsinki
- ICSID. (2002). Facts about ICSID. *International Council of Societies of Industrial Design*, Montréal
- Kroeber, A. L., & Kluckhohn, C. (1952). Culture: A critical review of concepts and definitions. *Papers. Peabody Museum of Archaeology & Ethnology, Harvard University*.
- QVC. (n.d.). Lock & Lock. Retrieved from  
[http://www.qvc.com/kitchen-&-food/lock-&-lock/\\_/N-lglvZ1z141jy/c.html](http://www.qvc.com/kitchen-&-food/lock-&-lock/_/N-lglvZ1z141jy/c.html)

- Lv, P., Wang, Z., Hu, K., & Fan, W. (2005). Flammability and thermal degradation of flame retarded polypropylene composites containing melamine phosphate and pentaerythritol derivatives. *Polymer Degradation and Stability*, 90(3), 523-534.
- Marais. (n.d.). Scanwood. Retrieved from <http://www.storemarais.com/tw/scanwood-olive-wood-spoon-215>
- McCullagh, K. (2007). Thinking Local to Design Global Crossing Cultures. *INNOVATION-MCLEAN THEN DULLES VIRGINIA-*, 26(2), 22.
- Melamine Product. (n.d.). Melamine dinnerware- The pros and cons. Retrieved from <http://melamineproducts.net/dinnerware.html>
- Mrida (n.d.), *Mrida earthen cookware*. Retrieved from <http://www.mridacookware.com/almora-handi-echa02>
- Naor, M., Linderman, K., & Schroeder, R. (2010). The globalization of operations in Eastern and Western countries: Unpacking the relationship between national and organizational culture and its impact on manufacturing performance. *Journal of operations management*, 28(3), 194-205.
- Nussbaum, B. (2003). African culture and Ubuntu. *Perspectives*, 17(1), 1-12.
- Paulus, W. (2005). *Directory of microbicides for the protection of materials: a handbook*. Springer Science & Business Media.
- Press, M. & Cooper, R. (2003). *The design experience: the role of design and designers in the twenty-first century*. Ashgate, Aldershot.
- Pokhariyal, G. P. (2015). The influence of religion, technology, and economy on culture, diplomacy, and peace. *International Journal on World Peace*, 32(2), 41.
- Ranke, K. (Ed.). (1966). *Folktales of Germany*. Chicago, IL: University of Chicago Press.

Rechi. (n.d.). Retrieved from

<http://www.rechi.ua/prod/piala-tassen-tasty-belaya-s-zolotoj-kaemkoj-id-97-1300>

Royal Copenhagen. (n.d.). Retrieved from

<https://www.royalcopenhagen.com/Series/BlueFlutedPlain/c/BlueFlutedPlain>

Rugh, A. (2004). *Folktales from Syria*. Austin, TX: University of Texas Press.

Russell, D. L. (1991). *Literature for Children: A Short Introduction*. Order Dept., Addison-Wesley, 1 Jacob Way, Reading, MA 01867.

Salingaros, N. (2014). A theory of architecture part 3: Why primitive form languages spread.

Retrieved from

<http://www.archdaily.com/493458/a-theory-of-architecture-part-3-why-primitive-form-languages-spread>

SAOGA. (n.d.). Overview of oil and gas in the Sub-Saharan Africa Region. Retrieved from

<https://www.saoga.org.za/oil-gas-hubs/overview-oil-gas-sub-saharan-africa-region>

Smith, H., & Marranca, R. (2009). *The world's religions*. New York: HarperOne.

Team HealthIndia (2016, May 4). *अल्लाह पर अनमोल सुविचार*. Retrieved from

<http://healthindian.com/islam-quotes-in-hindi/>

Thompson, S. (1946). *The folktale*. New York City, NY: The Dryden Press.

Tsai, Y. C., Hung, C., & Hung, J. C. (2008). Glass material model for the forming stage of the glass molding process. *Journal of materials processing technology*, 201(1), 751-754.

Tuna, C. (2014). Tap Dance. *The Ancient Art of TUNA*. Retrieved from

<http://ancientartoftuna.com/index.php?topic=82.0>

Villeroy & Boch (n.d.). *Fine China/ Premium Dinnerware Collection*. Retrieved from

<https://www.villeroy-boch.com/shop/collections/fine-china-premium-dinnerware.html>

Wanelo. (n.d.). Retrieved from <https://wanelo.co/shop/gold-dinnerware>

Welzel, C., & Inglehart, R. (2008). The role of ordinary people in democratization. *Journal of Democracy*, 19(1), 126-140.

Yin-Lien, C. C. (1996). *Traditional Chinese Folk Tales*. Armonk, NY: M.E. Sharpe, Inc.