

Applying Chinese Philosophical Thoughts into Product Design

by

Qiang Qi

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
December 12, 2020

Beliefs; Values; Confucianism; Daoism; Neo-Confucianism; Design Thoughts

Copyright 2020 by Qiang Qi

Approved by

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

Abstract

Nowadays, with the trend of globalization, not only cultural diversities are being threatened, designs are also getting more and more homogeneous, too. In general, designs seem to conform to popular trends and aim for profits. According to design history, it is acknowledged that various design styles are generated from different cultures. Hence, it is indispensable to retrieve design diversity by looking into individual cultures. And Chinese culture, with a unique and broad cultural heritage, has potential to re-diversify design styles. However, only starting with superficial cultural signatures is far from enough; it is badly needed to combine the essence of culture, cultural beliefs and values, in order to seek a unique distinctive design style.

This thesis brings up a new series of design principles generated from Chinese philosophy, as well as a design guideline for applying these principles into design projects. Hopefully, this thesis will provide a new design direction for designers; and designers who follow this adapted design process will come up with distinctive yet various ideas that provide for a diversity of design styles as well as unique products.

Acknowledgments

Throughout the writing of this thesis, I have received a great deal of support and assistance.

I would first like to thank my major professor, Professor Tin-Man Lau, who has always been there for me. There are no words that can express my gratitude for your amazing amount of guidance, trust, encouragement and paternal support. And thank you for giving me a lot of freedom and allowing me to finish my thesis remotely. Finally, thank you for the knowledge and wisdom that you have shared with me. Your invaluable insights have been impacting me a lot during the last three years and they shall never be forgotten in future.

I would also like to thank my committee members Professor Rich Britnell and Professor Christopher Arnold for their great patience, valuable comments and thoughtful suggestions. Your feedback and advice have brought my work to a higher level.

Besides, I would like to thank Ms. Elizabeth Topping for her kind help with the logic, flow, and grammar of this thesis, especially with such astonishing efficiency.

At last, I would like to thank my parents for their unwavering support and unconditional love for me.

Table of Contents

Abstract.....	2
Acknowledgments.....	3
Table of Contents.....	4
List of Figures.....	8
List of Tables.....	11
List of Abbreviations.....	13
Chapter 1 INTRODUCTION.....	14
1.1 Problem Statement.....	14
1.2 Need for Study.....	16
1.3 Objectives of Study.....	18
1.4 Definition of terms.....	19
1.5 Assumptions.....	21
1.6 Scope and Limitations.....	21
1.7 Procedures and Methods.....	23
1.8 Anticipated Outcomes.....	24
Chapter 2 LITERATURE REVIEW.....	25
2.1 Culture Overview.....	25
2.1.1 Definitions of Culture.....	25
2.1.2 Classifications of Culture.....	27

2.1.3	Chinese Culture.....	30
2.2	Chinese Philosophy Overview	33
2.2.1	Introduction of Chinese Philosophy.....	34
2.2.2	Foundation of Chinese Philosophy	36
2.2.3	Chinese Philosophy History.....	38
2.2.4	Confucianism	41
2.2.5	Daoism	44
2.2.6	Neo-Confucianism	46
2.2.7	Conclusion	50
2.3	Chinese Philosophical Views.....	51
2.3.1	The investigation of things.....	51
2.3.2	Self-Cultivation.....	54
2.3.3	Humanism.....	57
2.3.4	Restraint Desires	58
2.3.5	Conclusion	60
2.4	Evaluation of <i>Li</i>	61
2.4.1	Knowledge Acquirement	62
2.4.2	Behavior change.....	65
2.4.3	Habit Formation	68
2.5	Generated Design Thoughts.....	70
2.5.1	Suggestiveness	70
2.5.2	Moderateness	71
2.5.3	Harmony	74

2.5.4	Vitality	75
2.5.4.1	Naturalness.....	76
2.5.4.2	Restrained Randomness	80
2.6	Conclusion	84
Chapter 3 APPLYING CHINESE PHILOSOPHICAL THOUGHTS INTO PRODUCT DESIGN		
.....		86
3.1	Acknowledge the <i>Li</i>	89
3.2	Choose <i>Li</i>	91
3.3	Define Problems.....	92
3.4	Find Opportunities	93
3.5	Brainstorm Solutions	93
3.5.1	Criteria for Knowledge Acquirement	94
3.5.2	Criteria for Behavior Change.....	95
3.5.3	Criteria for Habit Formation	96
3.6	Solutions Evaluation	96
3.6.1	Knowledge Acquirement	98
3.6.2	Behavior Change.....	100
3.6.3	Habit Formation	102
3.7	Visualize Solutions and Product Development.....	105
3.8	Design Evaluation.....	107
Chapter 4 APPLICATION.....		110
4.1	Choose <i>Li</i>	110
4.2	Define the Problem and Find Opportunities	111

4.3	Brainstorming Solutions	113
4.4	Solution Evaluation.....	114
4.5	Design Visualization and Product Development	117
4.6	Design Evaluation.....	121
Chapter 5 CONCLUSION		123
REFERENCES		124
APPENDIX.....		132

List of Figures

<i>Figure 2.1</i> Three levels of Culture (Schein, 2014, p. 26)	30
<i>Figure 2.2</i> Three Levels of Chinese Culture	33
<i>Figure 2.3</i> Classification of Philosophy	34
<i>Figure 2.4</i> Chinese Philosophy History Timeline	41
<i>Figure 2.5</i> Different understandings of <i>Dao</i>	45
<i>Figure 2.6</i> Two Prominent Schools of Neo-Confucianism	47
<i>Figure 2.7</i> Relationship Between <i>Qi</i> , <i>Yin</i> and <i>Yang</i>	49
<i>Figure 2.8</i> Scope of <i>Li</i>	61
<i>Figure 2.9</i> Levels of <i>Li</i> in Products	61
<i>Figure 2.10</i> The Multistore Model of Memory	62
<i>Figure 2.11</i> Types of Long-term Memory.....	63
<i>Figure 2.12</i> Fogg Behavior Model (Fogg, 2009, p. 2)	65
<i>Figure 2.13</i> Habit Zone (Eyal, 2014, p. 37).....	69
<i>Figure 2. 14 (1)</i> Song Dynasty Ceramics (Yang & Li, 2020, p. 100)	73
<i>Figure 2. 14 (2)</i> Song Dynasty Ceramics (Yang & Li, 2020, p. 100)	73
<i>Figure 2.15</i> Tree Grow Sofa and Table (Xiao, 2019).....	77
<i>Figure 2.16</i> Incense Set (Li, 2018)	78
<i>Figure 2.17</i> ‘Bamboo’ Mug (Liu, 2018).....	79
<i>Figure 2.18</i> ‘Growing’ Vase.....	79

<i>Figure 2.19</i> Bone china tea set and dinner set (Jiang, 2018).....	81
<i>Figure 2.20</i> 'Three Walkers', stool & tea table (Hou, 2018).....	81
<i>Figure 2.21</i> I-Fang Vessels (Fang, 2019).....	82
<i>Figure 2.22</i> A set of Ceramics (Pan, 2018).....	82
<i>Figure 2.23</i> ZHIZHU Tearoom (Zhu, 2019).....	83
<i>Figure 2.24</i> 'Circle' lacquer tea tray (Chen & Qi, 2018).....	84
<i>Figure 3.1</i> Double diamond model created by Design Council (British Design Council, 2019).	87
<i>Figure 3.2</i> Li Design Process.....	88
<i>Figure 3.3</i> Scope of Li.....	90
<i>Figure 3.4</i> Levels of Li.....	91
<i>Figure 3.5</i> Choose Li.....	91
<i>Figure 3.6</i> Grading of Criteria.....	97
<i>Figure 4.1</i> Persona for Users Without a Bedtime Routine.....	111
<i>Figure 4.2</i> Jack's Journey Map.....	112
<i>Figure 4.3</i> the Problem and Opportunities.....	112
<i>Figure 4.4</i> Solution 1 – Bedside Lamp.....	113
<i>Figure 4.5</i> Solution 2 – Wireless Charger.....	113
<i>Figure 4.6</i> Solution 3 – Smart Bracelet.....	113
<i>Figure 4.7</i> Visualization of Bedside Lamps.....	117
<i>Figure 4.8</i> Visualization of Wireless Chargers.....	118
<i>Figure 4.9</i> Rendering of Bedside Lamp.....	118
<i>Figure 4.10</i> Bedside Lamp in Context.....	119
<i>Figure 4.11</i> Renderings of Wireless Charger.....	119

Figure 4.12 User scenario of Wireless Charger..... 120

Figure 4.13 Wireless Charger in Context 120

Figure 6.1 Timeline of Chinese philosophers provided by Montgomery Laszlo (2017). 132

List of Tables

<i>Table 3.1</i> Weighting Criteria - Knowledge Acquirement.....	98
<i>Table 3.2</i> Example of Grading Table – Knowledge Acquirement	99
<i>Table 3.3</i> Example of Score Calculating Table – Knowledge Acquirement.....	99
<i>Table 3.4</i> Weighting Criteria – Behavior Change	100
<i>Table 3.5</i> Example of Grading Table – Behavior Change.....	101
<i>Table 3.6</i> Example of Score Calculating Table – Behavior Change	102
<i>Table 3.7</i> Example of Evaluation Table	103
<i>Table 3.8</i> Weighting Criteria – Habit Formation.....	103
<i>Table 3.9</i> Example of Grading Table – Habit Formation	104
<i>Table 3.10</i> Example of Score Calculating Table – Habit Formation.....	105
<i>Table 3.11</i> Weighting Criteria – Design Evaluation.....	107
<i>Table 3.12</i> Example of Grading Table – Design Evaluation	108
<i>Table 3.13</i> Example of Score Calculating Table – Design Evaluation.....	109
<i>Table 4.1</i> Weighting Criteria for Behavior Change.....	114
<i>Table 4.2</i> Grading Table for Behavior Change.....	114
<i>Table 4.3</i> Score Calculating and Comparing Table for Behavior Change	115
<i>Table 4.4</i> Weighting Criteria – Habit Formation.....	115
<i>Table 4.5</i> Grading Table for Habit Formation	116
<i>Table 4.6</i> Score Calculating Table for Habit Formation.....	116

Table 4.7 Weighting Criteria – Design Evaluation..... 121

Table 4.8 Grading Table – Design Evaluation..... 121

Table 4.9 Score Calculating Table – Design Evaluation 122

List of Abbreviations

FBM Fogg Behavior Model

Chapter 1 INTRODUCTION

1.1 Problem Statement

With majority of today's societies absorbing and merging into popular culture, in addition with the spread of globalization, the cultural diversity which makes us unique is being threatened. As we know, every culture has its special substance, but with the trend happening now, the global popular culture is increasing homogeneity all over the world.

Especially in the design field, Scott Henderson (2003), former director of industrial design for Smart Design (NYC), he pointed out that “The internet makes the design of products more consistent from region to region” 17 years ago. He also illustrated this issue by noting that “Designs in different parts of the world seem to be more consistently using metallic paint, curvy forms, plated control-panel buttons, and moldable rubber as part of a predictable pallet of design elements” (Henderson, 2003, p. 37). Nowadays, it is even more and more obvious that all designers are trying to conform to globalized aesthetic preferences to make their work good-looking in the same way so that their designs have a better chance to sell. But according to Ye et al. (2020), who conducted an experiment on the influences of product similarity on consumer preferences, product similarity plays a negative role in affecting consumer preferences.

Thus, it is indispensable to diversify design. To enrich design diversity, there should be other design directions leading designers to novel inspirations. As mentioned in his book *design, creativity and culture*, Maurice Barnwell (2011) claimed that “the presence of culture and the

practice of design exist in a state of symbiosis, providing a network of opportunities to designers. Culture generates design diversity. Modifications stemming from cultural evolution both reflect and determine developments in design” (p. 13). Consequently, looking for inspirations from culture is a feasible and effective option to enrich design.

There are various kinds of cultures around the world. But some cultures have had their own design styles for years, such as Japanese design, Scandinavian design, and Bauhaus design, all of which represent their cultural identities for different regions. Furthermore, all these design styles are not only superficially different on forms, colors, or materials. Hofstede (2001) claimed that design activity is unconsciously influenced by the designers’ cultural values and preferences. So it is designers’ different beliefs and values that make products various, and undoubtedly, designers’ beliefs and values were impacted by different cultural beliefs and values that they grow up with. Accordingly, if one wants to research into new design styles, one should focus on a set of new cultural beliefs and values.

Among all cultures, there is a culture with a unique and broad cultural heritage which as of yet has not been totally extracted into design, which is Chinese culture, one of the most ancient cultures in the world. It has been neglected in the past few years. Just as Shou-zhi Wang (1995) demonstrated, “China cannot afford to miss out on design as an aspect of international competition, and it is necessary to catch up with everything new” (Wang, 1995, p. 213). Similarly, another well-known Chinese industrial design educator Liu Guan-zhong (2018) appealed that Chinese designers must not be discouraged, because he believed there will be a Chinese design style if the right way is found. Chinese people have lost their sense of cultural identity and followed world trends blindly in the last few decades, which is disrespectful and a waste of Chinese cultural heritage. To sum up, Chinese culture has a lot of potential to study and

to diversify design, which both promotes and honors China's cultural heritage as well as diversifies design worldwide, providing customers with a greater variety. Hence, it is time to face such a huge challenge to build up Chinese design thinking system through researching Chinese beliefs, values and philosophies.

1.2 Need for Study

The necessity of integrating culture into product design has already been widely propounded by a number of researchers, authors and designers. Fincham and Rhodes (1997) firstly claimed that the integration of culture into products promotes success; De Souza and Dejean (1999) also mentioned the necessity of diversity to humankind based on cultural differences and maintains that culture can generate this required diversity. They also pointed out culture is a new dimension of competitiveness; the International Council of Societies of Industrial Design [ICSID] (2002) considers culture to be a significant issue in industrial design. Defining design as a "crucial factor of cultural and economic exchange," the Council emphasized that one of the tasks of design is promoting 'cultural ethics', or 'supporting cultural diversity despite the globalization of the world'; Moalsi, Popovic, and Hickling-Hudson (2006) argued that consideration of cultural factors might pave the way to the diversification of design concepts, and this would facilitate product innovation. There is extensive literature supporting the notion that cultural integration plays a noteworthy role in the effective design of products, and it is necessary to study cultural related design. Additionally, as mentioned in the problem statement, due to globalization, cultural diversity and design diversity are being threatened, which is a huge loss for humans. Hence, designers have the responsibility to not only enrich design diversities, but also re-build cultural identities through products.

Nevertheless, it is also believed that products can communicate with users and transmit values and beliefs. Famous Japanese designer Kenji Ekuan (1988) found that it was the Japanese sense of values, “small but powerful”, that drove the development of such contemporary products as mini-calculators, cameras and cars; Moalsi, Popovic, and Hickling-Hudson (2010) pointed out that, culture is expressed in design through the integration of cultural values in products. The values integrated into products give users their cultural identity. For example, users can always feel Germany’s conciseness and straightness through simple yet clear products they design; Japanese design also impresses users with its sensitiveness and delicateness, through which way Japanese beliefs is expressed. Chinese culture, as one of the most long-standing cultures with such a distinctive philosophy system, is supposed to have its representative in the design society as well; yet it has not. Hence, Chinese designers are responsible to introduce Chinese culture to the world, especially Chinese beliefs and values that are rooted in Chinese philosophy.

And there have been some designers researching Chinese culture related design, but some use traditional Chinese cultural elements directly or even use them in a wrong way so that they lose their original meanings, which means only using cultural signatures is not enough; some designers recognize distinct cultural elements found in artifacts, institutions, yet apply them based solely on their personal intuition. Additionally, Yijie Wang’s study (2020) about translating Neo-Confucianism thoughts into design principles is only partial, because it is incomplete in discussing Neo-Confucianism without an overall understanding of Chinese philosophy and overall knowledge of Confucianism. To sum up, these existing papers seem to be insufficient without diving deep into the core of culture and analyzing the essence thoroughly, that is, philosophy. This thesis aims to bridge this gap by focusing on philosophies to transfer

dominant Chinese philosophical thoughts into design principles and applying them into design process in a comprehensive and systematical way.

1.3 Objectives of Study

The main objectives of this study are to extract a series of philosophical thoughts from the Chinese philosophy system, mainly Confucianism, Daoism, and Neo-Confucianism, then translate them into design-related thoughts, and adapt them into a design process to develop products with distinctive features. The introduction of culture and Chinese culture will be clarified to show why Chinese philosophies are important to research for the purpose of stylizing Chinese design. Chinese philosophy overview will also be addressed to provide a better understanding for Chinese philosophy. The following is a summary of what this study will focus on:

- Studying the definition and classification of culture, introducing the roles of Chinese philosophies in Chinese culture.
- Introducing the Chinese philosophic system, including the foundation and history of Chinese philosophy, mainly paying attention to Confucianism, Daoism, and Neo-Confucianism.
- Explaining the major philosophical concepts, themes and texts in traditional Chinese philosophy and analyze Chinese philosophies.
- Extracting design-related Chinese philosophical thoughts.
- Translating philosophical concepts and ideas into design thoughts.
- Applying design principles and thoughts into the design process, constructing a Chinese-design guideline.
- Application for the Chinese Design process and revise it.

1.4 Definition of terms

- Culture - Culture consists of patterns, 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 (Kroeber & Kluckhohn, 1952, p. 37).

- Earth (*Di*) - generally refers to the ground on which everything exists. It includes various territories of the ground, but it is most frequently used to cover lowland territories such as valleys, gorges, basins, etc. (Liu, 2006, p. 2)

- Heaven (*Tian*) - not merely the sky as viewed from earth; nor is it a transcendent realm used in the Christian sense. "Heaven" stands for the totality of heavenly bodies and phenomena; in particular, it is often used to refer to the operation of the sun. (Liu, 2006, p. 2).

- Humanism - the system of thought that focuses on the interests and well-being of human society. (Liu, 2006, p. 8)

- *Li* (principle) - Abstract principles or laws, the term is developed by Cheng Yi and Zhu Xi, from *The Book of Changes*. As explained above, The Dao of *The Book of Changes* is multiple, and so are the principles which govern each separate category of things in the universe. It is from this concept that Cheng Yi and Zhu Xi derived the idea of *Li* (Feng, 1949, p. 284).

- Metaphysics - Metaphysics is the branch of philosophy that examines the fundamental nature of reality, and identifies the nature and structure of all that there is. It is dedicated to the relationship between thought and the world (Loux, 2001, p.10).

- Philosophy - philosophy is closely associated with wisdom, intellectual culture, and a search for knowledge. (Garfield & Edelglass, 2011).

- *Qi* (Substance) - the ultimate material essence of the cosmos; the ontological basis for all things. It is dynamic and constantly changing. *Qi* is not volitional; hence, our creation is not the result of any intentional production. It condenses and rarefies, but it never gets exhausted or even diminished. Dao is often seen as the rhythm or pattern of the movement of *Qi*. (Liu, 2006, p. 6).

- *Ren* (Humaneness or Benevolence) - loving others, i.e., *Ren* or human-heartedness. Sometimes Confucius used this word to denote all the virtues combined. The term “man of *Ren*” can be translated as man with perfect virtue. (Feng, 1949, p.42)

- “The Great Learning” (Da Xue) - was originally a chapter in *Li-Ji* (the Book of Rites). Organized by Zhu Xi, a Neo-Confucian scholar, this chapter, as well as another chapter of *The Book of Rites*, “The Doctrine of the Mean” (Zhong Yong), stands out as a separate treatise. Zhu Xi grouped *The Great Learning*, *the Doctrine of the Mean*, along with *the Analects* and *Mengzi*, as “the Four Books.” These four books have been viewed as the Confucian classics ever since. (Liu, 2006, p. 333)

- The Way (*Dao*) - *Dao* stands for the cosmic order, the Way things are, so an appropriate translation for *Dao* is “the Way” (Van Norden, 2002, p. 24). The *Dao* of Daoism is the unitary “that” from which unitary first that from which all things in the universe come to be. The *Dao* of “*The Book of Changes*”, on the contrary, are multiple, and are the principles which govern each separate category of things in the universe (Feng, 1949, p. 307).

- *Yi* (Righteousness) - Doing the morally right things. However, if one does them due to non-moral considerations, then the action is no longer a righteous one. (Feng, 1949, p. 42).

- *Yin* and *Yang* - Both *yin* and *yang* are part of *Qi*, the cosmic energy or the cosmic force.

In Chinese philosophy, the whole universe, nature and human world alike, is nothing but the various distributions of, and relations between, *yin* and *yang*. *Yin* and *yang* are both competitive and complementary. Without one, the other could not exist (Liu, 2006, p. 7).

1.5 Assumptions

This study is based on several assumptions, detailed as follows:

All the information and data referenced in the study comes from authentic websites, magazines and books, and it is assumed that they are all objective and confirmed.

Culture's definition and its composition defined by anthropologists will assumed to be correct, as well as the notion of culture influencing all of us on different levels.

It is assumed all Chinese agree that they are influenced by Confucianism, Daoism and Neo-Confucianism consciously and unconsciously.

It is assumed that this application of culture in design should be used for more than just sales, but also for the benefit of cultural identities, design diversifications, and social responsibilities.

It is assumed that some other designers have already embedded similar thoughts into their designs, but they are doing this in a more random and sporadic way.

All designers who follow this guideline are assumed to have basic knowledge of design processes.

1.6 Scope and Limitations

In this study of developing an adapted design process where a cultural core is implemented into design as design thoughts, there are specific scopes and limitations that will apply:

- The area over which Chinese culture prevails covers a large geographical region in East Asia and is extremely diverse, with customs and traditions varying greatly between countries, so this thesis will only pay attention to traditional Chinese beliefs and values in Mainland China before 1800 A.D.

- Chinese traditional culture is not simply equivalent to Confucian culture, nor is it a simple addition of Confucian culture, Taoist culture, and Buddhist culture. It is the sum of various ideological and cultural aspects of the Chinese nation, including various conceptual and material forms of culture. This thesis will only address Confucianism, Daoism and derivatives of them, including Neo-Confucianism and Chinese Metaphysics.

- This study only gives a brief introduction of Chinese philosophy history; readers should be cautioned that such characterization tends to be oversimplified.

- Due to the characteristics of the research subject, there will be Chinese literature for References, and Chinese terms will be adapted as well.

- Philosophical thoughts adapted in this thesis are believed to be related to design only by the author; others may have different opinions.

- A regular design process will be adopted in this thesis. Designers may need to adapt themselves into the process.

- The study of applying design values will just be limited to the first several steps of design process, which means prototyping and testing will not be covered in this research.

- This is just an initiation of a whole design thinking system, so further research will need to be done in the future.

1.7 Procedures and Methods

Part 1. Culture Overview

1. Identify the definition of culture, classification of culture, through library and online resources, reading books about culture and then summarize findings.
2. Identify Chinese culture, as well as Confucianism and Daoism's roles in Chinese culture.

Part 2. Chinese Philosophy overview

1. Give a little introduction of philosophy and Chinese philosophical history, mainly about several prominent schools. Present the history timeline in an easily understandable way.
2. Introduce a series of philosophical ideas, values, and concepts, explain them clearly, then connect them with design. Emphasize some concepts and demonstrate how they can be applied into design process, and then conclude as a series of design thoughts.

Part 3. Design thoughts overview and application

1. Summarize design thoughts from the literature review and integrate them into the design guideline.
2. Apply the design guideline through a project following the design process.
3. Revise ~~and prompt~~ the ~~set of design thoughts~~guideline so that it can impact designers with a fresh new design direction.

1.8 Anticipated Outcomes

The anticipated outcome of this study is providing a series of design principles generated from Chinese philosophies and constructing a unique design guideline. Then in Chapter 4, a practical design project will be applied to this design process to prove how distinct it is in contrast to popular design trends. Hopefully, other designers will be inspired with such a direction. The aim of this thesis is to be universal and so that it can be applied into all categories of design for all designers who are interested, which means even some of whom have no knowledge of Chinese philosophy can understand and apply these principles.

This thesis is just a starting point for design with Chinese [stigmaimprint](#), however; this topic would benefit from further research. This research is expected to aid others in designing products that will better users and society, and aid in product differentiation.

Chapter 2 LITERATURE REVIEW

2.1 Culture Overview

2.1.1 Definitions of Culture

People talk about culture a lot, but what is the definition of culture? There are no explicit and unanimous explanations. However, there are many different kinds of culture theories, based on different conceptual frameworks, which try to set up a systematic definition of culture, but as a matter of fact, the concept of culture is originally various in different people's opinions according to their different background, including countries, careers and various education; therefore, these following adopted opinions are believed to be suitable for this research.

Chinese philosophers brought up the concept of culture over 2000 years ago, as Xunzi says: "Heaven has its seasons, Earth has its resources, man has his culture. This is what is meant when it is said that man is able to form a trinity with Heaven and Earth" (Xunzi, 2014, p. 298). He thought of culture as a continuation of nature and defined culture as the achievement of man. Heaven and Earth (nature) make all things acquire their harmony and have their lives, which is their vocation; the vocation of man is to utilize what is offered by Heaven and Earth and thus create his own culture (Xunzi, 2014). Similarly, another Chinese Philosopher Dong Zhongshu (Feng, 1949) emphasized the value of culture, which he believes makes man equal to Heaven and Earth.

The English word culture can be traced back to the Latin present active conjugation of the word *colo*, which according to the Latin definition means cultivate, protect, nurture and worship, the meaning and importance have been inherited by the word culture. Then the term was first used by English anthropologist Edward Tylor in 1871. He declared in the book *Primitive Culture* that culture is a complex whole that includes knowledge, belief, law, art, morals, custom, and any other capabilities and habits acquired by man as a member of society. In short, his point of view is that people live in society as well as culture, and culture is a huge package with everything included. This definition is a little generic but it gives people a rough understanding of culture.

The most widely accepted definition was brought up 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).

Additionally, in 2002, Steven Pinker added a more timely explanation. “Culture...is a pool of technological and social innovations that people accumulate to help them living with their lives” (Barnwell, 2011, p. 42).

According to the definitions above, the image of culture becomes much clearer. It is always associated with arts, artifacts, works, buildings and all other things people invented or created; moreover, culture is also highly related to values, beliefs, religions, thinking patterns and philosophies that people living in the same group share with each other.

Hence it can be concluded that culture is manmade. It is an organized system of norms and values held by people of a society. Culture is everything which is socially learned and shared by the members of a society. Individuals receive culture as a part of a social heritage and in turn reshape the culture and introduce changes which then become part of the heritage of succeeding generations. It is a response to human needs and is an instrumental reality and an apparatus for the satisfaction of the biologically derived needs.

2.1.2 Classifications of Culture

Before getting to know what constitutes culture, it is essential to know how culture is cultivated; however, there was no consensus until Harari (2014) provides a logical reason, in the book *Sapiens: A Brief History of Humankind*, Culture was explained as:

After the cultural revolution, human societies grew ever larger and more complex, while imagined constructs sustaining the social order also became more elaborate. Myths and fictions accustomed people, nearly from the moment of birth. To think in certain ways, to behave in accordance with certain standards, to want certain things, and to observe certain rules. They thereby created artificial instincts that enabled millions of strangers to cooperate effectively. This network of artificial instincts is called culture. (p. 253)

From his point of view, it is clear these artificial instincts are initially formed by a group of people thinking in certain ways, which could be values, beliefs, philosophies, etc. Then culture can be expressed by people behaving in certain standards and creating things in accordance with these standards, such as arts, artifacts, works, buildings etc. In other words, it is thinking rooted in people's mind that leads to behavioral differences and makes culture various.

Coincidentally, Schein (2004) also pointed out that behavior is derivative, not central, which indicates behavior is one level of culture derived from the thinking level.

Dahl (2004) advocates two layers: visible and invisible. Linda Gerber claimed that culture is the summation of material wealth and spirit wealth created by human beings (Gerber, 2011). H.T. Mazumdar holds the view that, “Culture is the sum total of human achievements material as well as non-material, capable of transmission, sociologically i.e. by tradition-and communication, vertically as well as horizontally” (Wolf, 1967, p. 139). Famous Sociologist W.F. Ogburn (1922) also divided culture into two types such as material and non-material culture. These opinions provide a rough classification of culture.

Yet these views are kind of indistinct. Some anthropologists have developed classification systems, but these tend to be so vast and detailed that cultural essence becomes difficult to discern.

Rung-Tai Lin (2007) offers a framework for studying cultural objects. In his framework, culture can be classified into three layers:

- (1) physical or material culture—including food, garments, and transportation-related objects.
- (2) social or behavioral culture--including human relationships and social organization.
- (3) spiritual or ideal culture--including art and religion (p. 46)

This framework is relatively clear and explicit; however, the third layer of this framework is too broad to provide a specific classification for philosophy, which is not appropriate for this thesis. Fortunately, Edgar Schein (2014) brought up a clear theory. In his classic book *Organizational Culture and Leadership*, he divided organizational culture into three levels:

Artifacts: this surface level includes all the phenomenon that one sees, hears, and feels when one encounters a new group with an unfamiliar culture. Artifacts include the visible and tangible products of the group, which can be easily discerned, yet are hard to understand; for example, both Egyptians and Mayans built highly visible pyramids, but one was used as tombs, the other as temples as well as tombs. Observers can describe what they see and feel, but cannot reconstruct from that alone what those things mean in that given group.

Espoused Beliefs and Values: this includes conscious strategies, goals and philosophies, norms, and operational rules of behavior that members of the culture use as a way of depicting the culture to themselves and others. The derived beliefs and moral and ethical rules remain conscious and are explicitly articulated because they serve the normative or moral function of guiding members of the group in how to deal with certain key situations, and in training new members how to behave. Beliefs and values at this conscious level will predict much of the behavior that can be observed at the artifacts level.

Basic Underlying Assumptions and Values: the core, or essence, of culture is represented by the basic underlying assumptions and values, which are difficult to discern, because they exist at a largely unconscious level. Moreover, they provide the key to understanding why things happen the way they do. "Basic assumptions are so taken for granted that someone who does not hold them is viewed as a 'foreigner' or as 'crazy' and is automatically dismissed" (Schein, 2014, p. 25). According to Schein, this degree of consensus results from repeated success in implementing certain beliefs and values.

Furthermore, Schein made a valuable point that beliefs and values can gradually transformed into shared assumptions. He explained as "when a solution to a problem works repeatedly, it comes to be taken for granted. What was once a hypothesis, supported only by a

hunch or a value, gradually comes to be treated as a reality (assumptions and values)” (p. 30).

Conversely, shared assumptions can be expressed by shared values or beliefs.

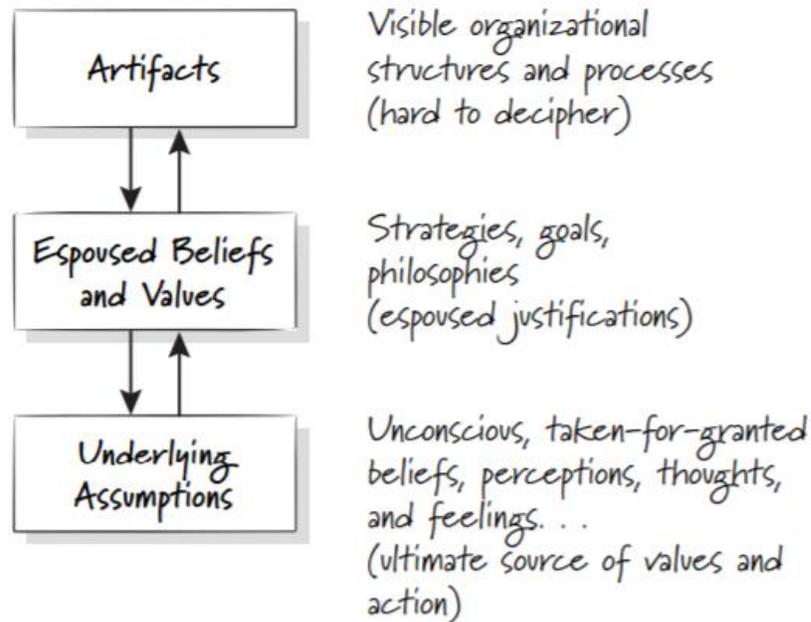


Figure 2.1 Three levels of Culture (Schein, 2014, p. 26)

In conclusion, these levels range from the very tangible overt manifestations that one can see and feel to the deeply embedded, unconscious, basic assumptions that are defined as the essence of culture. In between these layers are various espoused beliefs, values, norms, and rules of behavior that members of the culture use as a way of depicting the culture to themselves and others. Schein (2014) also addressed that any group’s culture can be studied at these three levels; however, Chinese culture is a little different if classified into these three levels.

2.1.3 Chinese Culture

Chinese culture is one of the world's oldest cultures, originating thousands of years ago. Chinese civilization is historically considered the dominant culture of East Asia (Walker, 2012). Similarly, Wong (2017) also stated that with China being one of the earliest ancient civilizations,

Chinese culture exerts profound influence on every aspect of East Asia to date. And the area over which the culture prevails covers a large geographical region in East Asia and is extremely diverse, with customs and traditions varying greatly between countries, provinces, cities, and even towns as well. Hence, as mentioned in Chapter One, this thesis will only focus on traditional Chinese culture in mainland China.

Thinking of culture, one characteristic of culture is everchanging with time. The Canadian archaeologist and anthropologist Bruce Trigger (2007) summarized that culture is always transitional, open and unstable. Maurice Barnwell (2011) also mentioned that “culture will change to adapt to the necessary adjustments required to ensure our continued survival” (p. 11). It makes sense that culture, as a tool for human to get used to society, changes in accordance with societal changes, but it is worth mentioning these changes only happen at the artifacts and espoused values and beliefs level.

If classified by Schein’s model (2014), components of Chinese culture, including Chinese language, ceramics, architecture, music, dance, literature, martial arts, cuisine, visual arts, belong to the artifacts level of culture. Undoubtedly, the espoused beliefs and values described by Schein include Chinese history, philosophy, virtue, politics, etiquette, religion, festivals, and traditions. These two levels of culture have changed over time. For instance, on the artifacts level, Chinese now speak Mandarin which is a lot different from ancient times; Chinese traditional architecture has been replaced by concrete-made buildings. On the espoused values and beliefs level, etiquettes and philosophies had changed during which time China was ruled by other ethnic groups; religions also changed a little, with Buddhism spreading into and across China. However, the underlying assumptions level of culture hardly change, particularly in Chinese culture.

According to Schein (2014), “basic underlying assumptions and values, like theories-in-use, tend to be non-confrontable and nondebatable, and hence are extremely difficult to change” (p. 31). Thus, it is not hard to find what Chinese assumptions and values are. As claimed by Zehou Li (1988), “The complementarity of Confucianism and Daoism has been a basic thread of Chinese thought for more than two thousand years” (p. 80). He also demonstrated that as follows:

The reason why Chinese culture is different from other nations, the reason why Chinese people are different from foreigners, and the reason why Chinese art is different from other arts, are all due to Confucianism and Daoism. It is undeniable that Confucius shaped the Chinese national character and psychological structure. It is not an accident that Confucianism has become synonymous with Chinese culture in the world.

Meanwhile, as the complement and opposite of Confucianism, Daoism has formed the Chinese people's worldview, view of life, values and cultural psychological structure. (p. 81)

Indeed, some prominent Confucianism and Daoism thoughts, rooted in Chinese culture for 2000 years without changing, have actually permeated in the blood of every Chinese, influencing and restricting the behavior and thinking of every Chinese today. Just like what Lyman V. Cady (1930) argued, “philosophy is always in more or less intimate relations with the history and the culture of any people; but nowhere has the relation been closer than with the Chinese thinkers, for whom human affairs have been the preeminent subject of reflective thought” (p. 1). For example, one of western ideologies is all men are equal; on the contrary, Confucian ethics emphasizes the level differences between people, like a son can never call his parents’ name directly in a traditional Chinese family, and he should be filial no matter how

terrible his parents are; likewise, a wife should listen to her husband no matter what. Another example is that Chinese judge people according to one's morality and virtue, so one will be despised by society if a little moral defect is found. Consequently, it is said that some parts of Confucianism and Daoism have transformed into basic underlying assumptions and values rather than just philosophies.

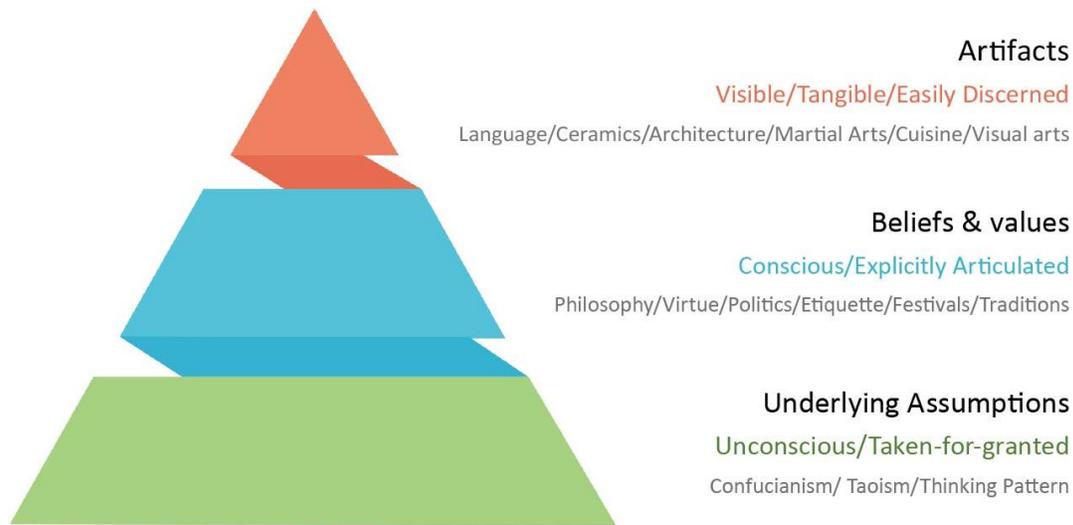


Figure 2.2 Three Levels of Chinese Culture

As shown above, Confucianism and Daoism play a noteworthy role on the Espoused values level and Underlying assumptions level in Chinese culture. Therefore, for the purpose of diversifying design with authentic Chinese style, this study will focus on the DNA of Chinese culture, Confucianism and Daoism, and apply them into design. It is needed to mention that Confucianism and Daoism will still be called philosophies in the following chapters.

2.2 Chinese Philosophy Overview

The description of Chinese philosophy would have to include a comprehensive explanation of the historical, social, political, and cultural background of China to be complete (Liu, 2006). However, this thesis cannot do that, so what is sketched here are simply some

general characteristics of Chinese philosophy that need to be known to make this thesis understandable. This should give readers a sense of how and why the thinking and writing styles of Chinese philosophy are different from those of Western philosophy.

2.2.1 Introduction of Chinese Philosophy

In a general sense, philosophy is closely associated with wisdom, intellectual culture, and a search for knowledge. In this sense, all cultures and societies ask philosophical questions, such as "how are we to live" and "what is the nature of reality" (Garfield & Edelglass, 2011). Specifically, philosophy is defined as the study of general and fundamental questions about existence, knowledge, values, reason, mind, and language (Sellars, 1963). In 1997, Chinese Philosopher Hu Shih declared that: "Any science that explores the most important issues of human life, and in the search for basic solutions reasoning from its origins, is called philosophy" (p. 7). Yet none of these explanations provide a classification of philosophy. Feng Youlan (2009) gives the content of Greek philosophy (Physics, Logic, Ethics) and clarifies this content using contemporary terms as follows: A Theory of World, a Theory of Knowledge, and a Theory of Life (p. 3). According to him, this framework can also be generalized and applied to all philosophies.

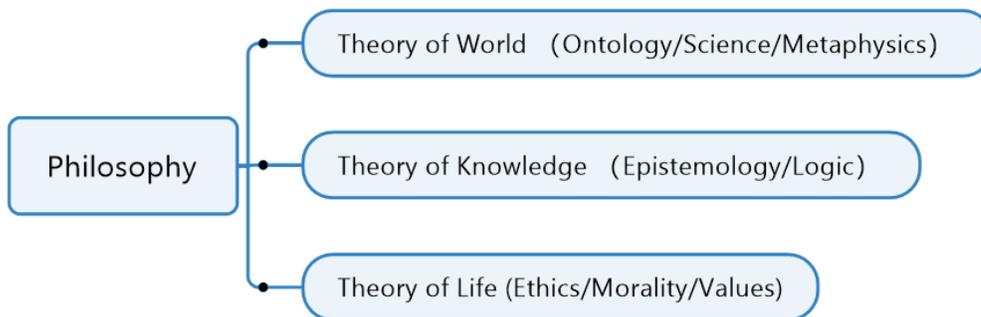


Figure 2.3 Classification of Philosophy

So, philosophy is thoughts of those thinkers who reasoned over issues related to the above framework of philosophy.

Speaking of Chinese philosophy, Feng Youlan (2009) believes that in China since ancient times has been paid attention to issues that relate to the main divisions of philosophy: A Theory of World (metaphysics), and A Theory of Life (ethics). As for A Theory of Knowledge, in his opinion, ancient Chinese philosophers reflected on these questions, but these questions were mostly ignored in the periods following these philosophers.

Another well-known Chinese philosopher, Shuming Liang (1999), agreed with Feng's opinions. In addition, he compared Chinese philosophy with Western philosophy in this way: "Western philosophy has been exploring the cosmos since Socratic, that is, ontology and metaphysics. While Chinese philosophy, first explored the overall understanding of the external world, but then diverted to explore the human-world and human-matter changes and their origins, which belong to theories of life" (p. 75). Furthermore, he stated that

western theories of knowledge are the center of western philosophies when in its prime time, while western theories of life are few and superficial. Hardly concerning about theories of knowledge, Chinese philosophers concentrate mostly on theories of life, which are exhaustive and detailed. Additionally, Chinese theories of life is also closely associated with theories of world that makes them a whole (p. 76).

Feng shared the same idea with Liang, supported by claiming that Chinese philosophers have paid great attention to human problems and have been careless about cosmological and other studies. He notes that "the views of Chinese philosophers in the field of methodology, argumentation and explanation are much inferior to Western and Indian philosophies" (p. 7).

Moreover, Feng (2009) researched into the reason why this discrepancy happened. According to Feng Yulan, “not because of the inability of Chinese thinkers to develop the methodology, but because of inattention to it” (p.2). He explains this by the fact that knowledge was of interest to Chinese philosophers not as clear knowledge itself, but as an instrument that could lead to happiness. Jeeloo Liu (2006) supports Feng’s idea with “Chinese philosophers did not think highly of establishing intellectual fame through writing. The reason for the lack of systematic philosophical works in Chinese philosophy is directly linked to the philosopher's disinterest in establishing a particular doctrine to gratify his intellectual desire” (p. 8).

In conclusion, Chinese philosophy focused mostly on Theories of Life, which makes it distinctive from Western philosophy. This explains why many Chinese philosophies have been transferred into underlying assumptions and values. Ethics and values have been practiced by generations of Chinese, and passed down from generation to generation, resulting in being rooted in Chinese minds and Chinese culture.

2.2.2 Foundation of Chinese Philosophy

And at this point, the foundation of Chinese philosophy can be introduced. Max Kaltenmark (1969) says: "Conforming to the rhythm of the universe is the prerequisite of wisdom in all Chinese thinking” (p. 46). The ancient religion in China was more a form of Nature worship, though it was different from the ancient Greeks' assignment of personified gods or goddesses to various natural phenomena. Instead, the ancient Chinese believed that there was a spiritual correspondence between the world of Nature and the world of Men. The universe was thought to be an organic system, with all parts integrated into an ordered whole (Liu, 2006).

The Book of Changes is acknowledged to lay the foundation of Chinese philosophy:

The text describes an ancient system of cosmology and philosophy that is intrinsic to ancient Chinese cultural beliefs, centering on the ideas of the dynamic balance of opposites, the evolution of events as a process, and acceptance of the inevitability of change. It was later reinterpreted Continuities and correspondences in the human, natural and cosmic worlds (Schwartz, 1985, p. 358).

On the other hand, *The Book of Changes* also consists of a series of symbols, rules for manipulating these symbols, poems and commentary, and is sometimes regarded as a system of divination, but this part will not be the emphasis of this thesis.

Developed from *The Book of Changes*, Chinese continue to believe the basic constituents of myriad things in the world are not matter, but are energy or force of two natures: *yin* and *yang*, the movement of which follows a regulated rhythm. “This cosmic rhythm runs through Nature and the human world in the same way. In addition, no separation of the self from the world. The subjective person and the objective world are not in opposition, but are parts of an integrated whole” (Liu, 2006, p. 4). How people live their lives is affected by what goes on in the universe; at the same time, how they live will affect what continues in the universe. Just as the air we breathe joins the cosmic atmosphere, so what we do interacts causally with the world around us. Furthermore, there is a spiritual correspondence between natural phenomena and human states of affairs, so the common explanation for natural disasters was that they were causally related to some adverse human states of affairs.

Chinese cosmology is built on belief in the cosmic order or cosmic pattern, which serves not only as the source for all existence, but also as the governing rule for all cosmic developments. This basic assumption of the existence of a cosmic pattern became the core thesis of all major schools in Chinese philosophy (Bodde, 1953, p.21).

As Bodde claimed above, this belief in the unity of Nature and the human world, mind and matter, body and spirit, or man and the universe, became the foundation for Chinese philosophy; and the ancient philosophers called this cosmic order and the ontological foundation for all things *Dao* (the Way). (Liu, 2006, p. 8). But different schools later emphasized different aspects in articulating their own preferred *Dao*, thus formulating the golden times of the “Hundred schools of Thought” (Coutinho, 2014).

On basis of the idea of *Dao*, Chinese philosophy's main focus is on such issues as how to rule the state, how to conduct oneself, how to do the right thing, etc., so that one does not disturb the cosmic order or deviate from *Dao*. Jeeloo Liu (2006), Zehou Li (2009), and other scholars deem there was a strong humanistic tendency even in the early stage of Chinese philosophical development, formulated by the pursuit of *Dao*. Under this pursuit, ancient Chinese thinkers had an intense desire to find the best way to make the right political decisions, to alleviate social problems, and properly to conduct themselves. In other words, when Chinese philosophers studied the external world and its objects, they were intent on finding some moral guidance in the way things are in Nature. This motivation propelled a form of moralistic epistemology (Liu, 2006), which is a unique feature of Chinese philosophy.

2.2.3 Chinese Philosophy History

Chinese philosophy has a more than two-thousand-year history. Xie Wuliang (1976) wrote that "Fu Xi laid the original foundations of ancient and modern philosophy" (p. 6), thus giving an idea that Chinese philosophy originated earlier than the West.

The Book of Changes was traditionally compiled by the mythical figure Fu Xi in the 28th Century B.C. But according to Bo Mou (2008), *The Book of Changes* was actually compiled at the beginning of the Zhou dynasty in the early twelfth century B.C.

Around 500 years later, during the Spring-Autumn period (722-481 B.C.), there were already signs of turmoil boiling up in China and there was a prevailing sense of uncertainty and insecurity. During the Warring States period (480-222 B.C.), nation-states were constantly engaged in wars, either in the name of protecting their satellite nations or for the sake of taking back lost land. During both the Spring-Autumn and the Warring States periods, the general populace was frequently threatened with death, starvation, and the deprivation of all material possessions. Ancient Chinese philosophy thus developed in a particularly strenuous political and social atmosphere, with various philosophers suggesting different ideas about how to solve social and political problems (Liu, 2006).

In about 500 B.C., around the same time as Greek philosophy was emerging, the classic period of Chinese philosophy, known as the “Contention of a Hundred Schools of Thought” flourished, and the most influential schools, Confucianism, Daoism, Mohism and Legalism, as well as numerous other less influential schools, were established, which is the first golden era of Chinese philosophy. Confucius and the legendary Laozi belonged to the Spring-Autumn period, while Mencius, Xunzi, and Zhuangzi belonged to the Warring States period.

Eventually, it was the nation-state Qin which, having conquered other nation-states with bloody warfare, brought about China's first reunification (221 B.C.). During the Qin Dynasty, after the unification of China in 221 B.C., Legalism became ascendant. Fifteen years later, the Han Dynasty (206 B.C. - 220 A.D.) adopted Daoism and later Confucianism as official doctrine.

In response to the developing times and the rulers' demands, Dong Zhongshu (179–104 B.C.) of the Han dynasty set the theory of the 'correspondence between Heaven and humanity' as the philosophical foundation, and fusing and reshaping Confucianism, Mohism, Daoism, Legalism, Nominalism, the Miscellaneous School, divination, occultism, and various other schools of thought to form a new Confucian system'. (Tang, 2018, p. 190)

At the same time, Buddhism began arriving in China during the Han Dynasty (206 B.C. – 220 A.D.), through a gradual Silk road transmission and through native influences developed distinct Chinese forms, such as Chan/Zen. During the Wei and Jin dynasties (221 – 420 A.D.), some intellectuals turned their interest to Neo-Daoism. Then Buddhism became popular in the Sui and Tang dynasties (421 – 907 A.D.). But Confucianism and Daoism schools remained the determining forces of Chinese thought up until the 10th Century.

Neo-Confucianism, a variant of Confucianism, incorporating elements of Buddhism, Daoism and Legalism, was introduced during the Song Dynasty (960 – 1279 A.D.) and popularized during the Ming Dynasty (1368 – 1644 A.D.). It opened up the second golden era of Chinese philosophy (Mou, 2008, p.365).

During the Industrial and Modern Ages, Chinese philosophy also began to integrate concepts of Western philosophy. Sun Zhongshan (1866 – 1925 A.D.) attempted to incorporate elements of democracy, republicanism and industrialism at the beginning of the 20th century, while Mao Zedong (1893 – 1976 A.D.) later added Marxism, and other communist thought. But as De Mente (2009) said:

Chinese culture is now evolving in the direction of Western cultures—especially popular American culture. More and more Chinese are giving preference to personal, people-

oriented standards that are making their society less formalistic, less ritualistic, and less homogenous. But it is still Chinese! (p.21)

Another scholar Lyman V. Cady (1930) had the same conclusion, “by its success in social living has kept its identity for more than four thousand years, will continue to keep the ethico-social life of man in the forefront of its thought” (p. 38). Hence in this thesis, traditional Chinese philosophies will be limited to Confucianism, Daoism, and Neo-Confucianism, which means philosophies after 19th century will not be discussed. Here is an adapted and simplified Chinese philosophy history timeline according to Liu’s work (2006).

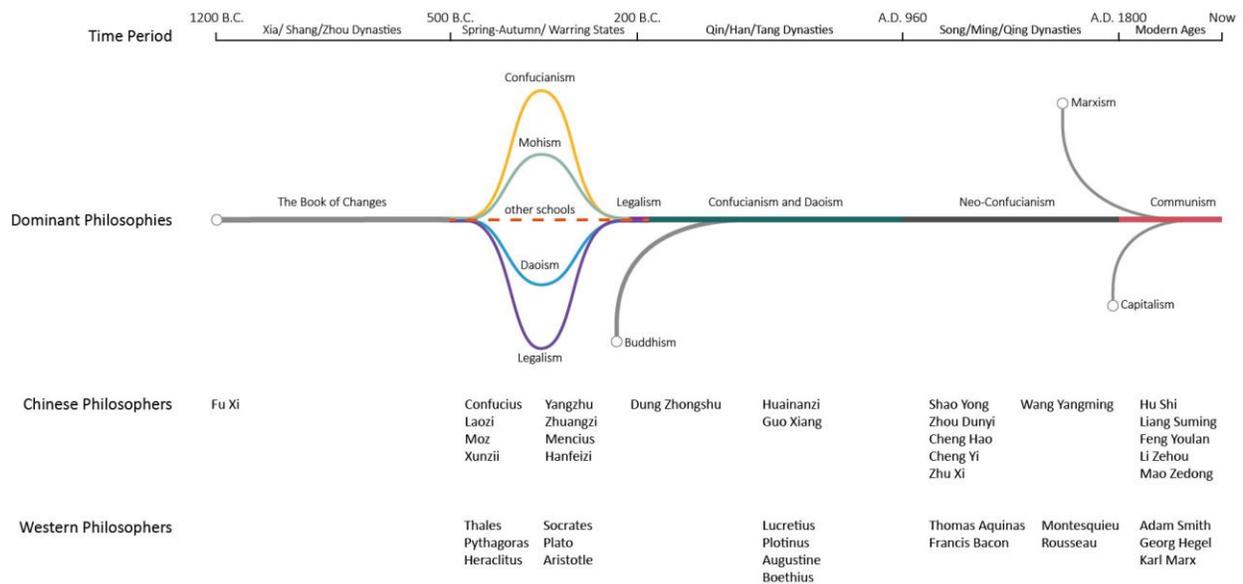


Figure 2.4 Chinese Philosophy History Timeline

2.2.4 Confucianism

“Confucian thought developed from a popular doctrine in the pre-Qin era to the official learning of the Han dynasty, becoming the authoritative state ideology, and serving as the philosophical foundation for the ‘great unification’ of the Han dynasty and inherited by

following dynasties” (Tang, 2018, p. 190). The influence of Confucian culture and thought is still displayed in every aspect of modern Chinese societies.

Confucianism came about as an attempt to reconstruct social order and to restore peace, due to hundreds of years’ wars and turmoil. Advocated by Confucius, Mencius, Xunzi and their followers, the theory is that if the ruler could set a good example to his people in his personal behavior and in his family relationships, and if the people could be morally transformed to preserve good personal conduct and to maintain good family relations, then all social problems, large and small, would dissolve. This theory sounds overly simplified and optimistic, but it is based on a sophisticated social philosophy. Confucian society is founded on family units. Social order begins with family order, and family order begins with personal obligation. As Derk Bodde (1953) puts it:

Society, in Chinese eyes, consists of a large number of small social units (the family, the village, the guild, etc.), each of which consists in turn of individuals varying greatly in their intellectual and physical capacities.... The welfare of the social organism as a whole depends upon harmonious co-operation among all of its units and of the individuals who comprise these units. This means that every individual, however high or low, has the obligation to perform to the best of his abilities those particular functions in which he is expert and which are expected of him by society (pp. 46-47).

Apparently, Confucians' primary concern is the livelihood of the general masses, with no regard to the boundaries of the nation-states at the time. With their humane hearts extended to all people in China, they totally understood that it was not possible to address the people's moral or spiritual transformation unless their livelihood was first taken care of. And to achieve that, they figured out one way to reform the society from the top - the ruling class. The ideal ruler for the

Confucians is someone who has perfect virtue internally. *The Great Learning* (Chan, 1973, p. 87) describes the eight steps needed to establish world peace, starting from personal moral cultivation through regulation of the family, the establishment of national order, and finally the manifestation of worldly order.

Generally, Confucianists believed a well-conducted personal life naturally leads to the moral transformation of the world, and they insist that the people should be governed by propriety and morality, not by law and punishment. Following their top - bottom strategy, Confucians devised practical means to assist the moral transformation of the ordinary people. As Tang (2018) noted:

Within the Confucian ideological system, the core values are “propriety” (禮 Li) and “benevolence” (仁 Ren), while “filial piety” (孝) is the foundation: these served as the outline for state governance, and became the spiritual underpinnings for human relationships and social order. (p. 190)

They believe if the people could be morally transformed by these values, preserve good personal conduct and maintain good family relations, then all social problems, large and small, would dissolve.

Confucian thought is a river that has flowed without ceasing for more than two thousand five hundred years. The derived beliefs and moral and ethical rules remain conscious and are explicitly articulated, becoming a wellspring of living water for Chinese culture. There are a lot of variations of Confucianism; among all variations, Neo-Confucianism is the most prominent one.

2.2.5 Daoism

“Daoism, emerges as a form of individual deliverance” (Liu, 2006, p.21). For earlier Daoists, what matters the most is one's own spiritual elevation. To them, since the world was already in an irredeemable state, a better way to conduct oneself would be to live in isolation from the world. “In a certain measure, at least, their philosophies are directed to the cure of the ills of the times” (Cady, 1930).

Laozi, the forefather of Daoism, is credited with the writing of the well-known book *Dao De Jing*, which described the great word of Laozi's school of thought - *Dao*. Since he did not wish to be bound by his surroundings, he was more interested in abstract philosophical thinking. He believed the solution of the problem of human life presented in an acute form in the confusion and selfish striving of his time, is to return to “the Way of Nature”, which he called *Dao*. He claimed that “All things simply follow naturally from *Dao*; *Dao* does not cease to exist after all things have come into existence; *Dao* is eternal and all-encompassing.” Following Laozi, Zhuangzi pointed out that there is no right or wrong with regards to *Dao*. When we make the distinction between right and wrong, we have already deviated from *Dao*. In reality, *Dao* has no limitation (Liu, 2006, p. 22).

Hereby, it is necessary to mention that the *Dao* of Daoism is different from what it is in *The Book of Changes*, which is also the reason why this school in particular is singled out as *The school of Dao*. The *Dao* of Daoism is the unitary first that from which all things in the universe come to be. The *Dao* of *The book of Changes*, on the contrary, are multiple, and are the principles which govern each separate category of things in the universe (Feng, 1949, p. 307). It is from the latter concept that Neo-Confucianists derived the idea of *Li*.

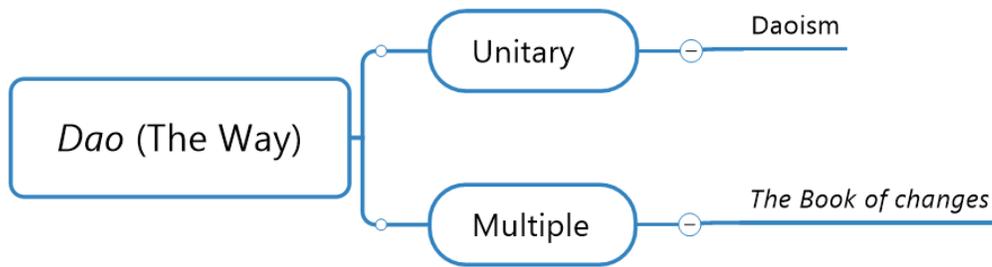


Figure 2.5 Different understandings of *Dao*

In terms of philosophy of life, Daoism represents the view that one should follow what naturally happens and not meddle with it. They believe life is scheduled, and things will go whichever way is the most natural to them. If we take an action to initiate a change, then we are not accepting things as they are (Liu, 2006). Therefore, to the Daoist, the Confucian model of social reform would interfere with the natural flow of *Dao*. Particularly, Daoism promotes a rational detachment from all feelings and desires. It teaches us to view our loved ones as being in a mere transient state of the transformation of *Dao*. For example, when Zhuangzi's wife died, instead of mourning, he gleefully celebrated her changing into a different form of existence - to be unified with *Dao* again (Zhuangzi & Wu, 2008). From his perspective, Daoism advises us to treat life's happiness and miseries equally, not to desire life or to abhor death. If we can truly obtain this mental state, then all suffering will be eliminated.

On one hand, Daoism seems to have emerged from an escapist mentality, as a rejection of the contemporary world of turmoil. On the positive side, however, Daoism brings people to a higher spiritual realm in search of true freedom. It teaches one to forget worldly distinctions such as fame and wealth in the pursuit of internal tranquility. Under Daoism, one could learn to forget about the world and roam about in the world beyond. One could be liberated from the bondage set by one's present surroundings (Liu, 2006).

Daoism made a significant contribution to the development of Chinese philosophy in that it opened up new directions for inquiry. Their discussion on the origin of the universe or the relation between Being and Non-being, in particular, led later Neo-Confucians to an engaged discourse of metaphysics. Laozi's teachings on how to live a good life, further developed by Zhuangzi, deeply affected Chinese intellectuals' frame of mind.

2.2.6 Neo-Confucianism

In the Song dynasty (960 – 1127 A.D.), “when Chinese political fortunes were at their lowest and the problems of national existence most pressing, philosophy burst forth again with great vigor in the work of Song Confucianists” (Cady, 1930, p. 36), which is deemed as the broad renaissance of Confucian thinking, and called Neo-Confucianism. According to Lai (2008), “Neo-Confucianism was a development of Confucian doctrines and was a prominent philosophical movement from the tenth century. Many of the discussions by Neo-Confucian thinkers focus on metaphysical and meta-philosophical issues.” (p. 2)

According to Feng (1986), Neo-Confucianism may be called ‘the learning of man.’ It deals with such topics as man's place and role in the universe, the relation between man and nature, and the relations between man and man and between human nature and human happiness.

Although Neo-Confucianists, such as Zhu Xi and Cheng Yi, claim themselves to rediscover what Confucius and Mencius really meant and often speaks through its interpretations of the ancient Confucian texts (Bol, 2008), it is acknowledged that the Neo-Confucian philosophers were teaching something different from pre-Qin Confucians. Mou (2008) described the differences between Confucianism and Neo-Confucianism: "Confucius and Mencius mainly focus on *Ren* (benevolence or humaneness) and *Yi* (righteousness), while Song philosophers

talked about *Li* (principle) and *Qi* (Substance). And they primarily concerned themselves with the learning of mind-heart and human-nature” (p. 366).

Moreover, Mou (2008) also classified Neo-Confucianism with two schools, “Neo-Confucianism covers under it both Cheng Yi’s and Zhu Xi’s learning of principle and Lu Jiu-yuan’s and Wang Yang-ming’s learning of mind-heart” (p. 366).

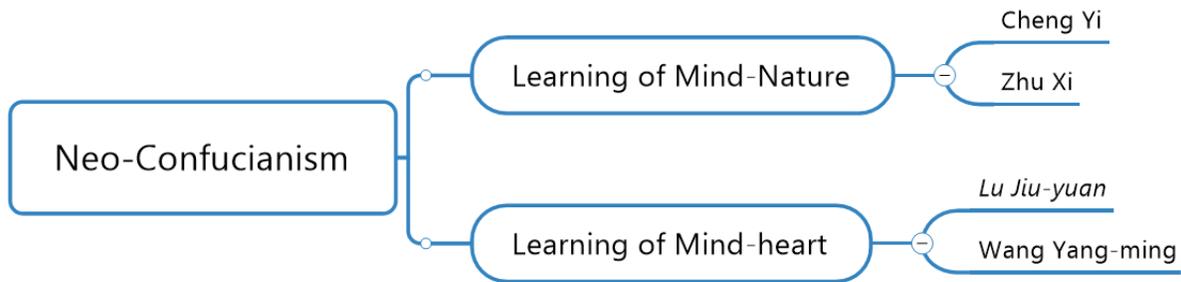


Figure 2.6 Two Prominent Schools of Neo-Confucianism

But actually, the School of “Mind-Heart” adopted a lot of thoughts from one branch of Buddhism, Zen School. Both Feng (2009) and Chan (1986) refused to classify it as Neo-Confucianism; thus it will not be introduced here. Yet the school of Principle, i.e., the School of *Li* is very important to this article. Therefore, Neo-Confucianism will only represent the School of *Li* (principle) in the following chapters.

The leader of the School of Principle, the most famous of all Neo-Confucians during the last thousand years, was Zhu Xi. Zhu Xi brought together ideas developed by a number of predecessors in the Neo-Confucian movement, combined them with his own genius, and elaborated a philosophic system (Creel, 1953). The most central conception in this system is *Li* (Principle), which is a little bit confusing because this *Li* (理 or principle) is pronounced

identically with the other *Li* (禮 or Propriety), while the Chinese characters are quite different. Importantly, these two terms should not be confused. According to Feng You-lan (1949), The term *Li* which means "principle" appears to be taken over from the concept of *Dao* in *The Book of changes*. "The *Dao* of 'the book of changes' are multiple, and are the principles which govern each separate category of things in the universe. It is from this concept that Cheng Yi and Zhu Xi derived the idea of *Li*" (Feng, 1949, p. 284).

There is remarkable resemblance between Zhu Xi's conception of *Li* (principle) and the doctrine of "ideas" or "forms" in the dialogues of Plato (Creel, 1953). Just like Plato and Aristotle, Zhu Xi also believed "when a thing is produced, there must be that which is able to produce it, and there must also be that which constitutes the material from which this production is made" (Feng, 1949, p. 285). Thus he concluded that all things in the world, if they are to exist at all, must be the embodiment of some principle in some material (Zhu & Li, 1986). And Zhu Xi named the principle "*Li*"; he claimed that nothing can be as it is or even exist without *Li* (principle). He made an argument that:

It is the Principle inherent in the cosmos that makes the physical world, as it is seen, real; it is the Principle pertaining to man that makes man differ from other animals. Although the Principle is metaphysical, incorporeal, and physically invisible, it is nevertheless apprehensible and is found particularized in every single thing. (Huang, 1999, p. 7)

Furthermore, Zhu Xi believed all the principles existing in everything are actually part of the one great *Li*, which he connected to the *Dao* of Daoism; and renamed the Supreme Ultimate (Creel, 1953, p.215).

Another equally important concept in Zhu Xi's philosophic system is *Qi* (Substance), which he adopted from *the Book of Changes*. Although the terms *Qi*, *Yin* and *Yang* were not

initiated by the Neo-Confucianists, they adopted it on metaphysical grounds in support of their cosmological argument for the reality of the phenomenal world. Zhu Xi described it as the primordial substance by which all processes in the world of nature can be explained (Bruce, 1928). Meanwhile, Neo-Confucianism accepted being and non-being from Daoism, and regarded *Qi* as the basic stuff of the universe. Neo-Confucianists also asserted that the universe is not only real but also perpetually new, because the *Qi* is forever in the process of changing. Moreover, they developed the concept of *Yin* and *Yang*, which represent two totally different yet complementary aspects. They believe the change of *Qi* results from the perpetual interaction of the *yin-yang* principles; according to Zhu Xi, the *Qi* that moves is called the *Yang*; the *Qi* that rests is called the *Yin*.(Feng, 1949, p. 300),

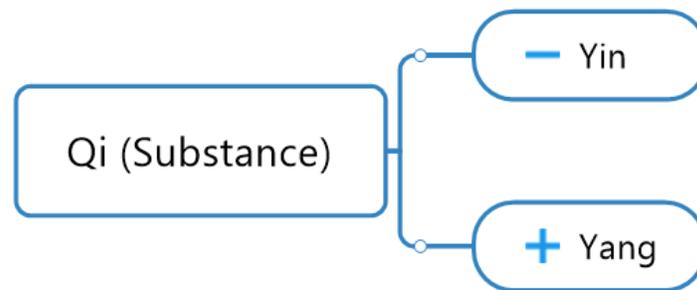


Figure 2.7 Relationship Between Qi, Yin and Yang

And the difference between *Li* (Principle) and *Qi* (Substance) is that, according to Zhu Xi:

In the universe, there are *Li* and *Qi*. The *Li* is the *Dao* that pertains to ‘what is above shapes, ’ and is the source from which all things are produced. The *Qi* is the substance that pertains to ‘what is within shapes, ’ and is the means whereby things are produced. Hence men or things, at the moment of their production, must receive this *Li* in order that

they may have a nature of their own. They must receive this Qi in order that they may have their bodily form. (Feng, 1949, pp. 285-286)

For instance, in their perspective, a flower is a flower, because it is the condensation of the *Qi* taking place in accordance with the *Li* of the flower, but a leaf being different from a flower is because their *Qi* is governed by different *Li*; likewise, all men must possess both *Li* and *Qi* in order to have concrete existence. It is the *Li* that makes men differ from other animals; while it is the *Qi* that makes individually different man. Further clarifications of *Li* will be addressed later in part 2.3.1.

Along with being highly philosophical, the Neo-Confucianists also admit that man is believed to be in possession of great possibilities and potentialities. Like Confucianists, none of them had any doubt that through education that anyone who makes an effort can attain moral excellence. From the Neo-Confucian perspective, merely abstract knowledge was useless unless conjoined with ethical self-reflection and cultivation that eventuated in proper moral behavior and social praxis. The Neo-Confucians sought to promote a unified vision of humane flourishing that would end with a person becoming a sage or worthy by means of various forms of self-cultivation (Berthrong, 1998).

2.2.7 Conclusion

The above introduction briefly outlines the similarities and differences between major schools of traditional Chinese philosophy. Confucianism, as a philosophy of moral politics, moral families, and moral self-cultivation, became the molding ideology of Chinese culture - it dominated the thought and behavior of Chinese intellectuals and general masses alike. It shaped and sustained Chinese family relations and social structures for thousands of years. Daoism, with

its spiritual elevation and its teaching of tranquility, became the mental utopia for Chinese intellectuals. A common Chinese attitude is: " one should deal with worldly affairs with the Confucian attitude while retreating to one's own world with the Daoist attitude" (Liu, 2006, p.150). Confucianism and Daoism can be seen as *yang* and *yin*; two complementary elements in Chinese culture and the Chinese mind. Neo-Confucianism, as a combination of these two distinctive philosophies, formulated a sophisticated and organized philosophic system, thus became the dominant Chinese philosophies for over 800 hundred years, not only deeply rooted in Chinese mind, but also influencing other East Asia countries even till now.

2.3 Chinese Philosophical Views

As introduced above, since all Chinese philosophy schools are based on the same foundation, there are various philosophical views that are shared by different schools, especially between Confucianism and Neo-Confucianism. Hence, Chinese philosophical views in this part will be introduced according to the need of this thesis. The following views explained will serve as *Li* of products.

2.3.1 The investigation of things

As mentioned above, the well-known Neo-Confucianist Zhu Xi (1986) affirmed all existent things are made up of *Li* (Principle) plus *Qi* (Substance). Man's nature, according to Zhu Xi, is his *Li*, by which he means man's nature is originally good with perfect virtues, like a pearl. And he maintained that:

the *Li* of all men is the same, but unfortunately their *Qi* (substance) is not. Those who receive a *Qi* that is clear, are the sages in whom the nature is like a pearl lying in clear

cold water. If one's *Qi* is turbid or impure, one is degenerate, as if a pearl (one's *Li*) lay concealed in muddy water (the impure *Qi*). One must get rid of the impediment of this cloudy *Qi* and recapture one's original nature. (Feng, 1949, p. 300)

Such is Zhu Xi's theory of the origin of good and evil. As pointed out by Plato, "every individual, in order to have concreteness, must be an embodiment of matter, by which, consequently, he is implicated, so that he necessarily falls short of the ideal" (Creel, 1953, p. 208). For example, a concrete circle can only be relatively and not absolutely round. Zhu Xi also thinks man is no exception, in that a person is rarely a saint. However, these *Li* of being a saint are all within us, but because of our physical endowment, they are not properly manifested, like a pearl in turbid water, which is very similar to Plato's theory of a previous knowledge. According to Plato, "We acquire knowledge before birth of all the essences" (Feng, 1949, p. 306). Zhu Xi believes what we have to do is to make this pearl become visible; the method for doing so is, achieving the extension of knowledge through investigation of things (*Ge-wu-qiong-li*), which is believed to be the essential characteristics, as Hsu Fu-Kuan demonstrated:

Based on the idea that *Li* (Principle) lies within the world, it became the aim of the investigation of things and the extension of knowledge to achieve a unification between what is internal and what is external. It is here that we can find the essential characteristics of Song-Ming Neo-Confucian philosophies. Without any doubt, realization of the self is the primary goal for truly committed Neo-Confucian scholars. (1986, p.45)

This method is actually based on the famous passage *Great Learning* endorsed by Confucius and other Confucianists, which reads:

Those who wished to exemplify illustrious virtue to the whole world, first cultivated their own characters. Wishing to cultivate their characters, they first rectified their hearts.

Wishing to rectify their hearts, they first made their thoughts sincere. Wishing to make their thoughts sincere, they first extended their knowledge to the utmost. This extending of their knowledge to the utmost lay in the investigation of things. (Legge & Confucius, 1893, pp. 357-58)

Zhu Xi says: “

The *Great Learning* speaks of the investigation of things but not of the investigation of *Li*. The reason is that to investigate *Li* is like clutching at emptiness in which there is nothing to catch hold. When it simply speaks of ‘the investigation of things,’ it means that we should seek for ‘what is above shapes’ through ‘what is within shapes. (Feng, 1949, p. 306).

In other words, *Li* are abstract and things are concrete. We are supposed to investigate the abstract through the concrete. As a result, what we come to see lies both within the eternal world and within our own nature. The more we know *Li*, the more our nature, ordinarily concealed by our physical endowment, becomes visible to us. As Zhu Xi said, “when one works at the investigation of things persistently, one’s *Qi* inside will finally become clear, and one’s mind will be enlightened” (Creel, 1953, p. 208).

In this case, "the investigation of things" and "the extension of knowledge" are taken as two different descriptions of the same operation seeking to discover the *Li*' of things. And a lot of Chinese have done it, and some of the discovered *Li* have been educating generations of Chinese. For example, the Chinese word *modest* (*Xu-xin*), which literally means hollow inside, is actually from the investigation of bamboo; Chinese also use the lotus to describe one’s integrity and

morality, because the lotus grows in mud, yet is never contaminated with it; moreover, by comparing a seed growing on the cliff with another seed growing in a lavish forest, one becomes a marvelous big tree while another a sapling or even remains a seed, so here Chinese found the *Li* of independence and persistence; through the investigation of ants' working together, Chinese found the necessity of cooperation. There are countless examples of Chinese learning *Li* from things around them.

In short, Neo-Confucianists believe *Li* exists in everything, and they encourage people to investigate things to find out the *Li*, for the purpose of extension of knowledge. This idea has influenced a lot of Chinese intellectuals. Hence, conversely thinking, products, within the definition of “things”, are supposed to have *Li*; designers, as creators of products, are not only responsible for their bodily form, but are also supposed to apply *Li* to products, thus delivering *Li* to users. In this case, users would discover the *Li* in the process of building relationship with products. Then, in determining what *Li* could be applied into products, the answer can also be found in Chinese philosophy.

2.3.2 Self-Cultivation

As has been introduced above, Confucius's vision for rectifying society was a simple and idealistic one: good government begins in the moral self-cultivation (*Xiu-shen*), although they acknowledge that the chances of such rectification were minimal (Confucius, 2003). Nevertheless, the ideology of self-cultivation has had far-reaching effects in Chinese society and culture. According to Lai (2008), the reasons why self-cultivation continues to have contemporary relevance is that:

Confucian moral philosophy has vital implications for contemporary moral philosophy due to a number of its key features: attention to character development, centrality of relationships in moral life, the progressive nature of moral development (that is, a focus on different elements of moral reasoning that are cultivated at different stages in a person's moral life), and the integrated nature of personal development and socio-political progress. (p. 35)

To conclude, Confucians' aim is to achieve socio-political progress through the development of personal character. Hereby, it has to be mentioned that they were not just focusing on moral education, but more of a ritually disciplined life. They were optimistic, yet pragmatic, in their assessment of human moral capacities and how these could be shaped to produce more fruitful outcomes for society.

The Doctrine of the Mean (Chan, 1973) describes the superior person as one who is watchful over him or herself even when alone. This person does not allow himself or herself to indulge in idle or improper thinking. The reason is that what one harbors in one's mind will inevitably be manifested in one's appearance and one's conduct. Thus, the person thinks the point of becoming a better person is not just for outward display, but for one's own inner self. "Confucians constantly examine themselves to see whether they have been honest with others, whether they have been conscientious in their tasks, and whether they have put into practice what they have learned from their teachers" (Chan, 1973, p. 98). A qualified Confucian is someone who is always vigilant in his or her self-cultivation and self-examination. And the ultimate goal in life is never to allow a momentary lapse in the task of self-improvement. By Confucius' standard, to be a superior person is never to forget the virtue of humanity even for as short as one meal's time (Confucius, 2003).

Furthermore, Confucians set up codes of propriety for daily interactions, including how one should address one's elders in the family or elders in the neighborhood; how one should interact with someone of the opposite sex; and how one should conduct oneself in various social contexts, etc. Under these social restraints, one is constantly aiming to be "proper" in respect to different interpersonal relations and social contexts. "The ideal man is one who has adapted his own natural inclinations to social restraints such that he no longer needs to curb himself - he is naturally inclined to do whatever is proper in each given circumstance" (Liu, 2006, p. 18). In Confucian thinking, the value of ritual propriety is not in its being a measure of social control, but in its ability to separate human beings from beasts. With such social rites, we manifest respect in our conduct for various social contexts as well as for other people. This behavioral manifestation can teach others to cultivate the same respect. And Confucians think, in time, a society is civilized through its members' adherence to rites. Established from within a person, the essence of propriety can also be understood as self-restraint.

Rites can transform the people externally; music, on the other hand, has a transforming power from the inside. "Music" includes both the recitation of fine poetry and the performance of musical instruments. Confucius believed that music has the function of regulating one's emotions and harmonizing one's sentiments (Confucius, 2003). In the *Doctrine of the Mean* (Chan, 1973), another important Confucian text, it is said: "Before the feelings of pleasure, anger, sorrow, and joy are aroused it is called equilibrium. When these feelings are aroused and each and all attain due measure and degree, it is called harmony" (p. 98). This comment reflects the common view in the ancient Chinese world of music that music acts as an expression of one's inner state. Harmonious music is an expression of its composer's or its players' balanced emotions. At the same time, harmonious music gradually pacifies the temperament of the listener through its

regulation of unexpressed emotions. Confucianists believe if the whole nation could be regulated with the right kind of music, the people would naturally become well-tempered citizens.

“Confucianism as a moral philosophy can be summarized as a philosophy of ideal personhood” (Liu, 2006, p. 19). It is true that Confucians focus on promoting the initiative and independence of individual character, which played a significant role in the Confucian thoughts; however as is explained, the aim of self-cultivation is for a better, more ethically focused society, which thus leads to another main idea of Confucianism, Humanism.

2.3.3 Humanism

Corresponding to the internal cultivation is the external dimension of humanism; this aspect is also extremely important. The goal of Confucians is not only to become better human beings themselves, but also to help others become better human beings. Accomplishing this very goal constitutes what Confucians call the virtue of “humanity.”

The main concept around “humanity” is *Ren* (Benevolence). According to Liu (2006), “*Ren* is not a moral principle that gives us specific guidance in life; nor is it accomplishable by a single act. *Ren* is not about action; rather, it is about a state of being” (p. 57). In other words, *Ren* represents an ideal state of human being. Ideally, human beings subsist between Heaven and Earth, playing the same roles that Heaven and Earth play. In the Confucian cosmology (as also explained in the context of *Book of Changes*), Heaven and Earth are ascribed many moral attributes, the most prominent of which is *Ren*. While Heaven nourishes all living things and Earth sustains them with no discrimination, we should aid our fellow human beings and other creatures in their quest for self-completion (Liu, 2006). In this context we can understand why Confucius (2003) says, “If one sets one's heart on [*Ren*], one will be without evil” (p. 30).

Seeing the meaning of *Ren*, one can realize that simply cultivating one's own moral attributes is not a sufficient aim in life. One needs to help others to fulfill their moral personhood as well, which is how Confucius defines "men of humanity." He states, "If one wishes to establish one's moral character, one also establishes the moral characters of others; if one wishes to obtain one's goal, one also helps others obtain their goals"(Confucius, 2003, p. 30). Confucius also says: "(*Ren*) Humaneness consists in loving all others in society." (Confucius, 2003, p. 136.) which means the person who really loves others is one able to perform his or her duties in society. However, to love others is not simply to be benevolent or compassionate toward them. One can be benevolent or compassionate by helping others in practical ways: giving them money, providing them with comfort, offering them kind words, etc. The Confucian ideal of *Ren*, on the other hand, is to help others to become better people themselves, or, put another way, to help others in their attainment of the state of *Ren*.

In summary, *Ren*, as an inner morality, is actually a central concept of Confucianism, which aims for humanity. It includes being loyal to one's social role, not imposing on others what we ourselves do not desire, and helping others establish their characters or obtain their goals. Furthermore, Confucius (2003) also teaches that to restrain oneself as a way to return to propriety is simply *Ren* itself, which provides the external guidance to practice *Ren*. Therefore, for Confucius, to establish a society that has all its members fulfilling their moral ideals, an emphasis on propriety would be much more effective than laws and punishments.

2.3.4 Restraint Desires

According to Laozi (2001), people have lost their original goodness because they have too many desires. However, by saying this, he didn't mean people should totally get rid of their

needs and wants. Instead, in Daoism philosophy, it is allowed to live with minimal standards of comfort and decency, such as food and shelter.

Desires, as understood by Laozi, seem to refer to something that is inconsistent with a natural life, which is essentially involved in insatiable cycles of acquisition. Laozi says: “it is not colors and sounds that blind and deafen us, but colors and sounds as construed within a system of artificial classification” (Laozi, 2001, p. 53). For instance, everyone wants clothes that are comfortable and fit well. But people often desire fashionable name brands produced by highly skilled artisans and made of high-quality imported fabrics. Such “additions” to our nature distracting us from what is sufficient for our natural flourishing are deemed as desires.

Moreover, the cultivation of desire leads to a cycle of self-propelling excess. If something is desirable, then more of it is better. A system based on acquisitive desire encourages greed. “In satisfying their desires, people are seeking for happiness. But when they try to satisfy too many desires, they obtain an opposite result” (Laozi, 2001, p. 51). Daoists think the desire for property, wealth, power, even food beyond one’s needs, once encouraged, becomes impossible to restrain.

The natural way, by contrast, is one of simplicity. To embrace simplicity is also to return to a more childlike state, which is unpretentious and lacking sophistication. And based on that, they appeal for the cultivation of satisfaction with natural simplicity. They also think the reduction of artificially induced aspirations leads to a corresponding reduction of competition and conflict. When people are not confused by cravings for luxury and excess, they know sufficiency; they are able to sustain themselves, control themselves, and pacify themselves (Coutinho, 2013).

Laozi thinks of this solution as the only feasible solution to the ills of the complex society of his times. It is necessary to know, by bringing up the idea of restraint desires and return to natural simplicity, his aim is making the society go back to a simple and peaceful state.

2.3.5 Conclusion

Based on the philosophical idea of the investigation of things, it is believed that products should also have *Li*, and this *Li* are certainly supposed to be applied by the designers, creators of products. As a result, designers fulfill their social responsibilities by delivering the *Li* to end users. Because the *Li* in products is on the level of beliefs and values of culture, the author dived deep in Chinese philosophy to find out the scope of *Li*. By explaining and analyzing the philosophical ideas of Self-Cultivation, Humanism and Restraint desires, it can be easily found that all these ideals aim to solve social problems by individuals conducting themselves in different ways.

Just as summarized by Karyn Lai, “the early Chinese thinkers believed the purpose of learning was to better oneself and society” (2008, p.6). Hence, as shown above, the scope of *Li* in products can be generalized as “better users and the society”, such as cultivating oneself and conducting one’s behaviors; restraining desires; as well as taking considerations of public good, environmental protection and social safety, which will be the main considerations of designers when they choose the *Li* from their own beliefs and values. Then the next question is how to evaluate if the *Li* is delivered to users as designers’ intentions?

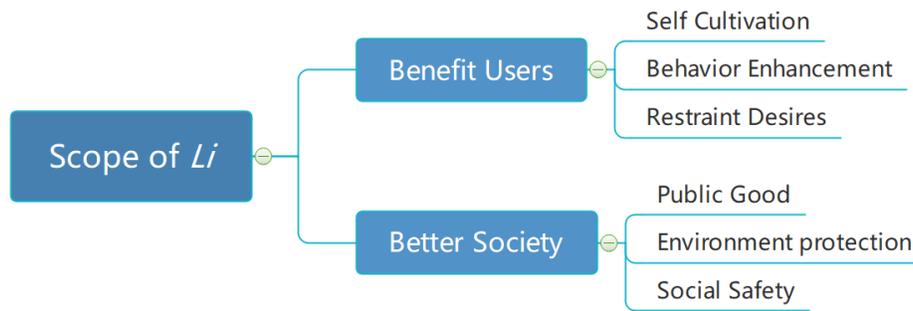


Figure 2.8 Scope of Li

2.4 Evaluation of *Li*

The figure above provides an overall scope of *Li*, yet the *Li* in products can also be classified by different levels for the benefit of evaluation. These three levels represent the degree of *Li* delivered to users. The first level is knowledge acquirement. On this level, the *Li* is received by users as a kind of knowledge, which means designers intend to exhort users with a certain belief or value. The second is behavior change, on which level designers try to enhance user's behaviors through products. The third level, also the deepest level, is habit development; on this level designers try to impact users with good habits. The criteria should vary in accordance with different levels.

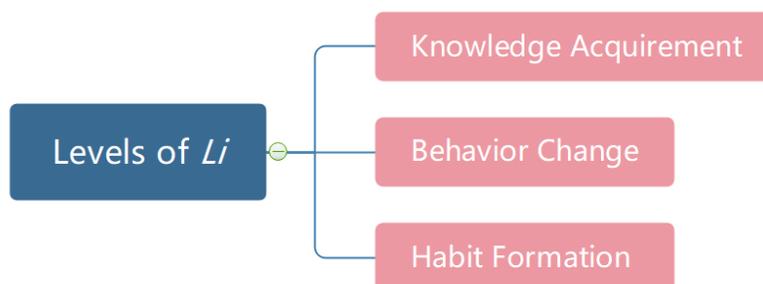


Figure 2.9 Levels of *Li* in Products

2.4.1 Knowledge Acquisition

If designers intend to plant a certain belief, value or even an opinion in users' mind, then it goes without saying that this belief or value is supposed to be received by users as a new knowledge and stored in users' long-term memory. The most influential memory model is the multistore model of memory that was proposed by Atkinson and Shiffrin (1968). The model asserts that memory consists of three stores: a sensory register, short-term memory and long-term memory.

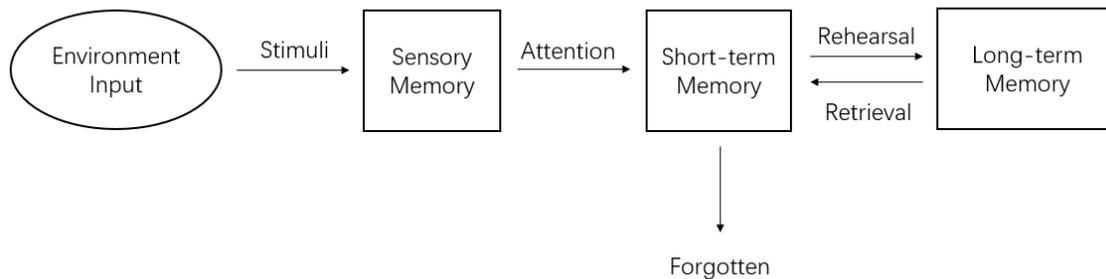


Figure 2.10 The Multistore Model of Memory

The figure above shows that information passes from sensory memory to long-term memory in a linear way. According to Atkinson and Shiffrin (1968), information is detected by the sense organs and enters the sensory memory. If attended to, this information enters the short-term memory. Then information from the short-term memory is transferred to the long-term memory only if that information is rehearsed (i.e. repeated). But if maintenance rehearsal (repetition) does not occur, then information is forgotten, and lost from short term memory through the processes of displacement or decay. Most importantly, they believe the long-term memory is nearly limitless in its duration and capacity. “Once a memory arrives in the long -term memory bank, the mind stores it completely and indefinitely” (Atkinson & Shiffrin, 1968, p. 104).

However, this model has been criticized by some scholars, who think the role of rehearsal as a means of transferring from short-term memory to long-term memory is much less important than Atkinson and Shiffrin (1968) claimed in their model. For example, it is acknowledged that one is always able to swim once he learnt it, even if without rehearsal.

In 1972, Tulving identified three types of long-term memory, namely episodic memory, procedural memory and semantic memory. Episodic memory is responsible for storing information about events that we have experienced in our lives. Procedural memory is responsible for knowing how to do things. Semantic memory is responsible for storing information about the world. This includes knowledge about the meaning of words, as well as general knowledge.

Tulving's classification of long-term memory suggests that rehearsal might not be essential for episodic memory and procedural memory, such as learning how to swim or bike. Nonetheless, rehearsal (i.e. repetition) is still the key factor of turning semantic memory into long-term memory. And beliefs and values should belong to semantic memory, so rehearsal (i.e. repetition) will be the determining factor of evaluating the *Li* in products on the knowledge acquirement level. Consequently, the rehearsal on products will be the frequency of the products being used.

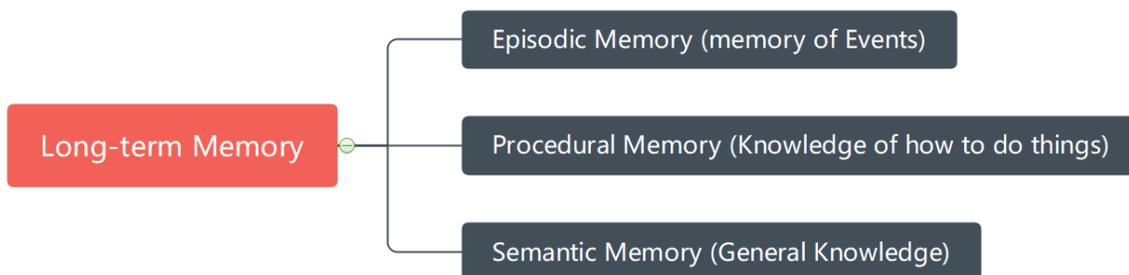


Figure 2.11 Types of Long-term Memory

In 1972, Craik and Lockhart also argued that rehearsal consisting simply of repeating previous analyses is insufficient to enhance long-term memory (Eysenck, 2006). They brought up the levels of processing model, which describes memory recall of stimuli as a function of the depth of mental processing. Craik and Lockhart (1972) think familiarity and specificity of processing also determine the transformation of Long-term memory by manipulating mental processing depth factors.

Craik and Lockhart (1972) claimed that a stimulus will have a higher recall value if it is highly compatible with preexisting semantic structures, for which they think familiarity is closely related to long-term memories. After conducting an experiment, they found that such a stimulus will have many connections to other encoded memories, which are activated based on closeness in semantic network structure. This activation increases cognitive analysis, increasing the strength of the memory representation. Moreover, they asserted that familiarity also includes the greater recall capacity for a particular stimulus if it is related semantically to the subject (Craik & Lockhart, 1972). For instance, in writing tasks, words are recalled most effectively with semantic cues if they are encoded semantically.

Specificity of processing is also deemed as another essential factor of long-term memory, which describes the increased recall value of a stimulus when presented in the method with which it was inputted. For example, auditory stimuli (spoken words and sounds) have the highest recall value when spoken, and visual stimuli have the highest recall value when a subject is presented with images. Craik and Lockhart (1972) also stated that the specificity of processing is directly related to stimulating methods. Furthermore, the more peculiar the stimulating methods are, the easier long-term memory can be transferred.

In summary, frequency, familiarity and specificity of processing will be the criteria for the evaluation of *Li* in products on the knowledge level, further explanations will be provided in chapter 3.

2.4.2 Behavior change

The next level of *Li* in products is intended to change user’s behavior. According to Fogg (2009), there are three principal factors to dictate if a certain behavior is going to be triggered or not, which are motivation, triggers and ability. And this model asserts that for a person to perform a target behavior, he or she must (1) be sufficiently motivated, (2) have the ability to perform the behavior, and (3) be triggered to perform the behavior. Fogg also claimed that these three factors must occur at the same moment, else the behavior will not happen.

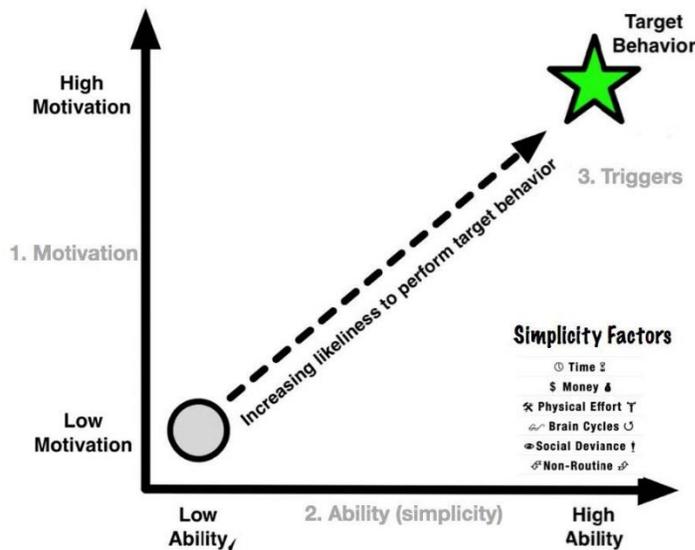


Figure 2.12 Fogg Behavior Model (Fogg, 2009, p. 2)

The figure above shows the visualization of the Fogg Behavioral model (FBM). As it shows, the FBM shows a plane defined by two axes. The vertical axis is for motivation, and the

horizontal is for ability. Fogg (2009) explained there are no units on this axis, as the framework is conceptual, showing relationships of the components rather than precise values for each.

Then in the top right corner is a star that represents the target behavior. Fogg (2009) noted the placement of this star is symbolic, meant to suggest that high motivation and high ability are typically necessary for a target behavior to occur. Thus, he drew an arrow that extends from bottom left to top right corner to emphasize this relationship between motivation, ability and target behavior. And the arrow indicates that if one has increased motivation and increased ability, one is more likely to perform the target behavior. Also, trigger is another crucial factor for the target behavior to occur.

Fogg also claimed that motivation and ability can trade off:

The FBM implies that motivation and ability are trade-offs of a sort. People with low motivation may perform a behavior if the behavior is simple enough (meaning, high on ability). For example, right now I have very low motivation to buy a new car. But if someone offered me a new car for \$1, I would buy it. My ability to pay \$1 is high, so I would buy the car despite my low level of motivation. The inverse scenario also applies. For this example, if your computer crashes and you fear losing your precious family photos (high motivation), even if you have low ability with computers, you will work hard with your limited ability to recover the photos. (Fogg, 2009, p. 3)

Even though the most cases are not on the extremes like the examples Fogg listed, still people's motivation and ability can be manipulated in general. "Effective persuasive methods will boost either motivation or ability (usually by making something simpler, like 1-click purchasing at Amazon) or both... Simplicity changes behaviors" (Fogg, 2009, p. 4). Thus, given

the *Li* is to influence people, simplicity will be one of the criteria to evaluate if the *Li* exists in products.

Additionally, Fogg provided a framework that includes six elements and an understanding of how these elements work together to define simplicity, which are time, money, physical effort, brain cycles, social deviance and routine. Some of these elements are easy to understand, such as time, money, physical effort and brain cycles. The less time, money and physical effort required by the target behavior, the simpler that behavior is. Also, if performing a target behavior causes us to think hard (brain cycles), that action might not be simple.

Particularly, when it comes to social deviance, he means “if a target behavior requires me to be socially deviant, then that behavior is no longer simple” (Fogg, 2009, p.4). For example, wearing pajamas to a city council meeting might require the least effort, but there’s a social price one would pay, which creates complications for that behavior. Finally, people tend to find behaviors simple if they are routine, activities they do over and over again. When people face a behavior that is not routine, then they may not find it simple.

Hence, time, money, physical effort, brain cycles, social deviance and routine work together to make a target behavior simple. These six factors will be accountable for simplicity when it comes to evaluate the *Li* in products.

But making something simpler is not all; the behavior must be triggered. Without an appropriate trigger, behavior sometimes will not occur even if both motivation and ability are high. According to Fogg (2009), a trigger can take many forms, such as an alarm that sounds, a text message, an announcement that a sale is ending, and so on. He noted that “whatever the form, successful triggers have three characteristics: First, we notice the trigger. Second, we associate the trigger with a target behavior. Third, the trigger happens when we are both

motivated and able to perform the behavior” (Fogg, 2009, p. 3). Especially, as he pointed out in the last characteristic, timing is very important.

In conclusion, simplicity of target behavior, noticeability of trigger, association between the trigger and target behavior, and timing will be used as criteria for evaluating *Li* delivered on the Behavior change level.

2.4.3 Habit Formation

A habit is a routine of behavior that is repeated regularly and tends to occur subconsciously (Butler & Hope, 1995). So new habits are developed on the basis of behavior change.

Gardner and Rebar (April, 2019) provide the explanation of the transferring process: when an initially goal-directed behavior becomes habitual, action initiation transfers from conscious motivational processes to context-cued impulse-driven mechanisms. Upon encountering the associated context, the urge to enact the habitual behavior is spontaneously triggered and alternative behavioral responses become less cognitively accessible.

Habit performance is vulnerable to changes in the performance context. In 2005, Wood, Tam and Witt tested this idea. They examined change in college students’ habitual behaviors of exercising, reading the paper, and watching TV upon transferring to a new university. Generally, students performed these actions when they intended to do so. However, a mark of strong habits is frequent performance regardless of people’s intentions, provided that contexts remain stable. In other words, habit performance continued to be cued independently of intention only when students perceived that the context of performance was stable across the transfer. Thus, context change disrupted habit performance, bringing them under intentional control.

Similarly, in 2007, a study by Wood and Neal found that when behaviors are repeated in a consistent context, there is an incremental increase in the link between the context and the action. This increases the automaticity of the behavior in that context. Hence, stability of context is a crucial factor for habit formation.

In 2014, Eyal found that a company can determine its product's habit-forming potential by plotting two factors: frequency (how often the behavior occurs) and perceived utility (how useful and rewarding the behavior is in the user's mind over alternative solutions). For example, people use Google frequently, which makes it one of users' habits; on the other hand, people may not use Amazon on a daily basis, yet users receive great value knowing they will find whatever they need, which also makes buying on Amazon a habit. The former habit is due to its high frequency, the latter due to its perceived utility.

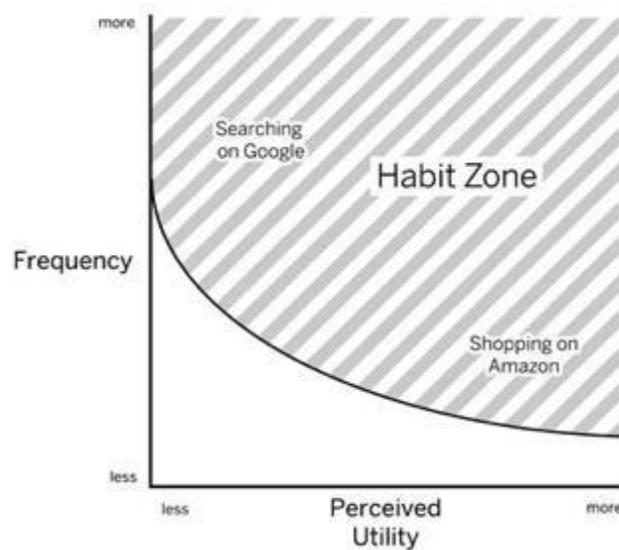


Figure 2.13 Habit Zone (Eyal, 2014, p. 37)

As Figure 2.13 represents, a behavior that occurs with enough frequency and perceived utility enters the habit zone, but if either of these two factors falls short, the behavior would less likely be transferred as a habit. Especially, some behaviors never become habits because they do

not occur frequently enough, no matter how much utility is involved; highly infrequent behaviors will never be developed into a habit. On the other hand, some behaviors that provide minimal perceived benefit could still become a habit owing to its high frequency (Eyal, 2014).

Furthermore, Eyal also noted that higher frequency is better.

To sum up, stability of context, frequency of behaviors and perceived utility will be the criteria for evaluating the *Li* on the habit formation level, and certainly, the criteria for evaluating behaviors should also be included since habit is developed on the basis of behaviors.

2.5 Generated Design Thoughts

This section of the literature review will explain some Chinese philosophical views which are deemed to be applicable for design. These design thoughts are generated for the purpose of making the outcome of this guideline more “Chinese-like;” i.e., aligned with Chinese-specific philosophies.

2.5.1 Suggestiveness

“Suggestiveness, not articulateness, is the ideal of all Chinese art, whether it be poetry, painting, or anything else” (Feng, 1949, p. 12). In poetry, what the poet intends to communicate is often not what is directly said in the poetry, but what is not said in it. So an intelligent reader of poetry reads what is outside the poem; and a good reader of books reads “what is between the lines.” Furthermore, suggestiveness pervades many aspects of premodern Chinese cultural production, as demonstrated by Varsano (2016):

From the earliest divination texts to the great novels of the late imperial period, from the practice of ritual to graphic representations of the body, some form of suggestiveness can

be counted on to appear, whether as a formal device, an interpretable theme, or—as in the most interesting and complex cases—both. (p. xi)

It is undeniable that suggestiveness is an ideal of Chinese cultural production, and this ideal is reflected in the way in which Chinese philosophers have expressed themselves.

According to Daoism, the *Dao* (the Way) cannot be told, but only suggested (Laozi & Roberts, 2001). Chinese philosophy is perceptual, suggestive and mostly metaphorical. Almost all philosophers try to avoid expressing themselves directly; instead, they prefer building a tacit understanding with listeners, thus to impress them and transfer their beliefs and values silently.

When it comes to product design, designers should use suggestiveness instead of putting everything right in front of users. For example, it is always better to create a right cue to guide users to what they are supposed to do rather than relying solely on warnings and labels. And the ideal of suggestiveness is to find a right cue to guide users, particularly with the expression of *Li* in this guideline, which is supposed to be delivered quietly and “sneakily”.

2.5.2 Moderateness

The idea of moderateness (*Zhong*) is fully developed in the *Doctrine of the Mean*. Moderateness is just like the Aristotelian idea of the “golden mean.” Some would understand it as simply doing things no more than halfway, but this is quite wrong. The real meaning of *Zhong* is neither too much nor too little, that is, just right. For instance, in a prose poem by Sung Yu of the third century B.C., he describes a beautiful girl with the words: "If she were one inch taller, she would be too tall. If she were one inch shorter, she would be too short. If she used powder, her face would be too white. If she used rouge, her face would be too red" (Feng, 1949, p. 173).

This description means that her figure and complexion were gorgeous in a moderate way; she is not too uniquely attractive on the first look, yet has implicit beauty overall.

Besides, Daoism also has the idea of avoiding being too extreme, which coincides with moderateness. As introduced above, Laozi and Zhuangzi both advocate for restrained desires, but unlike abstinence or asceticism like monks. Daoism maintains the unnecessary should be removed. Laozi (2001) says: “The five colors blind the eye. The five notes dull the ear. The five tastes fatigue the mouth” (p. 53), which means if one always looks at highly saturated colors, then his eyes won’t be as sharp as those who doesn’t, same as notes and tastes. Even though Chinese left the world a stereotype impression that they like stuff to be highly saturated red, from Chinese philosophers’ point of view, they disagree with dazzling colors and eye-catching shapes, and prefer everything to be simple and clean like jade. China has always regarded jade as the ideal of beauty. The beauty of jade can be described as "extremely gorgeous yet plain" (Zong, 2005, p. 64). It can be said that all the beauty of art, even the beauty of personality, tends to the beauty of jade: the brilliance inside, but the simplicity on the outside.

This kind of beauty has been widely accepted by ancient Chinese, which can be seen in ceramics. Porcelain production was mostly plain during Song dynasties; even though they are decorated, the decorations are not overly added. The patterns and the utensils are integrated into a whole, seen in Figure 2.14(1). And the moderateness also can be represented by their colors, which are colors that tend not to resonate others with any feelings but calmness.



Figure 2. 14 (1) Song Dynasty Ceramics (Yang & Li, 2020, p. 100)

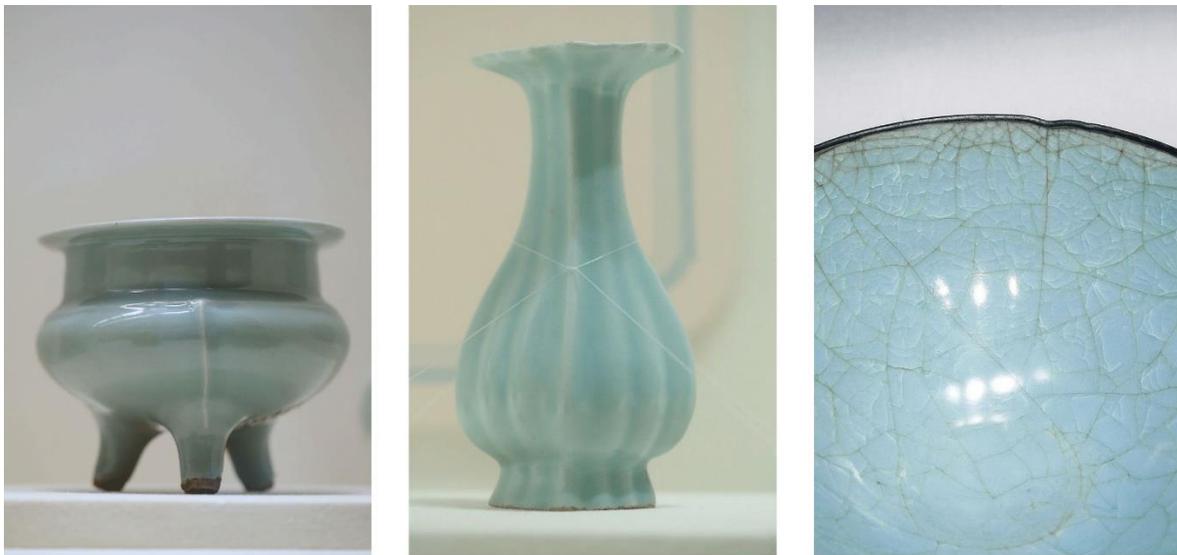


Figure 2. 14 (2) Song Dynasty Ceramics (Yang & Li, 2020, p. 100)

As shown above, moderateness does not mean plainness nor dullness, not vulgarity, but elegance, and this transcendental aesthetic intent has been pursued by literati over the last two thousand years. In conclusion, Chinese aesthetics encourage decoration yet criticize excessive decoration and complexity; Chinese aesthetics advocates for the beauty of jade, which has a simple and clean appearance, yet full of beautiful details; and Chinese aesthetics also prefer plain colors, which are always colors with less saturation that can pass on a feeling of calmness and peacefulness.

2.5.3 Harmony

Harmony (*He*) is the reconciling of differences into a harmonious unity, which is not incompatible with difference; on the contrary, it results when differences are brought together to form a unity. But in order to achieve harmony, the differences must each be present in precisely their proper proportion (Feng, 1949), which is also called balance and equilibrium.

This concept originates in the *Book of Changes*. According to Liang (1999), there is no such thing as absolute, single, extreme, or discordant in the universe. All things are supposed to be relative, double, balance, and harmony, such as *Yin* and *Yang*, which are always changing yet exist in a subtle balance. With the constant swing between two ends, the pendulum maintains a consistent flow. This consistent movement is harmony itself. Later in the third century B.C., there was a strong tendency towards syncretism to stabilize the society, which is represented by Xunzi and Zhuangzi, both Confucianist and Daoist writers. They did present such a theory, which shows how, despite their other differences, they both reflected the eclectic spirit of the time (Feng, 1949). Especially from the perspective of Daoists, achieving harmony in the whole is not merely the sum of its parts; a proper account of it must include consideration of individuals, their relationships with others, and their place in the whole (Lai, 2008, p. 10)

Besides, harmony is also reflected in between self and contexts. Chinese philosophers maintain that there are many factors that shape the self, including its relationships with significant others and its experiences within its historical, cultural, social and political contexts (Lai, 2008). They believe everything in this world is dependent on other things somehow, especially on its environments.

Chinese consider harmony on everything around, both inside and outside of it. The goal is to achieve both inner harmony and harmony with nature. In product design, harmony is the visually satisfying effect of combining similar or related elements, such as adjacent colors, similar shapes and related textures. However, harmony doesn't mean no contrast at all; instead, it seeks for a balance between areas of harmony and areas of contrast. For instance, by keeping the area of contrast smaller than the large harmonious area to be relieved, a visually satisfying balance is achieved. And in the meantime, it should also be harmony with the contexts, matching with the context instead of standing out.

2.5.4 Vitality

The last characteristic of a Chinese design is the pursuit of vitality. Chinese pursue the aesthetic rhyme that exists outside the shape of utensils. Their design always starts from function to appearance to artistic perception, thus to achieve the combination between the material value and spiritual value of the utensil (Yang & Li, 2019). And this spiritual value is believed to be the soul of a utensil, which can be understood as vitality.

During the Song dynasty, with the integration of philosophical thoughts of Confucianism, Daoism, and Buddhism, a philosophical concept of "intent on things without staying in things" is formed. On one hand, this concept is closely related to the concept *Li*: philosophers investigate natural things around them to find out the value, *Li*; on the other hand, is also represented in aesthetics, that is, the pursuit of a quiet, subtle, peaceful and profound aesthetic charm, as known as the pursuit of vitality. Chinese designers have been dedicated to giving a man-made utensil meaning when they create it, and they hope this meaning can be felt by others through investigation. Thus, most times, this abstract meaning is represented by the rhyme of the utensil

appearance. Hence, vitality, as an aesthetic feeling, exists in the form of product yet beyond form.

Through analysis and study on several examples, it is found that there are two means to achieve vitality: one is naturalness, the other, combination of restrained randomness. It is worth to mention that all the cases are designed by Chinese designers with the mind of Chinese design style, they were doing it sporadically and individually, yet the author found the pattern and their similarities.

2.5.4.1 Naturalness

Max Kaltenmark (1969) says: "Conforming to the rhythm of the universe is the prerequisite of wisdom in all Chinese thinking" (p. 46). And this thinking pattern is also represented in the aesthetics of artifacts and utensils. Chinese people have the habit of imitating natural animals and plants when designing the shape of artifacts and utensils to create that vitality ever since the Song Dynasty. They often combine familiar natural materials such as trees, flowers, birds, and fish with abstract geometric shapes, and create designs through generalization, induction, and refinement (Zong, 2005). The outcomes are always refreshing designs with simple shapes and characteristics of natural things. Even till now there are a large number of Chinese designers being influenced subconsciously. The following are some case studies collected from Chinese Design Center.



Figure 2.15 Tree Grow Sofa and Table (Xiao, 2019)

As Figure 2.15 shows above, the sofa and table are both imitating trees. According to the designer, Xiao Tianyu (2019), an independent Chinese designer, the inspiration for this ‘Tree Grow sofa’ comes from the shape of a tree born on a stone. It has a sense of infinite growth, where the branches originate from the seat and made the ‘stone’ a chair because of its existence - like an endless cycle. The design of ‘Tree Grow table’ comes from the idea of a growing winding tree - rooted in the ground, sinuously beautiful. This natural beauty provides the unique charm of mixing natural shapes and the feeling of vitality.



Figure 2.16 Incense Set (Li, 2018)

Similarly, a Chinese design company, Keydo, tends to create an idyllic and poetic atmosphere with regard to design. The incense set above uses metaphor to create this poetic feeling. The incense plays a central role as a tower sitting between mountains, and the smoke sinking down between mountains is like water flowing among mountains. Using the characteristics of incense smoke properly, this design shows users a classical Chinese painting with poetic atmosphere, which can also be understood as vitality.



Figure 2.17 'Bamboo' Mug (Liu, 2018)

Kun Liu, an independent Chinese ceramic artist, designed the mugs above using the metaphor of Bamboo. By making the grip a leaf shape, and adding the features of bamboo and knots, this mug gives users a feeling of a vigorous bamboo.



Figure 2.18 'Growing' Vase

Zhenhua Jin, also an independent Chinese designer, has always been focusing on the theme of 'life'. Life is fleeting, and according to herself, she wanted to express its connotation with artistic forms as metaphors. The picture above, Growing, is one of her well-known works, which shows great vitality by giving the vase a plant shape. Combined with the white porcelain, this whole design passes on a pure refreshing natural feeling to users.

In summary, naturalness is a means to achieve vitality by using metaphor. However, naturalness is different from bionic design, the goal of naturalness is not just designing products with natural appearances, but create that poetic atmosphere beyond products, thus to pass on the feeling of vitality to users. To make products naturalness-like means to find and to extract the

core feature of natural materials, then to apply it on products, instead of making it completely like natural things.

2.5.4.2 Restrained Randomness

The other way to create the feeling of vitality is by making products have regular simple shapes with random patterns. According to Daoism and Neo-Confucianism, the *Li* on everything is eternally invariable, yet the *Qi* is constantly changing. And everything in the universe is the combination of *Li* and *Qi*; *Qi* changes within the constraint of *Li*, as there are no leaves that are exactly alike in the world, but leaves share the same basic shapes. A lot of Chinese designers are influenced by this idea, which gradually leads to the pursuit of restrained freedom to suggest vitality.

This feature of Chinese aesthetic is obvious in Chinese poems. According to Chinese literary tradition, there are numbers of rules to follow if one plans to write a Chinese poem, yet what Chinese poets are pursuing is the atmosphere within the constraints. Good poetry is properly conformed to the rules, the number of words is limited, but the ideas it suggests are limitless (Zong, 2005). There are also lots of Chinese designers being influenced by these ideas. And they designed products with the feature of restrained freedom.



Figure 2.19 Bone china tea set and dinner set (Jiang, 2018)

Yanze Jiang, a Chinese design educator, designed the tea set above, which has been collected by many well-known museums and galleries. She intends to create free and varied ceramic forms, and her ideal is to make them controllable, and at the same time, show randomness. As shown in the figure, the tea pot, cups and trays are all regular simple cylinder shapes with random patterns on them, which pass on a unique vigorous feeling.



Figure 2.20 'Three Walkers', stool & tea table (Hou, 2018)

Zheng-Guang Hou, founder of Chinese furniture brand Moreless, is also dedicated to combine Chinese culture with design. And in his mind, the picture above is what Chinese design should be like, which is a triangular prism with organic twists. Through analysis, it is not hard to find out this organic form also meets the feature of restrained randomness.



Figure 2.21 I-Fang Vessels (Fang, 2019)

Deeply influenced by Chinese philosophy, especially Daoism, Zhenpeng Fang concentrates on combining the cultural elements into design practice. And one of his works, the vessels above, shows the random patterns on regular cylinders, which also give others a feeling of vitality.



Figure 2.22 A set of Ceramics (Pan, 2018)

Coincidentally, from Jianbo Pan's perspective of view, Chinese design should also have the regularity and randomness at the same time to represent vitality. The set of ceramics above show regular simple shapes with random black lines and golden crack lines, which make them uniquely vigorous.



Figure 2.23 ZHIZHU Tearoom (Zhu, 2019)

This tearoom above is designed to provide a tea space for contemporary Chinese. It is basically a cube with random grid patterns on some grid units, which also provides a feeling of vitality.



Figure 2.24 'Circle' lacquer tea tray (Chen & Qi, 2018)

The tea tray above, designed by Jianbing Chen and Shuyi Qi, shares the same pattern with others. It is a simple regular round shape tray with random holes on it, which coincides with the aesthetic of vitality. Plus the moderateness aesthetic is the ideal Chinese philosophical design style.

To sum up, the aesthetic of restrained randomness has been used by many designers subconsciously when they design the Chinese style products. This aesthetic concept is undoubtedly influenced by Chinese philosophy, especially Daoism. The vitality is conveyed through the contrast of regularity and randomness.

2.6 Conclusion

In summary, this chapter introduced and reviewed several main concepts of Chinese philosophical concepts, *Li* is the most important one when connecting Chinese philosophy with product design, that is, products are also supposed to have *Li*. Furthermore, by analyzing Confucianism and Daoism's main claims, the scope of *Li* in products is found, which is benefitting users and society.

By characterizing the *Li* into three levels, the criteria of applying *Li* on each individual level in product is concluded. And these criteria are deemed to be sufficient to help designers evaluate their solutions.

Finally, there are several Chinese philosophical ideas influencing Chinese aesthetics: suggestiveness, moderateness, harmony and vitality. Especially vitality can be conveyed through the methods of making products exhibit naturalness or restrained randomness. These four aesthetic criteria should help make products more Chinese-like in their appearance.

Chapter 3 APPLYING CHINESE PHILOSOPHICAL THOUGHTS INTO PRODUCT DESIGN

To solve the problem of design homogeneity, and meanwhile, to promote Chinese culture in the design field, this chapter will introduce a design guideline based on Chinese philosophical concepts. The guideline will be called *Li* Design Process, since it is mostly attached to the concept of *Li*. Besides, to differentiate products with *Li* on the appearance and to give them a Chinese look, this design guideline also provides suggestions on the appearance of products, which are also from Chinese philosophies and recognized Chinese aesthetic thoughts.

The design process which will be adapted into this guideline is the most authoritative design process- Double Diamond Process (Figure 3.1). Developed by the British Design Council in 2004, Double Diamond provides a clear and comprehensive design process. It divides design flow into four phases — Discover, Define, Develop, and Deliver. As shown in Figure 3.1, the two diamonds represent the iterative divergent and convergent thinking process. Double diamond provides a basic frame for user-centered design process that designers could adjust it accordingly while using it (British Design Council, 2019). For *Li* Design Process, it is very essential to connect the *Li* with user needs in the early design stage to find proper opportunities and brainstorming feasible solutions; therefore the *Li* design process is built upon Double Diamond process (see Figure 3.2).

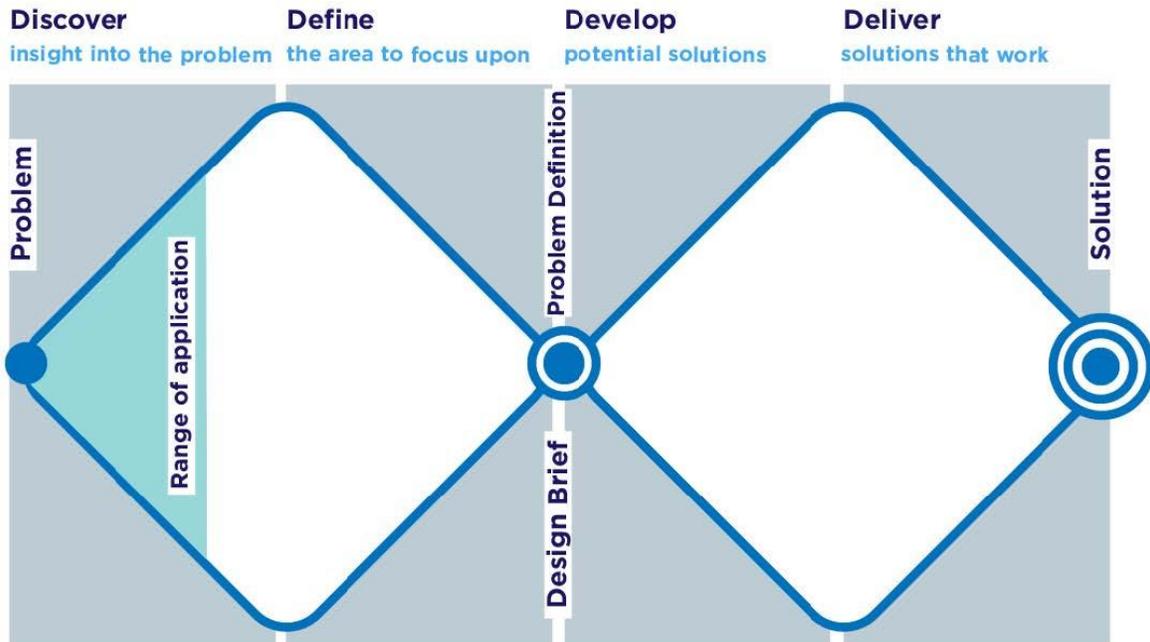


Figure 3.1 Double diamond model created by Design Council (British Design Council, 2019)

This *Li* design process can be divided into eleven steps: Acknowledge the *Li* (getting designers acquainted with the scope of *Li*), Choose *Li* (factors that need to be considered when choosing *Li*), then discover and define problems related to the *Li* and Find opportunities around problems. Next, Brainstorm solutions to influence users with the chosen *Li*; after that, there should be a round of Evaluation to filter proper solutions. Visualize the chosen solutions, and then the product appearance should be paid attention to in order to add Chinese design features. Later, evaluate the appearances of designs and select the best design with Chinese look. Finally, the *Li* design process merges into regular design process. There should be a mock-up test for the final design solution, so once it stands the test, there goes further development.

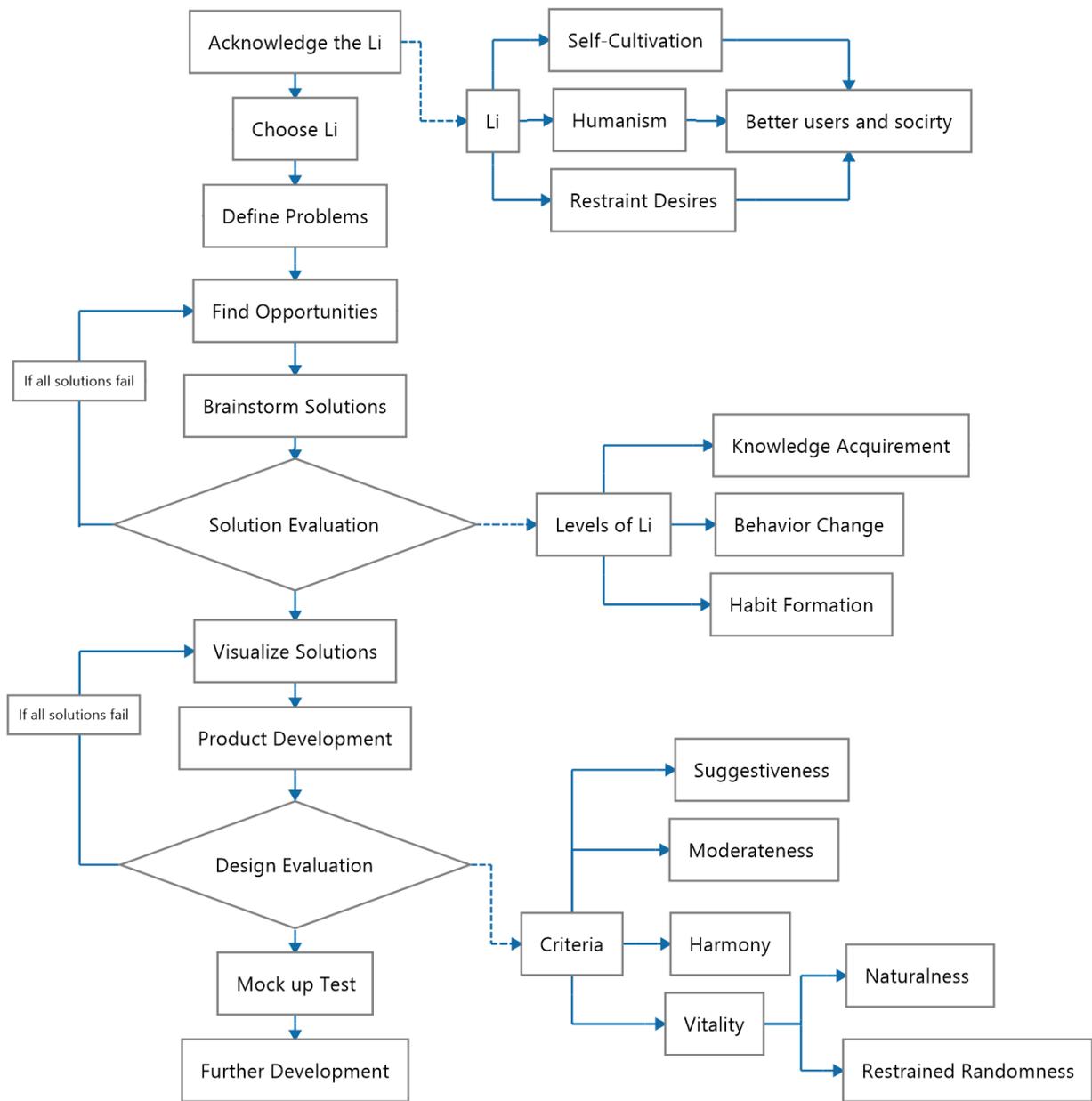


Figure 3.2 Li Design Process

The *Li* design process is basically following a flow-chart as shown in Figure 3.2, and detailed guidance will be provided step by step.

3.1 Acknowledge the *Li*

Designers who follow this design guideline might be confused without knowing the *Li*; hence, the very first step is acknowledging the *Li*. According to Part 2.3.1, Neo-Confucianists believe everything has *Li* inside, which is like a soul as to a person. Besides, they believe the *Li* in everything around us is beneficial since the *Li* exists eternally as part of natural truth; so they encourage people to investigate things to find out the *Li*, for the purpose of extension of knowledge, and gradually becoming better people by conforming to *Li*. This idea has influenced a lot of Chinese intellectuals; and they always seek for *Li* from things around them. Moreover, they also take the found *Li* as rules of life, which eventually impact their behaviors and habits.

Hence, conversely thinking, products, within the definition of “things”, are supposed to have *Li* to influence people in a good way; designers, as creators of products, are not only responsible for their bodily form, but are also supposed to apply *Li* to products, thus delivering *Li* to users. In this case, users would be influenced by the *Li* in the process of building relationships with products.

The goal of applying the *Li* is not covering the *Li* for users as most nowadays products do. It is, on the contrary, to make the users realize the *Li*, such as the sensor lights in public which can turn off automatically. The *Li* in them is saving power, which they did achieve individually, but they fail to pass on the *Li* to users, thus users may still forget to turn off lights with a switch light at home, which could eventually cause a waste of power instead. Hence it is necessary to educate users and deliver beneficial beliefs and values to them by means of product design.

Then, the scope of *Li* in products also exists in Chinese philosophy. Part 2.3 introduced the views of Self-Cultivation and humanism of Confucians, and Restraint Desires of Daoists, all

of which aim to solve social problems through individuals conducting themselves in certain ways. It can be summarized that “the early Chinese thinkers believed the purpose of learning was to better oneself and society” (Lai, 2008, p.6). Hence, in order to make this guideline widely accepted, the scope of *Li* in products, aiming to impact users, can be generalized as “benefit users and the society”, such as cultivating oneself and enhancing one’s behaviors; restraining desires; taking into consideration public good, environmental protection and social safety.

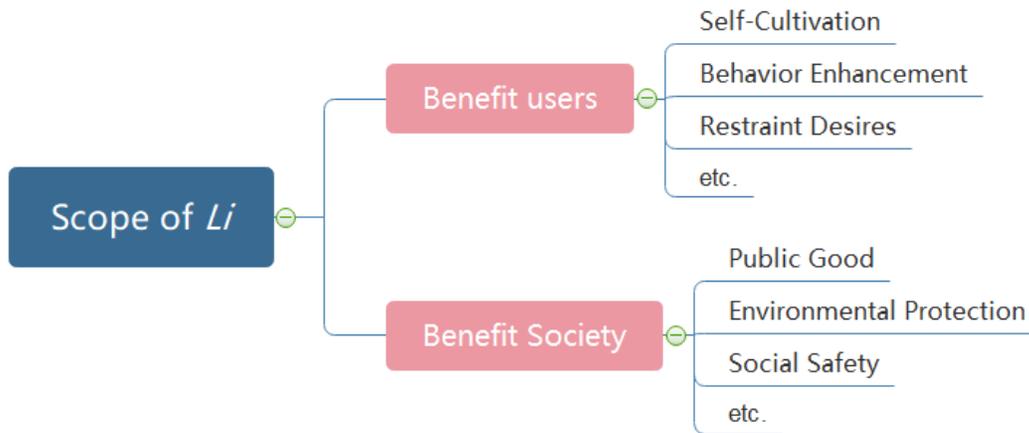


Figure 3.3 Scope of *Li*

Besides, the *Li* will also be classified by three different levels for the benefit of evaluation. Different levels represent different degrees of *Li* delivered to users. The first level is knowledge acquirement. On this level, the *Li* is received by users as a kind of knowledge, which means designers intend to exhort users with a certain belief or value. The second is behavior change, on which level designers try to enhance user’s behaviors through products. The third level, also the deepest level, is habit development; on this level designers try to impact users with good habits. The criteria vary in accordance with different levels; and designers should decide to which level of *Li* they want to deliver before research.

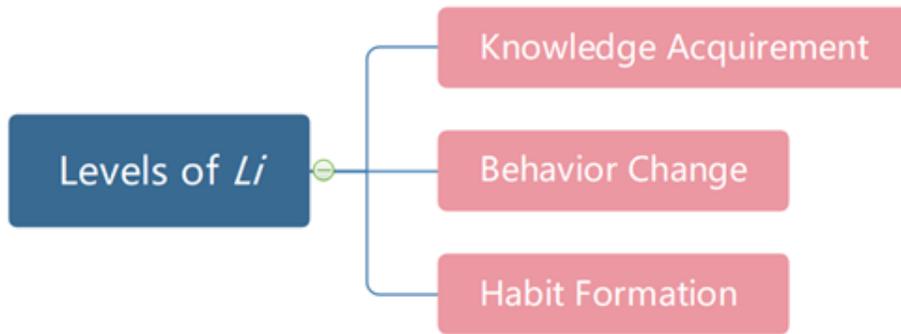


Figure 3.4 Levels of *Li*

3.2 Choose *Li*

After identifying the *Li*, designers then should Choose one of *Li* they would like to pass on to users through products. This *Li* has to be one of designers' beliefs and values. Besides, designers must also take considerations of stakeholders' interests to make sure this *Li* is applicable for products; especially for users, designers might need to do some research in order to make sure there are people who need this *Li* and the output products have markets. Above all, the product *Li* has to be within the scope of *Li*, which is believed to benefit users and society by the designer.

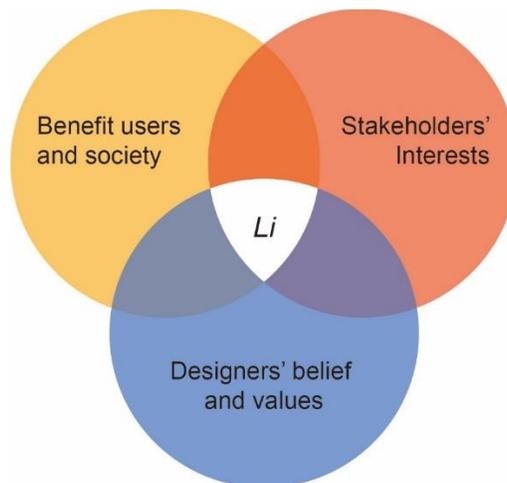


Figure 3.5 Choose *Li*

Besides choosing the *Li*, designers are also supposed to decide which level of *Li* they intend to deliver to users. As shown by Figure 3.4, there are three levels from users' perspective of view, knowledge acquirement, behavior change, and habit formation. Different levels have various criteria for evaluation, so designers will have to decide which level of *Li* they want to deliver before everything starts.

Finally, designers also need to choose the target user group just like what should be done in regular design process. A restrained user group can help designers define more specific problems.

3.3 Define Problems

The next step, according to Double Diamond, is discovering and defining the problem related to the *Li*. For each *Li* expressed in products, there would be some phenomenon that don't meet designers' values and beliefs, which triggers designers with the idea of *Li* design. For instance, the *Li* of saving power corresponds to the social problem of wasting power; the *Li* of not driving after drinking corresponds to the phenomenon of driving under influence; the *Li* of individuals taking on social responsibilities and wearing masks during the times of COVID-19 corresponds to the problem of people reluctant to wear masks in public.

According to the Double Diamond (British Design Council, 2019) design process, problem defining is the foundation of design projects and designers should stay vigilant when defining the real problem. Especially in *Li* design process, there might be multiple problems related to one same *Li*. For instance, for the *Li* of reducing carbon dioxide emissions, the problems could be people relying on cars too much, and people more likely to buy cars with high

fuel consumption rates. In this case, opportunities can be generated respectively for both problems.

Hence at this step, same as the first divergent step in Double Diamond process, designers should conduct broad research and try to discover as many problems as possible. Then different from the first convergent step in Double Diamond, designers are allowed to focus on more than one problem after defining the real ones, for the purpose of finding the best opportunity to deliver the *Li*.

3.4 Find Opportunities

It would be a lot easier to find opportunities given appropriate problems are defined. What designers are supposed to do is to try to find proper opportunities to solve the problem and ideate on them. Importantly, one well-defined problem can generate multiple opportunities. Also a good opportunity could make it much simpler to insert the *Li* in products, even making the *Li* more influential. In addition, designers need to be careful that, on the level of behavior change and habit formation, solutions for different opportunities might target different behaviors, even though having the same goal of delivering the *Li*.

Overall, this step is very similar to a regular design process; so detailed information will not be addressed since designers are assumed to have the basic knowledge of regular design process.

3.5 Brainstorm Solutions

Normally, solutions will come out right after opportunities are found. Like the second divergent step in Double Diamond, designers should come up with as many solutions as possible.

Particularly, designers should note that sometimes there could be more than one solution for the same opportunity.

Additionally, brainstormed solutions at this step don't have to be visualized perfectly for the benefit of efficiency. They can be in forms of rough sketches, doodles, storyboards; even definition sentences will work for the following evaluation as long as the criteria related to the chosen level of *Li* are taken into consideration.

3.5.1 Criteria for Knowledge Acquirement

According to Part 2.4.1, if users acquire the *Li* as knowledge, it means that this *Li* is going to be stored in users' long-term memory. Thus, the criteria are found through various models of memory. Through the multistore model of memory by Atkinson and Shiffrin (1968), it is found that rehearsal (repetition) is the key factor to transfer short-term memory to long-term memory. When it comes to product design, rehearsal means the frequency of users getting in touch with products, especially with the *Li* in this guideline. Hence, frequency will be a substitute for rehearsal as one of criteria.

Furthermore, Craik and Lockhart (1972) think familiarity and specificity of processing also determine the transformation of Long-term memory by manipulating mental processing depth factors. Familiarity, as Craik and Lockhart explained, means a subject tends to have higher recall value if it is highly compatible with preexisting semantic structures; it also includes the greater recall capacity for a particular stimulus if it is related semantically to the subject. In this guideline, familiarity refers to the association between the *Li* and the carrier product; it is acknowledged that the closer the *Li* related to carrier product, the higher recall value it has. And association will be a substitute for familiarity in order to be easily understood.

Specificity is directly related to stimulating methods, which means the more peculiar the stimulating methods are, the easier long-term memory can be transferred (Craik and Lockhart, 1972).

In conclusion, for the level of knowledge acquirement, designers should consider frequency of products getting used, association between the trigger and the knowledge, specificity of trigger for the knowledge.

3.5.2 Criteria for Behavior Change

According to Part 2.4.2, if designers intend to deliver the *Li* in order to prompt behavior change, there are four criteria needing to be considered: simplicity of target behavior, noticeability of trigger, association between the trigger and target behavior, and timing of trigger.

In detail, simplicity of target behaviors may vary with solutions, in spite of having the same goal of delivering the very same *Li*. For instance, to achieve the *Li* of reducing carbon dioxide emissions, the target behavior could be encouraging users to drive less or encouraging people to buy cars with low emission or other ways to achieve the *Li*, which depend on different opportunities designers look into. Simplicity also depends on six factors: time, money, physical efforts, brain cycles, social deviance and routine (Fogg, 2009). But in most cases, only one or two factors will dictate simplicity on *Li* products. Therefore, for this evaluation, designers are supposed to assess each factor and give an overall score of simplicity.

Additionally, trigger is also very important. “Whatever the form, successful triggers have three characteristics: First, we notice the trigger. Second, we associate the trigger with a target behavior. Third, the trigger happens when we are both motivated and able to perform the

behavior” (Fogg, 2009, p. 3). Hence, noticeability of trigger, association between the trigger and target behavior, and timing of trigger need to be taken as criteria.

In summary, designers who intend to achieve the *Li* on the level of behavior change, need to consider simplicity of target behaviors, noticeability of trigger, association between the trigger and target behavior, and timing of trigger when brainstorming solutions.

3.5.3 Criteria for Habit Formation

A habit is a routine of behavior that is repeated regularly and tends to occur subconsciously (Butler & Hope, 1995). Hence, the prerequisite of developing a habit is behavior change. And a habit can only be developed once the related behavior was triggered successfully for the first time. Certainly, the criteria of behavior change should be also applicable for habit formation. Therefore, designers must consider simplicity of target behaviors, noticeability of trigger, association between the trigger and target behavior, and timing of trigger.

Besides, according to Part 2.4.3, stability of context, frequency of behaviors and perceived utility also dictate if a habit will be successfully developed or not. So designers should also consider stability of product’s context, frequency of product being used, and perceived utility of behaviors when brainstorming solutions.

3.6 Solutions Evaluation

After ideation on feasible solutions, there will be a round of evaluation for the *Li* in products. Hopefully, this round of evaluation can provide designers a rational way for analyzing, comparing, filtering and developing solutions.

In detail, solutions are supposed to be evaluated in accordance with the level of *Li* designers intend to achieve. For each level, there are different criteria to evaluate; and specifically, the importance of each criterion varies from *Li* to *Li*, from projects to projects. Especially, there are extreme circumstances when a solution only satisfies one criterion of the level, yet it can successfully deliver the *Li* as designers intend. Hence, the first thing for designers to do before evaluation is weighting each criterion. And detailed methods will be provided respectively for each level of *Li*.

Besides, another basic rule is that designers should grade each criterion from 0 to 5 in order to get more intuitive parameterized results. As Figure 3.6 illustrates, grade 0 represents solutions that don't satisfy the criteria at all, while grade 5 means that solutions satisfy the criteria utterly. Grade 1-4 individually represents the criteria being awfully satisfied, poorly satisfied, fairly satisfied and well satisfied. Importantly, it would be best if designers ask others to help grade solutions; and those who help should grade subjectively according to their own perception and knowledge, in order to ~~getting rid of~~ balance designers' own preferences.

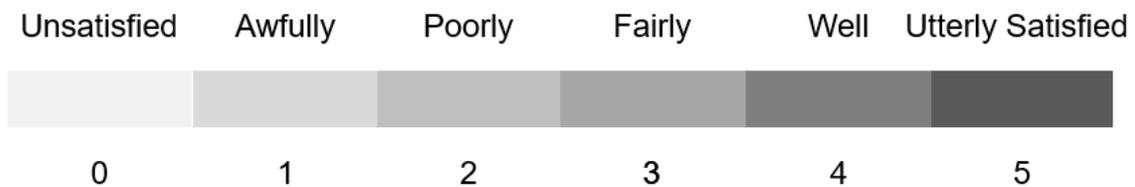


Figure 3.6 Grading of Criteria

Finally, if designers find all solutions failed the evaluation, then they are supposed to go back to find other opportunities and brainstorm new solutions; if it keeps happening, then designers are supposed to redefine the problem related to the *Li*.

3.6.1 Knowledge Acquisition

As concluded above, frequency of trigger on products, association between the product and the knowledge, and specificity of trigger will be the criteria to evaluate if a design solution attains the goal of passing on a Li to users as a piece of knowledge or not. Firstly, designer should weight each criterion before evaluation, as Table 3.1 shows.

Criteria	Weight
Association	a%
Frequency	b%
Specificity	c%
SUM	100%

Table 3.1 Weighting Criteria - Knowledge Acquisition

In the table above, a, b, c respectively represent a specific number between 0 and 100, and they should also satisfy the equation below:

$$a\% + b\% + c\% = 100\%$$

After weighting criteria, designers then are suggested to ask others to grade each criterion following the 0 – 5 grading system, for the purpose of minimize getting rid of designers' own preferences; and designers should average the grades for each criterion from all participants; then fill the average grades in the table. Table 3.2 illustrates an example.

Criteria	Weight	Solution 1	Solution 2
Association	a%	2	2
Frequency	b%	4	3
Specificity	c%	3	5
SUM	100%	9	10

Table 3.2 Example of Grading Table – Knowledge Acquirement

Next, designers should calculate the scores of each solution; and the score of each criterion equals to the weight multiple the score of that criterion.

$$S = W * G$$

On the equation above, S represents for the score of each criterion, W for weight, and G for grade. For example, if a = 25, b = 50, c = 25, and the score of association for the solution 1 in Table 3.2 should be 25% * 3 = 0.75, then the same goes with other criteria. Lastly, by adding up scores of all criteria, the sum score can be calculated for designers to compare and filter solutions. Solutions with higher scores tend to have more potential to deliver the *Li* as knowledge; as the example Table 3.3 shows below, Solution 2 is the better solution.

Criteria	Weight	Solution 1		Solution2	
		Grade	Score	Grade	Score
Association	25%	3	0.75	2	0.5
Frequency	50%	3	1.5	3	1.5
Specificity	25%	3	0.75	5	1.25
SUM	100%	9	3	10	3.25

Table 3.3 Example of Score Calculating Table – Knowledge Acquirement

Importantly, the sum score of a solution certainly should be between 0 and 5. Then following the same grading system, only solutions which scored more than 3 are deemed as successful solutions that have the potential to deliver the *Li*. If all solutions fail this evaluation, designers should go back to find new opportunities and brainstorm new solutions.

Especially, there are circumstances when solutions get similar or even equal highest sum scores (usually scores with a gap smaller than 0.1 are considered similar), and under these

circumstances, designers are allowed to take all solutions with similar highest scores to next steps. Hopefully, the best design solution could be justified after the second round of evaluation.

Moreover, solutions that succeed this evaluation may achieve more than just delivering knowledge to users; if the *Li* impact users deeply enough, it could result into behavior change or even habit formation, even though designers don't intend to do so.

3.6.2 Behavior Change

According to Part 2.4.2, if designers intend to deliver the *Li* in order to prompt behavior change, there are four criteria needing to be considered: simplicity of target behavior, noticeability of trigger, association between the trigger and target behavior, and timing of trigger. Firstly, designer should weight all four criteria before evaluation, as Table 3.4 shows.

Criteria	Weight
Simplicity	a%
Noticeability	b%
Association	c%
Timing	d%
SUM	100%

Table 3.4 Weighting Criteria – Behavior Change

In the table above, a, b, c, d respectively represent a specific number between 0 and 100, and they should also satisfy the equation below:

$$a\% + b\% + c\% + d\% = 100\%$$

After weighting criteria, designers then had better to ask others to grade each criterion following the 0 – 5 grading system, [for the purpose of minimize designers' own preferences;](#)

and designers should average the grades for each criterion from all participants; then fill the average grades in the table, as illustrated by Table 3.5.

Criteria	Weight	Solution 1	Solution 2
Simplicity	a%	3	4
Association	b%	4	2
Noticeability	c%	5	1
Timing	d%	3	5
SUM	100%	15	12

Table 3.5 Example of Grading Table – Behavior Change

Next, designers should calculate the scores of each solution; and the score of each criterion equals to the weight multiple the score of that criterion.

$$S = W * G$$

On the equation above, S represents for the score of each criterion, W for weight, and G for grade. For example, if a = 30, b = 20, c = 10, d = 40, and the score of simplicity for the solution 1 in Table 3.5 should be 30% * 3 = 0.9, then the same goes with other criteria. Lastly, by adding up scores of all criteria, the sum score can be calculated for designers to compare and filter solutions. Solutions with higher scores tend to have more potential to change user's behavior. As the example Table 3.6 shows below, Solution 2 is the better solution.

Criteria	Weight	Solution 1		Solution 2	
		Grade	Score	Grade	Score
Simplicity	30%	3	0.9	4	1.2
Association	20%	4	0.8	2	0.4
Noticeability	10%	5	0.5	1	0.1
Timing	40%	3	1.2	5	2
SUM	100%	15	3.4	12	3.7

Table 3.6 Example of Score Calculating Table – Behavior Change

Importantly, the sum score of a solution certainly should be between 0 and 5. Then following the same grading system, only solutions which scored more than 3 are deemed as successful solutions that have the potential to change user’s behaviors. If all solutions fail this evaluation, designers should go back to find new opportunities and brainstorm new solutions.

Additionally, when solutions get similar or even equal highest sum scores (usually scores with a gap smaller than 0.1 are considered similar), and under these circumstances, designers are allowed to take all solutions with similar highest scores to next steps. Hopefully, the best design solution could be justified after the second round of evaluation.

Finally, solutions which pass this evaluation may achieve more than expected. It is possible that solutions may eventually help users develop new habits on the basis of behavior change.

3.6.3 Habit Formation

As summarized in Part 3.5.3, a habit can only be developed once the related behavior was triggered successfully for the first time. Hence, solutions need to pass the evaluation of behavior change before evaluated on the level of habit formation, which means only solutions with more than a sum score of 3 are allowed to be evaluated for habit formation. As Table 3.7 shows below, Solution 3 failed the evaluation of behavior change, thus it cannot help users form a new habit.

Criteria	Weight	Solution 1		Solution 2		Solution 3	
		Grade	Score	Grade	Score	Grade	Score
Simplicity	30%	3	0.9	4	1.2	2	0.6
Association	20%	4	0.8	2	0.4	3	0.6
Noticeability	10%	5	0.5	1	0.1	4	0.4
Timing	40%	3	1.2	5	2	2	0.8
SUM	100%	15	3.4	12	3.7	11	2.4
		Pass		Pass		Fail	

Table 3.7 Example of Evaluation Table

Continuously, behavior will be taken as one criterion to evaluate habit formation. Besides, according to Part 2.4.3, stability of context, frequency of behaviors and perceived utility of behaviors also dictate if a habit will be successfully developed or not. Similarly, before evaluation, designers should weight all four criteria, as shown by Table 3.8.

Criteria	Weight
Behavior	a%
Stability	b%
Frequency	c%
Perceived Utility	d%
SUM	100%

Table 3.8 Weighting Criteria – Habit Formation

In the table above, a, b, c, d respectively represent a specific number between 0 and 100, and they should also satisfy the equation below:

$$a\% + b\% + c\% + d\% = 100\%$$

After weighting criteria, designers then are supposed to ask others to grade criteria. However, for the criterion of behavior, the sum score of behavior for the evaluation of behavior change could directly be taken as grade for this evaluation. Apart from behavior, other criteria should be graded following the 0 – 5 grading system. Still, it would be best if designers ask others to help grade, for the purpose of minimize designers' own preferences; and designers should average the grades for each criterion from all participants; then fill the average grades in the table. Table 3.9 shows the grading example of solution 1 and solution 2 in Table 3.7.

Criteria	Weight	Solution 1	Solution 2
Behavior	a%	3.4	3.7
Stability	b%	3	2
Frequency	c%	4	4
Perceived Utility	d%	3	4
SUM	100%	13.4	13.7

Table 3.9 Example of Grading Table – Habit Formation

Next, designers should calculate the scores of each solution; and the score of each criterion equals to the weight multiple the score of that criterion.

$$S = W * G$$

On the equation above, S represents for the score of each criterion, W for weight, and G for grade. For example, if a = 20, b = 40, c = 20, d = 20, and the score of behavior for the solution 1 in Table 3.9 should be 20% * 3.4 = 0.68, then the same goes with other criteria. Lastly, by adding up scores of all criteria, the sum score can be calculated for designers to compare and filter solutions. Solutions with higher scores tend to have more potential to help

designers foster a new habit. As the Table 3.10 shows below, both solutions pass the evaluation, but Solution 1 is the better solution.

Criteria	Weight	Solution 1		Solution 2	
		Grade	Score	Grade	Score
Behavior	20%	3.4	0.68	3.7	0.74
Stability	40%	3	1.2	2	0.8
Frequency	20%	4	0.8	4	0.8
Perceived Utility	20%	3	0.6	4	0.8
SUM	100%	13.4	3.28	13.7	3.14

Table 3.10 Example of Score Calculating Table – Habit Formation

Importantly, the sum score of a solution certainly should be between 0 and 5. Then following the same grading system, only solutions which scored more than 3 are deemed as successful solutions that have the potential to change user’s behaviors. If all solutions fail this evaluation, designers should go back to find new opportunities and brainstorm new solutions.

Especially, there are circumstances when solutions get similar or even equal highest sum scores (usually scores with a gap smaller than 0.1 are considered similar), and under these circumstances, designers are allowed to take all solutions with similar highest scores to next steps. Hopefully, the best design solution could be justified after the second round of evaluation.

3.7 Visualize Solutions and Product Development

After filtering solutions, the chosen ones need to be visualized in detail; especially, one important task is to give it a Chinese look. Part 2.5 introduced several authoritative

characteristics of design related Chinese philosophy and transferred them into design thoughts, which are suggestiveness, moderateness, harmony, and vitality.

Suggestiveness in design, which is somewhat similar to design semantics, means to find a right cue to guide users through the design of details, particularly with the expression of *Li* in this guideline, which is supposed to be delivered quietly and “sneakily”.

Moderateness does not mean plainness as Japanese style; Chinese aesthetics agrees with proper decoration yet criticizes excessive decoration. Moderateness is also represented in the aspects of colors and shapes. Chinese philosophy disagrees with dazzling colors and eye-catching shapes but prefers everything to be simple and clean on the outside like Jade, while full of delicate details. Products with moderateness tend not to resonate with any feelings but calmness and peacefulness.

Harmony means the reconciling of differences into a harmonious unity and all factors to be considered in balance. In other words, harmony is the visually satisfying effect of combining similar or related elements, such as adjacent colors, similar shapes and related textures. However, harmony doesn't mean no contrast at all; instead, it seeks for a balance between areas of harmony and areas of contrast. For instance, by keeping the area of contrast smaller than the large harmonious area to be relieved, a visually satisfying balance is achieved. Furthermore, harmony also represents in between self and contexts. Products should match with the context instead of standing out from surroundings, which can be accomplished by the reconciling of colors, forms, materials, shapes and surface finish.

Vitality refers to the aesthetic rhyme that is represented on the appearance of products yet an abstract feeling beyond form. As Part 2.5.4 explained, vitality can be achieved by making products natural-like or through the contrast of restrained randomness.

These four design thoughts should be taken into consideration when endowing products with Chinese imprints.

3.8 Design Evaluation

This round of evaluation is to examine if products are qualified to be Chinese-like products. The four considerations for the last step will be criteria for evaluation. In addition, these four criteria somewhat conflict with each other, such as some products with vitality don't meet the criterion of moderateness. Hence, the weight should be assigned to each criterion before evaluation, in which way designers have the freedom to consider the Chinese characteristic they like more. The criteria weighting table is as Table 3.11 shows.

Criteria	Weight
Suggestiveness	a%
Moderateness	b%
Harmony	c%
Vitality	d%
SUM	100%

Table 3.11 Weighting Criteria – Design Evaluation

In the table above, a, b, c, d respectively represent a specific number between 0 and 100, and they should also satisfy the equation below:

$$a\% + b\% + c\% + d\% = 100\%$$

Similarly, after weighting criteria, designers then are supposed to ask others to help grade each criterion following the 0 – 5 grading system, for the purpose of minimize designers' own preferences; and designers should average the grades for each criterion from all participants; then fill the average grades in the table, as shown by Table 3.12.

Criteria	Weight	Design 1	Design 2
Suggestiveness	a%	4	3
Moderateness	b%	5	4
Harmony	c%	1	4
Vitality	d%	4	2
SUM	100%	14	13

Table 3.12 Example of Grading Table – Design Evaluation

Next, designers should calculate the scores of each solution; and the score of each criterion equals to the weight multiple the score of that criterion.

$$S = W * G$$

On the equation above, S represents for the score of each criterion, W for weight, and G for grade. For example, if a = 25, b = 30, c = 20, d = 25, and the score of suggestiveness for the Design 1 in Table 3.12 should be 25% * 4 = 1.0, then the same goes with other criteria. Lastly, by adding up scores of all criteria, the sum score can be calculated for designers to compare and filter design concepts. Concepts with higher scores tend to be products with a better Chinese look. As the example Table 3.13 shows below, Design 1 is the one more likely to be recognized as a Chinese-like product.

Criteria	Weight	Design 1		Design 2	
		Grade	Score	Grade	Score
Suggestiveness	25%	4	1	3	0.75
Moderateness	30%	5	1.5	4	1.2
Harmony	20%	1	0.2	4	0.8
Vitality	25%	4	1	2	0.5
SUM	100%	14	3.7	13	3.25

Table 3.13 Example of Score Calculating Table – Design Evaluation

Still, the sum score of a design certainly should be between 0 and 5. Then following the same grading system, only designs which scored more than 3 are deemed as Chinese-like concepts. If all designs fail this evaluation, designers should go back to ideate new design concepts and develop details for each concept.

Additionally, when two or more designs get similar or equal highest sum scores at this step (Scores with a gap smaller than 0.1 are considered similar), designers are supposed to choose one design based on their own preferences.

After settling down with one final design, designers should follow the regular design process and do a mock-up test. Once the mock-up stands the test, there goes prototyping and further development.

Chapter 4 APPLICATION

In this chapter, the guideline introduced in the last chapter will be demonstrated with a design application. The sequence will be the same as the flow chart in Figure 3.2.

4.1 Choose *Li*

After identifying the scope of *Li*, the author chose ‘keeping a bedtime routine is good in many ways’ from his own beliefs and values system as the *Li* of this application project. This *Li* is believed to be beneficial to users, and in the meantime, it does not cause any adverse effects to society. Hence, it is within the scope of *Li*.

In addition, it doesn’t violate any stakeholders’ interests; especially for end users, the author believes this *Li* could be accepted. The Centers for Disease Control and Prevention (CDC, 2016) reports 1 in 3 American adults struggle to develop a bedtime routine; thus there are a group of people longing for a bedtime routine, yet failing to develop it themselves. Hence, it can be concluded this *Li* has a market.

In detail, the reasons for keeping a bedtime routine at night are that it can boost our immune system as well as increase our productivity for the next day. And sleep without routine will increase the risk of slowed reaction times, irritability, anxiety, obesity, high blood pressure, and diabetes (Campbell, 2018). Therefore, the author believes it is very important to keep a bedtime routine.

Next, the levels of *Li* intended to achieve should also be decided. For this *Li*, the author chooses to achieve it on the level of habit formation.

Finally, the target users will be limited to college students, including undergraduates, graduates, and PhD students.

4.2 Define the Problem and Find Opportunities

After choosing the *Li* and defining target user groups, designers should research into problems related to the *Li*. For the *Li* of keeping a bedtime routine, the reasons why college students fail to develop a bedtime routine should be researched into. And after interviewing several students without bedtime routines, all typical characteristics of target users are synthesized and a persona is composed, as Figure 4.1 shows.



Figure 4.1 Persona for Users Without a Bedtime Routine

In addition, a users' journey map is drawn based on Jack's experience in a day (see Figure 4.2).

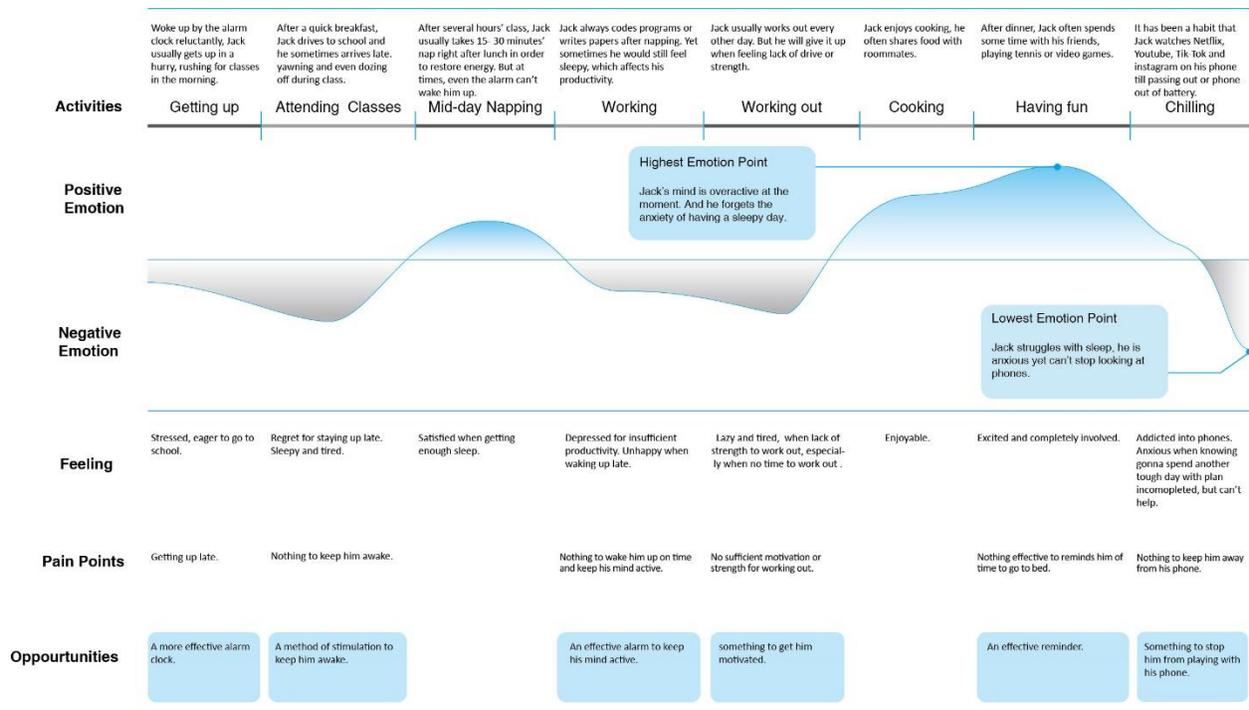


Figure 4.2 Jack's Journey Map

Combining Figure 4.1 and Figure 4.2, it is not hard to find out that Jack's frustrations and negative feelings are mostly due to him sleeping without a routine at night. And it is this major problem causes him lack of energy during the day, including easily feeling sleepy, tired, and distracted.

Based on this problem, there are two possible opportunities found to insert the *Li*. One is stopping users from playing with phones while it is scheduled time for sleep; and another is keeping users awake and active for daily routine, so that helps with bedtime routine indirectly.



Figure 4.3 the Problem and Opportunities

4.3 Brainstorming Solutions

Continuously, solutions can be explored in regard to the two opportunities. Like described in Chapter 3, solutions don't have to be visualized perfectly for the benefit of efficiency. Here, the author uses solution cards to describe solutions (see Figure 4.4, 4.5 and 4.6). And these definitions for each solution are supposed to be ready for evaluation of habit formation.

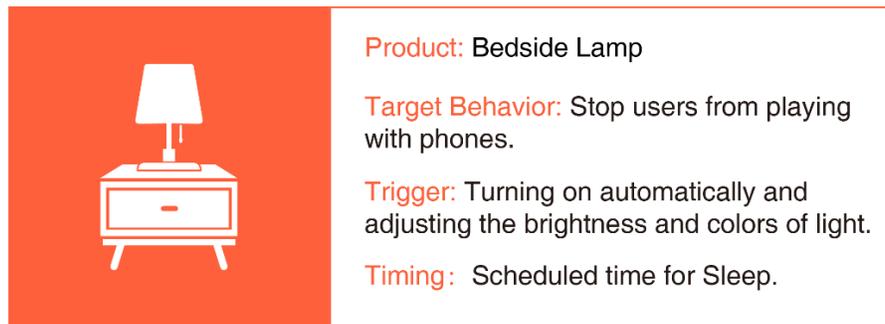


Figure 4.4 Solution 1 – Bedside Lamp

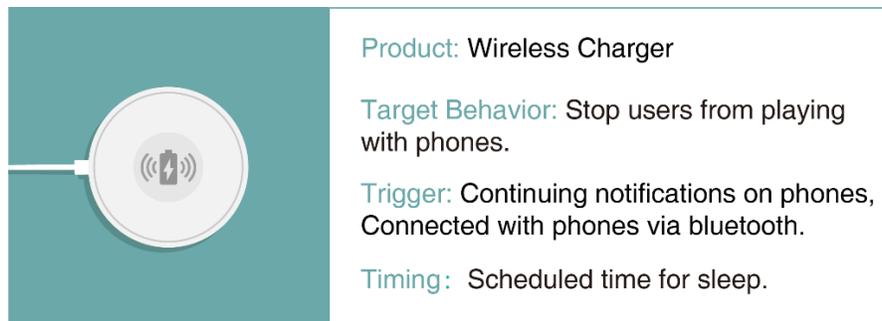


Figure 4.5 Solution 2 – Wireless Charger

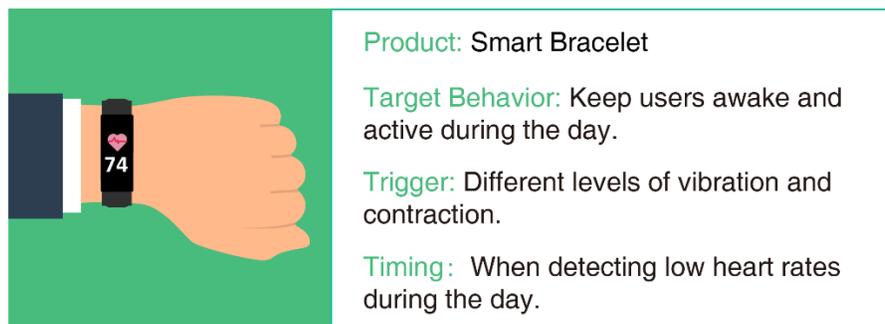


Figure 4.6 Solution 3 – Smart Bracelet

4.4 Solution Evaluation

According to Chapter 3, solutions should get evaluated on the level of behavior change before habit formation. Hence at first, the weight for each criteria on the level of behavior change should be given, as Table 4.1 shows. All criteria for behavior change are considered equally important for this project. So all criteria are weighted 25%.

Criteria	Weight
Simplicity	25%
Association	25%
Noticeability	25%
Timing	25%
SUM	100%

Table 4.1 Weighting Criteria for Behavior Change

Then all three solutions ~~should be were~~ graded by ~~one of~~ the author's friends criterion by criterion, then the author averaged grades for each criterion, the average grades are illustrated as Table 4.2 ~~illustrates~~.

Criteria	Weight	Bedside Lamp	Wireless Charger	Smart Bracelet
Simplicity	25%	3	3	2
Association	25%	3	4	2
Noticeability	25%	4	5	5
Timing	25%	4	4	2
SUM	100%	14	16	11

Table 4.2 Grading Table for Behavior Change

Apparently, stopping users from playing with phones is simpler than keeping them awake all day; and the notifications on phones for wireless charger obviously associates more with stopping users using phones than lights change on the bedside lamp, while vibrations on smart

bracelet associates least with keeping users awake; then vibration and notifications are believed to be more noticeable than lights change; lastly, the timing to stop users from cell phones is more appropriate than the timing to keep users awake all day long.

After that, the scores of all solutions should come out, seen Table 4.3.

Criteria	Weight	Bedside Lamp		Wireless Charger		Smart Bracelet	
		Grade	Score	Grade	Score	Grade	Score
Simplicity	25%	3	0.75	3	0.75	2	0.5
Association	25%	3	0.75	4	1	2	0.5
Noticeability	25%	4	1	5	1.25	5	1.25
Timing	25%	4	1	4	1	2	0.5
SUM	100%	14	3.5	16	4	11	2.75
		Pass		Pass		Fail	

Table 4.3 Score Calculating and Comparing Table for Behavior Change

From Table 4.3 above, it is found that the idea of Smart Bracelet doesn't work as expected, while Bedside Lamp and Wireless Charger can successfully change users' behavior. Hence, only these two solutions will be taken to the evaluation of habit formation. And their sum scores will be regarded as the grade of the criteria, behavior.

Before the evaluation of habit formation, the four criteria are also supposed to be weighted, as demonstrated by Table 4.4.

Criteria	Weight
Behavior	30%
Stability	25%
Frequency	15%
Perceived Utility	30%
SUM	100%

Table 4.4 Weighting Criteria – Habit Formation

Then both solutions weare graded criterion by criterion, the average grades for each criterion are seen in Table 4.5.

Criteria	Weight	Bedside Lamp	Wireless Charger
Behavior	30%	3.5	4
Stability	25%	5	3
Frequency	15%	4	4
Perceived Utility	30%	3	4
SUM	100%	15.5	15

Table 4.5 Grading Table for Habit Formation

To make it clear, the context of a bedside lamp is obviously more stable than a portable wireless charger, so one is graded 5 while another 3; the frequency of their trigger are both the same, which is once a day before sleep; finally, a wireless charger should be more useful in user' opinion, because besides the benefit of sleeping as scheduled, they can always carry a fully charged phone to go out in the morning.

Next the scores of both solutions is calculated, as Table 4.6 shows.

Criteria	Weight	Bedside Lamp		Wireless Charger	
		Grade	Score	Grade	Score
Behavior	30%	3.5	1.05	4	1.2
Stability	25%	5	1.25	3	0.75
Frequency	15%	4	0.6	4	0.6
Perceived Utility	30%	3	0.9	4	1.2
SUM	100%	15.5	3.8	15	3.75

Table 4.6 Score Calculating Table for Habit Formation

The table above tells both solutions passed the evaluation, and it is concluded both a bedside lamp and a wireless charger can help users develop a bedtime routine by keeping them

away from phones at night. Also, both solutions are chosen for next steps since their scores are similar, only with a difference of 0.05.

4.5 Design Visualization and Product Development

Then the appearances of bedside lamps and wireless chargers were explored and visualized with considerations of four Chinese characteristics on products, as shown by Figure 4.7 and 4.8.

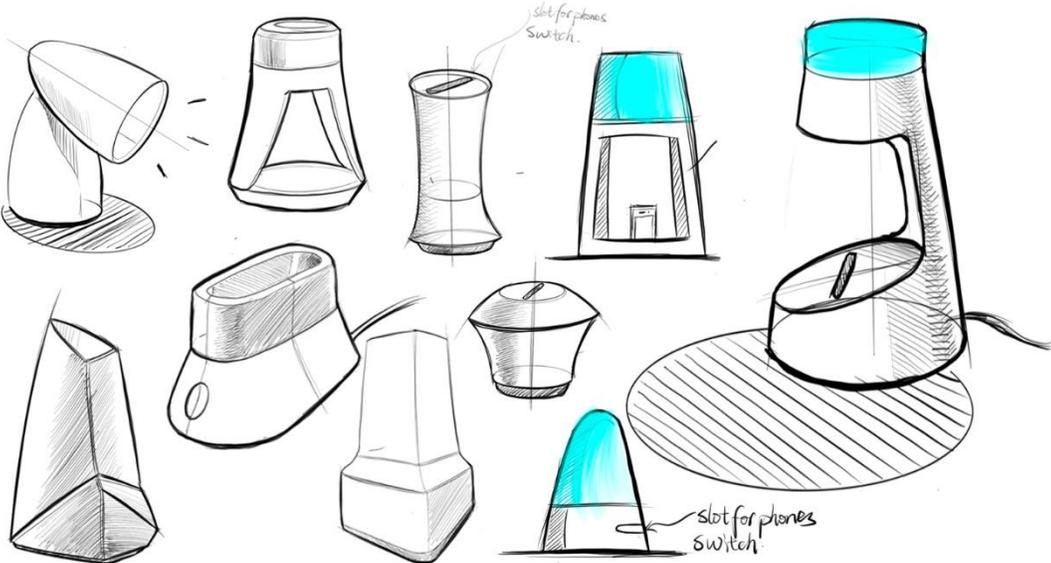


Figure 4.7 Visualization of Bedside Lamps

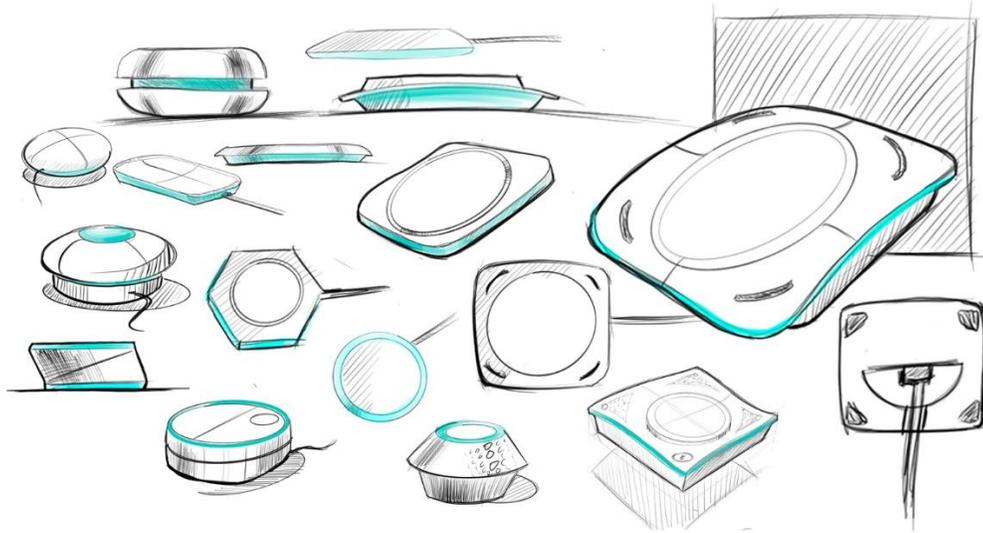


Figure 4.8 Visualization of Wireless Chargers

After settling down with overall shapes of both design concepts, the details are taken care of to satisfy the four criteria through modeling and rendering. Both design concepts are developed, as the following figures show.

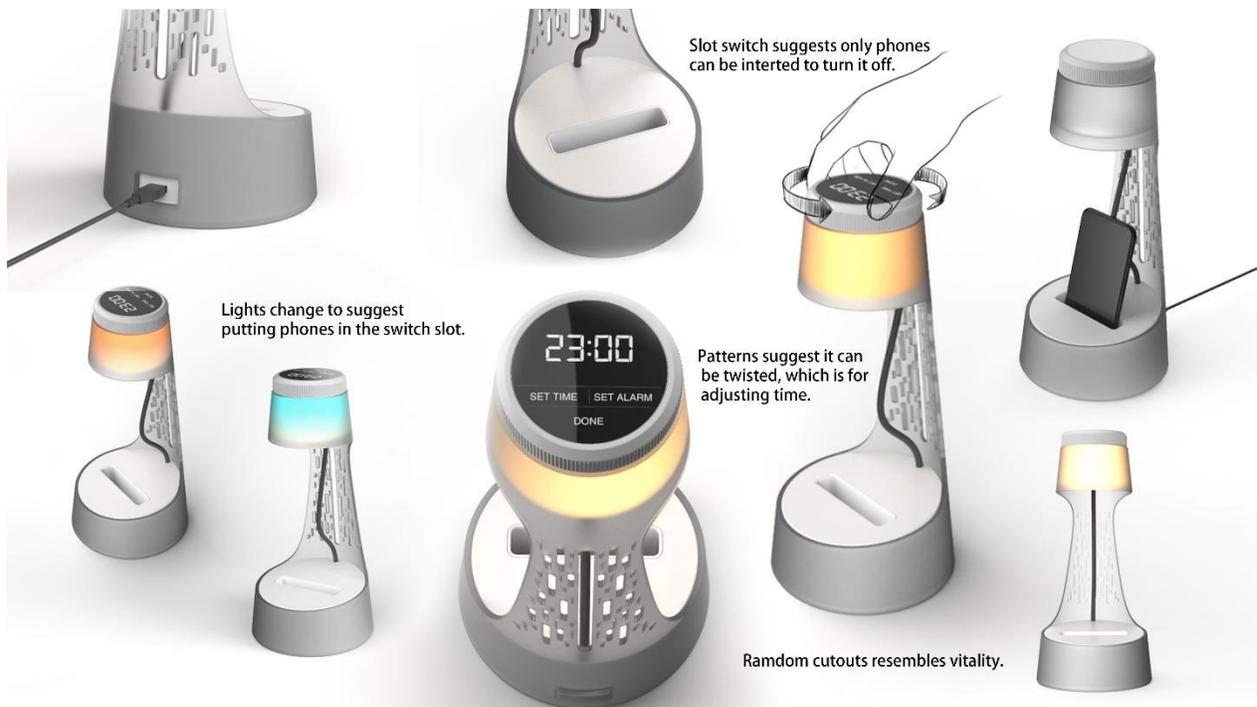


Figure 4.9 Rendering of Bedside Lamp



Figure 4.10 Bedside Lamp in Context

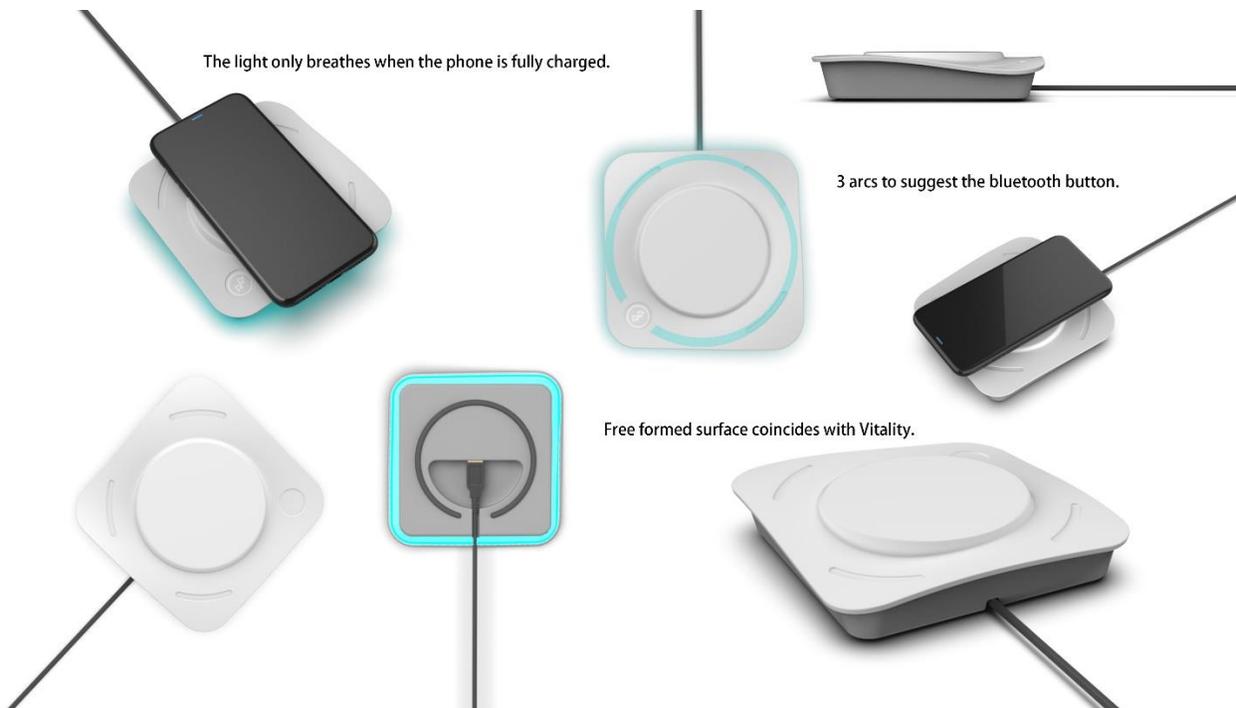


Figure 4.11 Renderings of Wireless Charger



Figure 4.12 User scenario of Wireless Charger

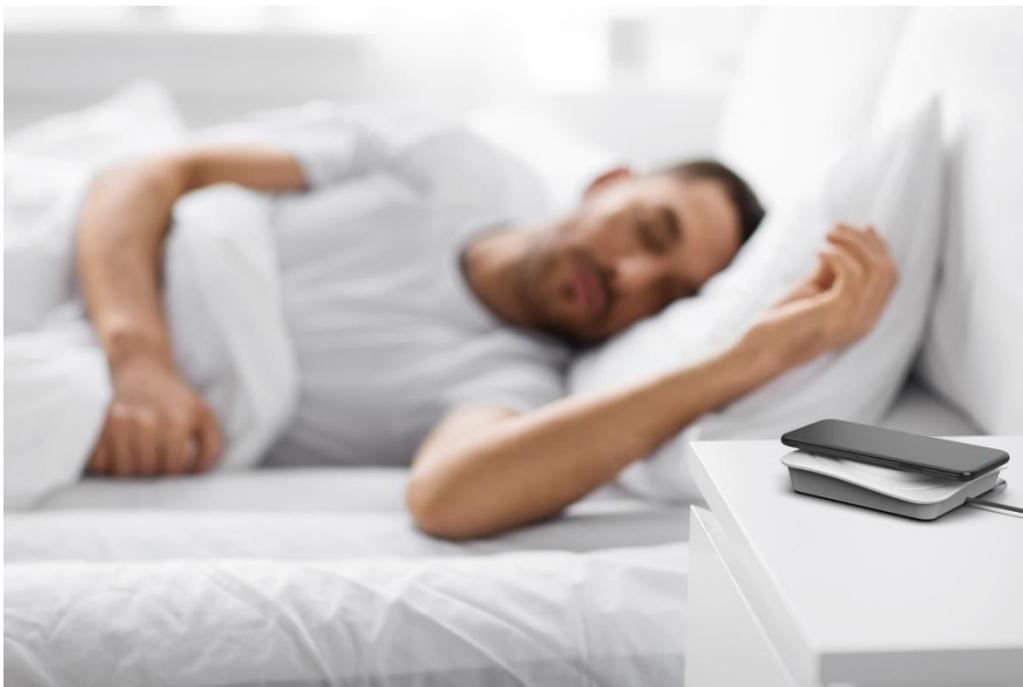


Figure 4.13 Wireless Charger in Context

4.6 Design Evaluation

Details of developed design concepts are demonstrated as pictures in Part 4.5, and next is the evaluation of two ideas. Similarly, the four criteria need to be weighted before evaluation. As Table 4.7 shows, the criterion harmony is believed to be a little more important for this project.

Criteria	Weight
Suggestiveness	25%
Moderateness	20%
Harmony	30%
Vitality	25%
SUM	100%

Table 4.7 Weighting Criteria – Design Evaluation

Next, all criteria ~~were~~ are graded by ~~one of the~~ author's friends, the average grades are as shown by Table 4.8.

Criteria	Weight	Bedside Lamp	Wireless Charger
Suggestiveness	25%	4	2
Moderateness	20%	4	3
Harmony	30%	2	3
Vitality	25%	3	4
SUM	100%	13	12

Table 4.8 Grading Table – Design Evaluation

And the scores for both concepts are calculated.

Criteria	Weight	Bedside Lamp		Wireless Charger	
		Grade	Score	Grade	Score
Suggestiveness	25%	4	1	2	0.5
Moderateness	20%	4	0.8	3	0.6
Harmony	30%	2	0.6	3	0.9
Vitality	25%	3	0.75	4	1
SUM	100%	13	3.15	12	3

Table 4.9 Score Calculating Table – Design Evaluation

Finally, the result shows that bedside lamp is the better concept, despite the fact that both concepts pass the evaluation. In summary, the bedside lamp is deemed as the best solution that can not only deliver the *Li* to users on the level of habit formation; it also has the most Chinese-like look.

Chapter 5 CONCLUSION

This study is intended to introduce the core of Chinese culture, Chinese philosophy, into design with the hope of a new direction of design. To attain the goal, several major Chinese philosophical concepts from Confucianism, Daoism and New-Confucianism are introduced; and some are applied into design, especially the concept of *Li* and the investigation of things, which are the foundations of the whole guideline. Besides, what degree of *Li* can be delivered to is also researched through the literature review. Finally, some other Chinese philosophical concepts are transferred into design principles as characteristics of Chinese-like products.

In Chapter 3, the detailed guideline of Chinese philosophical design is provided, from the choosing of *Li* to the application of *Li*; from the evaluation of *Li*, to the evaluation of appearance of products. Hopefully, designers who follow this guideline can generate creative product design concepts with both the expression of their *Li*, and the Chinese philosophical look.

Finally, Chinese spiritual culture, especially philosophy, is broad like an ocean. Hence, there is still a lot more to be done to make the guideline in thesis more native.

REFERENCES

- Atkinson, R. C., & Shiffrin, R. M. (1968). "Chapter: Human memory: A proposed system and its control processes". In Spence, K.W.; Spence, J.T. (eds.). *The psychology of learning and motivation*. 2. New York: Academic Press. pp. 89–195.
- Barnwell, M. (2011). *Design, creativity & culture: An orientation to design*. Black Dog Publishing.
- Berthrong, J, H. (1998). *Transformations of the Confucian Way*. Westview Press.
- Bodde, D. (1953). "Harmony and Conflict in Chinese Philosophy. " In Arthur F. Wright(ed.), *The American Anthropologist Studies in Chinese Thought*. The American Anthropological Association, vol. 55, no. 5, part 2, memoir no. 75. December: 19-80.
- Bol, P, K. (2008). *Neo-Confucianism in History*. Harvard University Asia Center.
- British Design Council. (2019). *What is the framework for innovation? Evolved Double Diamond*. 2019, September 10. From <https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond>
- Bruce, J, P. (1928). *Chu Hsi and His Masters: An Introduction to Chu Hsi and the Sung School of Chinese Philosophy*. London: Probsthain.
- Butler, G., Hope, T. (1995). *Managing Your Mind: The mental fitness guide*. Oxford Paperbacks.

- Campbell, L. (2018). *Science Says Having a Regular Bedtime Is Healthy for Adults, Too*. From <https://www.healthline.com/health-news/its-not-just-for-kids-even-adults-appear-to-benefit-from-a-regular-bedtime>
- C. P. Wolf. (1967). The Grammar of Sociology: Man in Society. Haridas T. Muzumdar. *Social Forces*, 46(1), 139. <https://doiorg.spot.lib.auburn.edu/10.2307/2575367>
- Cady, L, V. (1930). An Introduction to Chinese Philosophy. Sage Publications. The Annals of the American Academy of Political and Social Science, (Nov, 1930.) Vol. 152, 30-38
- CDC. (Feb, 2016). 1 in 3 adults don't get enough sleep. Centers for Disease Control and Prevention. Retrieved from <https://www.cdc.gov/media/releases/2016/p0215-enough-sleep.html>
- Chan, W. (1973). *A sourcebook in Chinese philosophy*, 4th edn. Princeton, NJ: Princeton University Press.
- Chen, J., & Qi, S. (2018). 'Circle' lacquer tea tray. From <https://www.chinadesigncentre.com/works/maison-et-objet-2018-jianbing-chen-shuyi-qi-circle-lacquer-tea-tray.html>
- Confucius. (2003). *Analects: With Selections from Traditional Commentaries*. (E, Slingerland, Trans.). Hackett Publishing Company.
- Coutinho, S. (2013). *An introduction to Daoist philosophies*. Columbia University Press.
- Coutinho, S. (2014). *An introduction to Daoist philosophies*. Columbia University Press.
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11(6), 671.
- Creel, H, G. (1953). *Chinese Thought: From Confucius to Mao Tse-tung*. The University of Chicago Press.

- Dahl, S. (2004, 01). *An Overview of Intercultural Research: The Current State of Knowledge*. London: CEE Publishing.
- De Mente, B. (2009). *The Chinese Mind: Understanding traditional Chinese beliefs and their influence on contemporary culture* (1st ed.). Tuttle Publishing.
- De Souza, M., Dejean, P.H. (1999). Interculturality and design: is culture a block or an encouragement to innovation, Proceedings of the Design Culture Congress, Sheffield Hallam University, UK.
- Eyal, N. (2014). *Hooked-How to build habit-forming products*. Portfolio penguin.
- Eysenck, M. (2006). Learning and Long-term memory. In *Fundamentals of cognition* (Second ed.). Hove, England: Psychology Press.
- Fang, Z. (2019). I-FANG Design. From <https://www.chinadesigncentre.com/works/fang-zhenpeng.html>
- Feng, Y. (1949). *A short history of Chinese philosophy*. The Free Press.
- Feng, Y. (1986). A General Statement on Neo-Confucianism. In W. Chan (Ed.), *Chu Hsi and Neo-Confucianism* (pp. 21-25). University of Hawaii Press.
- Feng, Y. (2009). *History of Chinese Philosophy. Vol. 1*. Chongqing: Chongqing chubanshe.
- Fincham, R., P. S. Rhodes. (1997). *The individual, work, and organization: behavioral studies for business and management*, (2nd ed.). Oxford University Press.
- Fogg, B. J. (2009). A Behavior Model for Persuasive Design. Persuasive09' Proceedings of the 4th International Conference on Persuasive Technology. doi:10.1145/1541948.1541999
- Gardner, B., & Rebar, A. L. (Apr, 2019). Habit Formation and Behavior Change. From <https://oxfordre.com/psychology/view/10.1093/acrefore/9780190236557.001.0001/acrefore-9780190236557-e-129>

- Garfield, J, L., Edelglass, W. (2011). "Introduction". The Oxford Handbook of World Philosophy. Oxford University Press.
- Gerber, L. (2011). *Sociology*. Toronto: Pearson.
- Harari, Y, N. (2014). *Sapiens: A Brief History of Humankind*. Signal Books.
- Henderson, S. (2003). Designed in Taiwan. *Design Management Journal*, 14(2), 36–41.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, and organizations across nations*. (2nd ed.). Sage publication, Thousands Oaks.
- Hou, Z. (2018). the Relationship Between Mentality and Form. From <https://www.chinadesigncentre.com/works/moreless-by-hou-zheng-guang-the-relationship-between-mentality-and-form.html>
- Hsu, F. (1986). A Comparative Study of Chu Hsi and the Ch'eng Brothers. In W. Chan (Ed.), *Chu Hsi and Neo-Confucianism* (pp. 43-58). University of Hawaii Press.
- <http://www.globalview.cn/m/show.php?classid=4&id=25429>
- Hu, S. (1997). *Outline of the History of Chinese Philosophy*. Shanghai: Guji Chubanshe.
- Huang, S. (1999). *Essentials of Neo-Confucianism: Eight major philosophers of the Song and Ming periods*. Greenwood Press.
- ICSID (2002). 'Facts about ICSID', International council of societies of Industrial Design.
- Jiang, Y. (2018). Craft Transendence: Ice Age. From <https://www.chinadesigncentre.com/works/maison-et-objet-2018-yanze-jiang-ice-age.html>
- Jin, Z. (2019). Jin's series of work. From <https://www.chinadesigncentre.com/works/jin-zhenhua.html>

- Kaltenmark, M. (1969). *Lao Tzu and Taoism* (trans. from the French by Roger Greaves).
Stanford, CA: Stanford University Press.
- Kenji, Ekuan. (1998). *The aesthetics of the Japanese Lunchbox*. Cambridge, Mass.: MIT Press.
- Kroeber, A. L., & Kluckhohn, C. (1952). *Culture: A critical review of concepts and definitions*.
Papers. Peabody Museum of Archaeology & Ethnology, Harvard University.
- Lai, K. (2008). *An introduction to Chinese Philosophy*. Cambridge University Press.
- Laozi. (2001). *Dao De Jing: The book of the way*, 1st Edition (trans by Roberts, M). University
of California Press.
- Legge, J., & Confucius. (1893). *The great learning*. Dover Publications.
- Li, F. (2018). Keydo: Let the design brim with poetry. From
<https://www.chinadesigncentre.com/works/keydo-the-voice-of-china.html>
- Li, Z. (1988). *The path of beauty : A study of Chinese aesthetics* (1st ed.). Morning Glory
Publishers.
- Li, Z. (2009). *The Chinese Aesthetic Tradition* (trans by Majia Bell Samei). University of Hawaii
Press
- Liang, S. (1999). *Eastern and western culture and philosophies*. The Commercial Press Library.
- Lin, R. (2007). Transforming Taiwan Aboriginal Cultural Features into Modern Product Design:
A Case Study of a Cross-cultural Product Design Model. *International Journal of Design*,
1(2). Retrieved August 29, 2020, from
<http://www.ijdesign.org/index.php/IJDesign/article/view/46/26>
- Liu G. (2018). Chinese solutions on industrial design. Retrieved September 19th, 2020, from
<http://www.globalview.cn/m/show.php?classid=4&id=25429>

- Liu, J. (2006). *An introduction to Chinese philosophy: from ancient philosophy to Chinese Buddhism*. Blackwell Publishing Ltd.
- Liu, K. (2018). Kun Liu Studio. From <https://www.chinadesigncentre.com/works/kun-liu-studio.html>
- Loux, M, J. (2001). *Metaphysics: A Contemporary Introduction*. Routledge.
- Moalosi, Richie., Popovic, Vesna. & Hickling-Hudson, Anne. (2006). Culture: A Source of Product Innovation. In Friedman, Ken and Love, Terence and Corte-Real, Eduardo, Eds. Proceedings Design Research Society - Wonderground International Conference 2006, Lisbon, Portugal.
- Moalsi, R., Popovic, V. & Hickling-Hudson, A. (2010). Culture-oriented product design. *International Journal of Technology and Design Education*, 20(2), 175-190.
- Montgomery, L. (2017). The Teacup Media History of Chinese Philosophy 9-Part Series. Teacup Media.
- Mou, B. (2008). *History of Chinese Philosophy*. Routledge. The basics of Chinese philosophy. (n.d.). Retrieved August 21, 2020, from https://www.philosophybasics.com/general_eastern_chinese.html
- Ogburn, W. F. (1922). *Social change: With respect to culture and original nature*. Huebsch: New York.
- Pan, J. (2018). The celadon splendour: Angela Brady visits Jianbo Pan. From <https://www.chinadesigncentre.com/works/the-celadon-splendour-angela-brady-visits-jianbo-pan.html>
- Preziosi, D. (1979). *The Semiotics of the built environment*. Indiana University Press.

- Schein, E. (2014). *Organizational Culture and Leadership* (J-B US non-Franchise Leadership). Jossey-Bass.
- Schwartz, B. (1985). *The World of Thought in Ancient China*. Cambridge, MA: Belknap Press.
- Sellars, W. (1963). *Empiricism and the Philosophy of Mind*. Routledge and Kegan Paul Ltd.
- Tang, J. (2018). Confucian culture and thought as embodied in Han dynasty pictorial carvings, *Chinese Studies in History*, 51:3, 190-209.
- Trigger, B. (2007). *Understanding Early Civilizations: A Comparative Study*. Cambridge University Press.
- Tulving, E. (1972). Episodic and semantic memory. In E. Tulving & W. Donaldson (Eds.), *Organization of Memory*, (pp. 381–403). New York: Academic Press.
- Tylor, E. B. (2016). *Primitive Culture*. Dover Publications.
- Van Norden, B. W. (ed.) (2002) *Confucius and the Analects: New Essays*. New York: Oxford University Press.
- Varsano, P. M. (2016). *The rhetoric of hiddenness in traditional Chinese culture*. State University of New York Press, Albany.
- Walker, H. (2012). *East Asia: A New History*. Author House.
- Wang, S. (1995). *Chinese modern design: A retrospective*. Cambridge, Mass. MIT Press.
- Wang, Y. (2020). Guideline for applying Neo-Confucianism thought in product design. Auburn university.
- Wong, D. (2017). "Chinese Ethics". *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University.
- Wood, W., Neal, D. T. (2007). A new look at habits and the habit-goal interface. *Psychological Review*. 114 (4): 843–863.

- Wood, W., Tam, L., & M. G. (2005). Changing circumstances, disrupting habits. *Journal of Personality and Social Psychology*, 88, 918–933.
- Xiao, T. (2019). Inheritance does not mean imitation. From <https://www.chinadesigncentre.com/works/xiao-tianyu-inheritance-does-not-mean-imitation.html>
- Xie W. (1976). *History of Chinese Philosophy*. Taipei: Taiwan zhonghua shuju.
- Xunzi., & Hutton, E, L. (2014). *Xunzi: The Complete Text*. Princeton University Press.
- Yang, Y., & Li, J. (2019). The modeling and design ideas of ceramic tea calyx in Song Dynasty. *China Academic Journal Electronic Publishing House*. 21 (1): 95 – 101.
- Ye, C., Xiong, Y., Li, Y. et al. (2020). The influences of product similarity on consumer preferences: a study based on eye-tracking analysis. *Cogn Tech Work* 22, 603–613.
- Zhu, G. (2019). Landwood: ZHIZHU Tearoom. From <https://www.chinadesigncentre.com/works/landwood-zhizhu-tearoom.html>
- Zhu, X., & Li, J. (1986). *Zhu Zi Yu Lei* (trans by Xing-xian Wang). Zhonghuashuju.
- Zhuangzi., & Wu, C. (2008). *The Wisdom of Zhuang Zi on Daoism: Translated with Annotations and Commentaries by Chung Wu*. Peter Lang Publishing Inc.
- Zong, B. (2005). *Wandering in Aesthetics*. Shanghai Public Press.

APPENDIX

Timeline of Chinese Philosophers				
Name	名字	When	Dynasty	Elsewhere
Yuzi	鬻子	c.1100 BCE	周 Zhou	
Guan Zhong	管仲	720 - 645 BCE		
Laozi	老子	? - 531 BCE		Pythagoras 570-495 BCE
Deng Xi	邓析	545 - 501 BCE		
Confucius	孔子	551 - 479 BCE		Gautama Buddha 563-480 BCE
Sunzi	孙子	544 - 496 BCE		
Mozi	墨子	470 - 391 BCE		Socrates 469-399 BCE
Liezi	列子	450 - 375 BCE		Democritus 450-370 BCE
Yang Zhu	杨朱	440 - 360 BCE		Plato 427-347 BCE
Shen Buhai	申不害	400 - 337 BCE		
Shang Yang	商鞅	390 - 338 BCE		Aristotle 384-322 BCE
Hui Shi	惠施	370 - 310 BCE		
Mengzi	孟子	372 - 289 BCE		
Zhuangzi	庄子	369 - 286 BCE		
Shen Dao	慎到	350 - 275 BCE		Epicurus 341-270 BCE
Gongsun Long	公孙龙	325 - 250 BCE		Zeno 333-264 BCE
Zou Yan	邹衍	305 - 240 BCE		
Xunzi	荀子	313 - 238 BCE		
Han Feizi	韩非子	280 - 233 BCE		
Li Si	李斯	280 - 208 BCE		
Dong Zhongshu	董仲舒	179 - 104 BCE	汉 Han	
Yang Xiong	杨雄	53 BCE - 18 CE		
Wang Chong	王充	27 - 100		
Wang Bi	王弼	226 - 249	三国 Three Kingdoms	
Xiang Xiu	向秀	227 - 272		
Guo Xiang	郭象	252 - 312		
Ge Hong	葛洪	283 - 343	晋 Jin	
Liu Zongyuan	柳宗元	773 - 819	唐 Tang	Augustine 354-430
Han Yu	韩愈	768 - 824		Al-Kindi 801-873
Li Ao	李傲	? - 844		
Zhou Dunyi	周敦颐	1017 - 1073	宋 Song	Ibn Sina 980-1037
Shao Yong	邵雍	1011 - 1077		
Zhang Zai	张载	1020 - 1077		
Cheng Hao	程颢	1032 - 1085		
Cheng Yi	程颐	1033 - 1107		Maimonides 1135-1204
Lu Jiuyuan	陆九渊	1139 - 1193		Francis of Assisi 1135-1226
Zhu Xi	朱熹	1130 - 1200		Thomas Aquinas 1225-1274
Wang Yangming	王阳明	1472 - 1529	明 Ming	Erasmus 1466-1536
				Martin Luther 1483-1546
				Montaigne 1533-1592

Figure 6.1 Timeline of Chinese philosophers provided by Montgomery Laszlo (2017).