

Ming-Feng Wang

Cultural Realism and Virtualism Design Model



上海交通大学出版社
SHANGHAI JIAO TONG UNIVERSITY PRESS



Springer

Cultural Realism and Virtualism Design Model

Ming-Feng Wang

Cultural Realism and Virtualism Design Model



上海交通大学出版社
SHANGHAI JIAO TONG UNIVERSITY PRESS

 Springer

Ming-Feng Wang
School of Art and Design
Shanghai University of Engineering Science
Shanghai, China

ISBN 978-981-15-2270-3 ISBN 978-981-15-2271-0 (eBook)
<https://doi.org/10.1007/978-981-15-2271-0>

Jointly published with Shanghai Jiao Tong University Press
The print edition is not for sale in China Mainland. Customers from China Mainland please order the print book from: Shanghai Jiao Tong University Press.

© Shanghai Jiao Tong University Press 2020

This work is subject to copyright. All rights are reserved by the Publishers, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publishers, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publishers nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publishers remain neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

Preface

With the development of globalization, science and technology have almost dominated human life. Besides rational science and technology, mankind needs emotional cultural uniqueness even more. The former is known to mankind in a straightforward way, while the latter is hidden with cultural features unknown to mankind. In the era of popularization of science and technology, humans have made a breakthrough in hardware to improve life quality, which led to the flourishing development of the software industry, make the culture create the unprecedented opportunity for the advancement of technology.

As culture has brought unlimited possibility and business opportunities, the countries propose the cultural and creative industry to strengthen the distinctive feature of their own, to distinguish the cultural differences of every country and to avoid assimilation of powerful countries and neighbor countries, thereby revitalize the economy of that country. In places affected by Austronesian culture, such as Taiwan and New Zealand, the rules by the Eastern and Western colonial powers caused the impact of different cultural uniqueness, which led to cultural differences. It is important to figure out the way to integrate exclusive cultures into diverse cultures in order to identify the cultural features of the country, promote the country's culture to others and realize the goal of the cultural and creative industry. Therefore, the purpose of the study is to provide a culture-based creative product design method for designers.

The old concepts of both Chinese and Western philosophies concerning deconstruction of the construction of people, matters, time, places, objects and phenomena appear to be overly theoretical in terms of modern research. There are always some gaps between the concept and practice, which cannot solve the crucial problems that designers encounter when deconstructing and constructing the culture. As a result, designers use excessive personal experiences of making black box decisions and cannot give clear and reasonable explanation, which will lead to more obscure and conflicting situations. Designers often encounter bottlenecks when conceiving a design and cannot design and develop more smoothly and efficiently, making it difficult to precisely grasp the cultural essence and incorporated it into products.

The design model for the present study is based on national and international literature that analyzed symbolism, metaphysics, three layered culture, reverse-triangular cultural space, Zen aesthetics, etc. and honest feedback based on the actual feeling toward the culture. The difference of Laozi's philosophy in this model can contribute to the different cognition of the culture in various aspects in the time axis and provide diverse views of the culture. Therefore, this study proposed the theory of "Cultural Realism and Virtualism" by introducing philosophical and mathematical methods and applying the concept of "virtualism" and "realism" to deconstruct and construct cultural elements and implement the design of cultural and creative products such as complex variable, fuzzy theory, structure variation and color evaluation.

Finally, through the result of the design of case, culture-based creative products developed from Austronesian language from New Zealand and Taiwan fulfilled the purpose that the theory has been realized in practice, and the products successfully entered the markets, allowing both New Zealander and Taiwanese to respect, understand, accept and appreciate the culture through product exhibition. Therefore, this study is proved to be able to make fundamental contributions to culture, business, education, society and country effectively.

Shanghai, China

Ming-Feng Wang

Acknowledgements

I would like to express my gratitude to Shanghai Summit Discipline in Design, Tongji University Shanghai Institute of Design and Innovation, Design Master Studio of Product Innovation and Sustainable Development and Prof. Han-Qing Cheng for their financial support to have this book published. I would also like to thank the teachers and students of the School of Art and Design of Shanghai University of Engineering Science for their encouragement to have this research accomplished.

I owe the completion of this book to my advisor, distinguished Prof. Shih-Wen Hsiao, who has taught me rigorous engineering, methods, mathematics and other research essences. As an unintelligent student, I often encountered difficulties in the research. Dr. Hsiao would explain the formula step by step and share the results with me. It was most kind of Dr. Hsiao to provide me with the resources the three-year project granted by the Ministry of Science and Technology of Taiwan (National Science Council), allowing me to work on my book with the help of sufficient funds and research resources. Here, I express my most profound gratitude to Dr. Hsiao. A special thank is given to Prof. Ping-Hong Kuo, my postgraduate supervisor, for his great guidance in the literature, history and philosophy theories of the book. Dr. Kuo was always happy to give me guidance and invaluable comments when I was working on my book.

Besides, I appreciate the help from Sutej Hugu, Director of Tao Foundation, Ding Shao-qing, Director of Lan An Cultural and Educational Foundation, Jiang Yu-mei (Tao), owner of the TaTala Homestay, and History Prof. Shi Wan-Shou, when I conducted the field study in Lanyu, Taiwan. My thanks also go to culture and history experts I had interviewed during one-year field study in New Zealand, such as Saman, an aboriginal teacher of the Maoris, ceramist Peter Rumble, Shera, the graduate student of Art History in Victoria University of Wellington and linguistic expert Alle Pollard, who study the Taos and Maoris' cultures and had given me a lot of instruction and historic information. A special thank for the owners of three cultural and creative products shops, namely the Academy Galleries, Isa Dambeck and Native New Zealand in Wellington, New Zealand, where I had the

opportunity to display and sell my products and join the New Zealand Academy of Fine Arts. Moreover, I would like to thank Isaac and Ruth in the Homestay of New Zealand, Jennie Wang from the Campbell Institute, Gavin Chin and Tess Tam, owner of the Arashi Kushiyaki Bar and his wife, Prof. Chung-Shing Wang and his wife Chiya for their care and job opportunities during my stay, as well as my friends I met in New Zealand, such as Linda, Ming, Doris, Sandy, Pond Jongkajornpong, Remo, Badr Alatas, Tirada Jianpinitnan, Noriko Ishii, Aomam Anchalyynn, Rosemary, Charlotte, David and Worakul Pornumnouy for their help in KIMING product design, development and promotion.

I shall thank my deceased grandpa and grandma for their 27 years of love, which I will never forget. I really miss you. Wish we will meet in another life. To my dear parents, two younger sisters and Ya-Li Chang, your selfless support, tolerance and encouragement will be repaid surely in the future.

Finally, many thanks to Shanghai Jiao Tong University Press and Springer for their efforts and support to finish this book with me. Without the support of my family, teachers, superiors, classmates and friends, I wouldn't have completed this book. This book is for all of you.

August 2019

Ming-Feng Wang

Contents

1 Introduction	1
1.1 Motive and Objective of the Book	1
1.2 Framework and Description of the Book	5
1.3 Object and Scope of the Book	6
1.3.1 Object	6
1.3.2 Scope	7
1.4 Terminology of the Book	9
References	9
2 Review of Culture and Design	11
2.1 Constructionism and Deconstruction	11
2.1.1 Design Constructionism	11
2.1.2 Design Deconstruction	13
2.1.3 Correlation Studies	16
2.2 Cultural	17
2.3 Cultural and Creative Industry	22
2.4 Cultural and Creative Products	23
2.4.1 Theory of Forms	25
2.4.2 Theory of Color	26
2.4.3 Theory of Function	27
References	28
3 Field Survey: The Taos and Maoris	31
3.1 Ethnography	31
3.2 Field Survey of Aborigines of Austronesian Languages	34
3.3 Globalization and Localization	39
3.4 Heterogeneous Culture and Homogeneous Culture	40
3.5 Cultural Fusion and Cultural Differences	58
References	64

4	New Design Model: Cultural Realism and Virtualism	67
4.1	Metaphysics and Three-Layered Culture	67
4.2	The Theory of Symbolism	67
4.3	Reverse-Triangular Cultural Space	68
4.4	Zen Philosophy	69
4.5	Laozi's Dao De Jing and Design	71
4.5.1	Useful and Useless—Design Style, Form, Shape and Function	72
4.5.2	Good and Evil—Design Material and Colors	72
4.5.3	Fortunate and Disastrous—Design Based on Human Factors	74
4.6	Concluding Remarks	81
	References	86
5	Design Method	89
5.1	Questionnaire Survey	89
5.2	Cognitive Survey of Five Senses	90
5.3	Cultural Realism and Virtualism	93
5.4	Fuzzy Evaluation	97
5.5	The Structure Variation Method	98
5.6	Color Evaluation Method	99
5.7	Industrial Product Design and Development Process	104
	References	104
6	Design Development and Process	107
6.1	Step 1: Deconstruct Cultural Features	107
6.2	Step 2: Complex Variables	109
6.3	Step 3: Fuzzy Evaluation	116
6.4	Step 4: The Structure Variation	123
6.5	Step 5: Color Evaluation	125
6.6	Step 6: Product Development	126
	References	130
7	Product Display and Validation	131
7.1	Product Display	131
7.2	Product Validation	132
8	Conclusions and Recommendations	147
8.1	Summary of the Book	147
8.2	Recommendations of the Book	152

List of Figures

Fig. 1.1	Research framework	6
Fig. 1.2	Map of Taiwan and Lanyu	7
Fig. 1.3	Map of New Zealand.	8
Fig. 2.1	Constructionism furniture (Pamono.com).	13
Fig. 2.2	Deconstruction architecture (luisrsphoto).	14
Fig. 2.3	Similarities and differences of eastern and western philosophies.	15
Fig. 2.4	Bath loofah and soap, general merchandise	24
Fig. 2.5	Sponge cake-shaped shower sponge and soap, culture-based creative product	24
Fig. 2.6	Theory process of form composition	26
Fig. 3.1	Maps of field study and interviews session done in Taiwan and Orchid Island	33
Fig. 3.2	Maps of field study and interviews session done in New Zealand.	33
Fig. 3.3	Distribution map of Polynesian aborigines of Austronesian languages (David Eccles).	35
Fig. 3.4	Taos in Taiwan	35
Fig. 3.5	Maoris in New Zealand (Tamaki Maori Village).	36
Fig. 3.6	Distribution of Taiwanese aborigines (Bstlee)	37
Fig. 3.7	Chronology of Taos in Taiwan and Maoris in New Zealand	39
Fig. 3.8	Colors of TaTala boat	44
Fig. 3.9	National colors of the Maori	44
Fig. 3.10	Maori meetinghouse (Te Papa Museum)	44
Fig. 3.11	Maori marae	45
Fig. 3.12	Side view of Tao traditional home.	45
Fig. 3.13	Eyes of Taos' TaTala boat.	46
Fig. 3.14	Bow of Maoris' war canoe (Te Papa Museum)	46
Fig. 3.15	Haka (Te Papa Museum)	46
Fig. 3.16	Warrior dance	47

Fig. 3.17	Waka (Te Papa Museum)	47
Fig. 3.18	TaTala boat	48
Fig. 3.19	Horned owl (Totoo).	48
Fig. 3.20	Tui.	50
Fig. 3.21	Pukeko.	51
Fig. 3.22	Pipiwaharauroa	51
Fig. 3.23	Kiwi.	51
Fig. 3.24	Taos' costumes	52
Fig. 3.25	Clan-based fishing teams	53
Fig. 3.26	Hair-swinging dance	53
Fig. 3.27	Flying fish season	54
Fig. 3.28	Water taro at Lanyu.	54
Fig. 3.29	Maori staple food—Hangi (Tamaki Maori Village).	55
Fig. 3.30	Cooking method of Maori Hangi.	55
Fig. 3.31	Moko (Tamaki Maori Village).	56
Fig. 3.32	Maori clothing (Te Papa Museum)	57
Fig. 3.33	Hongi.	58
Fig. 3.34	Maori wood sculpture—Whakairo (Te Papa Museum)	59
Fig. 3.35	Maori ornament—Tiki	60
Fig. 3.36	Maori ornaments—Manaia.	61
Fig. 3.37	Koru	62
Fig. 3.38	Pungawerewere	63
Fig. 3.39	Unaunahi	63
Fig. 3.40	Purpose of cultural and creative product shows	64
Fig. 4.1	The relationship between Laozi's philosophy and design.	71
Fig. 4.2	Calabash	72
Fig. 4.3	A ladle of calabash	73
Fig. 4.4	Bowl	73
Fig. 4.5	Car lights.	75
Fig. 4.6	Car lights for night lighting.	75
Fig. 4.7	Front-driving vehicle	75
Fig. 4.8	Method for decomposing and composing cultural symbols	81
Fig. 4.9	Pepper and salt jar (Philippi).	82
Fig. 4.10	Kennel (Akihiro Yoshida)	83
Fig. 4.11	Tableware and toy (Akihiro Yoshida)	83
Fig. 4.12	Cultural Realism and Virtualism	84
Fig. 4.13	Concept of the two sides of oneness	86
Fig. 5.1	Exhibition map in Taiwan	91
Fig. 5.2	Exhibition map in New Zealand	91
Fig. 5.3	Cognitive survey of five senses	93
Fig. 5.4	Complex variables	94
Fig. 5.5	Stereogram of complex variables	95
Fig. 5.6	Diagram of the universe and complex variables.	96

Fig. 5.7 Association between Euler’s formula and concept of two sides of oneness of the product. 96

Fig. 5.8 Operation centroid area 101

Fig. 5.9 Laboratory value of centroid area 101

Fig. 5.10 Laboratory color space. 102

Fig. 5.11 Laboratory color model of Adobe software 103

Fig. 6.1 Design mode flow 108

Fig. 6.2 Pepper salt jar 115

Fig. 6.3 Necktie 115

Fig. 6.4 Candlestick 116

Fig. 6.5 Detailed modifications of product sketches 123

Fig. 6.6 Commodity proposal direction of kiwi bird-shaped pepper salt jar 124

Fig. 6.7 Structure variation scatter diagram of the pepper salt jar 124

Fig. 6.8 Automatic color evaluation system 125

Fig. 6.9 Kiwi bird-shaped pepper salt jar in brown (Te Papa Museum) 126

Fig. 6.10 Kiwi bird-shaped pepper salt jar in white (Rafael Ben-Ari) 127

Fig. 6.11 Kiwi bird-shaped pepper salt jar in black (Te Papa Museum) 128

Fig. 6.12 Model production 128

Fig. 6.13 Final product diagram 129

Fig. 7.1 Taiwanese Taos’ cultural and creative product WUYOD. 132

Fig. 7.2 New Zealand’s Maoris cultural and creative product KIMING 132

Fig. 7.3 Analysis of fondness for cooking between sexes in two places 135

Fig. 7.4 Analysis of fondness for cooking among ages in two places 136

Fig. 7.5 Investigation on the use of pepper salt jars among age groups in two places 137

Fig. 7.6 Preference of design experts for the respective product designs in two places 138

Fig. 7.7 Analysis on the preference of Taiwanese ethnic groups and Taos for pepper salt jars 138

Fig. 7.8 Analysis on the preference of New Zealand ethnic groups and Maoris for pepper salt jars 139

Fig. 7.9 Analysis on the preference of people of different sexes for the products of their respective place. 139

Fig. 7.10 Analysis on the preference of people at different ages for the products of their respective place. 140

Fig. 7.11 Investigation on the degree of consumption intention of Tao pepper salt jars 140

Fig. 7.12 Investigation on the degree of consumption intention
of Maoris pepper salt jars 141

Fig. 7.13 The similarities between the cultural and creative products
in both places and those commercially available 142

Fig. 7.14 The differences between the cultural and creative products
in both places and those commercially available 142

Fig. 7.15 Vocabulary investigation of Taos pepper salt jars 143

Fig. 7.16 Vocabulary investigation of Maoris pepper salt jars. 144

Fig. 7.17 Design elements scoring of two items of cultural and creative
commodities. 145

Fig. 7.18 Cultural difference in the design of two items of cultural
and creative commodities. 146

List of Tables

Table 1.1	Definition of the cultural and creative industry of each place	2
Table 2.1	Comparison between constructionism and deconstruction	15
Table 2.2	Relevant literature at home and abroad	18
Table 2.3	Characteristics of body shape	27
Table 2.4	Psychological feelings about the three attributes of color	28
Table 3.1	Comparison between cultural similarities.	42
Table 3.2	Bird species in Taiwan and New Zealand	50
Table 4.1	Different theories of symbolism presented by scholars	68
Table 4.2	Relationship between Laozi’s philosophy and design	76
Table 5.1	Cultural vocabulary	90
Table 5.2	Choosing Taiwan and New Zealand of Austronesian	90
Table 5.3	Vocabulary of design style	92
Table 5.4	Cognitive survey data of five senses	94
Table 5.5	Concept of complex variables	95
Table 5.6	Association between Euler’s formula and concept of two sides of oneness of the product	97
Table 6.1	Sense of sight—analysis on kiwi birds	109
Table 6.2	Sense of smell—analysis on the flax	110
Table 6.3	Sense of taste—analysis on Hangi food	111
Table 6.4	Sense of hearing—analysis on Haka dance	112
Table 6.5	Sense of touch—analysis on Hongi	113
Table 6.6	Form concepts of complex variables	113
Table 6.7	Complex variables’ concept sketches for cultural and creative commodities of the Maoris in New Zealand	114
Table 6.8	Membership function values of five adjectives to the sketches of kiwi bird-shaped pepper salt jar	117
Table 6.9	Membership function values of five adjectives to sketches of flax necktie	118
Table 6.10	Membership function values of five vocabularies to sketches of hongi-shaped candlestick.	119

Table 6.11	Concept association of products having two contrasting sides	122
Table 7.1	Display locations in Taiwan	133
Table 7.2	Display locations in New Zealand	133
Table 7.3	Basic information of subjects in Taiwan and New Zealand	135

Chapter 1

Introduction



1.1 Motive and Objective of the Book

Global culture and economic policies were first proposed by France in 1990, Australia in 1994, Finland in 1997, Britain in 1998 and South Korea in 1999 as the first Asian country, followed by New Zealand and Hong Kong in the same year of 2000, China in 2003, USA in 2005 and Taiwan in 2007. Economic discourses have become the most important part of cultural policies. The relevant policies and industry evaluations have been released constantly, and each place has its own unique messages and development in terms of the output value brought to the creative industry. The development also contributes to the gross national product (GNP), the increase in employment opportunities and market expansion rate that relevant economic policies have brought in (Wang 2003). Table 1.1 elaborates on the definition and context of the cultural industry and creative industry of each place.

What the cultural and creative industry generally does is to make creativity become mainstream, and the combination of the two will establish a new economic framework (Florida 2008). Different places have different definitions for the cultural and creative industry, which can be roughly divided into two kinds. One is “creative industry,” which lays emphasis on economic benefits of property rights in the cultural industry and social benefits of employment opportunities, represented by Australia, Britain, New Zealand, Hong Kong and Taiwan. The other is “cultural industry,” there is no unified definition and approaches of adjusting measures to local conditions are adopted, represented by France, Finland, South Korea, China and the USA (Lin and Li 2011; Wang 2012).

In the history of world culture, there are many examples of “cultural exclusiveness,” which are related to politics, religion, power and race. In the Chinese history, when a new dynasty was established, the culture of the previous dynasty had to be destroyed in order to establish the cultural system of the new dynasty. The same can be said of Mayan culture. Though Mayan culture was not like the unified powers of Rome and Greece, it had notable features of languages, words, religious beliefs, customs and traditions in the same cultural circle (National Museum of History 2002). In