

APPLIED ARTS AND DESIGN FROM
AN ISLAMIC PERSPECTIVE
PAST, PRESENT, FUTURE

Mandana Barkeshli

Research Management Centre
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA



Applied Arts and Design from an Islamic Perspective: Past, Present, Future

Mandana Barkeshli



IIUM Press

Published by:
IIUM Press
International Islamic University Malaysia
First Edition, 2011
©IIUM Press, IIUM

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Mandana Barkeshli: Applied Arts and Design from an Islamic Perspective:
Past, Present, Future

Bibliography p.
Includes Index
ISBN

ISBN: 967-0225-74-6

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by :
IIUM PRINTING SDN. BHD.
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

Editor and Contributor

Mandana Barkeshli BFA., MA., PhD. is Head of the Department of Applied Arts and Design, Associate Professor at the Faculty of Architecture and Environmental Design in Department of Applied Arts and Design, and Head of the International Islamic Heritage & Sustainable Conservation Research Unit, International Islamic University Malaysia (IIUM). Associate Prof. Dr. Mandana Barkeshli started her academic career in the University of Art, Tehran, Isfahan, Iran as Head of Textile Department in 1982 and Head of the Graduate School in 1994 and worked as an Assistant Professor lecturing in Conservation and Textile Department before she moved to Malaysia. Dr. Mandana Barkeshli was invited by the Al-Bukhary Foundation in 1999 to come to Malaysia, Kuala Lumpur to assist and set up the curatorial Department of the Islamic Arts Museum Malaysia. She worked as Head Curator till 2003. Between 2003 and 2009, before joining IIUM, she was involved in many projects at the national and international level. She established a firm in Malaysia called Art & Identity Sdn. Bhd. and has been involved in many projects mainly by assisting in establishing museums, collection management and curatorship. From 2006, she has been actively involved with The Islamic Manuscript Association (TIMA) of Cambridge University as a Committee Board Member and the Head of the Conservation Sub-Committee and has initiated many projects such as The Islamic Manuscript First Aid Plan (T-

FAP). In March 2008, She was appointed as Editorial Board Member of the Restaurator Journal, the International Journal for the Preservation of Library and Archival Material in Munich, Germany. Dr. Mandana Barkeshli is internationally recognized by the conservation scientist community for her scientific research involving Materials technology of Persian and illuminated manuscripts and miniature paintings. She is especially renowned for her discovery that saffron stigmas act as an inhibitor for preservation of the destructive effect of green verdigris pigment and henna leaves as fungicide used in Persian miniature paintings between the 16th and 19th century. She also authored the book “Conservation and Restoration of Paper Documents” in 1997 published by the Indian Council of Conservation Institute (INTACH), which was translated into Hindi in 2001. She has also made numerous contributions to refereed journals and publications, and participated in many conferences, lectures and workshops on the art and conservation field at the national and international level.

The Contributors

Zumahiran Kamarudin received her Masters in Art and Design from Universiti Teknologi MARA, Malaysia in 2002 and completed her PhD from Universiti Teknologi Malaysia. She taught at the matriculation centre of the International Islamic University Malaysia from 1997 to 1999. She is currently a lecturer and academic advisor at the Department of Applied Arts and Design, Kulliyah of Architecture and Environmental Design (KAED), International Islamic University Malaysia (IIUM). She has published her articles on Malay wood carving in local and international journals and presented her papers at international conferences. Her current research interests are traditional Malay wood carving, vernacular architecture, cultural heritage and Islamic calligraphy.

Hazman Hazumi is a lecturer in the Department of Applied Arts and Design, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia. He trained as a junior architect with FI Architects and was involved in preparing contract documents and supervising construction sites in Johor Bahru. He has also worked on interior design projects in Johor Bahru and Singapore. His passion in the field of Islamic arts and conservation issues led him to further his studies in the UK where he has attained a Bachelor of Architectural Stained Glass from Swansea Institute, University of West England in 1998 and a

Masters in Visual Islamic and Traditional Arts from the Prince's School of Traditional Arts, University of Wales in 2002. More recently, he completed his PhD studies from the same institution in the field of Malay Traditional Woodcarving and Architecture. His main research interests are in the areas of preservation and revival of Malay traditional arts and architecture, the principles of dynamic geometries in design and the application of digital documentation techniques in heritage projects.

Harlina Md Sharif is a lecturer in the Department of Applied Arts and Design, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia. She received her Bachelor of Science (Architecture) from University of Newcastle, Australia in 1989 and Master in Design Science (Computing) from University of Sydney in 1994. Her early training involved graphics design and computer multimedia projects as a designer with Mongo Productions based in Sydney, and various freelance assignments involving training packages used by hospitals and governmental departments. She was also attached to the College of Fine Arts (COFA), University of New South Wales in Sydney as the Computer Administrator for the college where she provided training and technical advice, and was involved in the procurement and maintenance of software and hardware. Her interest in Islamic studies took her to Cairo and Jordan, where from 1997 to 2001 she received certificates in Arabic

Language and Diploma in Islamic Jurisprudence from University College Al-Quds in Amman, Jordan. She joined the International Islamic University Malaysia in 2003 and is currently pursuing her doctoral studies at the School of Oriental and African Studies (SOAS), University of London with special focus on the socio-cultural issues surrounding the material culture of the mosques in Island Southeast Asia from the 15th to the 20th century. Her main research interest is in the areas of Islamic architecture and material culture of the Malay World and digital documentation techniques in heritage projects.

Ismail Jasmani has an MA in Interior Design, from Manchester Metropolitan University and is an Academic Fellow for Applied Arts and Design, Kulliyah of Architecture and Environmental Design. He has worked with many interior design firms that have handled, showroom, residential, office and hotel projects in Bali, Vietnam and the Philippines among others. Later, he joined another interior design firm to engage in the KLIA construction project. During the course of the project, he was involved in many aspects of consulting, designing and managing that further added to his experience. Apart from hotels and an airport, he was also involved in the Sungai Buloh Specialist Hospital project as interior designer and advisor to the medical planner. During his tenure with the hospital, he was exposed to the more complicated aspects of hospital interiors because there were certain medical limitations that required extra amount of planning and

designing. Before joining IIUM, he was the project leader for Putrajaya Holdings, and was involved in the Putrajaya project from the initial design to completion. The Putrajaya project is an ongoing development of the government and consists of commercial buildings also residential estate.

Norzalifa Zainal Abidin completed a Masters (Sc) in Built Environment (Interior Design) in 2004 and a PhD in Built Environment in 2011, both from Universiti Teknologi MARA, Malaysia. In 1998, she started as a lecturer at the Matriculation Centre of the International Islamic University Malaysia (IIUM) in Petaling Jaya. She is currently teaching at the Department of Applied Arts and Design at IIUM's Kulliyah of Architecture and Environmental Design (KAED), Gombak, where she has been since 2000. She specializes in Islamic decoration of mosques and published a book in December 2010 entitled 'Architecture as a Reflection of Social Structure: A Reminiscence of the Suleymaniye Complex of Istanbul.' The book is written together with Mansor Ibrahim, Shireen Jahn Kassim, Mesut Idris and Nurul Syala Abd Latip and published by the Kulliyah of Architecture and Environmental Design, IIUM.

List of Tables, Figures and Graphs

Tables

Table 3.1	List of Dyes Identified as primary colours	101
Table 3.2	List of Dyes Identified and Used as Secondary Colours	103
Table 3.3	The Different Shades of Colour and Dyes	104
Table 3.4	The Identified Colours, Shades and Dyes	105
Table 3.5	The Identified Dyes, Minerals and Additives from the 52 Shades	108
Table 3.6	Categorization of Sizing Materials	113
Table 3.7	List of the Primary Colours and Their Sources	120
Table 3.8	List of the Secondary Colours and Their Sources	121
Table 3.9	Binding Mediums and Their Sources	124
Table 3.10	Brushes and Their Sources	125
Table 5.1	Registration of Categories of Disabilities as of June 2010	179
Table 5.2	Entrance to the Mosque and Mosque Hall Area	196
Table 5.3	Toilets for the Disabled	200
Table 5.4	Ablution Area	206
Table 5.5	Prayer Hall	212
Table 5.6	Audio-Visual System and a Projector Screen	220

Figures

- Figure 3.1 16th century Persian miniature painting with its green verdigris mixed with saffron. **133**
- Figure 3.2 The spectra of green verdigris mixed with saffron in the Persian miniature painting. **134**
- Figure 3.3 A 17th century Persian illuminated manuscript with green verdigris in its pure form. **135**
- Figure 3.4 Microscopic examination of the destructive effects of green verdigris cited in 5a (x12). **135**
- Figure 3.5 The spectra of pure verdigris used in the Persian illuminated manuscripts. **136**
- Figure 3.6 Fungus growth of paper pulp group samples dyed with henna extract solutions. **137**
- Figure 3.7 Preparation of henna in different concentrations. **138**
- Figure 3.8 Filtering henna extracts for preparing solutions. **138**
- Figure 3.9 Culture of aspergillus flavus on treated samples and untreated samples from 2.5% to 17.5% in 5 days. **139**
- Figure 3.10 Culture of aspergillus flavus on treated samples and untreated samples from 2.5% to 17.5%. in 8 days. **139**
- Figure 4.1 A range of carvings at the front wall of a Terengganu House. **153**

- Figure 4.2 A range of carvings on a convex wall with different elements of arabesque. **154**
- Figure 4.3 Visual attributes and quality of carvings that contribute to the significance and meanings of the carved component fitted as a house component. **157**
- Figure 4.4(a) Decorative ceiling panel with foliated pattern situated at Biji Sura's house. **158**
- Figure 4.4(b) Door ventilation panel with mixed elements found at Wan Sulong's house. **158**
- Figure 4.5(a) Carved fenestrations at the gable end (Source: Ramesh et al., 1985). **160**
- Figure 4.5(b) Elemental carvings on front wall of a Terengganu house (Source: Othman et al., 1990). **160**
- Figure 4.6 House railing with integrated patterns of geometry and flora. **161**
- Figure 4.7 Carved panel portrays a mixture of native and innovative ideas. **166**
- Figure 4.8(a) Carving in tebuk terus (direct-piercing) technique. **166**
- Figure 4.8(b) Carving in tebuk terus timbul (direct-piercing relief) technique. **166**

- Figure 4.9(a) Carvings with complete pattern in form of relief carving. **167**
- Figure 4.9(b) Carvings with complete pattern in form of non-relief carving. **167**
- Figure 4.10 Beautiful carvings fitted to different components of Ismail's house. **169**
- Figure 5.1 Recommended height of signage and switches for disabled people. **222**

Graphs

- Graph 3.1. pH variation of different solutions due to incremental addition of acetic acid 1/100 N. **132**
- Graph 3.2. pH variation of different solutions due to incremental addition of sodium hydroxide 1/100 N. **133**

ABBREVIATIONS

ANSI	American National Standards Institute
JKMM	Jabatan Kebajikan Masyarakat Malaysia (Department of Social Welfare)
JPOKU	Jabatan Pembangunan Orang Kurang Upaya
KPWKM	Kementerian Wanita, Keluarga dan Masyarakat (Ministry of Woman, Family and Community Development)
MCB	Muslim Council of Britain

CONTENTS

Editor and contributor	iii
The contributors	v
List of tables, figures and graphs	ix
Abbreviations	xiii
Acknowledgements	xv
Introduction <i>Mandana Barkeshli</i>	1
Islamic Principles of Art and Design <i>Harlina Md Sharif and Hazman Hazumi</i>	11
The Concept of Beauty in Islamic Arts Decoration: Its Importance and Relationship to Mosque Interiors <i>Noorzalifa Zainul Abidin</i>	53
Research Methodology of Material Technology of Islamic Art A Case Study: Persian illuminated manuscripts and miniature paintings <i>Mandana Barkeshli</i>	93
Arabesque Design in the Elemental Wood Carvings of the Traditional Houses of Terengganu and Kelantan <i>Zumahiran Kamarudin</i>	148
Mosque Interior Design and Accessories for the Disabled from an Islamic Perspective <i>Ismail Jasmani</i>	177
Index	228

Article three

Research Methodology of Material Technology of Islamic Art

A Case Study: Persian illuminated manuscripts and miniature paintings¹

Mandana Barkeshli

Introduction

Persian illuminated manuscripts and miniature paintings occupy an important place in the realm of Islamic Art. In this regard, numerous articles have been published, books compiled and attractive albums and reproductions prepared by museums and art centres. These sources reveal that the majority of them have been put together from the perspective of an art historian. However, only a few sources have touched on the painting techniques and materials used. This study introduces the research methodology of Material technology of Islamic art. The evidence reveals that there are compelling reasons behind the use of certain materials in Persian illuminated manuscripts and miniature paintings.

¹ The author would like to thank The Islamic Manuscript Association for awarding a grant to complete part of this research.