

EVALUATION OF HERITAGE COLOUR OF THE
NAQSH-E JAHAN SQUARE, IRAN

BY

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ABSTRACT

This thesis problem was based on the observation that, contemporary Iranian architecture is colourless while Iranian traditional architecture is colourful. The industrial revolution, the growth of population, phenomena of urbanism, and interaction with the West resulted in the new concept of colour construction and new material to contemporary Iranian architecture. Colour mapping is a process being proposed in order to preserve national heritage of architectural Iranian colour. This process brings a local colour palette, based on careful studies of colourful monuments and inscribes in Cultural Heritage, Handicrafts, and Tourism Organization of Iran. In other words, documenting Persian heritage colour via reliable and applied methodology is necessary. To be more precise, this thesis introduces wireless pin instead of “Lenclos”, “Hee Yong” and “O’Conner” methods to prepare accurate colour numbers and harmonic settings. This arises from the theoretical framework which shows that scanning colour to make point colour is more applicable. And, Naqsh-e Jahan Square (NJS) of Safavid architecture was chosen because there is a flourishing growth in art and science of this era. NCS Colourpin II as a digital colour fan deck that is economically viable and easy functional scanner was chosen to execute the mapping of the Iranian heritage colour. The present study uses a combined strategy (1-dominant and 2-less -dominant study) as a research design, whereby field measurement-case study is a dominant study and the in-depth interview taken as a less-dominant study. Forty-eight palettes from four monuments of The NJS (Sheikh lotfollah Mosque, Ali Qapu Palace, Imam Mosque, and Qeyssareyye Bazar) were extracted and the thematic analysis on the interview from 15 colourist around the world who were interviewed based on interview protocol designed by the researcher. The results show that the NJS palettes have NATURAL, and DUAL characteristic and CONTEXTUAL meaning. The digital colour documentary of the NJS as a part of Iranian historical city colour identity illustrated that respective palettes can be printed like FHI Colour Guide, Formula Guide Coated, Plastic Standers Chips like PANTON, or NCS format that facilitates chromatic continuity. To conclude, there is a chromatic identity in Persian heritage monuments, but there is not its trace in contemporary Iranian constructions. In this situation, documenting traditional colour is necessary to introduce, conserve and apply the Persian colour heritage. To measure this quality, the NJS monuments were chosen as one of the heritage sites. NCS Colourpin II had been used as a digital instrument to introduce the Safavid colour palettes with the natural, dual, and contextual system. Iranian colour identity brings a new situation for Iranian artists to revive contemporary monochromic architecture as its identity in the industry.

خلاصه البحث

لقد استندت مشكلة الأطروحة هذه على ملاحظة أن العمارة الإيرانية المعاصرة عديمة اللون بينما العمارة الإيرانية التقليدية ملونة. وأدت الثورة الصناعية ونمو السكان وظواهر التمدن والتفاعل مع الغرب إلى مفهوم جديد لبناء الألوان والمواد الجديدة للعمارة الإيرانية المعاصر. رسم خرائط الألوان هو عملية مقترحة من أجل الحفاظ على اللون الإيراني المعماري للتراث الوطني. تجلب هذه العملية لوحة ألوان محلية، بناءً على دراسات متأنية للآثار الملونة والنقوش في التراث الثقافي والحرف اليدوية ومنظمة السياحة الإيرانية. بمعنى آخر، من الضروري توثيق لون التراث الفارسي من خلال منهجية موثوقة وتطبيقية. لكي تكون أكثر دقة، تقدم هذه الأطروحة دبوس لاسلكي بدلاً من طريقة "Lenclose" و "Hee Yong" و "O'Conner" لإعداد رقم لون دقيق وإعداد متناسق. ينشأ هذا من الإطار النظري الذي يوضح أن مسح اللون لجعل لون النقطة أكثر قابلية للتطبيق. وتم اختيار ساحة نقش جهان (NJS) للعمارة الصفوية نظرًا لوجود نمو مزدهر في الفن والعلوم في هذا العصر. تم اختيار NCS Colourpin II كسطح مروحة ملون رقمي قابل للتطبيق اقتصاديًا وماسحة ضوئية وظيفية سهلة لتنفيذ رسم الخرائط للون التراث الإيراني. تستخدم الدراسة الحالية إستراتيجية مشتركة (دراسة 1 مهيمنة و 2-أقل هيمنة) كتصميم بحث، حيث تكون دراسة الحالة للقياس الميداني هي الدراسة السائدة والمقابلة المتعمقة تؤخذ على أنها دراسة أقل هيمنة. تم استخراج 48 لوحة من أربعة معالم أثرية لـ NJS مسجد الشيخ لطف الله، وقصر علي قابو، ومسجد الإمام وقيسارية بازار) والتحليل الموضوعي للمقابلة من 15 ملونًا حول العالم تمت مقابلتهم بناءً على بروتوكول المقابلة الذي صممه الباحث. تظهر النتائج أن لوحات NJS لها خصائص طبيعية ومزدوجة ومعنى سياقي. يوضح الفيلم الوثائقي الرقمي الملون لـ NJS كجزء من هوية ألوان المدينة التاريخية الإيرانية أنه يمكن طباعة اللوحات ذات الصلة مثل FHI Colour Guide أو Formula Guide Coated أو Plastic

Standers Chips مثل PANTON أو NCS الذي يسهل الاستمرارية اللونية. في الختام، هناك هوية لونية في آثار التراث الفارسي، لكن لا يوجد أثر لها في الإنشاءات الإيرانية المعاصرة. في هذه الحالة، يعد توثيق اللون التقليدي ضروريًا لتقديم التراث اللوني الفارسي والحفاظ عليه وتطبيقه. لقياس هذه الجودة، تم اختيار آثار NJS كأحد المواقع التراثية. تم استخدام NCS Colourpin II كأداة رقمية لتقديم لوحات الألوان الصفوية مع النظام الطبيعي والمزدوج والسياقي. تجلب هوية الألوان الإيرانية وضعًا جديدًا للفنانين الإيرانيين لإحياء العمارة أحادية اللون المعاصرة باعتبارها هويتها في الصناعة.

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Maryam Mohammad Gholipour

Signature *MMG*

Date 2nd May 2021

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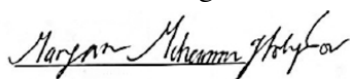
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This thesis is dedicated to my Mam (Azam Ghafory-Ashtiany) and Dad (Master Hossein Mohammad Gholipour) and my two brothers; Amin and Mehdi Mohammad Gholipour,, Prof. Mohsen Ghafory-Ashtiany, Prof. Amir H.Zekrgoo, Leyla H.Tajer, Tayebeh Godarzi, Maryam Alavi, Mahshad Alavi, Sharifa Bahar, Ghodsieh Akbari, Elham Souri, Mohammad Shandar Siddiqui, Behzad Rezaie, Eric krichner, Fariba Khatabakhsh, Samira Bardia, Sanna Mir, Azadeh Lak, Somaye Shahristani, Fariba ataie, Johaina El Yabass, Sara Bahmani, Marzie Niknahad, Maryam Bakhtiaraha, Nazli Jafarbeiky, Hanieh Mohammadi and Amirah binti Adnan.

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LIST OF ABBREVIATIONS

RS	Random Scanning
CS	Chromatic Scanning
LS	Lattice Scanning
BS	Background Scanning
NCS	Natural Colour System
NJS	Naqsh-e Jahan Square
LG	Left side of the gate
LD	Left side of the dome
MD	Middle part of the gate
RG	Right side of the gate
RD	Right side of the dome
SLM	Sheikh Lotfollah Mosque
SLMG	Sheikh Lotfollah Mosque Gate
SLMD	Sheikh Lotfollah Mosque Dome
AQP	Ali Qapu Palace
AQPG	Ali Qapu Palace Gate
AQPB	Ali Qapu Palace Balcony
IM	Imam Mosque (Shah Mosque)
IMG	Imam Mosque Gate
QB	Qeysarie Bazar
QBG	Qeysarie Bazar Gate
QBR	Qeysarie Bazar Roof
DCM	Digital Colour Mapping
DCP	Digital Colour Palette
NA	No answer
C	Contrast
H	Harmony
B	Both (contrast and harmony)

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

This study is about developing a methodology for documenting heritage colour using the Natural Colour System (NCS) pertinent to the Iranian heritage monuments. NCS is based on a human perception theory which was proposed by Ewald Hering (German physiologist) and has been developed since 1964 under the supervision of Gunnar Tonnquist, Anders Hard, and Lars Sivik in Swedish foundation. This study has identified the Persian historical era and its decoration path as the relevant reference. The Naqsh-e Jahan Square (NJS) has been selected as the best sample of the colourful site of the Safavid dynasty. The lack of colour in the contemporary period in Iranian architecture has been reviewed as a national concern.

1.2 BACKGROUND OF THE STUDY

A detailed drawing of a residential house was found in a clay tabula in the Mesopotamia¹ (2650-2550CE), the Akkad era (C.2334-2154BC, the Mesopotamian first empire), 2000 years before the Achaemenid Empire (550–330 BC, Second Persian empire) and the archaeologists considered it as a backbone of the Iranian architecture. Some sources refer to Iranian culture to c40000 - 3300BC as Prehistoric (Malekshahmirzadi, 1987; Ghirshman, 1954).

From the origin, in between, the Achaemenid era, Sassanid era, Seljuk era, and the

¹Iraq is called as ancient Mesopotamia.