

Colour: urban space, architecture, and design

Maria João Durão

CIAUD, Research Centre for Architecture, Urbanism and Design

Lisbon School of Architecture, Lisbon University

Colour Lab | Colour and Light Research Group | Portuguese Colour Association

Email: mjdurao@fa.ulisboa.pt

Colour: Urban Space, Architecture, and Design is a bilingual publication on colour-in two separate volumes- with an international scientific committee of researchers, which aims to disseminate the research undertaken in the multidisciplinary area of colour. This book celebrates the existing collaboration between APCOR - Portuguese Colour Association and the Lisbon School of Architecture – Universidade de Lisboa's colour research structures: Colour Lab and Colour and Light Research Group.

Book citation: Maria João Durão (Ed.), 2021, *Colour: Urban Space, Architecture and Design*, APCor, LabCor, GICL- CIAUD (Org), Vila Nova de Famalicão: Edições Humus (eISBN 978-989-755-652-4 / ISBN 978-989-755-653-1), 178

Reprinted version published online: 26 January 2022

Original source: Proceedings of the 14th Congress of the International Colour Association (AIC 2021)

Introduction

Studies carried out at the Lisbon School of Architecture – ULisboa have been guided by developments in knowledge of colour phenomena and the practical and sustainable use of their results in the environment. From the embryonic stage, it has been fully recognized that colour is ubiquitous in nature and always present in our experience, consciously or unconsciously. The earth, the sea, the sky, the cosmos have colour in their constitutive elements that animals and humans seek to interpret and use, both in material and virtual reality for cognitive, aesthetic, symbolic, cultural, civilisational, psychological, spiritual and epistemological effects. The chromatic substance itself exists in the animal, mineral and vegetable kingdom. Even where there is no light, underwater animals have adapted to produce light and colour and to recognise them in order to survive. It is not surprising, therefore, that colour is the subject of study in a wide range of fields: fine arts, terrestrial and aerospace architecture, urban planning, cinema, theater, virtual reality, lighting, light, product design, communication design, fashion design, textiles, paints and pigments, ceramics, physiology, neurophysiology, biology, vision, ergonomics, chemistry, psychology, history, symbology, aesthetics, phenomenology, sociology, anthropology, linguistics, marketing, advertising, geography, colorimetry, webdesign, nanotechnology, material technologies, audiovisual technologies as well as multiple other applications in art, science and technology.

The Lisbon School of Architecture – at one time belonging to the Technical University of Lisbon – was a worldwide pioneer in creating the Masters Degree in ‘Colour in Architecture’. This embryonic beginning was followed by the development of connecting organs for colour research in the same environment of interest. As it spiralled and radiated outwards, it was followed by the Portuguese Colour Association – a member of the International Colour Association (2003), the Colour Laboratory (2004), and the Colour and Light Research Group (2016) integrated in CIAUD (Research Centre of Architecture, Urbanism and Design) of the Lisbon School of Architecture – ULisboa.

While, in its initial phase, research was part of the Masters Degree in ‘Colour in Architecture’ modules, it later involved the wider community in doctoral and post-doctoral projects, initially in the area of pedagogy. Currently, the Lisbon School of Architecture has academic, entrepreneurial, industrial and other research projects – national and international – hosted in three organisations along with pedagogical input in undergraduate, Masters’, doctoral and postdoctoral programmes, at the University of Lisbon (ULisboa) and other universities. The results are disseminated through teaching and in practical aspects of projects carried out in the three major fields of architecture, arts and design.

Synopses of articles

This book begins with João Pernão’s article “Teaching Light and Colour in Architecture: Objectives, Methodology and Results”, resulting from his fifteen years of teaching Light and Colour at the Lisbon School of Architecture – ULisboa. The processes developed through the practice of preparing colour studies integrated into architectural projects make it possible to define a methodology that ensures coherent and well-founded results. These strategies are designed to interest and motivate architecture students to use colour and are developed in three distinct parts – Deconstruction, Construction and Application of Concepts –, with a multidisciplinary theoretical framework and a practical component in which students use the projects they develop within the Project Laboratory Course Unit. Furthermore, the existing architecture consultancy established through protocols between the Lisbon School of Architecture and various external entities, has opened up the interrelationship between theory, teaching and practice, and proved to be enriching in its pedagogical dynamics.

Contextualised in her doctoral project in Design, “Care for the Façade, Care for the City: Participatory Painting in Buenos Aires”, Verónica Conte discusses three interventions made on residential façades in this capital that supported research on the participatory and creative processes of architectural façade transformation. Along with the motivating agents of the projects, the local population debated the choice and acceptance of façades as well as colour proposals that were presented to them. The research brings together interviews with actors and users, focusing on wall painting interventions that transform the city’s image and encourage individual and popular expression, singularisation and revitalisation of public space, as well as the development of ties between participants. Cultural traits are thereby explored, memories are recovered and new place identities are created, especially for local communities. The study highlights the painting process itself, as it reveals civic engagement and responsibility and inspires other design processes.

“Colour in Social Housing: Routes of Discovery”, by Cristina Pinheiro, recognises the importance of colour as a decisive factor in improving the urban environment by affecting people’s well-being and influencing behaviour and emotional balance. The research project shows that the application of colour must be conscientious, have criteria that underlie it, and be guided by scientific knowledge-based principles. The Masters in Colour in Architecture dissertation that was the basis for this article, answers questions such as what the criteria and fundamentals used by the designers are, when deciding on the

colours to use and in the execution of colour plans; if colour choices were integrated into the conceptual phase of the projects and what principles have guided their application in the social neighbourhoods of Lisbon. The outcomes of the research indicate that colour can and should have a positive influence on users, increasing their self-esteem and contributing to their social and emotional integration.

Included in her Masters in 'Colour in Architecture' dissertation, Helena Soares chooses the theme "Porto: Harmonies and Chromatic Memories in the City". She adopts a methodology aligned with that used by Jean-Philippe Lenclos, and presents an experience of approximation between the built environment and the concept of 'place'. Highlighting the chromatic memories and chromatic symbolic values, Porto is revealed in three representative periods of its urban and architectural evolution. Thus, centred on the chromatic qualities of architecture, an analysis of visual space identifies the elements that influence the formation of defining images that constitute the character of place. These architectural elements led to chromatic syntheses of the environments, respecting the attributes of colour and the relations of chromatic contrasts. The aesthetic quality of the place was gauged from synoptic tables, and the intervention of three observation scales – global perception, elemental perception and detail perception – within a framework of historical, cultural and aesthetic data.

"Bairro Alto: Chromatic Proposal", by Filipa Santos and Zélia Simões presents a case study on the phenomenon of colour and light in Bairro Alto - a historical nucleus in the city of Lisbon. The study developed within a curricular unit of the Masters in Colour in Architecture, circumscribes some streets and lanes and analyses the relationship between them and the exterior of the neighbourhood: Rua da Rosa, Rua Diário de Notícias, Rua da Atalaia, Rua das Gáveas and the Travessa da Queimada. Based on the theoretical and methodological foundations of Jean Philippe Lenclos, Dominique Lenclos and Antal Nemcsics, the contextualisation of the place integrates historical, aesthetic, social and functional points of view and safeguards regional and geographical identities. The inventory and determination of frequencies and chromatic values in the urban and architectural space produced a series of considerations as well as the creation of a palette that was graphically tested on a standard street. The results of the study highlight the importance of adopting an interdisciplinary light and colour planning methodology for the environmental space, through the recognition and establishment of harmonious relationships.

"Colour in the City: Symbolic and Environmental Qualities", by Rui Barreiros Duarte, addresses the symbolic and environmental qualities of colour in the city, in a text about sets of place variables and conditions of colour use that interact with conceptual determinants established from cultural anthropology, cultural or acculturation typologies, markets, taste and sensibility. Phenomenology, semiology, and sociology intersect the purely physical perspective of the city and architecture. It is concluded that the meaning, the incidence and the influence exerted by colours depend on phenomenological, cultural and perceptual relations. In order to understand the use of colour in the city, concepts of identity, new myths and new ideologies, the architectural thinking underlying aesthetic discourse and the symbolism codified in the appropriacy of colour and light materials and technologies are also important.

Maria João Durão's "Atmospheres of Mystical Beauty in the Work of Barragán" focuses on the chromatic atmospheres in Luís Barragán's architectural work. His architecture is saturated with the colours of Mexico, in a mystical attempt to reconstruct an earthly Paradise, where the human being is in communion with nature, and thus attains serenity of mind, in the face of the mystery of insecure ontological existence. In Barragán's work, mystical beauty results from the sensitive interconnection of the personal and collective memories of the ancestral, mythical and ritualised environments of pre-Hispanic architecture. Atmospheres are accessed at the level of the mysterious and the dreamlike,

whose metaphysical qualities continue the ancestry of tradition and collective memories, which Barragán accepted in order to transmute them into his unique and timeless work.

Sarah Frances Dias's "The Colours of Eternity in Islamic Art and Architecture" deals with relationships between light, geometry and colour as agents of transcending worldly boundaries for the consciousness of the divine and spiritual dimensions. As in nature, light is only fully revealed through geometry and colour: geometry is the structure by which light manifests and colour is the essence that materialises intangible beauty in sacred spaces through symbolic, metaphysical and spiritual meanings. The article provides examples to show that colours, geometry, and light are not just three indivisible essences, but are the essential means by which Islamic spirituality physically manifests itself as transcendence.

Margarida Gamito and Joana Sousa's "New Chromatic Planning Methodology for Street Furniture" explores the application of colour in street furniture, according to a chromatic methodology that highlights the surroundings, through improved readability, identification and orientation in cities. The assessment of the methodology is made by focus groups composed of locals of different ages and genders, colour application specialists, municipal technical officers, architects, urban planners, equipment designers, landscape architects, and engineers. The results serve to encourage a more rigorous approach to colour plans for street furniture and contribute to the identification of city colours.

Finally, we welcome achievements of this nature as they always bring contributions to the science of colour and its careful use, as well as its beneficial effects on the improvement of urban space and development of architecture, design and the arts. Equally, they are an incentive for new studies to emerge, and update and develop information.

Editorial, scientific and design committees

Editor: Maria João Durão.

Guest Editor: Fernando Moreira da Silva.

Editorial Committee: Filipa Santos | Simone Maffei Simacek | Verónica Conte | Zélia Simões.

Scientific Committee: Annamaria di Cara – Design Centre Enmore, Sydney Tafe | Byron Mikellides – The School of Architecture, Oxford Brookes University | Carl Jennings – University of Hawaii, Kapiolani | Diana Soeiro – Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa | Filipa Santos – Faculdade de Arquitectura, Universidade de Lisboa | Fernando Moreira da Silva – Faculdade de Arquitectura, Universidade de Lisboa | Joaquim Santos – Universidade Lusíada de Lisboa | Jose Luis Caivano – Facultad de Arquitectura, Diseño y Urbanismo, Universidad de Buenos Aires | Maria João Durão – Faculdade de Arquitectura, Universidade de Lisboa | Mário Kong – Faculdade de Arquitectura, Universidade de Lisboa | Natacha Antão Moutinho – Escola de Arquitetura, Universidade do Minho | Nuno Alão – Faculdade de Arquitetura, Universidade de Lisboa | Pedro George – Faculdade de Arquitetura, Universidade de Lisboa | Ralf Weber – Technische Universität Dresden | Robert Hirschler – SENAI Centro de Tecnologia da Indústria Química e Têxtil | Simone Maffei Simacek – UNISO, Universidade de Sorocaba | Stephen Westland – University of Leeds | Valter Cardim – IADE, Universidade Europeia | Verónica Conte – Faculdade de Arquitectura, Universidade de Lisboa | Zélia Simões – Faculdade de Arquitectura, Universidade de Lisboa.

Graphic Design: Filipa Santos | Helena Soares.

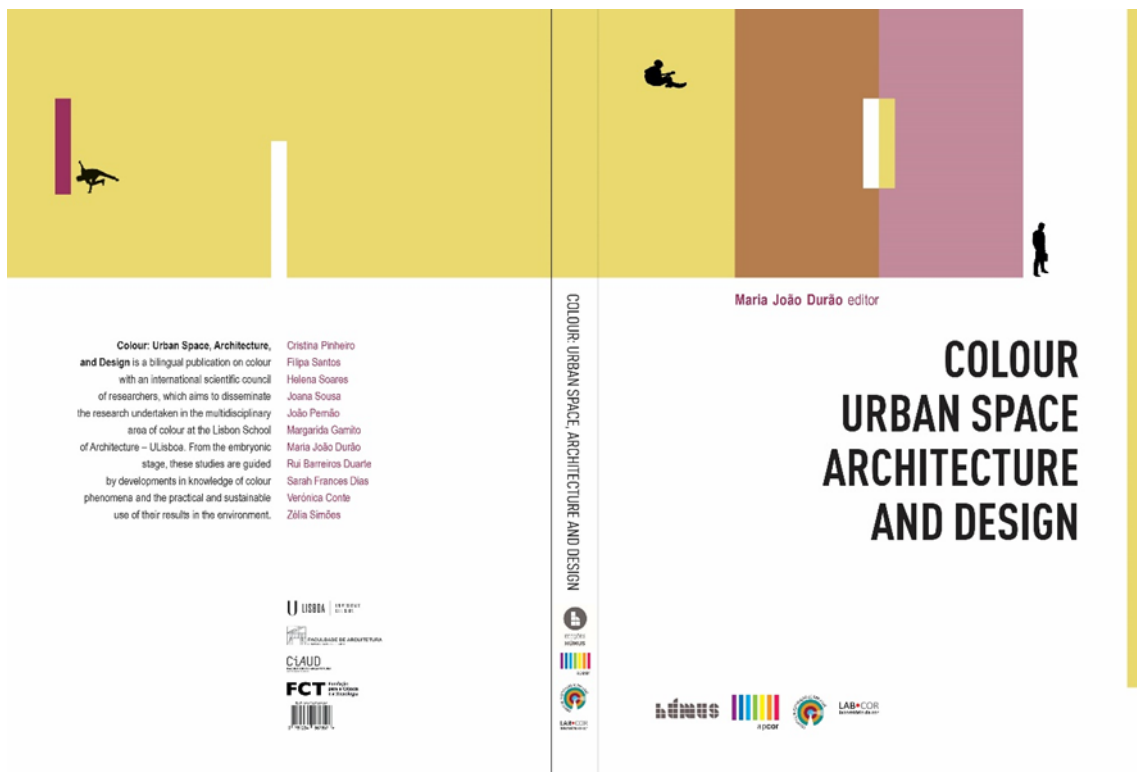


Figure 1: Book cover-English version.



Figure 2: Book cover-Portuguese version.

Acknowledgments

We thank Professor Fernando Moreira da Silva for the fruitful cooperation between the APCOR - Portuguese Colour Association, the Colour and Light Research Group, and ColourLab – Lisbon School of Architecture, ULisboa. We acknowledge the joint efforts of the researchers and organisations involved in the making of this book.