Colour Planning in Urban Furniture: Development of a Project Methodology

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ABSTRACT
This paper presents a Post-Doctoral research which investigates a new methodology for urban furniture colour planning, giving continuity to the research topics from a former project. The aim of the methodology is to establish the importance of a pertinent and structured colour application to urban furniture, which will make possible to create colour plans for urban environments, allowing urban furniture to stand out from its background, contributing for their better legibility, and transforming them in identification elements that will improve the orientation within the cities. The development and implementation of the new methodology will allow the determination, with a higher scientific approach and rigor, of the colour planning to be applied to urban furniture in each district or urban area, of a city.

1. INTRODUCTION
A former project aimed to define and emphasize the importance of Colour application to urban furniture, arguing that a pertinent application of colour to these elements may contribute for a better visualisation and, consequently, to ameliorate its use. The study also addressed the issue of the colour application to the city environment, mainly for city areas identification and how its use would increment the orientation within the city, becoming colour a signage factor.

During the process of defining colours for the urban furniture of the chosen study cases we acknowledged that the existent methodologies of support to data recording and creation of Chromatic Plans, which are generally mainly linked to architecture, were not sufficiently adequate to reach the objectives of this study, neither the expected and desired results. In order to fulfil the project needs, a new methodology was developed, becoming an important part of the PhD thesis. Therefore, we acknowledged that it should be improved, and have a further development, to become a true new and scientific methodology to create urban chromatic plans including other issues like urban furniture.

2. FUNDAMENTATION
The urban furniture concept was only institutionalized from the mid-20th century (Serra 1998). However, we may consider that, although not with this designation, it has always existed. In urban environment, people need places to seat, being that the church marches or a stone on the edge of a path. Accesses are prevented by railings and, on streets and fairs, there always have been trading booths. When the populations increased and become organized in villages and towns, the implantation of these elements started to become systematized.

The urban furniture choice exceeds aesthetics, or the simple wish to decorate the city, it must accomplish its functional requirements in order to fulfill the population needs, facilitating their lives and contributing to their comfort. So, to assure its functionality, urban furniture must protect the health and well-being of the city inhabitants; facilitate the accessibility
and use to people with visual or motor difficulties; reinforce the local identity, representing a formal family that is coherent and values the surroundings (Águas 2003). However, while recognizing its necessity, the urban furniture functional possibilities have not been used to their fullest extent, and the choice of its colour or form only rarely obeys to a logic thought.

2.1 Inclusive Design / Design for All / Universal Design

Inclusive Design is a way of designing products and environments so that they are usable and appealing to everyone regardless of age, ability or circumstance by working with users to remove barriers in the social, technical, political and economic processes underpinning building and design. (Fletcher, 2006 apud Pinheiro, 2012)

We must consider the impossibility to contemplate all people's needs with high disabilities. However, the objective of inclusive design must be to erase, as much as possible, the differences between disabled and able-bodied people. Effectively, all human beings must benefit from the improvement of visibility on urban furniture and everyone, disabled or not, will feel more comfortable if the bus stop, the bench or the waste bin, they are looking for, stands out from the environment without the need of an accurate search.

Despite its recent development, inclusive design issues are primarily focused on people with motor limitations and tend to forget visual disabled people. Though, we must consider that the city population is constituted by a wide variety of people, with different visual acuities and limitations and, also, by a high percentage of older people. Insofar as people grow older, their ability to see small details decreases and eyes have a crescent difficulty of adaptation to sudden changes of light or a quick change in focus. Bearing in mind the visual limited population, only a small percentage is unable to see any colour and the main part is able to distinguish luminosity differences (Lindemann et al 2004). Therefore, to have better visibility conditions, under an inclusive design perspective, urban furniture must present a good chromatic and luminosity contrast. Considering this, Per Mollerup (2005:161) states that “color can be seen from longer distances than other graphic elements” and that “in signage differentiation is the first and foremost role of color”.

2.2 Chromatic planning existent methodologies

Urban plans that are concerned with colour application to cities, generally employ methodologies directly related with the cities different characteristics and are mainly focused in architecture.

On recovery or restoration of historic cities, the chromatic plans are usually based on file collections that tell the architectonic and chromatic history of the zone or city researched, and on samples of the buildings coatings extracts, which allow the determination of each building colours during their life time. Examples of this methodology application are the well-known chromatic plans of Turin and Barcelona.

The chromatic planning methodologies meant to be applied to new cities or zones, which are yet to be build, cannot use historic file collections except for the mention of the region traditional colours. Also, they only use the colours of the natural environment, and not the surveys of building existing colours.

Since 1965, Jean-Philippe Lenclos has developed a methodology called Colour Geography, which constitutes an inspiration source to other authors of urban chromatic plans. This methodology focuses on the search and definition of specific local colours, the environmental colour, that may include the survey of the chromatic palette both of the existent materials
and local vegetation, in order to create harmonic, or similar, sets which will allow the chromatic plans preparation, considering colour as an adaptive language to a defined context.

Michael Lancaster, Tom Porter, Shingo Yoshida and Grete Smedal, among others, have applied similar methodologies to their chromatic plans projects.

3. METHODOLOGY FOR COLOUR PLANNING

The present research project is focused in Portuguese cities, with different characteristics, establishing as result colour plans that can be applied whenever there is a need to design urban furniture chromatic plans.

The new methodology applies to the study cases an extensive direct observation, with the use of mechanical devices, including photographic mapping of both urban furniture and signage, in order to evaluate their visibility and legibility, as well as their colour applications. In each urban area, and to facilitate the study, shall be defined a sample area, including the main streets and places and, also, some secondary ones, with the intention of encompassing the most representative zones, those with specific characteristics. Along the chosen area, an exhaustive record of all the environmental colours is made, including material samples not only from the buildings, but also from pavements, vegetation and any additional elements present with a relative permanence in the urban environment – the non permanent colours – that must be taken into account for the spatial chromatic readings, which are then classified using the Natural Colour System (NCS). Among the environmental colours we must take in account the percentage in which the sky colour will interfere on the urban area colour.

These collections, that take in account the chromatic variations along the different climatic seasons, are completed by photographs of the environment elements and panoramic views from the different blocks, using urban plans, architectural elevations and sections of the selected paths as well, which act as elements of the environment colour components. All these records are methodically indexed in forms and maps, previously designed and tested, which allows the creation of a data base guided by scientific rigor, in order to determine a chromatic palette for each quarter, or urban area and, consequently, to establish a coherent chromatic plan that may be applied to urban furniture.

This palette is tested along the seasons’ changes to judge the chromatic alterations aroused from the different colours of the vegetation as well as day light variations, sky colours according to weather changes to evaluate the chromatic plan pertinence.

In order to guarantee the scientific rigor on each quarter chromatic plan determination, we consider the dominant colours, proportionally represented, choosing colours to the urban furniture which may establish an adequate chromatic and luminosity contrast with the dominant colours and, also, respect the traditions, culture, identity and history of the quarter.

The urban furniture chromatic plan, which will be different for every quarter, must stand out from the environment, contributing for a better legibility and identification of these elements and, in the same way, will become a city’s area identification element which may be used in different supports and, this way, facilitate the orientation and wayfinding within the city.
4. EXPECTED RESULTS

We expect that this methodology, which establishes the importance of a pertinent and structured colour application to urban furniture, will contribute to the enlargement of the urban chromatic plans perspective, allowing them to become more holistic and comprehensive.

In addition to the inclusion of all the environmental colours, being them from architecture, vegetation, skies and all other elements that constitute urban spaces this methodology takes in account perceptive factors related with colour interactions, as well as the geographic and atmospheric conditions. In consequence, the urban chromatic plans will gain a higher scientific approach and rigor.

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REFERENCES


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