

Urban Furniture – Colour and Inclusivity

abstract

This subject arises from the research for a PhD project, where it was demonstrated that a pertinent colour application to urban furniture can ameliorate its use, contributing to the identification of urban areas and facilitating the orientation within the city. On this paper we want to enhance colour application as a solution to the inclusivity problem. It will, also, approach the possible role of colour in the city areas identification and its contribution to a better visibility, and legibility, of urban furniture, allowing its elements to stand out from its background and contributing to increase the inclusivity of the elderly and visual disabled population.

keywords

colour, urban furniture, inclusivity, orientation, disabled population

Introduction

Cities are, generally, a complex mass of roads and buildings that can show an almost monotone similitude or be extremely diversified. As Juanita Dugdale (apud Berger, 2005) stated: *"Visitors and occupants were having difficulty navigating spaces on their own; they needed visual prompts to find their way around"*.

The contemporary cities development originates the emergence of a complex traffic and transport network system, which along with the profusion of multi-coloured publicity, and the great diversity and complexity of their architecture, contributes to a general confusion that causes difficulties to visitors and inhabitants' orientation. These conditions aroused the necessity to create a wide urban furniture ensemble, as well as signage systems that could give support and orientation to the city users. However, these elements are not always enough to achieve thoroughly this function.

On their evolution, human beings have inherited psychophysiological reactions which, even if they cannot be controlled or objectively explained, make colour act as a necessary mean of information, communication and comprehension of the environment. In order to be used, urban furniture must be clearly seen and stand out from the environment. Therefore, along with a pertinent colour application, it can act as an orientation system that will contribute to the orientation within the city and become an inclusivity factor, especially for the visual disabled people, which constitute a large percentage of the urban population.

1. Inclusive 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." (DPTAC 2003)

The objective of inclusive design must be to erase, as much as possible, the differences between disabled and undisable people, and contribute to the amelioration of everyone's quality of life, that may be considered as an "interaction between the individual and the environment"; and "can be described in terms of personal control that can be exerted by the individual over the environment" (Brown, Bayer & MacFarlane, 1989 apud Brown, 1998).

Adaptive environments should be designed in order to contemplate all people's needs, being them with or without disabilities, and to ensure that a higher percentage of the population can enjoy all the environment facilities. We must consider the impossibility to contemplate all the needs of people with high level of disabilities. However, as Brown (1998:75) states:

"Integration does not imply that every conceivable option open to all unimpaired people can be made equally available to every impaired person. It does demand, however, that there should be a sufficient range of options open to any impaired individual to enable him or her to function as a mature person and pursue a personal lifestyle as satisfying in its own way as his/her neighbour's."

Despite its recent development, and despite the fact that inclusive design should embrace the widest possible range of users, its 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 an extensive 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.

Despite their limitations, older people must be able to get out and about locally in order to age well and live independently. The desire to get out does not diminish with old age and old people can continue practising a large variety of outdoors activities if the environment allows it. On contrary, when it isn't easy or enjoyable to get outdoors their quality of life will diminish, as well as their physical health. The difficulty to get around is often due to the environment poor design.

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.

2. Urban Furniture Inclusivity

The denomination — *urban furniture* — comprehend every element, placed on the public space, which offer support and orientation to the cities occupants. These elements constitute a wide range that includes, among others, benches, litter bins, street lamps, bus stops, kiosks, cabinets, telephone booths, drinking fountains, bollards, and signs.

The urban furniture choice exceeds aesthetics, or the simple wish to *decorate* the city, it must accomplish its functional requirements in order to fulfil 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 complete extent, and the choice of its colour or form only rarely obeys to a logic thought.

Consequently, in order to accomplish its functions, urban furniture *needs to be seen* and an appropriate colour application improves considerably its visibility. Also, when the urban furniture chromatism is the same for a city area, they may be converted in effective signage and identification elements that will contribute for a better orientation within the city.



Figure 1.
Urban Furniture
establishes a
chromatic and light
contrast with the
environment.

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. Per Mollerup (2005:161) considers 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”. In accord with the prescriptions of the *Royal National Institute for the Blind* (RNIB), UK, pedestrian paths must be easily identifiable and differentiate themselves from the adjacent walls. Likewise, every present objects must detach themselves from the background, in order to be recognized as obstructions. Every urban furniture element — fences, bollards, lamp posts, litter bins, benches, etc. — must present a strong chromatic and light contrast with the environment, so that they can stand out and be more easily recognized, among other, by visual disabled people (Barker et al 1995:7-51).

3. Colour as a mean of orientation and identification

Colour bypasses its function as an element for definition and unification, and becomes a visual characteristic within the chaos and complexity of the visual field. It is the easiest way to achieve the identification of the different city zones, and to promote the orientation of the population, permanent or temporary, because colour is the objects characteristic which the eye first perceives, even before form or texture. Colour utilization as a mean to show the way, has been punctually employed *successful* in interior and exterior spaces, therefore we could assume that a sensible and general application to urban furniture, may be a way to the successful resolution of the orientation problem within the city.

Concerning the orientation within the city, and the identification of its different zones, we may consider city maps that differentiate them through the use of different colours. However, on the urban space those colours don't show up, and there is no concern in establishing the correspondence to a real use on this space. The ideal would be to identify the city quarters by specific colours which may differentiate them and, as well, stand out the different urban furniture elements. Despite a recent growing concern about colour psycho-physiologic connotations and its application to the environment, colour urban plans scarcely refer to colour application in urban furniture and signage. In parallel, a bad use of colour in urban furniture and signage systems contributes to a lack of visibility that is an impeachment to the fulfilment of their functions, as well as it is a factor of social exclusion for people with deficient and older vision.

As it was stated, in order to be used, *urban furniture must be seen* and, therefore, it must stand out from the environment. However, regardless of the fact that colour is the easiest and more appropriate tool to this achievement, it is rarely used with that intention. Usually the urban furniture suppliers prone the uniformity or the colour elimination in these elements, maybe as a reaction to the excessive colour multiplicity present in the city, but this solution is an impeachment to the satisfactory fulfilment of its functions.

Signage also manifests shyness on colour application, presenting a dominant concern about environment integration, and, as a result, becoming less visible and unable to accomplish its function completely. Also, signage chromatism frequently restrains itself to the form and ground contrast, the black and white achromatic contrast, or even the chromatic road standards. Although, the traffic norms were planned to long distance vision, to be seen at the speed of road car driving, and, within the city they lose visibility and confound themselves with build environment colours. Therefore they become illegible for a pedestrian population that has different degrees of visual acuity.

So, the application of a chromatic planning to urban furniture, may originate a system which will function simultaneously as an identification factor for the different city quarters and as an orientation factor for its inhabitants and visitors. In parallel, colour application to urban furniture will also become an inclusivity factor, by incrementing these elements visibility and use.

4. Methodology for colour planning

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

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. Along the chosen area, an exhaustive record of all the environmental colours must be 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).

These collections, that take in account the chromatic variations along the different climatic seasons, shall be 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 will be methodically indexed in forms and maps, previously designed and tested, allowing the creation of a data base guided by scientific rigor.

The dominant colours will be proportionally represented, choosing colours to the urban furniture which may establish an adequate chromatic and luminosity contrast with the dominant colours and, also, to 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.



Figure 2.
Examples of a
possible colour
plan for Lisbon
three different
quarters

5. Conclusions

With this project we aim to define and underline the importance of colour application to urban furniture, taking in consideration that a pertinent chromatic plan can contribute for a better visualisation and, consequently, turn urban furniture into an inclusive factor, ameliorating the orientation within the city, and identifying its different zones.

This project empirical phase will focus in some case studies, where we want to implement the use of colour plans to urban furniture as a strategy to achieve a better and inclusive design project, ameliorating this equipment visibility and use, contributing to city quarters identification and users' orientation.

We also aim to establish a colour plan which may contribute to differentiate each city quarter, respecting the local history and symbolism, and achieving a good contrast with the environment.

Being a research project there is a need to evaluate its results, i.e., the established colour plans. As evaluation methodology we will constitute some focus groups composed by inhabitants of different ages and gender, experts on colour application, municipality technicians, such as architects, urban planners, equipment designers, landscape architects, managers, engineers, etc.

The focus groups will interact with an indoor and an outdoor presentation. The first evaluation will consist on an indoor presentation of the guidelines for the chromatic plans elaboration, and the focus groups will discuss and evaluate the pertinence of the urban furniture colours choice. In the outdoor presentation the focus groups will be confronted with these colour applications in predetermined city areas.

Their feedback, their contribution, will be incorporated in the colour plans model. We expect they'll recognize the importance of taking in account urban furniture chromatic programs in urban colour plans, as a way of inclusive design implementation and city zones differentiation.

References

- Águas, S. (2003) *Urban Furniture Design, A Multidisciplinary Approach to Design Sustainable Urban Furniture*, M.Sc Dissertation, Salford: University of Salford.
- Barker, P, Barrick, J. and Wilson, R. (1995) *Building Sight, a handbook of building and interior design solutions to include the needs of visually impaired people*, London: Royal National Institute for the Blind (RNIB).
- Berger, C. (2005) *Wayfind: Designing and Implementing Graphic Navigational Systems*, Switzerland: Rotovision SA.
- Brown, R. (ed) (1998) *Quality of Life for People with Disabilities*, UK: Stanley Thornes (Publishers) Ltd.
- Disabled Persons Transport Advisory Committee (DPTAC) (2003). *Inclusive Projects: A guide to best practice on preparing and delivering project briefs to secure access*. London. HMSO. <http://www.dptac.gov.uk/inclusive/guide/index.htm>
- Lindemann et al (eds.) (2004) *Regulated Agent-based Social Systems*. Germany: Springer.
- Mollerup, P. (2005) *Wayshowing*, Baden: Lars Müller Publishers.
- Serra, J. (2000) *Elementos urbanos, mobiliário y microarquitectura*, Barcelona: Editorial Gustavo Gili.