

THE VALUE OF THE SENSORIAL URBAN SPACE; BETWEEN PAST AND PRESENT

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ABSTRACT

The public open place remains a very controversial space in terms of its nature or function. It is above all an open and accessible public space in the city. Whether this urban space is delimited physically in its morphology or theoretically in its perceptual experience or its socio-cultural and symbolic interrelationships, the public place also presents itself under a complex interaction of the quantitative and qualitative aspects of its environment and ambiances. All these effects interact and mingle to finally give it its form and existence. Because of this complexity, some public places unfortunately find themselves marginalized in their daily life and in the social practice of their spaces. Ambient and environmental factors create or accentuate breaks in their continuum daily life. The public place is not what it should be as regards its primary function in the urban fabric. It is therefore sometimes marginalized by the dysfunction of the elements that make up its surrounding environment or, often, reappropriated for other uses or by other users. The present research work focuses on its experience and the social practice of its space that are far from reflecting the principles of its first design ideas and its original destination. Many public places in our cities, between marginalization and reappropriation, have lost their elements which make these spaces the showcase of the city, the anchors and expressions that are very revealing of the degree of dynamism of the urban texture. On the other hand, the growing mastery of the sensory environment of cities - by means of lighting, sound, ventilation and other animation strategies - tends to produce increasingly conditioned spaces, leaving little room for the rituals of interaction between passers-by and for the improvisational possibilities of the public. Don't these new ambiances run the risk of producing public spaces that are too neutralized, formatted and pacified, limiting opportunities for exchange and small friction between passers-by? But also, does an excessively artificial environment not lead to a relative loss of contact with reality, resulting in a feeling of strangeness? These are all questions, concerned with this paper, that merely extend in another form those arising from the aesthetics of modernity in three public places in Constantine, Hong Kong and Madrid.

Keywords: *built environment, marginalization, noise – ambiances, public place, re-appropriation, urban space.*

INTRODUCTION

The public place can take all forms of social practices according to the conditions conferred by the components of its ambient environment despite its marginalization by the discomfort due to sunshine, poor lighting or noise pollution; or it can be reappropriated by the uniformity of its light, the freshness of the shadows cast,. Often qualified by its morphological, utilitarian or functional and social cultural aspects, the square is thus the city and society mutation territory. Its role takes on its full scope and importance when conditions, of light, sunshine, noise ..., are added to reshape and remodel its daily life in the urban structure of the city. Unfortunately, our observation is already alarming. Many of our public squares have lost their vocation and are either marginalized and cut off from the rest of the city, or reappropriated by other social groups and diverted from their original function.

This public place therefore suffers both from abandonment and marginalization, and from a re-destination of its space towards social practices other than a place of conviviality and sociability!

A study was made in a broader context, particularly concerning ambience in urban sites. Thus, various phenomena concerning the practice and social experience of urban spaces and public squares in particular through light, sunshine and noise were highlighted in the impetus of this study. It was also noted that a concept of territoriality is thus instituted in the experience of some of the public places studied. Phenomena of marginalization and reappropriation of space by social groups or by practices and uses appear very clearly linked to a qualification of the space ambiances. This paper attempts to present certain aspects related to these phenomena. A multidisciplinary approach was used in order to better define these notions of social marginalization and reappropriation of urban space. The main part of case studies on the problem of marginalization and reappropriation of urban spaces in the city of Constantine in which this study was carried out are given here.

AMBIENCE FACTOR IN THE URBAN SPACE

In our daily life, light, sun and noise are often taken as simple natural or physical phenomena. However, they are not only the coming and going of a stimulus between sensation and environment, but also represent the cord that creates the relationship between perception and the surrounding environment. This relationship, which often takes place through different physical and perceptive phenomena, modulates and conditions, especially through the experience and culture of perception, our usual relationship with the environment. Light, sunshine and noise are great carriers of information and strengthen the link or accentuate the rupture. They are precise indicators of a certain spatial delimitation and a certain territoriality in the social and daily practice of space. This often results in the appearance of areas of particular social use, which are in fact delimited by a qualification of the atmosphere and conditions there (Figure 1). If parts of the urban fabric of the city are completely deserted because of their high exposure to the sun, the noise of urban traffic or the lack of lighting in some of its corners, other areas in the same city are invaded and reoccupied by other social groups or re-destined for other uses or practices of space because of the good quality of their ambiances.

The discomfort due to urban noise is for many in the desertion by people of certain public squares in the city, as is the heat of summer caused by overexposure of space to the sun. The dark and poorly lit appearance of some places makes them less appealing to most people despite the fact that some social groups or marginal uses of space find them good conditions for the social practice of space. All these shortcomings in the qualitative aspect of ambiances in public places destabilize the balance of their practice and cause these places to lose totally or partially their quality as places of conviviality and sociability. These public squares, enveloped by the noise of urban traffic, dark and poorly lit or assailed by intense sunlight, are today marginalized not by their location in the urban fabric of the city but rather by the failing quality of their ambiances and the conditions of use of their spaces.



Figure1. Sidi Djellis place in the medina (old city) of Constantine.

Completely surrounded by buildings, this square is well protected from the noise of urban traffic. It is a place of attraction for people. However, it is completely marginalized because of its overexposure to the sun's rays despite its central location in the medina.

Source: Authors

It already seems very interesting to know how these elements of the ambience condition the spatiality of the public place and redistribute the nature and the rate of occupation and use of urban space. Light, sunlight or noise, delimit in fact, separately or by interacting, perceptive subspaces, which in turn modulate the experience of the place. It is through these phenomena of territoriality that these components of the urban environment modulate very well interpersonal relations or relations between the individual and his environment, giving rise in many cases to cuts and the emergence of areas that are either marginalized or reappropriated in their experience and their social and daily practice. Contrary to what seems to be the case, man weaves strong bonds and develops various behaviors towards his living space through the quality of the ambiances. The friendly ambience of the markets and the narrow streets of the medinas are from this point of view known to be very attractive urban spaces. In many cases, we are witnessing situations in which a social group, a particular use or practice, is drawn back to a space other than that for which it was originally intended. It is a phenomenon of social re-appropriation marked by a continuous

or periodic redistribution of the practices of urban space and must be approached in a way that allows its monitoring, control and management.

Urban spaces are marginalized by the mere fact that the conditions of their social practice are compromised by the failure of one or more aspects or components of their ambiances. Studies are needed to determine the extent of this problem. This sometimes arises within a broader framework of environmental protection and preservation. If some public squares are deserted and marginalized because of the discomfort and nuisance felt by the users of these spaces, others are invaded, over-occupied and re-appropriated because they present atmospheres full of animation, life and sociability. The development of approaches and methods for studying these multi-parameter ambiances in relation to the mutations and changes in the social practice of urban space is a pressing need and a current concern for any management of the city or urban space.

STUDY METHODOLOGY

In all the hypotheses formulated with the aim of searching for a concept of territoriality and spatial delimitation in the perceptive and social practice of the public place and the highlighting of phenomena of marginalization, our approach was made according to several axes of investigation. The goal of each stage is being to restore the reality of the ambiances of the public place related to its social practice. The goal is also to define the contours of this problematic and to apprehend the different parameters conditioning the phenomena of marginalization and re-appropriation in their perceptive, socio-cultural, etc. scope and symbolic. We try to explain why the appearance of these marginalization phenomena of certain parts of the city happens. For the case of this study, a multidisciplinary approach was used, adapting to a multiparametric reality that characterizes the ambiances in this work. Noise, sunshine and lighting are thus considered in all their physical, psychophysical, socio-cultural and symbolic dimensions in order to correlate the results with the observation of the marginalization phenomena or the reappropriation of urban space.

In summary, the investigation steps are as follows:

1. Study and metrological measurements and identification of forms of manifestation of the phenomenon of delimitation and territoriality in the urban space by the various components of the environment, in this case light, sunlight and noise.

2. Psycho-sociological survey in order to evaluate the economic, socio-cultural and symbolic dimension of the concept of territoriality. It is the apprehension of the space-ambiance-lifestyle interrelationships of the public place resulting in a marginalization or an over-occupation of the space through the perceptive phenomena related to the comfort or the discomfort of the luminous, sound or sunny situations.
3. Recording and working on audio-visual sequences taken in the considered ambiances. This reinforces the effort to locate the phenomenon of territoriality and spatial delimitation of deserted and marginalized areas or places that are completely diverted from their primary vocation.

ASSESSMENT AND METROLOGICAL MEASUREMENTS

A period of measurements was carried out in order to report on the different aspects of the atmosphere in the urban sites. Metrology is a necessary but not sufficient means for any study concerning the practice of urban space through physical and perceptive components. Many other dimensions such as light, sunlight or noise appear to be important in the analysis of issues related to the concept or problem of the nature and rate of attendance and practice of public places. Metrology would report in many, just as clearly as other means of investigation, the reality of the phenomenon in question.

As far as measurements of acoustic and luminous intensities are concerned, a large number of points have been designated on each site to carry out this phase of work. The number and location of these points/measurements were mainly dictated by the spatial configuration of the site and the nature of the perceptual aspect or physical phenomenon to be highlighted. A preliminary study of each site made it possible to choose locations whose objective was to have an overall assessment of the ambiance at different times and periods of the day. As for the sunshine component, clean shadow and drop shadow plots were made according to the time of day or the height of the sun.

PSYCHO-SOCIOLOGICAL SURVEY

For a better understanding of the different components of the surrounding environment of the square or public place, psycho-sociological interviews and surveys were carried out. This other part of the work only completes the multidisciplinary approach for an analysis and a good evaluation of the extent and impact of the different parameters that condition the surrounding landscape. It is a way that would allow the restitution of the experience of the place through the components of its light and sound environment or the links

woven over the days with respect to the sunshine. The objective of the approach is to better define the present hypothesis formulated around the concept of territoriality and the quality of ambiances in the marginalization or reappropriation of urban space.

From the first observations made in situ in urban areas, it was noted that nature and especially the quality of the ambiance had a certain influence on the daily life of these sites. The interferences between the different components of these environments, as well as their great variability in time and space, gave rise to situations with multiple physical or perceptive phenomena and which, in the expressions of the interviewees, showed the existence of a certain relationship between the quality and variation of the environments the place and the nature and pace of its frequentation (Figure 2).



Figure 2. Bay Plaza, Hong Kong as said by Fred Kent, president of the Project for public spaces, If you want to seed a place with activity, put out food.

Source: Fred Kent.F, 2007.

In the interviews, we wanted to highlight the relationship between the spatial morphology of the place and the atmosphere that reigned there through the experience and practice of urban space. Questions were formulated in such a way that they could help and encourage the interviewee to restore in his own expressions his way of perceiving and practicing space, particularly in its ambiance dimension. Finally, in many of these interviews it was also a

question of finding correlations between what is said and described and what is measured and obtained by metrology.

RECORDING AND WORKING ON AUDIO-VISUAL SEQUENCES

A recording fragments and audio-visual sequences of the ambiances on the study sites was carried out simultaneously with the metrological surveys. The use of and work on these sequences is highly complementary to the metrological work and the sociological surveys carried out on each of the sites. An audio-visual sequence frozen in time and space can be as rich in study elements as an observation made in situ. The reading of these recordings is often reconciliation between an expression of an interview that is a little too subjective, and a value of a measurement that is a little too physical. The choice of fragments and sequences to be recorded was made according to the intensity and content of relevant and representative elements of the atmosphere of the space. These aspects are manifested above all by the fluctuations and interferences of the different components of the site's ambiance. Light and sunlight are often inseparable in their effects on the quality of the atmosphere (Figure 3).



Figure 3. The Plaza Mayor of Madrid. It is the venue for all of the city's cultural events.

Source: Debache.S, 2012.

RESULTS AND DISCUSSION

The results of this study, which focused on the place aspect of the phenomena of marginalization or reappropriation of public space, show that the study of the quality of the ambiances allows us to highlight the spatial dimension of such phenomena. This constant and permanent revealer gives in many cases an explanation of the nature and extent of the marginalization of an urban space. The peripheral location of a public square is not necessarily the only cause of its possible marginalization. The quality of the ambiance, the aspect of light, sun and urban noise, profoundly modulates the nature and pace of the social practice of the public place (Figure 4).



Figure 4. Grand Place, Brussels: sound and light in the Grand Place will replace the traditional Flower Carpet Place, it is a typical case of an open space in the city center completely preserved from the noise of urban traffic. It lives to the rhythm of urban flows. It is always crowded because of its great ambiances, light, quietness. The square is also modulated by the heat of the sun.

Source: Debache. S, 2018.

Spatial delimitations are highlighted, marking the boundaries of a marginalization or a reappropriation of urban space. These delimitations are clearly visible in the abrupt change in the nature and rate of frequentation of the space. One leaves a space that is swarming with people to an almost deserted space, sometimes in a sudden and sharp manner.

Urban noise modulates well the perception of space. The presence of road traffic noise on the edge of a public place causes a gap between the perceptive

space and the physical or morphological space of the place. The nature of this gap has a profound influence on the quality and experience of space. The space is almost deserted or, on the contrary, is animated by activities or occupied by social groups for whom it was not originally conceived.

1. Public places or very open urban places are often besieged from all sides and at all hours of the day by an increasingly hot sun. This overexposure to the sun makes it difficult for people to use the space socially and sometimes leads to its desertion by users and thus to their marginalization.
2. In some public squares, the excess light or the heat of the sun has been attenuated by the coolness of the shade and darkness. The squares are thus regaining their original vocation. Sometimes this also leads to over-occupation by users or by uses other than those for which public squares are usually used. A phenomenon of reappropriation of space is almost inevitable, especially in the absence of similar squares in the city.
3. The daily practice of urban space is sometimes disrupted and distorted by the discomfort and fatigue caused by the failure of one or more of the components of its light, sunlight or sound ambiances. Public squares, with their share of heat and glare from excessive contrasts between light and shade or from the nuisance of urban noise, are behind the degradation of the quality of ambiances and thus of social practice in these places.

In many public places, light and sunlight are the most dominant components of the urban ambience, and heat and light are excessively present due to the intense sunshine or/and wind all year round. Lighting, wind or sunshine can be welcoming, motivating and inciting to better practice and live the space; as they can be the primary causes of discomfort, or even a rupture between people and their living space. The quality of the ambiances in this type of situation is of the first order and decides of the quality and practice of space by its occupants. The possibility of marginalization of urban space is very present. It could be total or partial in the time and space of the urban space.

CONCLUSION

It has been demonstrated, through this research, that urban noise modulates the perception of a space. The presence of any kind of nuisance influences the quality of this space and then the nature of the environment.

This over-exposure makes difficult the social practice of the space and causes sometimes its desertion by the users and thus its ‘marginalisation’.

The public spaces, by the harmful effect of the urban noise, are behind the deterioration of the quality of the environment and thus, of their social practice. A multidisciplinary approach represents, from this point of view, an ultimate attempt to cure the gaps of the purely preventive and curative approaches recommended by physical acoustics and metrology for public places. It is clear that the harmful effects and the failures in a social practice of the urban space, due to noise problems, could not be treated by acoustics alone.

The new approach, established in this piece of work, is based on the contribution of several disciplines to work out the problem of noise in urban sites. **Human dimension and psychoacoustics are the background of this approach.** Their objective is to cure failures in urban sound environments, and to restore the relation between the inhabitant and his city.

Multidisciplinary in the approach of the various problems of urban comfort and environments is an essential alternative of research and investigation. It opens great prospects and possibilities for the improvement of life in cities and a good control and management of the built environment. This approach could be summarized in some of the steps below:

1. Psycho sociological investigations with the aim of restoring sociological and cultural dimension and the apprehension of the interrelationship, space-environment, of the urban sites.
2. Operational design proposals and intervention on sound environments in urban environments.
3. Systematic study of the foreseeable and expected noise during the development of design projects.
4. Setting of an adapted town planning and architecture much more concerned and aware of acoustics.

This dimension would make urban space more pleasant and lending itself to an appropriate daily "social practice". Thus, any kind of pollution must be perceived like a true threat for urban spaces. It is important, today to consider, the control of town planning as an essential involvement of the quality of tomorrow's towns.

REFERENCES

- Amphoux, P. (1991) *Aux Ecoutes de la Ville*. Rapport de recherche N°94, Institut de Recherche sur l'Environnement Construit, Ecole Polytechnique de Lausanne, Lausanne.
- Augoyard, JF. Balay, O. Chelkoff, G. Belle, O. (1982) *Sonorité, sociabilité, urbanité ; Méthode pour l'établissement d'un répertoire des effets sonores en milieu urbain*, Grenoble, Cresson.
- Bachelard, G. (1989) *l'Eau et les rêves. Essai sur l'imagination de la matière*, Edition José Corti, Paris.
- Balay, O. et Chelkoff, G. (1985) *Dimension sonore d'un quartier A.G.R.A*, Grenoble, Cresson.
- Beranek, Leo L. (1962) *Undated Music, acoustic and architecture*. New York, J.Willey.
- C.S.T.B. Etude sur les pare-soleil . *Cahiers du C.S.T.B*. Livraison 82. Cahier N°713
- Bitam, A. (2011) L'héritage des tracés d'époque coloniale française en Algérie face au projet urbain, *Projets de paysage*, http://www.projetsdepaysage.fr/fr/l_heritage_des_traces_d_epoque_coloniale_francaise_en_algerie_face_au_projet_urbain.
- CERTU, (2013), *Accessibilité des espaces publics urbains, outils d'évaluation ergonomique*, <http://www.certu.fr>.
- Chauliaguët, Ch. (1977) *l'énergie solaire dans le bâtiment*, Ed.Eyrolles, Paris.
- Condamines, R. (1985) *Acoustique psychophysique*, Edition Masson, Paris.
- Deletre, JJ. (1991) Confort sonore et la métrologie acoustique Architecture & Comportement Architecture & Behaviour, *Qualification sonore des espaces urbains*, Numéro Spécial, Vol.7, N°1, mars 1991. P.95-100.
- Deribere. M. (1966) *La lumière dans notre vie*, CAP, Monaco.
- Ewing, R. and Clement, O. (2013) *Measuring urban design, metrics for livable places*, Island press, Washington.
- Fachard, S. et alii. (1982), *Eaux et fontaines dans la ville*, Edition Moniteur, Paris.
- Gresillon, L. (2010) *Sentir Paris bien être et matérialité des lieux*, Edition Quae, Versailles.
- Jutras, S. (2003) *Allez jouer dehors ! Contributions de l'environnement urbain au développement et au bien-être des enfants*, Société canadienne de Psychologie, Québec, Canada.
- Legrand, Y. (1958) *Vision, lumière, éclairage*, Ed. Revue Optique, Paris.
- Leipp, E. (1977) *La machine à écouter. Essai de psycho-acoustique*, Edition Masson, Paris.
- Lynch, K. (1989) *l'image de la cité*, trad. M.F. Vénard et J.L. Vénard, Dunod, Paris,
- Mignerou, P. (1980) *Acoustique urbaine*, Edition Masson, Paris.
- Monqid, S. (2009) *Les femmes marocaines et la modernité urbaine*, Les Cahiers d'EMAM, 18, 119-120.
- Moser, G et Weiss, K. (2003) *Espaces de vie, aspects de la relation homme-environnement*, Armand Colin, Paris.

- Boumaza, N. et al. (2006) *Villes réelles, villes projetées. Villes maghrébines en fabrication*, Editions Maisonneuve et Larose, Paris.
- Ronchi, V. (1948) *Histoire de la lumière*, Ed. A. Colin, Paris.
- Schafer, R.M. (2010) *Le paysage sonore. Toute l'histoire de notre environnement sonore à travers les ages*, Edition JC Lattés, Paris.
- Shaftoe, H. (2008) *Convivial urban spaces, creating effective public places*, EARTHSCAN, London.
- Toumi, S. et Vidal, R. (2011), Espaces publics et mixité culturelle, pour un renouvellement du tourisme tunisien, *Projets de paysage*, n° 06.
- Truax, B. (1884) *Acoustic communication*, Edition Ablex Publishing Co, New Jersey.
- Von Meiss P. (2012) *De la forme au lieu+ de la tectonique, une introduction à l'étude de l'architecture*, presse polytechnique et universitaire de romandes, Lausanne.
- Whyte, W. (1980) *The Social Life of Small Urban Spaces*, DC: The Conservation Foundation, Washington.
- Wirth, E. (1997) *La vie privée en tant que dominante essentielle dans la ville de l'Orient islamique*, in Naciri, M. et Raymond, A. Science sociales et phénomènes urbains dans le monde urbain, Fondation Al Saoud, Casablanca.