

Temporal Sections Conceptual Tool: Articulating Space and Time in Representing Urban Ambiances

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Abstract. This article aims to present a new methodological protocol and a representation tool that articulates both space and time in understanding urban ambiances: temporal sections. The elaboration of this conceptual tool is based on a theoretical background dealing with the palimpsest of urban ambiances. The urban palimpsest is a metaphor underlying the dynamic of the formation process of the territory resulting from a temporal, spatial and social stratification that manifests in the lived experience. Combining urban transect, a geographical tool, and stratigraphy, a geological one, temporal sections represent the sensory experience as a palimpsest that integrates the different pasts and projects on the future. This tool provides a very specific way of immersion and opens new realm in constructing a storytelling; it proposes a rereading and writing the ambiance in depth.

1 Palimpsest, ambiance, representation of time

The construction of cities presupposes a complexity of time. In fact, time, as much as space, are both mediums in which a city changes. In this optic, a city is seen as an evolving organism, *un-être-en-devenir-permanent* [1], exposed to incessant transformation and subject to the order of *in process*. Cities reflect the work of time in space, as time is incarnated in the different modes of construction, in various architectural styles, in distinct urban fabrics and in mixed social practices. The coexistence of all diverse spatial and social configurations that represent different temporalities gives rise to a historical amalgam and reveals temporal complexity.

Several authors have tried to nominate this temporal complexity that characterizes the contemporary landscape: palimpsest [2] or metissage [3]. Others have associated several qualifications to time: stratified time [2], consolidated time [4], sedimented time [5]. These are conceptions of time that underline a state of change, *une pensée de devenir*, in which time is perceived as a flux, movement and transformation.

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This article tackles the evolving nature of cities in terms of urban ambiance. Despite its fragile nature, space ambiance incorporates a certain temporal depth and unfolds the historical dimension of a territory. Moreover, an ambiance evokes a subjective experience and reactivates individual memories and internalized experience by its anamnestic quality. It has a strong presence in composing a collective memory and in creating a particular sense of belonging and place attachment. The incorporation of time in terms of ambiances marks a deviation from materiality to immateriality, where sounds, odors, texture, motions and emotions, become the main substance of traces and souvenirs.

Ambiance-palimpsest constitutes the main theoretical base of this article [6]. A palimpsest is defined in dictionaries as a two-dimensional writing support, which, by a process of erasing and rewriting, thickens in three dimensions; it is also defined as something having usually diverse layers or aspects apparent beneath the surface. The term palimpsest is introduced as a metaphor in urbanism by André Corboz [2] and revisited by Sébastien Marot [7-8] and others [9] in order to point out the temporal dimension in which a territory is composed.

The association of two notions: palimpsest and ambiance underlies the formation process of an ambiance resulting from a temporal, spatial and social stratification that manifests in the sensory experience [6]. Far beyond the immediate perception of places, sensory phenomena carry ambient traces and configure a sensory heritage: a palimpsest of urban atmospheres. As much as the space, an ambiance embodies a temporal depth, *épaisseur temporelle*, where the present time is enriched by recomposing values coming from the past.

How to represent the coexistence of diverse sensory phenomena in the lived experience that come from different temporalities? What sort of appropriate tools can be created to capture and embody time; tools that are capable of incorporating, saving and representing urban temporality in a graphical transcription as a shared language between architects and urban planners? These questions point out the necessity to create a new tool that helps to reread the intangible layers composing the urban palimpsest and to suggest new possibilities for designing spaces by considering the evolution of cities.

In this perspective, this article responds to the theme: “Ambiance, storytelling and immersion”. Based on a comprehensive methodological protocol, the article introduces a conceptual representation tool that articulates both time and space in understanding and analyzing urban ambiances: temporal sections. It is about a recontextualization of a graphical tool that represents urban ambiance as a sort of palimpsest.

2 Rereading ambiance as temporal encounter

Approaching the temporal complexity as a potentiality of investigation of the sensory phenomena requires a new tool allowing to integrate the temporal depth in representing urban ambiances. Dealing with the diachronic dimension of the sensory experience necessitates a change in the way we represent time; the ambiance constitutes a space-time experience that recall past experiences into the present time in a voluntary or involuntary manner. Through reactivation, the ambiance brings together different strata of the experience, customs of the past and everyday practices creating therefore a temporal conjugation [6].

Conceiving urban ambiances as a temporal encounter necessitates a new way in representing time. It opposes the vectored timeline as a common representation of time because this linearity does not correspond to the reality our experience of time where the past and the future have a dynamic presence in the present time. This very specific way of reading the past is neither about delving into history nor a study of the urban history in time segments *i.e.* dealing with a specific period of time; it is rather about crossing the past and present experiences in order to establish an evolving and dynamic vision of the urban temporality. This way of decoding former ambiances requires another form of access to urban history that give rise to new modalities of storytelling and new means of reconstructing the historical narrative.

In addition, the researcher in this domain is facing a major challenge related to the large amount of information about the site dealing with the different pasts, the present, and the imagination of the urban future. The conception of space ambiance as a temporal encounter reveals different aspects of the complexity of urban history:

- First, a *temporal complexity*: composed of several superimposed layers of time, where the past is no longer singular but multiple;
- Second, a *complexity of urban history* encompassing spatial history, the history of social practices, the sensory history inseparable from memory;
- Finally, a complexity of the *representation of the city*: multiplicity of sources representing the city such as paintings, photography, documentary films, novels, travel stories, films, which record and describe the urban conditions of the past, in addition to other multimedia documents (sonic and visual)... Allowing to preserve certain moments of cities, these documents constitute, from our point of view, a precious source to access the sensory memory. We cannot ignore the role that these documents play in the redemption of physical and social realities [10]. These materials are testimonies of everyday life in several spatial and temporal scales.

In order to manage the big data challenge, it is important to find a suitable tool that can cope with the data capturing, organizing, storage, analysis, allowing also easy research, representing, sharing, visualizing. In this regard, the proposed temporal sections conceptual tool seeks to attain two objectives: first, the tool should allow a very precise organisation of data in both space and time. It should be dynamic enough to allow a continuous updating – addition, removal or modification of the collected database. The second objective deals with the distinct nature of the ambiance as it examines the layering of the physical characteristics (form), sensory phenomena (former) and social practices (formality) [11], this is why it is important to find a way to contextualize the different sensory phenomena and to embody urban memory by placing it in its spatial and social contexts.

3 Transect and stratigraphy: Two sources of inspiration

The idea of temporal sections is to represent an urban palimpsest. This mode of representation is inspired by two sources: the first is the *urban transects*, a geographical tool [12], and *stratigraphy*, a geological one [13]. The urban transect is basically a geographical method that has been introduced in the architecture and urban domain. It aims to develop the capacity of the urban section to become an observation tool and representation technique along a linear path. Being developed in different research works at Cresson, the urban transect hybridizes urban sections with sensory itineraries of the city [12]. Its application allows the articulation between different components of the urban environment that had often separately considered: urban form, sensory phenomena and social practices [12].

We called for “the stratigraphy” as a second source of inspiration. It is a branch of geology that seeks to identify the time of earth by using sedimentary piles. It studies the stratigraphic structures and the different traces they contain [13]. In fact, the simple phenomenon of stratification implicates a discontinuity in time progression (flux); the superposition of different layers represents an assembly of heterogeneous temporal layers. Indeed, the concept of stratigraphy permits to access time that, despite being continuous and homogeneous, is only accessible in a heterogeneous and fragmentary way. There are moments when a deviation in the temporal continuity takes place, constituting therefore points of turmoil in history or temporal marks by which we learn history. The past is thus subdivided by these major events into historical phases.

The conjunction of these two methods produces the concept of temporal sections. It is about a recontextualization of a graphical tool that represents urban territory as a sort of palimpsest. The temporal section takes the shape of a “stratigraphic column” representing a temporal sedimented pile of the territory.

The temporal section is elaborated in three actions, collecting, analyzing, representing, that do not follow a chronological order; they rather occur in a simultaneous manner and progress continually along the research.

Before introducing the temporal section conceptual tool, it is worth referring to the methodological protocol that has allowed for gathering the database that constitutes the main input of the proposed tool.

3.1 Constructing and analyzing a database on sensory memory

Constituting a palimpsest of urban ambiances necessitates a prior comprehensive and long methodological protocol in order to help emerging the sensory features of the present, the future and the different pasts. In this phase, we should first and foremost distinguish two sources of memories: the first is *living memory*, in which we called for the methods that help gathering information on the *recent* past or the present time in order to reveal how existing inhabitants perceive and remember their district. In terms of time, this temporal phase covers the span of a lifetime of the existing generation inhabiting the territory. In this context, we applied methods like the commented-walks [14] and the method of itineraries [15] that permit to harvest the inhabitants’ speech and to access their sensory memory.

On the contrary, the *archived memory* deepens our survey to cover the territorial memory. It reveals the former spatial and social composition of territories. It can be found in all sorts of sources representing the city, including maps, plans and all urban documents, videos, sounds, films, documentary films, romans, daily journals, trip journals, photography, etc. They permit to reconceptualize more distant past atmospheres and to access the impressions, feelings, lifestyles and social relationships of the former ambiances.

These documents should be analyzed in order to identify the main sensory features of each era, they should also be classified in order to develop a cross vision of the evolution of the urban ambiances. Each document should be as rigorously as possible localized in space and accurately dated. It should be associated with precise descriptions and, if possible, accompanied by photos or sketches.

3.2 Drawing an urban transect

This first step in the methodological protocol is to identify the main skeleton of the palimpsest via settling both spatial and temporal boundaries that delimit the scope of work of the research. This step, drawing an urban transect, is about defining the spatial framework. The urban transect represents the territory in a linear form and crosses diverse spaces that compose the urban territory understudy. It can be drawn in plan that rather deals with the macro scale for highlighting the different urban forms, or in section dealing on the contrary with micro scale for understanding certain spatial configurations: building height, the relation between the façade and the street, social practices, bodily presence, etc. In our work, we have chosen the urban section to represent the existing sensory experience. This choice is due to the capacity of the urban section to navigate between different scales and show the body in the space, the relation between the public and private realms. It also helps to identify the different spatial filters that define the transitional spaces (Fig. 1).

3.3 Layering the sensory history

The objective of this step is to define the temporal framework of the study. To the above-mentioned transect is added a vertical timeline. The emplacement of the urban transect indicates the present time; the upper part represents the future while the lower part marks the past. On the vectored timeline, the initial moment defines the time span or the temporal depth to which the study is limited. The subsequent step is to specify the stratified temporal structure of the territory. The timeline will be hence subdivided into historical phases based on a detailed historical and memorial study of the territory (Fig. 1). These layers of time are defined by horizontal lines placed at the moments of upheaval where radical changes in the sensory history occur. These *temporal marks* require a precise rereading of the urban and social history of the territory. They can be related to urban decisions, for example the introduction of a tramway or a metro, planting a garden, proposing a pedestrian zone, etc.; political events, for example wars, revolutions, or a radical change in the political regime; major crises, like epidemics, or even due to a social change where the territory changes the social class by means of gentrification or a simple degradation of the district that welcomes lower social classes, etc. The timeline is hence subdivided into temporal strata as shown in (Fig. 1).

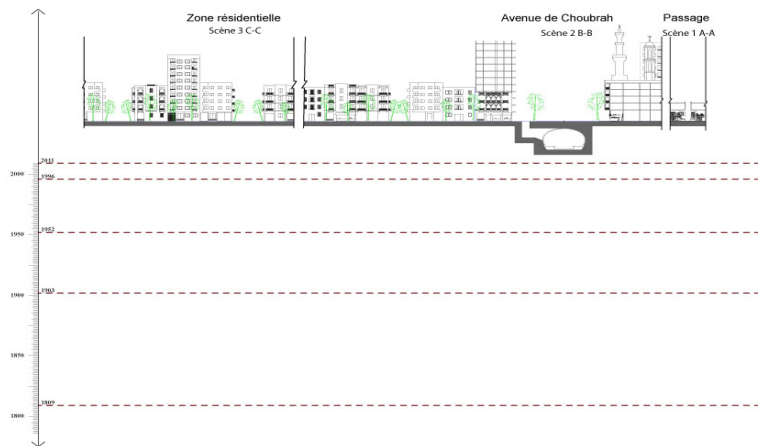


Fig.1. The Spatio-temporal skeleton of the evolution of Choubrah - Cairo. The horizontal lines indicates the moments of major changes in the district’s sensory history (Copyright: Noha GAMAL SAID)

3.4 Filling in the spatio-temporal framework

Until then, with the drawing of the urban transect and the subdivision of the timeline into temporal strata, we have constituted the spatio-temporal framework of the study. In the following step, this framework will be progressively filled with information coming from different sources. The chosen data will be placed on the temporal section in the corresponding time (past, present, future). On the different temporal strata representing the past is precisely placed, both vertically in space and horizontally in time, the vast database of varied documents that describe the urban conditions of the past.

The subsequent step is to collect and synthesize the sensory memory in a graphical, iconized and text format and to reorganize it according to the moment of emergence, in the corresponding temporal strata. This step also demands to select the proper representation form for each phenomenon: icons, colors, text, photos, etc. The most relevant comments of inhabitants are selected and presented on the transect. The collected data is gradually positioned on the temporal section by the researcher himself.

4 Choubrah, a popular district but...

The methodological protocol and temporal section was applied to Choubrah, a popular district in Cairo. Based on a fieldwork, twenty sensory phenomena have been outlined along the chosen path that unfold a deep anterior temporality of the territory. As an example, we shall detail in the following section the green shadow as a particular sensory phenomenon of the district that unfolds a temporal depth (Fig. 2)

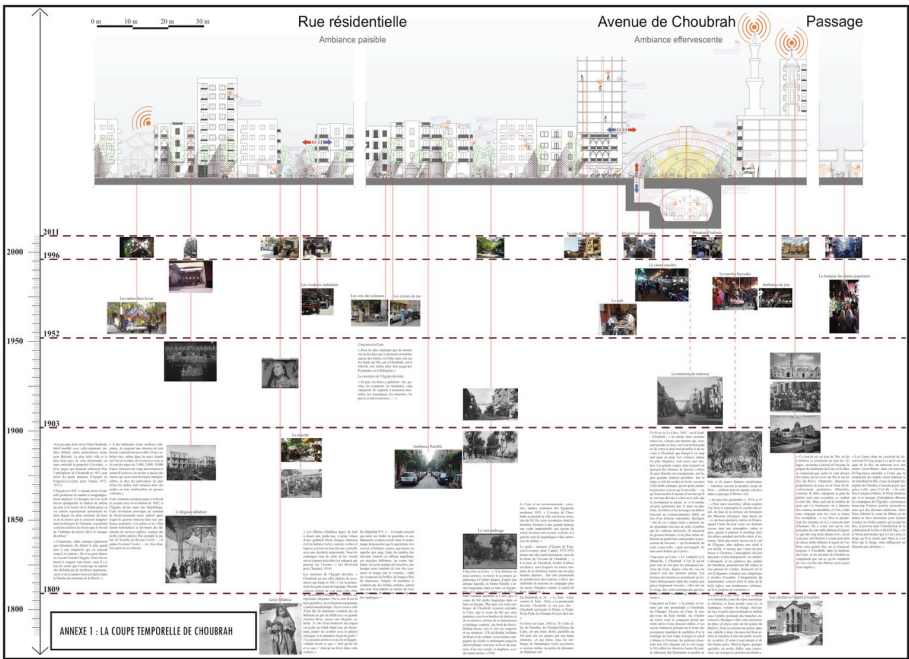


Fig.2. The temporal section of Choubrah - Cairo (Copyright: Noha GAMAL SAID)

4.1 Sequence 1 – Green Shadow

"In the past, I have always enjoyed strolling in the residential streets to enjoy the rays of the sun filtered by the leaves of the trees forming gold coins scattered on the ground" (Ghada, F., Inhabitant)

Green-shadow is a phenomenon of filtered light caused by the intensive presence of greenery of the aligned trees on both sides of the street. The branches from both-sided trees meet in the sky and form a green vault covering the sky. Found in residential streets and more seldom in the avenue of Choubrah, this phenomenon constitutes a sceno-spatial identical configuration of the district. It unfolds part of the glorious history of greenery in Choubrah that goes back to 1809, the year of constructing Choubrah Boulevard. Since 1809, the avenue of Choubrah has been an important promenade; a linear alley planted with gigantic sycamores and acacias trees aligned on both sides of the avenue. They covered the avenue with intensive impermeable shadows (Fig. 3). This particular configuration had provided an agreeable ambiance for strolling. Despite their minimal presence in the existing urban context when compared to the past, green shadow played a very important role in the constructing a former collective memory of the district.

Moreover, this phenomenon was the main reason to introduce the action of strolling in the urban history of Cairo. The ambiance of strolling in Choubrah Avenue is described in the travel diaries written during the nineteenth century. Green Shadows has also encouraged the presence of women in public spaces, described as ‘black angels’ in their elegant and well-equipped carriages. Moreover, the intensive greenery in Choubrah constructed a strong image of the site. It is often compared to other famous green spaces in other cities such as Le Prater in Vienna, Le Prado in Spain, Hyde Park in London. The alley of Choubrah has been described in several travel diaries as the Champs-Élysées of Cairo.

"The avenue of Choubrah, lined with ancient trees, under which one finds always freshness, even in the heaviest heat. Along this promenade of predilection Cairotes rises a multitude of country houses more or less elegant, like the palace of Kasr el Noussa." [16]. "The avenue of Choubrah presents thick and luxurious masses of vegetation that are truly superb. The eye plunges into it with delight and one rests there protected from the terrible reverberations of the sand of Egypt." [17]



Fig. 3. The Green Shadow phenomenon in the past and the present. The photo to the right shows the green shadow phenomenon as a major component of the former ambiance in the first half of the 19th century. (Copyright @ Noha GAMAL SAID; @ M. Karegl, *L'Egypte d'Antan*.)

5 Reading and writing the ambiance in depth

The temporal section proposes a rereading of the space and the lived experience as a sort of palimpsest. The proposed tool opens a new way of reading and writing the ambiance in depth as they help decoding the urban memory and social heritage by creating links between past and present, comparing temporal strata between them and identifying both traces and oblivion whether invisible, material or intangible.

In this stratigraphic vision, the vertical stacking that crosses time allows to develop different scenarios that help understanding the different behaviors of each urban, social or sensory phenomenon over time: certain are ephemeral and others are persistent. Thanks to this type of representation, it is possible to trace vertically the evolution of the different sensory phenomena; while horizontally it permits to understand the different features of the ambiance at a specific moment of its history. The overall vision unveils the temporal pattern of the sensory phenomena and helps understanding the transformation dynamics of the territory.

Conclusion

The temporal complexity that characterizes contemporary cities necessitates the creation of a new tool that helps rereading the intangible layers composing the urban palimpsest. Urban stratigraphy and temporal section suggest new possibilities for the design of future spaces by considering the evolution of territories in time; they underline a sensory archeology and highlight the memorial dimension of the space by studying the lived experience of the present.

In terms of representation of ambiances, temporal sections mark a deviation from a *cartography* identifying a now and here to *stratigraphy* by integrating the diachronic dimension; in other words, a deviation from spatial to spatio-temporal representation. It represents a condensed format of the ambiance in both space and time.

Proposing a temporal journey through space, temporal sections provide a very specific way of immersion in different temporalities when experiencing the present time. Linking subjective and objective data, the tool provides a holistic vision of how spatial context is shaped, lived, perceived and memorized by gathering different information concerning the three components of ambiance: spatial configuration, social practices and sensory phenomena.

The keen interest in temporal sections as a conceptual representation tool and a methodological protocol is, on the one hand, to deepen the territory by its ambiance, *épaississement du territoire par son ambiance*; incorporating historical strata brings out the places and phenomena of memory, former uses and symbolic values and the memory traces through highlighting the different components that constitute a social and sensory heritage composing therefore a particular storytelling. On the other hand, it introduces the sensory dimension as part of immaterial heritage in order to sensitize city planners, decision-makers and stakeholders to this dimension in the way they conceive and project cities. Temporal sections help architects and urban designers to develop a specific look at the future while taking into account the sensory values of the past and to recompose them in the forthcoming projects: designing a retrospective future.

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