Augmented Entanglement of Narrative Chronotopes and Urban Territories

Abstract: The complex conditions of urban places render it difficult to identify and perceive their multivariate aesthetic characters. The question examined herein is in which ways digital media like Augmented Reality (AR) can facilitate a more comprehensive aesthetic appreciation of a place by individuals, enhance their overall experience and allow them to recognize the aesthetic distinctiveness of places that may be phenomenologically dense with aesthetics, memory, meaning, legibility. The framework proposed is founded on the inherent power of novels as chronotopes of potential dialogical experiences and on four characteristic strategies of AR.

Narrative chronotope singularities are fundamental sources for understanding the collective, cultural, historical, social and spatial practices, leading to an understanding of urban environments. So the first step is to extract narrative chronotope analysis content from a novel’s urban substance (buildings, roads, squares), characters, plot and sequence of events. The second step involves a three-dimensional re-creation of urban heritage components. Finally, the AR media is interwoven with the novels based on four strategies: reinforcement of aspects of real-world urban places by digitally overlaying the novel’s setting; recontextualization to achieve the semantic transformation of places as the novel’s significance and meanings are revealed; remembrance by facilitating the emergence of diverse identities and memories; and re-embodiment through achieving a deeper understanding and re-interconnectedness with the aesthetic aspects of urban places.

Augmented narrative descriptions restore harmony between body-mind-environment and fiction while ensuring that different times, places and psychological situations coincide. The proposed novel-based digitally-mediated interaction could provide a shift that leads to the embodiment, enhancement and re-conceptualization of the diverse aesthetic dimensions of constructs such as ‘heritage monuments’, ‘local community’, ‘public place’, etc.

Keywords: augmented reality; aesthetic experience; aesthetic engagement; novels; urban place.
“The basic law of this life, the law one longs for, is nothing other than that of narrative order, the simple order that enables one to say: ‘First this happened and then that happened!’ […] Most people relate to themselves as storytellers. […] they love the orderly sequence of facts because it has the look of necessity, and the impression that their life has a ‘course’ is somehow their refuge from chaos. It now came to Ulrich that he had lost his elementary, narrative mode of thought to which private life still clings, even though everything in public life has already ceased to be narrative and no longer follows a thread, but instead spreads out in an infinitely interwoven surface.”

Introduction

The complex nature of urban places renders it difficult to identify and perceive their multivariate and fragmented aesthetic characters. Urban environments encompass far more than the reality of their natural and built environment. They encompass a vivid expandable universe in constant motion driven by their aesthetic, collective and cultural evolution. While the cities’ pulsating environment is characterized by intertwined aesthetic, cultural and social planes, cities also have a diasporic existence through space and time. Living in, or visiting, a typical urban environment entails a fragmented engagement with the various physical, historical, collective and aesthetic aspects of the city. Urban sites reveal the numerous ways in which people experience and engage with their surrounding universe. Two of the most important notions in understanding and representing cities are (a) the constant evolution of urban places as dynamic palimpsests and (b) the dynamic field of collective social and historical forces that have shaped, and are constantly shaping, cities. Literature provides ample fundamental support by revealing and re-synthesizing the separate layers and diverse fragments that are embedded in any urban landscape and its relevant contextual situations (aesthetic, historical, social, cultural, collective). The performative dimension of novels can reveal the exceptional character of the urban place in innovative and intimate ways. Authors have the ability to not only echo the poetics of real-world places but also facilitate the emergence of a subjective experience of places. Narrative (text) spaces do not express a closed (motionless) reality within the fictional framework. The urban environments represented are in a state of constant flux, chiefly through

the progression of the plot and through the eyes of participating characters who perceive and experience the urban environments over a series of different psychological, emotional, and social situations.\textsuperscript{6} The reading of novels provides strong bodily enactment,\textsuperscript{7} opening up the readers’ minds to the vivid collective, social and cultural potential, surprise and aesthetic awareness of the urban worlds. Narrative descriptions include and provide diverse forms of urban and rural spatial information within particular semantically and aesthetically encoded contexts. Narrative texts have the inherent power to call places into existence\textsuperscript{8} by arranging and ordering social, collective, cultural, and emotional domains within the urban tissue. Thus, novels can alter the typical obstruction boundaries, whether objective or subjective, encountered when exploring the cityscape. The scope of the narrative fiction in novels can contribute substantially to the effects of an urban environment and empower the mutation of ordered and geometrically defined places into spaces.\textsuperscript{9}

The Augmented Reality (AR) framework is an immersive process that could transform the individual from a preconceived observer to a progressive active participant. An important aspect of AR is that individuals remain in their physical surrounding while taking advantage of AR’s inherent potential to enable viewing such surrounding realities through the imagined and imaginative worlds of another person. AR could supplement the typical four categories of spatial proximity scales:\textsuperscript{10} figural space, vista space, environmental space, and geographical space. In the past, hardware and software limitations have restricted the early AR applications in engineering and medical environments. In recent years, however, the advent of hardware improvements has facilitated the widespread use of AR in areas like cultural heritage, entertainment, tourism, retail, advertising, etc.\textsuperscript{11} Augmented reality (AR), mixed reality (MR) and extended reality (ER) are state-of-the-art technological methodologies that have in many cases gone far beyond the boundaries of technological approaches and appeared as theoretical and philosophical questions. The aim is to explore the deepest meaning of location-based digital media and in which ways such ‘location’ is fine-tuned by the psychological state of its inhabitants. How does the conscience of urban places attune with the conscience of residents/visitors?

Various individuals (whether resident or visitor) may engage in varied and contrasting urban experiences and allocate diverse aesthetics and meanings to their


\textsuperscript{11} Timothy Jung and M. Claudia tom Dieck, eds., \textit{Augmented Reality and Virtual Reality. Empowering Human, Place and Business} (Cham: Springer International Publishing, 2018).
personal and collective experiences. The question examined herein is in which ways digital media like Augmented Reality (AR) can facilitate a more comprehensive aesthetic appreciation of a place by individuals, enhance their overall experience and allow them to recognize the aesthetic distinctiveness of places that may be phenomenologically dense with aesthetics, memory, meaning, legibility.

**Proposition**

We propose that the bodily and cognitive enrichment of the inhabitants/visitors’ experience based on novels amalgamated with an AR media could aid to reveal the novels’ physical activities and uncover different values (embedded in previously unknown territories) that provoke and interconnect various emotions. We aim to enable inhabitants/visitors to discover a subjective negotiation of aesthetic interpretations and meanings with the aid of narrative texts, and further project these texts onto the urban space. Furthermore, we aim to entail a constantly creative framework that could provide urban dwellers novel perspectives on the vivid and hidden relationships between novels and urban environments, thus opening up a dynamic re-imagining of the urban landscape through locative AR media.

Our initial purpose is to reinforce the spatiotemporal bodily experience by overlaying current and past aesthetic, social, cultural, collective and historic layers or fragments to the present urban tissue. This approach unfolds in two main directions: (a) augmenting the quantitative and qualitative dimensions of cognition that urban dwellers-visitors-inhabitants fail to perceive although it exists in the current urban environment’s reality; (b) augmenting the quantitative and qualitative dimension of the urban environment’s reality itself in a way that is only possible through narratives’ chronotopes. According to de Certeau, walking produces space out of place.\(^{12}\) To emulate this rhythm (pace) of gradually approaching the fragmented urban bodies, the proposed locative AR media defines a rhythm-based on narrative chronotopes for the dwellers-visitors’ urban aesthetic experience and engagement. Residents and visitors are not only motivated by the novel’s embodied metaphors and kinetic traces\(^ {13}\) but also by the on-site walking motion within the urban novel’s scenery. Augmented Reality technologies comprise an innovative framework through which individuals can bodily and cognitively orientate themselves and thus renegotiate their physical and semantic relationships with the surrounding urban places.\(^ {14}\) The singularities of narrative chronotopes\(^ {15}\) are fundamental sources for the understanding of collective, cultural, historical, social and spatial practices towards the understanding of urban spaces.

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12 de Certeau, *The Practice of Everyday Life*.


15 Cf. Holquist, *Dialogism: Bakhtin and His World*.
environments. Novels as unfinalized conversations with the surrounding urban environment reveal its constant multilevel aesthetic alterations.\textsuperscript{16}

We maintain that actual urban places could be merged with the invisible layers of novels’ aesthetics with the aid of Augmented Reality media. Thus, AR media could support aesthetic engagements of the human urban environments, both built and natural. The proposed framework has its foundations on the novels’ inherent power as chronotopes of dialogical potential experiences\textsuperscript{17} as developed along two axes and four characteristic strategies of Augmented Reality. The first axis comprises our intention to reveal the diverse narrative chronotopes through factors like urban fragments. The second axis refers to the embodied metaphors and kinetic traces of the novels that play an important role in both the augmentation of novels and the development of relative embodied simulations.\textsuperscript{16} There are three basic strategies for a storytelling AR typology\textsuperscript{19} aiming at ontological and semantic enrichment and extension through the integration of novels; added to these is a fourth strategy, that of re-embodiment.\textsuperscript{20}

**Implementation Framework**

An AR framework approach is imported within the homogeneous urban place where objects and humans are placed according to specific known locations. The theoretical implementation is fulfilled following two axes. Within the first axis, our task consists in locating various real-world urban places within the novel’s body; expressing fictional events and characters as links between places and overlaying the emotional-psychological geography of the novel’s plot on the surrounding urban environments. The first step in our three-tier approach is the narrative analysis of the novel’s implicit and intertextual spatiality.\textsuperscript{21} Secondly, we provide the narration’s explicit spatial typology, the setting where events unfold,\textsuperscript{22} the frame that occurs in memories, dreams, and diverse narrators’ and/or characters’ thoughts and viewpoints. The


\textsuperscript{17} Cf. Holquist, *Dialogism: Bakhtin and His World*.

\textsuperscript{18} Gallese and Wojciehowski, “How Stories Make Us Feel: Toward an Embodied Narratology.”


scale comprises spatial proximities such as figural space, vista space, environmental space, and geographical space. Finally, we acquire current and past urban spatial components from the novels’ chronotopes, such as ancient and contemporary buildings, squares, avenues, roads and alleyways, neighborhoods, coastline, tramways and bridges, as well as the characteristic symbolic, psychological and behavioral functions that these spaces entail. Three-dimensionally recreated urban heritage components represent traits of the novel’s chronotopes and complete the urban palimpsest continuity by restoring absent history.

The second axis addresses a twofold task. First, the sequential plot’s vectorial paths blend the oscillated motion of characters and events with the urban environments. The plot’s situations disclose the narrative urban aesthetic and psychological development. The actual movement of heroes/heroines within the urban environment follow the ontological progression of the plotlines. Secondly, the particular embodied metaphors and kinetic traces are rendered within the urban environment as representations of the embodied simulations that the novel’s narration imposes.

The abovementioned steps lead to Augmented Reality media interweaving with novels based on four strategies: reinforcing aspects of real-world urban places by digitally overlaying the novels’ setting; recontextualizing through the semantic transformation of places in order to reveal the novel’s significance and meanings; remembering by facilitating the emergence of diverse identities and memories; and re-embodiment intertwined with the evolving deeper understanding and re-interconnectedness with the aesthetic aspects of urban places.

Novels’ chronotopes in conjunction with de Certeau’s concept of space recreate: (a) relationships and patterns of affiliation between the individual and the experienced urban environments-sites; (b) relationships and patterns of amalgamation between different sets of hidden sites. Both directions reveal patterns or threads of urban aesthetic approaches. Therefore the image and the perception, the experience of the city, can influence a novel aesthetic appreciation.

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23 Cf. Montello, Daniel R. “Scale and Multiple Psychologies of Space.”
26 Ibid.
Case studies

Within the framework of Augmented Reality, we create a synthesis of the fictional city of the writer’s aesthetic and the real-world city’s aesthetic to reconstruct the fragmented urban views in the continuity of the urban tissue; the end result is to propose a dynamic repository of aesthetic, collective and cultural memory.

One framework focuses on the current and past urban spatiotemporal experiences in Athens during the years of crisis by means of the work of two authors. Writing during the years of crisis and within the urban body of Athens, these authors draw material from political timeliness and social reality. Their selected symbolic places with particular meaning constitute the threatening and dispiriting condition of the city and its inhabitants living in a state of alarm and under constant pressure. They move between the present and the past, between today and yesterday, through comparative assessments of emblematic places in the city with intense social and political life. They follow their heroes as they go to places that have lost their usual function and familiar image, places that are unrecognizable, injured and deprived due to generalized poverty, gloom, and abandonment. AR-based on novels reveals the impact of the crisis on both inhabitants and the environment resulting in an intense aesthetic-social-collective engagement.

Another framework focuses on the city of Heraklion, Crete. The multifaceted heritage of Heraklion between contrasting historical periods, religions, ethnicities, professions and urban quarters are exposed by six different native authors in eight novels.

In the case of Alexandria and Istanbul, different native and foreign writers meet and intersect in their attempt to reconstruct and rebuild the cities’ character. Orhan Pamuk[28] and Giannis Xanthoulis[29] unwrap a bipolar chronotopic model as a synthesis of a native’s and a foreigner’s embodied experiences in Istanbul. Both authors transcend the multivalent urban fragments through kinesthetic orbits. The triad of Naguib Mahfouz (1967),[30] S. Tsirkas (1965)[31] and L. Durrell (1968)[32] present the omnipotent evolution over space and time of the urban influence of Alexandria on the lives of their heroes/heroines.

Discussion – conclusions

The proposed framework unveils and integrates the imaginary worlds of literature as a reality that will enable individuals to better understand, adapt and integrate with the current urban context. The planned novels-based digitally-mediated interaction can provide a shift that entails an embodiment, enhancement and reconceptualization of the diverse aesthetic dimensions of constructs such as 'heritage monuments', 'local community', 'public place', etc. The ensuing outcome is the reinforcement of the emotional and experiential impact within everyday living and visiting activities.

Novels-based Augmented Reality defines a dialogic canvas between surrounding realities and imaginative environments so that individuals may experience the aesthetic, psychological and historical dimensions of the literary chronotopes. They are directed to rethink subjectivity in the midst of an amalgamated reality comprised of diversely situated multicultural chronotopes towards new ways of embodiment and engagement. Augmented narrative descriptions restore harmony between body-mind-environment and fiction while ensuring that different aesthetic, psychological, spatial situations (epochs, times, places) coincide.

As individuals traverse the city, they locate specific landmarks where they find the augmented narrative chronotopes' paths happened. Hence, while a novel is a work of fiction, individuals are poised and guided to engage with and physically experience the particular urban site and interpret the social, cultural, aesthetic, emotional layers of a city. The overlaid layers of augmented narratives have the ability to establish new interrelated aesthetic-social-collective areas within the fluid urban body, while at the same time revealing a transcendence of tangible or intangible urban borderlines. Furthermore, the integration of ideas and concepts emerging from diverse socio-cultural and aesthetic domains provide the ability to approach the urban stories of others and possibly understand and share the same emotions with the writers within their imaginary urban sightseeing. Based on the abovementioned theoretical approach we may conclude that the augmented narrative chronotopes can potentially affect the urban experience (place attachment, engagement) on various levels, such as aesthetic appreciation, dealing with problems, etc.

Within mixed reality, inhabitants and visitors can perceive the current state of urban sites, and the digital replicas of lost and destroyed historic milieus have a multivalent impact on the transfer of aesthetic knowledge to inhabitants and visitors. Such digital approaches and proposals enable the perpetuation of the fragmented urban territories, both real and imagined, thus perpetuating the integrity of urban environments. Immersion in an amalgamated everyday urban environment from diverse socio-cultural and aesthetic domains provides the opportunity to approach the urban stories of others and possibly understand and share the same feelings-emotions with writers within their urban imaginary engagement.

Finally, to paraphrase Herman, novel-based AR allows urban dwellers to rebuild urban environments in which to think, act and talk.

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References


