Towards a Chronotopical Analysis of Urban Squares

Tiit Remm

University of Tartu
E-mail: tiit.remm@ut.ee
https://orcid.org/0000-0002-9073-4846
https://ror.org/03z77qz90

Abstract. This research aims to develop semiotic tools for analysing emergent and recently (re)designed urban everyday spaces, an emergent, changing and internally heterogeneous sociocultural phenomenon. Interlinking environmental semiosis of material space, interpretations by users in (inter)actions and textualisation in culture, the framework of chronotopical analysis is proposed and explored, together with broadening it from literary studies to the domain of urban space. Its application is exemplified in the material of recently (re)designed town squares in Estonia, an outcome of a nationwide program to revitalise small towns and develop the appreciation of public space in Estonian culture. The study outlines the framework of chronotopical analysis and demonstrates its potential for the integrative semiotic analysis of the multi-layered and dynamic character of recently designed urban spaces.

Keywords: urban semiotics, semiotics of space, chronotopical analysis, town squares, Great Public Space

An urban square is a part of the environment interpreted by various subjects in their actions and interactions. At the same time, it is an expression of cultural models, represented and interpreted in various texts. This study explores the applicability of chronotopical analysis for studying urban space, particularly places without

settled habitual or canonized meanings but where meanings are still emerging.

A semiotic study of urban space could start by analysing the morphological segmentation of the material environment and corresponding functional-semantic features (Eco 1972), and more generally interlinking forms and uses coded in culture (Eco 1986). Similarly, in an ecosemiotic approach, the analysis would start with environmental affordances and describe a combination of observed and hypothetic networks of interspecies relations, perceptions, and actions in place (Maran 2020). The design of urban space is also a form of non-verbal communication organising social situations and interactions (Rapoport 1990), combined with verbal discourses (Scollon, Scollon 2003). While the built environment embeds coded settings for interactions, the actual interpretation depends on subjects, actions and situations. Urban planning and place-making is an interactional process where imagination of urban space and its meanings are made in negotiations and intersections of multiple discourses (Hess-Lüttich 2016). Beyond this situated semiosis in urban space, there are socioeconomic processes of urban planning and ideological cultural models manifested in the urban space (Lagopoulos, Boklund-Lagopoulou 2014). The urban space can be considered a language of culture used for expressing cultural world view and more specifically the conceptualisation of the place. From a cultural semiotic perspective, the analysis of urban space would rely on textualisation of it, and focuses on its existence as a phenomenon in culture in representational texts and as a cultural text, as the city text in culture (Lotman 1990; Toporov 2003). It is notable that the *text of the city* in culture presumes a textualisation process taking place and forming the city as a structured significant cultural unit. Textualisation is a process taking time. The *text of the city*, therefore, is more suitable for analysing relatively old, established and stable phenomena rather than emergent ones in culture. For example, newly developed urban places are often not yet extensively textualised in culture. However, their form, functions, users and symbolic meanings are often textualised by

pre-mediation in planning or other kinds of anticipation. In this sense, utopian and visionary texts not only foresee a spatial object but trigger the restructuring of the imagination of the surrounding landscape, society and culture.

These layers can be seen as forming a general sequence of se-miotization of space from psychophysical cognition and cognitive mapping of the spatial environment to spatiality of sociocultural identities and to using space in the reflexive semiosis of the society (Randviir 2010). Chronotopical analysis is proposed here to provide an analysability of these layers and their integrated whole. The framework could also bridge eco-, socio- and cultural semiotic aspects in the semiotics of space, particularly in studying recently (re)designed urban everyday spaces as emergent, changing and internally heterogeneous eco-socio-cultural phenomena.

Chronotopical analysis from texts to culture

Based on the works of Mikhail Bakhtin, chronotopical analysis has been proposed in literary and cultural semiotics, initially as a framework for analysing literary texts and films and further for analysing culture in more general (Torop 2019, 2022), but also used for landscape experience analysis (Remm, Kasemets 2020). The approach is proposed and developed here for the analysis of the varied semiotization of spaces of everyday life. In addition, widening the chronotopical analysis to urban spaces calls for a dialogue with Bakhtinian understanding of a public square as the locus of folk culture, dialogism and carnivalesque.

Bakhtin worked on spatiotemporal analysis of literary texts and their typological applications. He proposed the notion of chronotope in the context of typological-historical literary analysis, referring to the spatiotemporal unity characterising literary works (Bakhtin 2001). Based on Bakhtin and cultural semiotics, Torop (2022) has further developed the framework for analysing other artistic texts like movies and for a broader chronotopical analysis of culture and cultural theory.

In line with Bakhtin (2001), it is possible to describe a typical chronotope of a genre (e.g. of a novel, a travelogue) as well as smaller chronotopes in artistic texts (chronotopes of road, threshold, island, provincial town, town square). It is possible and relatively clear-cut because an artistic text has an implied orientation that makes it a textual whole. In Lotman's analytical framework for the artistic space (Lotman 1970), determining the characteristic orientation is also fundamental. The orientation is not absolute or unifold but should, in principle, be detectable in a text, and the analysis of artistic space would relate spatiotemporal structure to the orientation. Besides anchoring the structure, the orientation as a centrally organising point of view is related to the variety of subjective perspectives in the text and interpretations, thereby connecting the structural-textual point of view with subjective perspectives of interpretation in creating, using and reflecting on texts. The question of dominant orientation and the variety of involved perspectives helps to connect the textual analysis of urban spaces with their polyphonic interpretations in everyday life.

Chronotopical analysis based on Torop can provide a general frame for analysis of an artistic text, a transmedial text or the totality of cultural space-time. The first step in establishing the analysability of the empirical reality remains the same for all: to detect the perspective and dominant orientation. Based on the orientation, it is possible to describe the 'sphere of semiotization' (Torop 1984): relations between synchronic and diachronic modes (e.g. word and image) and layers of topographical, psychological and topographical chronotopes unfolding in the particular case of semiosis. Combining Bakhtin's focus on time with Lotman's focus on space, the three layers appear respectively as homophonic and homotopic narrative space with its topographical and narrative unity; polyphonic subjective space-time of characters and chorus of various voices; and conceptual symbolic space with the unity of ideas, motifs and spaces through the authorial conceptualisation (Torop 2022: 8–9).

While initially proposed as literary space-time, the chronotope essentially relates to the reality of everyday life and its polyphonic nature unfolding in urban spaces: "Out of the actual chronotopes of our world (which serve as the source of representation) emerge the reflected and created chronotopes of the world represented in the work" (Bakhtin 2001: 253). Chronotopes are not mere representational artistic devices cut off from the cultural everyday world but belong to a greater whole and enable a broader social and historical analysis (Holquist 2002: 108–111). The reliance on the everyday experience points to the ground for applying the concept more widely. However, everyday social life does not imply a unique orientation as a point of departure. Instead, there is the heterogeneity of semiotic space. In this context, starting from the point of view is necessary as even the topographical world of a story itself is not objectively given but defined by the story, and topographical categories depend on the narrative's point of view.

Bakhtin highlights specifically the chronotope of the town square as a place of carnival in the context of works of François Rabelais and medieval folk culture more generally (Bakhtin 1984). However, that chronotope can have a lesser and subordinate role in other texts, authors, and contexts. There are also variations at sociocultural scales. A structure generally typical in culture might not be as dominantly organising the sociocultural subject in everyday practices or while reflecting on one's identity. An urban square is thus a semiotic space in its multiplicity; and only by choosing a particular point of view can one consider it a semiotized material space with defined meanings. Even further, in the field of (urban) planning, various place-related discourses and narratives imply their specific chronotopes as the integration of space, time, causality and truth (Lawson 2011) and provide misunderstanding and conflicts hardly mitigatable due to the varied chronotopical structure.

However, a square as a spatial text implies "written in" perspectives, some more marginal, some more dominant. These are habitual or "designed in" models whose spatiotemporal perspectives can be used as points of view for interpretations. In other

words, the text implies its reading perspective as a key for the reader, suggesting a perspective with its time, space and reason or *when*, *where* and *about what*. While it can be relatively simple to delimit an urban square as an architectural text, it is remarkably more complicated to delimit it in the context of the interactional everyday culture where cultural models and languages meet in struggles, negotiations and adaptations characteristic to the sociosemiotic domain.

In the analysis of urban squares, conceptualisation by an architect-author and by users are both subjective but radically different perspectives. They are, however, not divided to polyphony at the psychological layer of users and architect-author at the metaphysical level. Instead, the topographical and metaphysical layers appear different from either perspective, and both can be taken as conceptual frames for interpreting a place. Both are present in culture as potential and interacting perspectives and starting points for analysis. The open choice of a point of view and respective re-ordering of the chronotopical structure significantly distinguishes the chronotopical analysis from approaches based on more fixed types of spaces like Lefebvreian distinction of perceived, conceived and lived spaces, as Lefebvre (1991) links his triad to the perspective of designers and conceived space as the chosen frame for "the production of space" and the other two appear as derivates of it.

Applicability of the chronotopical analysis to everyday spaces

Analysing an urban square not as a material spatial text but as a cultural phenomenon means understanding the sociocultural functioning through the existence of a square in the context of a multitude of perspectives. The chronotopical framework helps distinguish these perspectives, their dominants and describe the structure of the layered phenomenon. Torop (2019) outlines chronotopical analysis for two levels: an analysis of texts and cultural theory. The approach

here takes a position between these two, providing a chronotopical analysis of cultural phenomena that are simultaneously textual and functional entities in the sociocultural context.

From the perspective of chronotopical analysis, the urban square can be considered a type of situation in practices and in cultural conceptions. Further, it can involve a variety of smaller chronotopes related to spatial segments, activities, events or subjects at the square. The general chronotopical structure can be described throughout three layers of topographical, psychological and metaphysical chronotope. In the context of urban space the three layers of semiotization can be outlined as the world of things, of actors and of conceptualisations. As each chronotope forms a space-time and reality, the chronotopical analysis suggests asking about the perspective of that reality, the point of view of interpretations and combinations of layers.

While Umberto Eco (1986) relates the starting point of the signification of an architectural sign to functionality, the semiosis of urban space, architecture, design or commodities is not merely functional. It happens in the tension between modes of signification – function as use and function as status, and further their coding and communication in culture and society. These layers and types of signification together form the *sphere of semiotization* (a term coined in Torop 1986 as the object field of the chronotopical analysis). In this sphere, a choice of point of view is a starting point for interpretation.

Layers in the chronotopical analysis are equally plausible, and each can be taken as a starting point for the analysis, resulting in different combinations and perspectives of interpretation. Starting from functional or symbolic meanings of objects, one can model their subjective uses and interpretative frames fluctuating in time. Users interpret objects in their biographical and status-oriented frames and interpret the context at ideological and cultural-historical scales. A semiotic study of everyday spaces would thus pay attention to the tension between two kinds of signification and relations and transfers between the layers.

In the case of urban squares, it is respectively possible to outline a sphere of semiotization of spatial semiosis as happening in the tension between use and status, and through layers of the topographical spatial language of squares, of psychological chronotope of social semiosis related to squares, and of conceptual definitions of squares in culture.

	Spatial semiosis		
	Use		*Status*
Topographical	Affordances of spatial organisation and elements	'Spatial language' of squares	Spatial functional elements
Psychological	(Inter)actions of subjects	Squares as socially meaningful spaces	Social distinctions, rules marked in space
Metaphysical	Communal life, multifunctional, userfriendly	Ideological squares (myths)	Modern space for people

Scheme 1. **A framework for the chronotopical analysis of urban squares.**

Chronotopical analysis of re-designed squares in Estonian small towns

In the following I exemplify the application of the chronotopical framework on the material of recently re-designed town squares in Estonia. From 2014 to 2024, central areas and squares in about 30 Estonian small towns have been reconstructed or built from scratch. Most of them are part of the programme 'Great Public Space', launched for the 100th anniversary of the Republic of Estonia[1] by the National Society of Architects. The programme is set into the context of increasing societal interest in the quality of public space,

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[1]   https://www.ev100.ee/estonia-100-architecture-programme-great-public-spaces-ev100/.

communities, and participative governance, and it targets challenges accompanying the process of population decrease in most regions and towns of Estonia. The general aim of these projects has been revitalising small towns through attractive modern central urban spaces. As with any other example of the built environment, there are multiple sources of significance. The examples are expressions from architects, interpreted by users, represented in media, organised material environment. They are also related to social and cultural identities, social practices and culture of the local community as well as to the contemporary "culture of urban space" and socioeconomic processes more broadly.

The current study relies on analysis focused on squares in Elva, Kuressaare, Põlva, Rakvere, Rapla, Tõrva, Valga, Viljandi, Võru. The analysis is based on empirical study employing observation, interviews, and media analysis (Remm et al. 2022) and also on a conceptualisation from a Lotmanian perspective of the urban spatial text (Remm 2022).

Topographical chronotope

The topographical chronotope of a town square appears in its design – the urban space together with objects, like urban furniture, statues, pavement, trees, and their spatial relations. This chronotope is, however, not the physical world itself but an aggregation of recognised categories and primary meanings. These categories rely on organismic needs, abilities of recognition and uses, as well as cultural coding. There are two sides to this primary functional meaning: function as use and function as status. Hence, the topographical chronotope is formed by spatial structure and affordances of elements or recognised potential uses on the one side and categorised spatial-functional elements on the other. For example, while sitting affordances are user-dependent interpretations related to (potential) action of sitting in a particular posture and alone or side to side or facing others, a *seat* is a culturally coded spatial element that signifies social situations and ideolo-

gies of ways of sitting. Together, these aspects form an elementary language of urban squares.

Squares studied here typically have a structured pavement, children's playground attractions, lampposts, trash bins, benches, water in some form (a fountain, a stream or even a lake) and greenery. As a set of functional-meaningful elements, these form the language of squares in Estonian small towns. From empirical study methods, observation and study of verbal descriptions, images, architectural projects, and other texts enable access to this language. However, as far as categories are subject-dependent, such a study would also presume competence about studied subjects, both in cultural and organismic terms, or what are the significant elements in the local public life. The organismic aspect again enables understanding of usability and perception of space by people of various ages, mobility and cognitive abilities, as well as perception by other species using the space together with and aside to humans. In turn, the meaningful design requires relating to users' potential actions and categories in general and to categories, habits and relations specific to the community of actual users in the place.

Beyond elements, the delimitation of the whole is critical for the topographical level. In fact, the program Great Public Space mentions *central areas*, but squares can be considered flagship spaces in the areas. There might not always be a distinguishable square in terms of morphological spatial form (Hillier, Hansen 1993); instead, studied examples are often spatially divided and smoothly turning into surrounding streets, greenery or ambivalent open areas typical for low-density urban space in small towns. Although squares have been designed integrated with the surrounding urban environment in line with principles of urban planning, a central square remains a kind of *other space* or *heterotopia*. While Michel Foucault (1986) exemplifies heterotopic spatial otherness, detachedness and materialised utopias in traditional spaces like graveyards, museums, and ships, re-designed urban squares are essentially materialisations of utopias that at least initially func-

tion as other spaces for the community and carry this otherness at the topographical level by the visual distinctiveness, freshness, semi-functional objects and style of the design – but keep it also throughout the psychological and conceptual level.
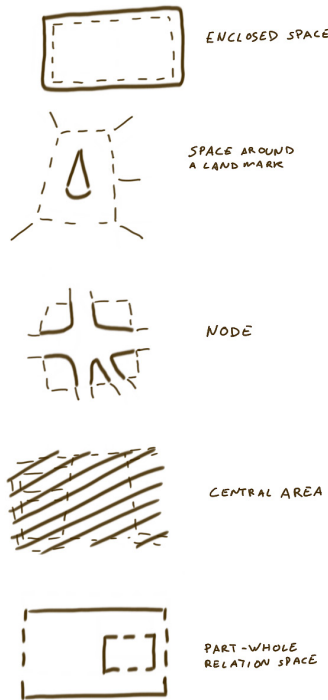

Fig. 1. **Types of topographical structures of re-designed town squares of Great Public Space**

A typology of structures can be proposed based on dominant ways of spatial structuring in studied examples. Accordingly, a square can dominantly be a delimited enclosed space (typically in denser historical town centres as in Kuressaare and Võru but also in Valga where a square is set in former backyards), a space around a landmark (Viljandi square in front of a war monument), a node or intersection of spatial actions and trajectories (the square around

the bus station in Tõrva), an integrated central area of variable elements and places (the wider central area in Elva including a street, pathway along a lake coast and a "square" of various elements and sub-areas), or a space defined by the relation of part and whole (this sub-structuring can be found in various places, including Tõrva, Elva, Rapla, Rakvere as well as in Valga-Valka where a square is combined with a neighbouring area uniting the urban space across the state border between Estonia and Latvia). These types reflect different structuring modes that can be dominant or combined at actual squares: delimitation, a focus point, intersection, integration, and segmentation.

Psychological chronotope

The layer of psychological chronotope is related to subject-centred interpretations – the flow of action and interactions in space on one side and social distinctions marked in space, read, followed and created on the other. At this layer, there are no general functions that would make the environment meaningful; there are only here-and-now interpretations by particular subjects and interpretations related to one's life course. Typically, for the study of everyday culture, both the topographical world of things and conceptual frameworks for interpreting a place appear through the here-and-now situation, experience and one's biography. In practical research, observation of behaviour, interviews, and representations help to trace these ways of interpretation, distinctions and relations essential for social life. While actual uses as interpretations form one side of this chronotope, the other side appears in the signification of social statuses and other social distinctions of users, social norms and expectations. Typically, in the context of Estonian society, it can be the distinctions based on age (e.g. spaces for children, teenagers, and elderly), subcultural (or ethnic) identities or the status of a person belonging to the community or being a visitor.

A vital kind of users of studied town squares is groups of teens who mark their relationship to space by graffiti or writing and

drawing on urban furniture, as well as by choosing to (expressively) use specific spaces. For example, on a summer afternoon in Elva, one can observe the spatial separation of early teens in the skate park, later teens hanging at the cargo door in the back of the culture centre, kids and parents playing on the playground or around it, middle-aged women using lawn and pavement areas for dance lessons. Each of them interprets the place through their own identity and activity, and, at the same time, they establish a group-based segmentation of space through their collective actions.

The psychological level of chronotope is characterised by the multiplicity of interpretations, the realisation of affordances and categories in subjective behaviour, and sharing in social interactions. While the spatial language at the topographical level is present as a potential of a place, at the psychological level, the space has actual meanings in the sense of perceived reality, actualisation in overt actions, and interpretations of situations. The central mechanism for this layer of semiotization is the spatialisation of social and cultural distinctions together with identity-making through the actual and assumed gaze of others and the dialogical responsivity in the social situation.

Metaphysical or conceptual chronotope

The third layer in chronotopical analysis is that of a metaphysical or conceptual time-space. In a literary work or a movie, the conceptual chronotope provides a unitary framework of interpretation and is related to the author's point of view. Similarly, an architect is a source and a reference perspective for the conceptual chronotope of an architectural design. In the case of the built environment, especially public urban space as a sociocultural phenomenon, the authorship is dissolved or forgotten; the city is a pseudo-speech with a pseudo-author (Ledrut 1973). For a square as a spatial text in culture, its conceptual unity can instead appear through a contemporary myth of a public square.

The conceptual chronotope integrates the broader process of semiotization, the general discourse on public space, urban environment and small towns (the text of public squares in culture), conceptualisations during the planning and building process in the local community and municipality (the text of the square in the local culture) as well as the initial conceptualisation by the architect or other authors.

The conceptual chronotope thus consists of ideological spaces, of the square as a space of common life, of public space as a space of people and their power. This popular space can be considered a mythological space – the square is a contemporary myth (in the sense of Barthes 1972). A basis for this myth is the historical myth of the urban square, an agora as the space of functioning of the community and democracy. It is a space where the public life is supposed to happen and which in turn is also a symbol of status, a symbol of the power of people. The idea that small towns need central squares to develop local social and economic life is an outcome of this grounding myth, and squares manifest and naturalise this myth in their visual, spatial and social form (Remm 2024).

The mythological character of squares relates to two cultures of squares that Bakhtin refers to: spaces for official ceremonial culture and spaces for popular celebrations (Bakhtin 1984). While the official is following and emphasising the social hierarchy and cultural structures, the popular is cancelling and reversing these standards. Both are *other* in relation to the society at large, but in a different way. The chronotope of the carnival square is characterised by the reversal of social norms and statuses, of the semantics of spatial dimensions, of inside and outside, by limited time and by a subject outside of regular norms bringing with the reversal of the usual order. This carnivalesque gains its order and meanings through opposition to its context's official culture and society, space and time. The *otherness* of the official square again appears through its enforced formality and distinction from the everyday. The squares in Estonian small towns combine these two in a particular way.

Squares of Great Public Space are seemingly designed as popular, with no presence of political life and power. However, this political life is clearly marked in space. Most squares are designed as places for people, distinguished from municipal power, represented only by flagpoles (for the municipal, national and EU flags) and some state or local institutions housed at the square. However, instead of being dominant by topographical design, these elements are almost always set to the margins or even outside the main square – with a small (sub)square for the municipality in the periphery of the public space. Viljandi is an exception, as the Freedom square here provides namely an empty monumental space in front of the local state house and the statue of the Independence War. In other places, the ceremonial perspective of the power is located to the periphery, and the spatial text presents the central area as a popular place where people ought to live their common life and organise local issues in their interactions and negotiations. However, squares and central areas designed through playful architectural metaphors (e.g. 'between the berry bushes' in Elva, 'carpet' in Kuressaare, 'wooden town' in Põlva, 'a long museum' in Rakvere, 'urban gadget' in Võru, 'totem' in Valga) appear instead as a display of an *as-if social life*. Designs for festivals, sports, or play, like small wooden stages, robust exercise machines or small playgrounds in the middle of squares without a cover from sun or rain, signify potential uses but remain inconvenient or unsafe for use. Functions are thus signified by design, but actual observable uses are limited to try-out and to experimenting with alternative uses. The space is instead re-semiotized in alternative uses, for example, in children's physiotherapy exercises exploring alternative affordances to support their moving habits.

Integration in the chronotopical analysis

A square as an architectural work has a set of structure of chronotopical levels. Squares in art history textbooks can have their symbolic and cultural-ideological meanings and significance in architectural

history and material topography. As a sociocultural phenomenon, the square itself is polyphonic. The social process focuses on users – actual, assumed and represented users. While an opening ceremony often re-enacts the architect's concept of the place, it is forgotten later; in fact, authorship itself is dissolved among various human and institutional subjects already in the creation process.

Emphasising users' perspectives as cultural subjects, the conceptual whole of the square can be found in users' generalising interpretation of the square as a cultural phenomenon. The square can be a symbol of the local culture, a metaphor for provincial life, a meeting place, a site for a monumental display of power, an open non-private space in a town, a meeting place, a functional space, a space for events, etc. The general conceptualisation of recent town squares in Estonia during their first years has been dominated by otherness. Designed in a national program to be modern and distinct, the squares are widely represented and commented on in local and social media as strange, dysfunctional, lifeless, theatrical, metropolitan, modern and related to non-local others. Interpretations of these places are partly specific to place-making and to the local context. However, they are also part of a process of textualisation of a new phenomenon in culture and change of culture in turn. Therefore, the change in initial meanings of town squares over time raises a more general question about the influence of placemaking on cultural change. Chronotopical analysis can help to study it by bridging various spatialities and temporalities in material space, in perspectives and relations of users, and in cultural textualisations.

Besides spatial and temporal aspects, chronotopical orders also imply a variability of identity, orientation, logic, and truth. While appearing as *other spaces*, new town squares are not static or hegemonic. Through practices, they are places for shifting one's perspective, where even a local can take the tourist perspective. While the square is not a place of a carnival, there is still an estrangement, a dimension of grotesque in relations between the local context and modern urban life and designs for it. Square as a locus of democracy is a powerful myth that, however, doesn't achieve

its aim here; it does not create the community or its space. Designs and solutions like *soft city* or *human-centred design* (e.g. Sim 2019) do not function directly here because their functional interpretation would presume taking a viewpoint external to the local context. The dysfunctionality of a square can appear as its weakness and is at the same time a key that affords to invent alternative, more local and popular uses. A place can thereby become meaningful in inappropriate uses and its dysfunctionality as an urban space.

In conclusion, urban places are more than spatial cultural texts and are often not yet fully textualised in culture. While a square might be static, not actively used, and rarely interpreted, its significance can, in contrast, lie in its less evident dynamics, multiple uses, and meeting of different perspectives. Chronotopical analysis, as extended from the study of artistic texts to phenomena of everyday culture, helps to detect this variety of perspectives in such cultural phenomena and to find potential and dominant orientations and their characteristic delimitation and structuring.

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