

# Space as a Semiotic Object: A Three-Dimensional Model of Vertical Structure of Space in Calvino's *Invisible Cities*<sup>1</sup>

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## Abstract

Following the “spatial turn” of the last 3 decades in humanities and social sciences and the structure of semiotic object, this research studies space as the main semiotic object of Calvino's (1972) *Invisible Cities*. Significance of this application resides in examining the possibility of providing a more concrete methodology based on the integration of Zoran's (1984) 3 vertical levels of constructing space and Hrushovski's (1979) 3-dimensional model of the structure of semiotic object in the space-oriented plot of Calvino's (1972) novel. In fact, the topographic, chronotopic, and textual levels of space are respectively studied in association with the dimensions of meaning and reference, organized text, and speech and position. It is also suggested that for studying all the vertical levels of space in *Invisible Cities* as well as all other literary texts, the 3 aspects of textual levels including the selectivity of language, the linearity of the text and the latter's perspective are respectively reflected in the structure of space at the topographic, chronotopic, and textual levels.

**Keywords:** Topographic Level; Chronotopic Level; Textual Level; Three-Dimensional Model; Semiotic Object; Space

## 1. Introduction

The present study investigates the vertical structure of the space of Calvino's (1972) *Invisible Cities* to acknowledge the theoretical possibility of studying the topographic, chronotopic, and textual levels of space through the three-dimensional model of semiotic object. Suggesting vertical and horizontal structures for space, Zoran (1984) defines space as one “dimension of empirical existence” or

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more precisely as “the spatial aspects of the reconstructed world” (p. 313). He respectively regards the topographic, chronotopic, and textual levels as “the highest level,” “the space-time level,” and “the most immediate level” (p. 315) of spatial reconstruction. At the topographic level, space is perceived as “self-existent and independent of the temporal structure of the world and sequential arrangement of the text” (p. 316). Borrowed from Einstein and introduced into literary criticism by Bakhtin, the term *chronotopos* signifies the structure imposed on space as it is affected by the structure of narrative—that is traditionally defined as the chronological sequence of events—and the structure of plot as the sequence of events through the principle of cause and effect. The fundamental aspect of these two structures of plot and narrative resides in their reliance on time and movement. Finally, the textual level is distinguished according to the structure imposed by language on the reconstruction of space.

An integration of Mikhail Bakhtin’s distinction between the object of human sciences and natural sciences and Hrushovski’s (1979) theory of semiotic object is suggested for studying space as a semiotic object. As it is quoted in Todorov’s (1981) *Mikhail Bakhtin: The Dialogical Principle*, the text is the primary given of the disciplines of linguistics, philology, and literary studies, “where there is no text, there is no longer an object of research and thought” in these discourses (1981, p. 28). Accordingly, text is regarded as the semiotic object of the human sciences. To provide a more concrete descriptive analysis of literary text or what Bakhtin calls “immediate reality” (Todorov, 1981, p. 28), Hrushovski (1979) suggests a three-dimensional model. In “*The Structure of Semiotic Objects: A Three-Dimensional Model*,” he regards his paper as the suggestion of “a very general [and] abstract model” through which concrete aspects of literature such as the structure of space can be studied (pp. 364-365). According to Hrushovski (1979), meaning is conveyed only through objects that possess the three dimensions of meaning and reference, organized text or structured object, and speech and position. This study argues that space in Calvino’s (1972) *Invisible Cities* possesses these three dimensions in terms of adherence to the three vertical structures of the construction of space. Therefore, space in this novel can be regarded as a semiotic object. In fact, the integration between this model and Zoran’s (1984) vertical structure of space provides a pertinent context for the study of space as a three-dimensional semiotic object. In fact, these dimensions are based on cognitive operators that are beyond the scope of this study. Therefore, the space of Calvino’s (1972) novel is studied as a semiotic object that conveys meaning through these three dimensions.

In addition, interpreting space as sign involves selecting “some parts and aspects of the observed object, which convey the reconstructed message”

(Hrushovski, 1979, p. 364) of the structure of the vertical level of space. This level of space is comprised of topographic, chronotopic, and textual structures that respectively represent the dimensions of meaning and reference, organized text, and speech and position. Though Zoran (1984) regards the structure of the textual level of space as the consequence of selectivity of language, linearity of the text, and the latter's perspective, these aspects are, indeed, the primary means for distinguishing three vertical levels of space in a literary text. Therefore, Table 1 indicates a close association of these aspects with the three vertical levels of space and the three dimensions of semiotic object that are suggested for providing a concrete application of Hrushovski's (1979) abstract model:

Table 1. *Methodology of Article*

Vertical Levels of Space	Three Dimensions of Semiotic Object	Aspects of Literary Text
Topographic Level	Meaning and Reference	Selectivity
Chronotopic Level	Organized Text	Linearity
Textual Level	Speech and Position	Perspective

Accordingly, the possibility of studying the concrete structure of space through the abstract model of Hrushovski (1979) is examined in the context of Zoran's (1984) vertical structure of space. It should be noted that dependence and coexistence are the shared characteristics of Hrushovski's (1979) three dimensions of semiotic objects and Zoran's (1984) three vertical levels of constructing space.

## 2. Dimension of Meaning and Reference

The cartographic vividness of the topographic level of space, as the result of the latter's association with the dimension of meaning and reference, is evident in this spatial level's specific ontological structure and frame properties. This dimension of semiotic object is "perceived as the result of three story construct" of regulating principles, the level of sense and frame of reference. The last story of meaning and reference significantly affects the first two stories that are derived from the speaker's point of view, irony and generic mode and explain in what sense to take senses of the world (Hrushovski, 1979, p. 371). On the other hand, the distinction between the topographic level of space and the other two vertical levels is respectively the distinction between "geospace" and "textual space" (Zoran, 1984, p. 316). Geospace that represents space at its highest level of construction is described according to "a network of properties forming a fictional space" (Ronen, 1986, p. 430). Regarding this level of space, these networks are further classified according to their concrete and abstract properties depicted in *Invisible Cities*. The first one as Ronen (1986) suggests is "a spatial construct," whereas the second is defined as "a place association in our encyclopedic knowledge to other entities" (p.

432). Accordingly, this encyclopedic knowledge of the reader is the frame of reference based on which he or she makes sense of the reconstructed topographic level of space in the text.

In *Invisible Cities*, frames—as fictional places—at the topographic level are described in terms of their physical or concrete properties such as functions, boundaries (Pavel, 1975) and “horizontal and vertical structures of the world” (Zoran, 1984, p. 316). Each of these physical properties is reflected by what Ronen (1986) calls “a place denoting noun” (p. 430). The vertical location at the topographic level of space suggests the hierarchy of power in the city of Maurilia, where the gods live beneath names and above spaces; consequently, they affect the structure of this city while they are unable to change their names (Calvino, 1972, p. 31). The cartographic representation of the cities in Kublai’s atlas includes all the buildings, streets, walls, rivers, bridges, harbors, and cliffs of his empire and the neighboring realms (Calvino, 1972). Furthermore, he owns an atlas that demonstrates the horizontal structure of the world:

The Great Khan owns an atlas [,] whose drawings depict the terrestrial globe all at once and continent by continent, the borders of the most distant realms, the ships’ routes, the coastlines, the maps of the most illustrious metropolis and of the most opulent ports. (Calvino, 1972, p. 136)

Besides the atlases that represent the physical properties of the horizontal structures of the world, the map of Esmeralda depicts this city by using the qualities of its represented routes. In this “city of water” (p. 88), there are two possible options for each passerby; therefore, he or she has to choose between land and boat to reach each destination. As Marco suggests, the route map of this city should include “marked in different colored inks, all these routes, solid and liquid, evident and hidden” (p. 89).

This novel also substitutes the automatic association of the reader’s encyclopedic knowledge for its style, which is made on an ad hoc basis. The frame of reference refers to “any continuum of referents to which utterances, texts, or other interpretations may refer” (Ronen 1986, p. 432). Therefore, this frame does not necessarily refer to a stereotyped or conventional situation. It may refer to a unique situation, where “the link between a concrete situation and spatial location is unconventional” (p. 434). The uniqueness of such situations arises from the misattribution of the irregular and deviant spatial location.

Todorov’s distinction between the genres of uncanny and marvelous suggests an appropriate ground for further interpretation of the frames of reference that refer to unique situations. These situations adhere to the dimension of meaning

and reference regarding the regulating principles of the speaker's perspective for explaining the unique sense of the uncanny and marvelous frames of supernatural references. The readers of *Invisible Cities* in their attempts to reach a conclusion about the laws that permit the existence of such fantastic spaces face two options. If the laws of reality remain intact and permit a convincing explanation for the unique situation, the frame of reference belongs to the uncanny. On the other hand, if new laws should be entertained, the frame could be explained in terms of the genre of marvelous (Todorov, 1970). For example, in the twin cities of Valdrada that is built on the shores of a lake, the city and its image in the lake are not equal. The distinction between these twin cities can be explained in terms of the uncanny because such a distinction between the city and its inverted image in the lake can be interpreted in terms of the natural law. Another unique situation is the result of a close association of the topographic structure of space with the ontological structure of *en abyme*. Concerning this strategy, McHale (1987) claims that maps in postmodernist fiction "reflect on a miniature scale of the structure of the text in which they appear" because "real space does not determine the map but the other way around, the map determines the real space" (p. 53). The carpet of Eudoxia, as an internal field of reference that has no correspondence in the actual world, is the "geometrical scheme" of the city's winding alleys, steps, dead ends, and hovels that refer to the inhabitants' twist of fates (pp. 96-97). According to this city's oracle, the form of Eudoxia is the result of "the approximate reflection" of the carpet (p. 97). This city which takes its form from the divine carpet is referred to as "the true map of universe" (p. 97).

Furthermore, at the topographic level of space, "the special spatial existence of the characters" (Zoran, 1984, p. 317) reflects their modes of being. As Zoran (1984) claims in his "*Towards a Theory of Space in Narrative*," the structure of space in topographic maps deploys certain ontological principles:

Space can be divided up according to the mode of existence of its units. These "modes of existence" sometimes overlap with the factor of topographical location: for example, world of the gods—up; the world of man—down. Yet they may relate to one another in relationships in themselves completely unspatial, such as the relationship between the space of a dream and that of reality within the narrative. Again, the ontological levels may be completely differentiated from one another, or they may be mingled, appearing together in one continuous space, such as fantastic tales. (p. 317)

Such topographical maps are defined as ontological landscapes by Pavel (1981) in his "*Fiction and Ontological Landscape*." Accordingly, these landscapes

or domains are defined as a “set of complex ontology, involving different domains populated by different kinds of beings” (McHale, 1984, p. 36). The distinguished descriptions of these domains are the result of the textual aspect called selectivity of language. The city of Zirna is described not according to the physical properties of its topographic space, but according to the physical descriptions of its characters, “a blind black man shouting in the crowd, a lunatic teetering on a skyscraper’s cornice, a girl walking with a puma on a leash” (p. 19). There are three different kinds of ontological landscapes: singular, double, and plural. If we regard Marco’s narratized descriptions, of his psychologically conceivable cities, as the depiction of the maps of his “mental space” (p. 103); then, we can study the ontological subdomains of the cities. For instance, in Eusapia, the dead are arranged in their desired space underground. In addition, Adelma where those who are dead and alive live in the same place, is an example of “ontological fusion” (Pavel, 1981, p. 153). The city of Isaura, where the city’s gods live in its wells, and the city of astronomers, where dwarfs, hunchbacks, and obese women live in the streets and squares, and their children who have “three heads and six legs live in the cellar and lofts”, are also examples of double ontology (p. 144).

### **3. Dimension of Organized Text (or Structured Object)**

Hrushovski’s (1979) dimension of the organized text is in accord with Zoran’s (1984) chronotopic level of constructing space. As the chronotopic level is integrally related to the structure of the topographic level, the patterns of this dimension are derived from the dimension of meaning and reference (Hrushovski, 1979). This level of space is defined in terms of the integration between space and time. In fact, this level is the result of the structure imposed on space according to the temporal organization of the text, which is traditionally called narrativity. Following the distinction between narration and description at this level as the other two levels of space Marco’s depiction of the cities is based on his “narratized description” (Herman, Manfred, & Ryan, 2010), or more precisely the description addressed to Kublai as the recipient of Marco’s tale. Regarding the topographic structure of the chronotopic level, space is studied in accordance with synchronic and diachronic relations to time. Therefore, this dimension is closely related to the frames of reference that it derives from the dimension of meaning and reference.

All the cities are organized by means of segments as directions in space that lead to Venice as a “central axis” or “field of power” (Zoran, 1984, p. 319). The diachronic relations of the chronotopos determine the movements in topographic space in terms of axes, powers, and directions (Zoran, 1984). The actual direction is comprised of a point of departure, stations on the way, and a target. Marco Polo’s point of departure is supposed to be the castle of the Great Khan; however, the target of the direction is not clear. All the cities can be regarded as frontier stations and

targets at the same time. In addition, axes of movements in space are determined in terms of Marco's interest in Venice. According to Zoran (1984):

Chronotopic structure of space does not mean an occasional movement on a natural scene, but rather a conception of the entire space in terms of a field of power. (p. 319)

Therefore, a definite spatial frame of reference can be regarded as a "field of power" to which all directions should lead. In *Invisible Cities*, this field of power or central axis is supposed to be Venice that influences Marco's narratized description of the spatial structure of Kublai's empire. Although the topographic and chronotopic levels of space are associated with the dimension of meaning and reference, the first level of space has close correspondence to the third story of frame of reference and the second level of reconstructing space is identifiable in the context of the first story of regulating principles of the first dimension of semiotic object.

#### **4. Dimension of Speech and Position**

The significance of the linguistic structure that is imposed on the construction of space, as it is formed within the verbal text, is attached to the dimension of speech and position and is evident in the speech situations or narrative levels of the general narrator, Marco, and Kublai. Regarding these positions, "all information conveyed in language is produced and presented directly or indirectly by "speakers" and from "particular positions" (Hrushovski, 1979, p. 368). Furthermore, understanding the position of a speaker involves distinguishing the field of reference as "a hypothetical continuum of frame of reference" to which she or he refers (Hrushovski, 1979, pp. 371-372) from the frame of reference. The ontological structure of these fields of reference is the result of the speaker's position and the structure of his narrative. The speaker's position and speech are defined in terms of the hypothetically narratized descriptions of the general narrator, Marco Polo and Kublai Khan. Accordingly, the structure of spatial fields of reference is evident in the general narrator's and characters' spatial hypothetical focalization and is further reflected in the reader's evaluation of the abnormal structures of the cities in terms of the marvelous.

Ronen's (1986) degree of immediacy of frames and their different categories can be adequately explained in the context of Genette's (1972) narrative levels and is adherent to the position of the speaker or narrator of each narrative level. Accordingly, the frame of "the most immediate" (Zoran, 1984, p. 315) narrative level, that is called extradiegetic level, is the setting or "story space" (Ronen 1986, p. 425). In Calvino's (1972) *Invisible Cities*, setting or the first-frame category that is actualized by the extradiegetic narrator is where the interpersonal

communication between Marco and Kublai is hypothetically established. In fact, there are two settings in Calvino's (1972) novel so the story space does not remain constant. The first setting, as it is directly mentioned at the end of the first chapter of this novel, is Kublai's palace at the garden of magnolias in Kai-ping-fu (p. 21) which is "lightened by the lanterns hung from the cedars" (p. 60). The fragments of information about this palace—like different pieces of a puzzle that should be gathered from the beginning and end of each chapter—incline the readers to look for further information so that they can clearly imagine this frame's topographic structure. The second setting is the ancient city of Kin-sai and its surroundings including:

The princely palaces whose marble doorsteps were immersed in the water, the bustle of light craft zigzagging, driven by long oars, the boats unloading baskets of vegetables at the market squares, the balconies, platforms, domes, campaniles, island gardens glowing green in the lagoon's grayness...The lake's surface was barely wrinkled; the copper reflection of the ancient palace of the Sung was shattered into sparkling glints like floating leaves. (pp. 85-86)

What distinguishes these two settings is the scope of their spatial units, and their included information about space. The second setting has the spatial scope of the scene, which is regarded as the largest spatial unit (Zoran, 1984). Its scenic description contains more information about the Great Khan's second palace. In fact, this detailed information is due to the perceived importance of this palace that is referred to as "the latest pearl sets in the Great Khan's crown" (p. 85). The 55 cities depicted by Marco Polo comprise the secondary frame of Calvino's (1972) novel. These cities are the frames of the second level narrative depicted by Marco as the metadiegetic narrator of *Invisible Cities*. The dividing line between the first and second category frame is evident in the change of narrative levels and; therefor, narrator, addressee and recipients.

The inaccessible frames are those cities described by Kublai as the "zodiac of the mind's phantasms" (p. 22). The inaccessibility of these frames resides in the position of Kublai to his depicted cities. These frames are inaccessible because they are not actualized as the first frame category or setting entered by Marco and Kublai. One of these cities is Kublai's city of stairs that, in Marco's terms, as everyone's dream "is made of desire and fear" (p. 44). Kublai's second description of inaccessible frame is the city with black water and high docks. Marco interprets this dream city as the real city from which no one returns. The city of Lalage is another inaccessible frame depicted as a city with slender pinnacle on which the moon rest[s] and grants the city to grow in lightness.



In *Invisible Cities*, regarding the dimension of position and perspective, Venice is the spatio-temporally distant frame with respect to this novel's story-space and story-time. Whereas the story-space or setting of this novel is supposed to be Kublai's empire, this city is "physically" restrained from becoming the immediate vicinity of Marco and Kublai's conversations. Furthermore, the temporal distance is evident in the use of anachronies such as analepsis and prolepsis for referring to this city. Genette (1972), in his *Narrative Discourse: An Essay on Method*, studies the pseudo-temporal order of narrative in terms of anachronies that are all forms of discordances between the two temporal orders of story and narrative. Whereas analepsis refers to memories from the past, prolepsis takes the form of anticipation. Marco's use of analepsis and prolepsis in referring to Venice denotes the temporal distance of this frame from the present frame. The following excerpt is an example of using analepsis in referring to this temporally distant frame:

Marco Polo imagined answering (or Kublai Khan imagined his answer) that the more one was lost in unfamiliar quarters of distant cities, the more one understood the other cities he had crossed to arrive there; and he retraced the stages of his journeys, and he came to know the port from which he had set sail, and the familiar places of his youth, and the surroundings of home, and a little square of Venice where he gamboled as a child. (p. 28)

Therefore, this analepsis demonstrates Venice as a temporally distant city. On the other hand, Marco distinguishes the way he will describe "the cities visited on his expedition" (p. 5) to "the groups of stevedores and gondoliers on the street outside" his house the day he returns from the way he will dictate his travels to a writer of adventure stories in the prison cell of Genoese pirates (p. 135). Through this anticipation or prolepsis, he refers to Venice and Genoese as two spatiotemporally distant frames from his contemporary space.

The last frame, which is determined according to its degree of immediacy, is called generalized space or nonspecific frame. In Calvino's (1972) fictional space, as it is the case in other nonspecific frames, this exceptional frame has the characteristic of ambivalence immediacy because it contains the first, second, and even the third frames' categories. This generalized space or the "endless, formless ruin . . ." (p. 5) is Kublai Khan's Empire that serves as the setting of the major characters' conversations, Marco's 55 cities, and the inaccessible frame of Kublai's dreams. The effect of linearity of text on this nonspecific frame results in its undistinguishable boundaries from other frames. More precisely, in this case, the ambivalent frame is evident in the nonspecific verbal arrangement and is the effect of the verbal and spatial orders chosen. The nonspecific characteristic of this

nonunified and disconnected space is created through the lack of clear-cut textual information in order to intensify the effect of globalization on the postmodern space.

### 5. Conclusion

To sum up, the present research regards space as a semiotic object in order to elucidate how the transformation from space into a system of signs is affected by the selectivity of language, the linearity of the text, and the latter's perspectival structure that are reflected in the three vertical levels of constructing space and the three-dimensional model of semiotic object. Applying these integrations to the space of Calvino's (1972) *Invisible Cities* paves the way for a more concrete methodology for the study of fictional space—which serves as the focal point of the recent interdisciplinary literary studies. This novel narratively describes the hypothetical structures of 55 mental spaces that are interpreted as signs of the vertical reconstructions of topographic, chronotopic, and textual levels of space. This, in turn, demonstrates the possibility of adopting different theories to demonstrate the close association of inherently vague and abstract subjects of space and semiotics in literature. Following the distinction between possible and fictional worlds, the spaces of the 55 cities depicted by Marco Polo can be studied according to their adherence to the logic of ramification or parallelism. Furthermore, the representation of space as a field of reference may be examined in associations with the hypothetical focalizations of the general narrator, Marco Polo, and Kublai Khan. Regarding coexistence as the primary characteristic of the three levels of space and the three dimensions of semiotic object, the present research concludes that as the topographic level coexists with the other levels of space, the dimension of meaning and reference that is inherent to this level of space respectively coexists with the chronotopic and textual levels in terms of frame of reference and regulating principles.

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