Space

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1 Definition

Kantian philosophy regards time and space as the two fundamental categories that structure human experience. Narrative is widely recognized as the discourse of human experience (Fludernik 1996); yet most definitions, by characterizing stories as the representation of a sequence of events, foreground time at the expense of space. Events, however, are changes of state that affect individuated existents, which are themselves bodies that both occupy space and are situated in space. Representations of space are not necessarily narratives—think of geographical maps, landscape paintings, etc.—but all narratives imply a world with spatial extension, even when spatial information is withheld (as in Forster's: "The king died, and then the queen died of grief"). The inseparability of space and time in narrative is suggested, among other ideas, by Baxtin's ([1938] 1981) polysemic concept of chronotope, by Werth's (1999) "text world," by Herman's (2005) "storyworld," and by Genette's ([1972] 1980) "diégèse." All of these concepts cover both the space-occupying existents and the temporally extending events referred to by narrative discourse (Hühn → Event and Eventfulness [1]).

When speaking of space in narratology and other fields, a distinction should be made between literal and metaphorical uses of the concept. As an a-priori form of intuition, space is particularly difficult to capture in its literal sense. The *OED* defines it, somewhat tautologically (since it uses the spatial concept "within"), as "the dimensions of height, width and depth within which all things exist." *The Cambridge Dictionary of Philosophy*'s more mathematical definition avoids tautology, but its greater abstraction does not capture our intuitive sense of space as the universal container of things: "An extended manifold of several dimensions, where the number of dimensions corresponds to the number of variable magnitudes needed to specify the location in the manifold" (DiSalle [1996] 1999: 866-67).

Many of the spatial concepts developed in literary and cognitive theory (Herman → Cognitive Narratology [2]) are metaphorical because they fail to account for physical existence. Among such uses are Fauconnier's (1985) mental spaces, which are constellations of meanings held together in the mind; his notion of mapping (1997)

), whose origin in the visual representation of space has been overshadowed by its extension to any kind of analogical thinking; Friedman's "spatial reading" of narrative (1993), an approach which she describes as paying attention not only to a "horizontal axis" of plot, but also to a "vertical axis" standing for a variety of other literary dimensions: author-reader relations, literary-historical considerations, and intertextual allusions. Turner's concept of "spatial stories" (1996) is metaphorical for another reason: the term designates expressions based on space-implying movements (e.g. "the stockmarket sank") and it is "story" rather than "spatial" that functions metaphorically.

2 Explication

The importance of the concept of space for narratology is not limited to the representation of a world (a notion to be refined below) serving as container for existents and as location for events. We can distinguish at least four forms of textual spatiality. Of these four forms, the first will be the main focus of this entry.

2.1 Narrative Space

This is the physically existing environment in which characters live and move (Buchholz & Jahn 2005). We may call it "setting," but this intuitive notion of setting needs to be further refined: just as, in the theater, we can distinguish the stage on which events are shown from the broader world alluded to by the characters, in written narrative we can distinguish the individual locations in which narratively significant events take place from the total space implied by these events (Ronen 1986). Since there is no established terminology to distinguish the laminations of narrative space, I will synthesize existing work through the following categories, illustrating them all with the short story "Eveline" by James Joyce:

(a) Spatial frames: the immediate surroundings of actual events, the various locations shown by the narrative discourse or by the image (cf. Ronen's [1986] "settings"; Zoran's [1984] "fields of vision"). Spatial frames are shifting scenes of action, and they may flow into each other: e.g. a "salon" frame can turn into a "bedroom" frame as the characters move within a house. They are hierarchically organized by relations of containment (a room is a subspace of a house), and their boundaries may be either clear-cut (the bedroom is separated from the salon by a hallway) or fuzzy (e.g. a landscape may slowly change as a character moves through it). Examples of spatial frames in "Eveline" are the living room of Eveline's house and the Dublin harbor.

- (b) *Setting*: the general socio-historico-geographical environment in which the action takes place. In contrast to spatial frames, this is a relatively stable category which embraces the entire text. We may for instance say that the setting of "Eveline" is early 20th-century lower-middle-class Dublin.
- (c) Story space: the space relevant to the plot, as mapped by the actions and thoughts of the characters. It consists of all the spatial frames plus all the locations mentioned by the text that are not the scene of actually occurring events. In "Eveline," the story space comprises not only Eveline's house and the Dublin harbor, but also South America, where Eveline dreams of escaping with her lover.
- (d) Narrative (or story) world: the story space completed by the reader's imagination on the basis of cultural knowledge and real world experience (cf. Ryan's [1991] principle of minimal departure). While story space consists of selected places separated by voids, the narrative world is conceived by the imagination as a coherent, unified, ontologically full and materially existing geographical entity, even when it is a fictional world that possesses none of these properties (Schaeffer → Fictional vs. Factual Narration [3]). In Eveline's world, we assume that Dublin and South America are separated by the Atlantic, even though the ocean is not mentioned by name. In a story that refers to both real and imaginary locations, the narrative world superimposes the locations specific to the text onto the geography of the actual world. In a story that takes place in wholly imaginary landscapes (e.g. Lord of the Rings), readers assume that the narrative world extends beyond the locations named in the text and that there is continuous space between them, even though they cannot fill out this space with geographic features.
- (e) Narrative universe: the world (in the spatio-temporal sense of the term) presented as actual by the text, plus all the counterfactual worlds constructed by characters as beliefs, wishes, fears, speculations, hypothetical thinking, dreams, and fantasies. The narrative universe of "Eveline" contains one world where she boards a ship to South America and lives happily ever after with her lover, and another where she is emotionally unable to leave Dublin. For a possible world to be part of the metaphorical concept of narrative universe, it must be textually activated (e.g. the world where Eveline becomes Queen of England does not belong to the narrative universe of the story because it is never mentioned or

presupposed by the text).

All of these levels are described here from a static perspective as the final products of interpretation, but they are progressively disclosed to the reader through the temporal unfolding of the text. We may call the dynamic presentation of spatial information the *textualization of space* (cf. Zoran's "textual level" of space [1984]). This textualization becomes a *narrativization* when space is not described for its own sake, as it would be in a tourist guide, but becomes the setting of an action that develops in time.

2.1 The Spatial Extension of the Text

Chatman (1978: 96-107) proposes a distinction between "story space" and "discourse space" through which he tries to transpose into the spatial domain the well justified distinction between "story time" ("the duration of the purported events of the narrative") and "discourse time" ("the time it takes to peruse the discourse"; 62). "Discourse time" is a useful concept because language (or film) is a temporal medium. But Chatman's notion of "discourse space" does not involve space in the same way as "discourse time" involves time, for it does not concern the space physically occupied by narrative discourse but, rather, describes the disclosure by discourse of the space in which the story takes place (3.2). The concept of "spatial extension of the text" offers a more satisfactory spatial correlate of the notion of "discourse time," since it refers to the spatiality of the text as material object and to the dimensionality of the interface with the reader, spectator or user. Spatial extension ranges from zero spatial dimensions (oral narratives, excluding gestures and facial expressions; music) to quasi one-dimensionality (a text displayed on a single line with letters moving from right to left, as in television news lines, electronic billboards, and some digital literary texts), two-dimensionality (printed narratives, film, painting) all the way to genuine three-dimensionality (theatre, ballet, sculpture) (Ryan → Narration in Various Media [4]).

Particularly relevant to narrative is the organization of two-dimensional space. Topics of interest include the integration of text into image and the division of time into distinct frames in comics and cartoons (McCloud 1993); the integration of image into text in illustrated books; and the "hypermediated displays" (i.e. distribution of information into separate windows) of newspapers, avant-garde fiction, Web pages, and digital narratives, especially computer games (Bolter & Grusin 1999). In pictorial narratives, the study of spatial organization distinguishes paintings that capture a single moment, leaving it to the spectator to reconstruct the temporal sequence that makes it part of a story (cf. Lessing's notion of "pregnant moment"), from images that distribute narrative content into multiple scenes separated from each

other by framing devices, such as architectural features (Steiner [1988] 2004).

2.2 The Space that Serves as Context and Container for the Text

Narratives are not only inscribed on spatial objects, they are also situated within real-world space, and their relations to their environment go far beyond mimetic representation. When a nonfictional story is told where it happened, gestures and deictic elements may be used to point to the actual location of events. By telling us how certain striking landscape features came into being or what happened on certain sites, narratives of myth, legend and oral history build a "spirit" of place, what the Romans called *genius loci*. In aboriginal Australia, stories, known as song lines, marked salient landscape features and helped people remember routes through what may look to outsiders as a monotonous desert. Another form of spatial situatedness for narrative are museum commentaries transmitted though earphones: each part of the text relates to a certain object, and users must coordinate playing the tape with their own progression through the space of the exhibit. With historical landscapes, memorial areas or heritage sites, the spatial situation of the narrative corresponds to the real-world location of the commemorated events, and the design of the visitor's tour must take into consideration the constraints of historical reality (Azaryahu & Foote 2008). More recently, GPS and wireless technology have made it possible to create stories on mobile phones, attach them to particular geographic locations, upload them on the Internet, and make them accessible only to people who happen to be in the right place (Ryan 2003a). Whereas ordinary print narratives are nomadic texts that can be taken anywhere because they describe absent objects, the new digital technologies reconnect stories with physical space by creating texts that must be read in the presence of their referent.

As Page (2011) and Herman (2009) have shown, when narrators and their audience are situated on location, narrators can use narrative techniques that are not available in distant storytelling, such as gestures and deictic expressions. Pointing at certain object or areas in space can for instance take the place of extended descriptions, or allow audiences to better imagine character movements.

2.3 The Spatial Form of the Text

The term "spatial form" was introduced by the literary critic Frank ([1945] 1991) to describe a type of narrative organization characteristic of modernism that deemphasizes temporality and causality through compositional devices such as fragmentation, montage of disparate elements, and juxtaposition of parallel plot

lines. The notion of spatial form can be extended to any kind of design formed by networks of semantic, phonetic or more broadly thematic relations between non-adjacent textual units. When the notion of space refers to a formal pattern, it is taken in a metaphorical sense, since it is not a system of dimensions that determines physical position, but a network of analogical or oppositional relations perceived by the mind. It is the synchronic perspective necessitated for the perception of these designs and the tendency to associate the synchronic with the spatial that categorizes them as spatial phenomena.

In digital texts, the notion of spatial design rests upon the hyperlink, a machine-language command that instructs the computer to display a certain fragment of text in response to a certain user action: clicking on specially marked buttons. Rather than forming a synchronically perceived pattern, digital links are navigational tools that control the temporal unfolding of the text. Yet hypertext narratives have been widely described as spatial (Bolter 1991) because the multiple connections between textual units prevent a linear progression through the text and thus disturb the chronological presentation of the story.

3 History of Approaches to Narrative Space

3.1 Spatial Imagery

The study of spatial imagery was pioneered by Bachelard's *Poetics of Space* ([1957] 1994). Despite its title, this work is not a systematic study of how literature represents space, but a highly personal meditation on certain images that "resonate" in the imagination of the author, conjuring a quasi-mystical sense of connectedness to the environment and of the presence of things. In recent years, the study of spatial imagery has become increasingly focused on the basic spatial schemata that underlie language and cognition (Emmott & Alexander → Schemata [5]). As early as 1970, Lotman argued that "the language of spatial relations" is a "basic means for comprehending reality" ([1970] 1977: 218). He showed that in literary texts, especially poetry, spatial oppositions such as high and low, right-left, near-far or open-closed are invested with non-spatial meaning, such as valuable-nonvaluable, good-bad, accessible-inaccessible, or mortal-immortal. While Lotman concentrates on verbal art, Lakoff & Johnson (1980) and Turner (1996) focus their attention on spatial metaphors frozen into ordinary language. True to phenomenologist doctrine, these authors believe that the most fundamental human experience consists of apprehending oneself as a body located in space. The embodied nature of mind is reflected in language by families of metaphors that concretize abstract concepts in terms of bodies moving through or situated in space. Words like up and down, front and back, high and low, organize space using the

body as point of reference. Due to the erect position of the body, up and down are the most prolific sources of metaphors: e.g. happy is up, sad is down; more is up, less is down; etc. Front and back are mainly used as metaphors of time: in our culture, the future is ahead and the past is behind. Other spatial schemata that provide important sources of metaphors are the conduit, the journey, the path, and the container (space as a whole can be seen as a container). Though these approaches are not specifically narratological, they can be applied to narrative texts as well as to poetry or to language in general. A case in point is Dannenberg's (2008) study of the spatial schemata of the portal and the container in narrative scenes that involve the recognition of identity. On a meta-narrative level, the blending of two common metaphors, "life is a story" and "life is a journey," produces a widespread spatial conceptualization of narrative as a journey (Mikkonen 2007).

3.4 The Textualization of Space

The various techniques of space presentation (Niederhoff → Perspective - Point of View [6]) give flesh and shape to the visualizations that immerse the reader in the narrative world. Though description is often regarded by text typologists as the antithesis of narration, it is also the major discourse strategy for the disclosure of spatial information. In description, the report of the narrative action is temporarily suspended to afford the reader a more or less detailed glimpse at the current spatial frame. This interruption can, however, be minimized by more dynamic ways of constructing narrative space such as object or character movements ("he left his house, and turned right toward the harbor"); characters' perceptions ("from the balcony, a tree blocked her view"); narrativized descriptions (e.g. revealing the floor plan of a house by describing the building process); and implications from reports of events ("the bullet missed its target, crossed the town square and broke a window of the church"). Zubin & Hewitt's (1995) notion of deictic shift explains how narratives transport the reader's imagination from the "here and now" of the illocutionary act—the normal reference of deictic expression—to the place and time of the narrated scene. Through effects of zooming in and out, narrative texts may vary the distance between the observer's spatial situation and the narrated events, and through shifts in focus, they can move objects of description from the foreground to the background or vice versa (Herman 2002: 274-77). Perspective itself, as Uspenskij ([1970] 1973: 57-65) observes, is a particular positioning of the narrator within the story space; this positioning may coincide with the location of a specific character whose movements are followed by the narrator, or it may move across a certain area that contains several characters as the focus of the discourse alternates between different individuals. In film (Kuhn & Schmidt → Narration in Film [7]), the presentation of space encounters the problem of giving the spectator a sense of what lies beyond what is framed by the current screen, and of how the

individual frames are interconnected. This can be done through techniques such as panning and zooming, mounting a camera on a moving support, providing a shot establishing a general location before zooming in, or showing the same location in a shot-reverse shot sequence from the perspective of different characters.

On the macro-level, spatial information can be organized according to two basic strategies: the map and the tour (Linde & Labov 1975), also known as the survey and the route. In the map strategy, space is represented panoramically from a perspective ranging from the disembodied god's eye point of view of pure vertical projection to the panoramic view of an observer situated on an elevated point. In this mode of presentation, space is divided into segments and the text covers them in systematic fashion, e.g. left to right, north to south, front to back. The tour strategy, by contrast, represents space dynamically from a mobile point of view. Thus an apartment will for instance be described room by room, following the itinerary of somebody who is showing the apartment. In contrast to the pure vision of the map view, the tour simulates the embodied experience of a traveler. Of the two strategies, the tour is the more common in narrative fiction, although some postmodern texts have experimented with the map view: e.g. Georges Perec's La Vie mode d'emploi describes the parallel lives of the inhabitants of an apartment building by jumping across the building as if the narrator were a knight on a chessboard—a strategy that presupposes a map-like vertical projection—rather than creating a natural walkthrough.

As readers or spectators progress through the narrative text, they gather spatial information into a cognitive map or mental model of narrative space (Ryan 2003b). Through a feed-back loop effect, these mental models, which are built to a large extent on the basis of the movements of characters, enable readers to visualize these movements within a containing space. Mental maps, in other words, are both dynamically constructed in the course of reading and consulted by the reader to orient himself in the narrative world. The various landmarks shown or mentioned in the story are made into a coherent world through an awareness of the relations that situate them with respect to each other. To understand events, the reader may for instance need to know that the hero's house is located on the town square and close to the harbor. But media that temporalize the release of information, such as language and film, do not facilitate the mental construction of spatial relations because, unlike paintings or the stage setting of drama, they display objects successively rather than simultaneously. A mental model of narrative space is a construct held in long-term memory, but it is built from images of individual spatial frames that replace each other in short-term memory. This explains why readers are not always able to situate individual frames within the narrative world. But a mental map does not have to be nearly as consistent as a graphic map in its

representation of spatial relations. While some locations need to be precisely situated with respect to each other because they are the stage of events that involve space in a strategic way, others may occupy free-floating positions in the reader's mind. In many cases, readers will be able to understand stories with only a rudimentary representation of their global geography because, as Schneider (2001) observes, space in narrative usually serves as a background for characters and their actions, and not as a focus of interest. When topography is of prime importance for the logic of the plot, as it may be in detective fiction, the limitations of language as a medium of spatial representation can be remediated by a graphic map of the narrative world. Another function of graphic maps, particularly prominent in children's narratives, travel stories and fantastic literature, is to spare the reader the effort of building a cognitive map, thereby facilitating the mental visualizations that produce immersion.

3.5 The Thematization of Space

An important aspect of the cognitive mapping of narrative texts is the attribution of symbolic meaning to the various regions and landmarks of the narrative world. This meaning should not be considered a metaphorization of the concept of space, since it is attached to specific areas of the narrative world, contrary to spatial metaphors, which suppress connections to particular territories. In the cosmology of archaic societies, space is ontologically divided into a profane world, the realm of everyday life, and a sacred world, inhabited by supernatural beings, with holy sites functioning as portals between the two. The narrative response to these cosmologies and topologies is a symbolic geography diversified into regions where different events and experiences take place—where life, in other words, is governed by different physical, psychological, social or cultural rules. In fairy tales or computer games, for instance, the symbolic map of the narrative world may associate the castle with power, mountain tops with confrontations between the forces of good and evil, open areas with danger, closed areas with security, etc. This symbolic organization of space is not limited to fantastic texts: narrative worlds can be structured by oppositions between colonizing countries and colonized regions; between town and country (Tolstoj's Anna Karenina); between life in the capital and life in the province (Balzac's Comédie Humaine); between home and away from home (The Odyssey); between the knowable and the unknowable (the town vs. the castle in Kafkas' Das Schloss); or between landscapes that speak differently to the imagination (Swann's way vs. Guermantes's way in Proust's À La Recherche du temps perdu). According to Lotman, narrative is born when a character crosses the boundary between these symbolically charged spaces: "A plot can always be reduced to a basic episode—the crossing of the basic topological border in the plot's spatial structure" ([1970] 1977: 238).

Architecturally as well as plot-functionally, narrative space can be described in terms of the partitions, both natural and cultural, that organize it into thematically relevant subspaces: walls, hallways, political boundaries, rivers and mountains, as well as in terms of the openings and passageways that allow these subspaces to communicate: doors, windows, bridges, highways, tunnels and passes. Besides horizontal partitions, narrative can also present vertical ones, corresponding to what Pavel (1986) calls "salient ontologies": these ontologies can oppose the world of everyday life to a world of magic, dreams to reality, images to existents or, in narratives with embedded stories, the different levels of fictionality. Whereas horizontal partitions divide the geography of the narrative world, vertical partitions create ontological layers within the narrative universe.

The lived experience of space offers a particularly rich source of thematization. Some stories present space as closed and confining (prison narratives; Anne Frank's diary), others as open and liberating (narratives of exploration; many travel narratives), and still others as open and alienating (stories of wandering aimlessly in a hostile environment). Confined space occasionally turns into a field of endless discoveries, as does Robinson Crusoe's island. Through its immensity, space may be perceived as separating (narratives of exile; Odyssey), or its existence may be denied by technology (telecommunications; travel through teletransportation). Narrative may also focus on place, a concept commonly opposed to space by geographers, by immersing the reader in a particular landscape or cityscape. And finally, narratives may highlight the importance of our sense of embodiment for the experience of space by featuring a protagonist whose body grows or shrinks out of human proportions. Novels like *Gulliver's Travels* or *Alice in Wonderland* deautomatize our relation to space by showing how movement, navigation, the handling of objects and interpersonal relations are affected by a change of scale.

The most radical thematizations of space are those that involve alternative or logically inconsistent worlds. While the mind can theoretically conceive spaces of any number of dimensions (string theory postulates 9 or 10, depending on the version), the "imagining imagination" can only picture objects within a space of three dimensions or less. An example of experimentation with the dimensionality of space is Edwin Abbott's 1884 novella *Flatland*, a narrative that depicts everyday life and cognition issues within a world of two dimensions: how, for instance, do the members of this world distinguish each other, since the recognition of flat shapes normally involves an elevated point of view that presupposes a third dimension? The narrator then migrates to a one-dimensional world, and his puzzlement mirrors the reader's experience of two-dimensional reality. He is finally transported into a three-dimensional world and describes in amazement an experience that is taken for

granted by the members of this world (as well as by the reader); but when he asks to visit a four-dimensional world, the three-dimensional creatures tell him that no such thing exists. One way for a text to circumvent the limitations of the imagination is to project a cosmology with multiple parallel worlds. This cosmology, inspired by the "many-worlds" interpretation of quantum mechanics and explored by many science-fiction texts, does not strain our faculties of mental visualization because every one of the parallel realities is itself a standard three-dimensional space. By allowing the existence of multiple counterparts of the same individual and by staging transworld travel that allow these counterparts to meet, the many-worlds cosmology is a goldmine of intriguing narrative situations (Ryan 2006).

Logically impossible story spaces are the narrative equivalent of M.C. Escher's pictorial representations of worlds that violate the laws of perspective. The most common form of logical impossibility in literature is metalepsis, the transgression of ontological boundaries through which imaginary creatures of pen and paper can penetrate into the fictionally "real" world of their creator, or vice-versa (Pier → Metalepsis [8]). Metalepsis can lead to a spatial effect described by Hofstadter (1979: passim) as a strange loop: rising higher and higher through the levels of a hierarchical system, only to find oneself right where one began. But a narrative space cannot be wholly inconsistent, for fear of preventing any kind of mental representation—for fear, in other words, of losing its spatial quality. Logical contradiction is normally limited to some areas of the narrative world, piercing the fabric of space like the holes in a Swiss cheese. In Mark Z. Danielewski's House of Leaves, for instance, a certain house is bigger on the inside than on the outside, and the inside is the gateway to a seemingly infinite alternative space where horrific events occur; even so, readers can still draw on their normal experience of space in some regions of the narrative world, despite its topological heterogeneity.

4 Recent Trends

Of all the types of space defined in section 2, the one that has recently inspired the greatest creative and theoretical activity is 2.3: the real-world space that serves as context and referent to narrative texts.

One form of spatial situatedness for narrative are museum commentaries transmitted though earphones: each part of the text relates to a certain object, and users must coordinate the playing of the tape with their own progression through the space of the exhibit. With historical landscapes, memorial areas or heritage sites, the spatial situation of the narrative corresponds to the real-world location of the commemorated events, and the design of the visitor's tour must take into consideration the constraints of historical reality (Azaryahu & Foote 2008). These so-

called "landscape narratives" can be relatively punctual, when the events took place in a restricted area or spread out in space, when the events took place over large areas or periods of time; they can be either thematically arranged, leaving the visitor a choice of itinerary, or they can guide her along a chronologically arranged storyline.

Whereas ordinary print narratives are nomadic texts that can be taken anywhere because they describe absent objects, the new digital technologies reconnect stories with physical space by creating texts that must be read in the presence of their referent (Ryan 2003b). For instance, the Canadian project [murmur] consist of oral stories told by citizens of Toronto and other cities about urban features. The locations of stories in the actual city are marked by visible signs that display phone numbers where the stories can be accessed. Equipped with a paper map that shows these locations, participants walk through the city in search of the landmarks to which stories are connected. The purpose of this project, which exemplifies a genre known as "locative narrative" (Ruston 2010) is to capture the genius loci of a city by giving participants an appreciation of its rich narrative legacy. Just as legends from the past and tales about the ancestors create a sense of place, the stories told by citizens about seemingly ordinary buildings and neighborhoods make the everyday captivating and give a soul to the city.

A type of project greatly facilitated by digital technology is the creation of large archives that map literary texts on real-world geography on the basis of the actual place names found in the narratives. An early, print form of this kind of project was the Atlas of the European Novel edited by Franco Moretti (1998). More recently, an Atlas of European Literature that maps hundreds of texts, using advanced cartographic methods, and associated with interactive tools, has been developed by the Institute of Cartography and Geoinformation, ETH Zuric in collaboration with the Georg August University in Göttingen and the Karl University in Prague. As Barabara Piatti (2009) argues, the mapping is not an end in itself but a research tool that should help the investigation of many new questions: for instance, how do landscapes imprint themselves in the human imagination, what areas are heavily populated with literary texts and which ones are relatively empty, or how farranging is the network of place-names mentioned in the stories inspired by a certain area. (A comparative study shows that stories whose main action is located in Prague cast a much wider network than North Friesland stories.) Such databases—which could include folklore and narratives in visual media as well as literature—will be essential to the development of a type of investigation that the French literary scholar Bertrand Westphal (2011) calls geocriticism.

5 Topics for Further Investigation

Because narratologists have long privileged time over space, narrative space remains a relatively unexplored territory. The most promising areas of investigation appear at the present time to be: (a) the anchoring of stories in real-world space, as described in section 2.3; (b) the design of "spatial architectures" (Jenkins 2004) for computer games, allowing players to participate actively in a story while exploring a fictional world more or less freely; (c) comparative studies of the medium-specific techniques that enable people to construct mental images of narrative space; (d) empirical studies of the importance of mental visualizations and cognitive mapping for the understanding of plot and the experience of immersion; (e) studies of the historical and cultural variability of the semiotic oppositions (such as "high-low," "inside-outside," "closed- open") that determine the topology of narrative worlds.

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