Humaniora

DISSERTATIONES
SEMIOTICAE
UNIVERSITATIS
TARTUENSIS
20

TIIT REMM

Sociocultural Space: Spatial Modelling and the Sociocultural World

DISSERTATIONES SEMIOTICAE UNIVERSITATIS TARTUENSIS
20

DISSERTATIONES SEMIOTICAE UNIVERSITATIS TARTUENSIS
20

TIIT REMM

Sociocultural Space: Spatial Modelling and the Sociocultural World

UNIVERSITY OF TARTU
PRESS
1632

Department of Semiotics, Institute of Philosophy and Semiotics, University of Tartu, Estonia

The council of the Institute of Philosophy and Semiotics of University of Tartu has on June 25, 2015 accepted this dissertation for defence for the Degree of Doctor of Philosophy (in Semiotics and Culture Studies).

Supervisor: Anti Randviir, University of Tartu, PhD

Opponents: professor Risto Kalevi Heiskala, PhD, University of Tampere
professor Hannes Palang, PhD, Tallinn University

The thesis will be defended at the University of Tartu, Estonia, on October 15, 2015, at 12:00 in University of Tartu Council Hall, Ülikooli 18

This research was supported by the Centre of Excellence in Cultural Theory (European Regional Development Fund), the Graduate School of Culture Studies and Arts (European Social Fund), European Social Fund's Doctoral Studies and Internationalisation Programme DoRa (carried out by Foundation Archimedes), Estonian Research Council's institutional research project IUT2-44, Estonian Science Foundation grants ETF7988, ETF6729 and ETF9284.

ISSN 1406–6033
ISBN 978-9949-32-928-1 (print)
ISBN 978-9949-32-929-8 (pdf)

University of Tartu Press
www.tyk.ee

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

From the very beginning until the completion my thesis, continuous support and critical remarks from my supervisor Anti Randviir about my research as well as other aspects of academic life around me have helped to have a fair understanding of my work and its surroundings. In the very beginning, about fifteen years ago, it was also his lecture that inspired me to inquire about the ways in which space is made meaningful.

Besides him I am thankful to critical readers Alexandros-Phaidon Lagopoulos and Katre Pärn. Without their devotion, the text would include the same ideas but not as explicitly. For the achieved clarity of expression I also have to thank Montana Salvoni and Jamie Kruis. The research has not happened in isolation but in the midst of interested and supportive colleagues in the department of semiotics in Tartu, in the Centre of Excellence of Cultural Theory and elsewhere, with particularly kind gratitude belonging to Kadri Kasemets and Harri Veivo.

There are a few people who have given me the privilege of a special touch to the sociocultural world and an external perspective to what I am doing, making it possible to see and walk the path of this research. My heartfelt gratitude goes to Aivar, Kadri, Katrin, Marika and Rea. Finally and most importantly I am thankful to my family, without whom none of this could have been possible.

Aitäh!

INTRODUCTION

Spatial conceptions and the sociocultural world

This thesis is about the use of space-related conceptions for studying the sociocultural world in its complexity. Most generally speaking, the sociocultural world is the collective living of humans; for a human subject, it is the meaningful world to live in. According to the (socio-) semiotic perspective (for an overview see Randviir, Cobley 2010, but also Randviir 2014), the sociocultural world is grounded in semiosic interaction and involves both tangible material and mental aspects (respectively describable as physical and semiotic) inseparably related in semiosis and the intersubjective interactional dimension.

The complexity of this object domain and the involvement of a multitude of semiotic subjects in it pose a challenge in studying the sociocultural world in a holistic manner. A potential solution has been seen in spatial metalanguage in social and cultural theory – that is, space-related terminology proposed as means of scientific cognition about the sociocultural world. The frequent use and particular choices of the notions can be seen as significant conceptual decisions. These spatial expressions and notions assemble and form terminological clusters where conceptual spatial models are presented by verbal means. While there are explicit proposals for a more specific spatial metalanguage, the notions are also often considered as essentially metaphoric. It is taken as a premise for the present work that spatial notions in social and cultural theories are not merely odd metaphors. Even if spatial terminology does not form a metalanguage in a strict sense, it is a metalanguage in the sense of descriptive language and a heuristic tool for theory construction and explanation – thus a tool of cognition in the hands of scientific modelling.

Spatial notions, their clusters, the general idea of "spatiality" behind these and the particular analytic object can vary significantly among authors and enable approaching the object domain from different but more or less limited perspectives. On the one hand, the object of social and cultural theories and studies, the sociocultural world, asks for holistic interpretations of its integrative and semiotic nature. On the other hand, spatial conceptions used as modelling means can be found in a vast number, enabling multiple kinds of descriptions of the sociocultural world with more reductionist or more holistic approaches and accordingly not providing a clear-cut paradigm. The situation is even more complicated as subjects in the object domain not only have reflective knowledge about the world that they inhabit, but also spatial conceptions as part of the knowledge that are actively employed in interactions in the sociocultural world (for example, a spatial world image) and should thus be considered by the researcher as another kind of spatial modelling, this time at the object level of research. The research again employs spatial conceptions as cognitive and communicative means that are derived from certain sources – more practical or theoretical knowledge from the culture of the researcher, or in the case of a more *emic* approach, of the researched community. This situation leads to the

central question of the present thesis: how and what possibilities and advantages does spatial modelling offer for the study of the sociocultural world in its semiotic complexity?

For the semiotic perspective employed in this study, the idea of physical space and its various semiotisations are not central. Instead, a more general spatial organisation should be considered. Accordingly, the notion *space* can be explained as referring to a recognised set of spatial relations. *Spatial relation* again refers to a situation of co-presence of at least two potential objects, or as Ernst Cassirer puts it with reference to Gottfried W. Leibniz, *possibility of coexistence* and *order of possible coexistences* (Cassirer 1969: 10). Similarily, Leonid Tchertov explains in his recent explication of a conceptual framework of spatial modelling: "Spatial structures are formed when some spatial relations build configurations of co-existing objects" (Tchertov 2015: 85). At the same time, he limits the field of spatial modelling with the cultural, fully conventional activity of people (Tchertov 2015: 81), not asking about cognitive mechanisms and enabling the cultural use of spatial modelling means. Concepts of space, be they about semiotic or physical aspects of the world, thus involve not only a variety of relations but also particular kinds of integrations into wholes. In this sense, various notions of space are not completely removed from one another. From a semiotic point of view, it is again essential to understand *potential objects* as objects of attention or recognition for someone and therefore to consider *space* as existing for someone. The objects are essentially objects of recognition and thus presume a subject of some kind. The objects of recognition can exist as merely semiotic entities but they can also have physical dimensions, in which case the semiotic subject can be related to various levels of semiotisation of the physical space (for example, physical space in its physical matter; as organisation in the perceptual domain; as segmented into objects of recognition; as environment and object of cognitive mapping; as significant dimension of cultural artefacts; as signifying dimension of cultural ideas). However, for the interest in spatial organisation as a tool for cognition, the semiotic idea of spatiality itself is central as it allows a deeper understanding of spatial modelling as a semiotic activity.

The interest of this study lies in conceptual means that enable conceptualising the sociocultural world as *spatial.* In line with Tchertov's (2015: 85–92) terminology of spatial modelling, these means that can be called *spatial models* are internal or mental spatial structures with a modelling function that is performed via similarity to aspects of the modelled object. These spatial models are further modelled externally by verbal means. The study of spatial models in social and cultural theories would thus be mediated by interpretation of their expression and communication in academic writings, including in some cases also visualisations. However, the final aim of the interpretation should be to better understand the ways in which spatial structures of models relate to their object – to the sociocultural world that can be modelled in various aspects and forms, and that already involves various spatial organisations as well as internal and external models.

Spatial modelling is in a sense abstract – for example, a *cognitive map* as either an image of the urban environment or a schema of abstract ideas involving the undetermined nature of objects, which is characteristic to the semiotic perspective. At the same time, as a cognitive process and a construction, spatial modelling is closely dependent on the modelling subject, its environment and experience. Human subjects, their society and culture have both physical and semiotic aspects linked in complex ways, as in the domain of spatial modelling. While perception, cognition and signification of physical space by a subject namely as *space* involves a scale of semiotisation of physical space, then conceptions of space as *geographical space* or *sociocultural space* are conceptual constructs that involve multi-layered spatial modelling, including references to somewhat semiotised physical space, experiences of the physical world that are socially interpreted and mediated as well as derivation from some pre-existing spatial concepts. My aim in the following discussion is to provide a relatively coherent explication of the sociocultural space as a tool for spatial modelling of the sociocultural world.

While it is apparent that the notion *sociocultural space* could be employed in various ways, it is a relatively precisely defined notion in the works of Pitirim Sorokin (especially in Sorokin 1964: 97–157; 1947: 359–364) as a referential principle for describing the sociocultural world. The adjective *sociocultural* itself tends to be used for referring to a hybrid or integrative character of social and cultural aspects. *Social space* and *cultural space* are again expressions that have been widely used in scientific as well as everyday discourses to refer to various ideas. Some examples of these are *social space* as an area inhabited by a group; as an organisation of physical space being a product of human activity; as patterns of individual behaviour and movements in relation to social networks and organisations; as a territory of collective self-identification; as complexes of places with symbolic value in culture; as a conceptualisation of space as developed in social actions, as the form of social morphology, etc. (see e.g. Buttimer 1969; Claval 1984; Durkheim 1990; Jaisson 1999; Lefebvre 1991). The expression *cultural space* appears in a similar variety of meanings – to which might be added *cultural space* as the semiotic space of a culture or semiosphere (Lotman 2005) or space of culture as a timespace of communication (Saldre, Torop 2012). A rather common use can also be found in relation to the idea of national cultural space and the travel of ideas, texts, objects and persons between them (e.g. Estonian cultural space, Russian cultural space, the Estonian and Russian cultural spaces in Estonia, etc). While such a space is the circulation environment of texts of culture, it also highlights national and institutional boundaries. Hence that concept binds together the semiotic space of culture, the territoriality, and the aspects of self-descriptive modelling (see for example a discussion about Estonian culture, its *space* and boundaries in, Veidemann 2009). In contrast to social and cultural theories, this kind of creation and maintenance of semiotic entities and collective subjects is a popular practical application of spatial metalanguage.

In the present study, the issue at hand is not a comparison of notions *social space* and *cultural space*, but a common integrative field of *sociocultural space* that underlines the relatedness of various aspects that appear in the perspectives of possible spatial descriptions and the multi-layered semiotic spatial modelling.

The question

The variety of suggestions for a spatial metalanguage poses the main question of this study: What possibilities and advantages does spatial modelling offer and how, for the study of the sociocultural world in its semiotic complexity? The aim of moving toward a comprehensive explication of *sociocultural space* as a tool for semiotic modelling of the sociocultural world suggests further questions. First, what is the sociocultural world as the object domain of spatial modelling and how can it be made analysable? Second, how have spatial models been engaged in theory building in some examples of social and cultural theory? How does the idea of sociocultural space as a semiotic modelling tool relate to semiotisation of physical space and to geographical space?

The topic of modelling as a semiotic activity has been widely discussed in semiotics (most notably in Anderson, Merrell eds. 1991, Lotman 2011, Sebeok 1988, Sebeok, Danesi 2000, Zaliznjak, Ivanov, Toporov 1977, to name just a few). More specifically spatial modelling has gained less attention. Still, there have been discussions and applications of spatial metalanguage for studying particular cultural phenomena like literary texts (Lotman 1970, 1986, Monticelli 2009), but also culture and semiotic systems in the more abstract sense (Lotman 2005, 1969) – which is discussed further below.

Another perspective has concerned the relationship of semiotic models and societal organisation in designing and semiotising the physical environment of a society (e.g. Lagopoulos 1983, 2009). These discussions have often been in close relations to a Marxist approach in human geography, and while focusing on processes mediating the physical environment, social organisation and culture, spatial concepts at the metalevel are largely left out of scope. More recently, Alexandros Ph. Lagopoulos and Karin Boklund-Lagopoulou have also notably elaborated on general issues of spatial modelling in semiotics and particularly in relation to Lotman's works. In their discussion on the importance of spatiality in relation to the subfield, semiotics of space, and to the general theory of semiotics, they restrict their perspective through Marxist or social-materialist epistemological premises. As a result, the semiotic character of space is defined exclusively in relation to the ideological or cultural-symbolic level, leaving the social domain related to interactions non-semiotic and out of semiotic spatial modelling. Furthermore, these premises and also some (indirect) influences from biosemiotics can be detected in the reading of Lotman's works in a materialistic manner, such as bytaking a brief metaphoric comparison to the concept of *biosphere* as evidence of the biologism of the theory. Leaving aside the spatial logic of Lotman's conceptions about *text system* and

culture, Lagopoulos and Boklund-Lagopoulou tend to see a relation to semiotics of space in Lotman's works only through empirical (metaphoric) examples and in structural and dynamic topological models for the literary analysis of a plot.

In contrast, Leonid Tchertov (2015) has given a terminologically focused explication of spatial modelling as humans' activity mediating "relations between subjects and objects as well as inter-subjective connections" by spatial structures (Tcherttov 2015: 79). Seeing modelling as a culturally conventional use of sign systems, Tcehertov focuses mainly on visual means and relations of depiction, and mentions only briefly some general aspects of spatial modelling in the context of social and cultural theories.

Compared to the previous approaches, Anti Randviir (2010, 2004) argues for a wider field of semiotics of space from the levels of individual perception and cognition, interpersonal interaction and cultural identity to sociocultural reflective semiosis. In this sense, semiotics of space and spatial modelling are inseparably related to sociosemiotics. The sociosemiotic perspective to spatial modelling, shared also here, recognises the semiotic (or more precisely semiosic-interactional) character of the society (next to its physical aspects). Accordingly, the domain of semiotic spatial modelling is remarkably wider and more fundamental than the *ideological* level highlighted by Lagopoulos and Boklund-Lagopoulou.

In the course of moving towards a synthetic conceptualisation of sociocultural space as a modelling tool, I analyse spatial conceptions proposed in works by Pitirim Sorokin, Juri Lotman and Pierre Bourdieu. The approaches of the three authors are not studied here as holistic theories or in relation to their intellectual context but are instead used as examples of theoretical spatial conceptions proposed in the context of three lines of theorising on the sociocultural world – the perspective of general social science that formed a basis for today's sociology, cultural semiotics, and sociological phenomenology. Each of the three authors has independently called for explicit spatial metalanguages inspired from concepts from mathematics and physics, for the study of the sociocultural world – *sociocultural space* (Sorokin 1964, 1947), *cultural space* (Lotman 1975, Lotman *et al.* 2013; but also the concept of *semiosphere*, in Lotman 2005) and *social space* (Bourdieu 1994, 1984).

Juri Lotman (1922–1993) whose main research fields were Russian literature and culture and semiotics of culture, suggested the use of terminology from mathematical topology for the analysis of literary texts and the semiotic study of culture. The aspiration to mathematical concepts was soon discarded in its formality, but remained influential to his thought nevertheless. The concept of semiosphere can be considered as a later example of the spatial metalanguage as well as of the persisting interest in relationships of continuous and discontinuous aspects of cultural dynamics.

Initially engaged in the field of ethnology and later moved to the field of sociology, Pierre Bourdieu (1930–2002) proposed the notion of *social space* as a kind of field of forces that allows social scientists to map the social world. This abstract concept of space, inspired again from topology as well as physics and

psychology, is grounded in differences and acts of classification by subjects. It is at the same time in close relation and in remarkable contrast to Bourdieu's earlier ethnological interest in distinctive organisation of behaviour and spatial environment of a farm.

Being a sociologist, Pitirim Sorokin (1889–1968), is well known for his theory of large scale cultural dynamics and respective typology. Arguing for integrative social science, he emphasised the semiotic nature of the sociocultural world from the simplest interaction situation up to general cultural mentality. As a referential principle for his theory, he described *sociocultural space* by analogy with multidimensional geometric space as manifold, wherein all sociocultural phenomena can be located and which largely depends on the world image held in a society.

The theories as well as life of these three authors have been widely studied. While Lotman's spatial conceptions have frequently been discussed in semiotics (see e.g. Andrews 2003, Chang 2003, Kim 2014, Lepik 2008, Lagopoulos 2014, Monticelli 2008, Randviir 2004, 2007, Tchertov 2015), spatial conceptions from Bourdieu and Sorokin have not been thoroughly investigated from a semiotic point of view (some short passages can be found, see e.g. Hess-Lüttich 2011). Regarding a comparative perspective, in contrast to the numerous applications and studies of the theories of Bourdieu, Lotman and Sorokin separately, approaches of the three authors have rarely been related together, especially concerning their uses of spatial metalanguage (with the exception of some papers discussing parts of the present study, see Remm 2014, 2012a, 2012b, 2010a, 2010b).

Outline of the thesis

In the first chapter I discuss the sociocultural world as the object field of *sociocultural space*. First I will articulate the idea of *sociocultural* as a common label for social and cultural traits or disciplinary identities or as referring to the integrative character of the human (sociocultural) world itself. Then, I elaborate on integrative aspects of the sociocultural world as the structural traits to be focused on in the case of spatial models about this world. It will be shown that particular aspects of the sociocultural world bring along different processes and principles of integration. Integration can be considered a key theoretical concept for social and cultural theories, a concept that points to the core of the sociocultural world in each case and thus is also in a close relationship with decisions that have to be made in designing a spatial metalanguage.

In the second chapter, I focus on the generation of models and their relations to metalanguage, to the object-field and to the pragmatic aspects of modelling society and culture in spatial terms. For the study of spatial metalanguage, I employ a framework of ideas on *modelling* proposed in semiotic studies. As *modelling* does not refer merely to describing but also to being in an active relationship with one's environment (such as, by means of describing it and

building models), it appears that the spatial modelling of the sociocultural world includes sociocultural-spatial practices, conceptions about society, culture and space, theoretical descriptions with spatial metalanguage and above all, establishing interpretive relationships between these domains. Beyond elaborating on these descriptively aimed relations, I also briefly explicate the use of spatial modelling in influencing social and cultural practices.

In the third chapter, I turn to an analysis of examples of constructing spatial models about the sociocultural world. The analysis demonstrates the applicability and practices of spatial metalanguage on several levels. Focusing on conceptions proposed by Juri Lotman, Pierre Bourdieu and Pitirim Sorokin, I ask about the principles behind the generation of these conceptions as spatial models and their character in representing the sociocultural world as a whole or in particular aspects.

In the last chapter, I turn to the potential of spatial metalanguage for representing the semiotic nature of the sociocultural world. For this I ask, what can be taken as core semiotic features of the sociocultural world and how can they be modelled spatially? The variety of emphasised features highlights the descriptive capacity of spatial metalanguage for studying complex semiotic objects. I argue that a central value of spatial metalanguage can be found in the integrative tendency implied in conceptions of space, a tendency that enables modelling of subordinate unities as well as bridging descriptions of different levels and from various perspectives. To specify this capacity, I elaborate further on the role of geographic space in relation to semiotic spatial modelling. For this I compare the latter to "geographically inspired and oriented" discussions of sociocultural spatiality. I argue that emerging from the very basic activity of social subjects, the semiotic or "knowledge-based" spatial perspective goes beyond a widespread understanding of geographical space, together with its production in societies and applications in literary mappings. In the end of the discussion, the inevitably spatial and semiotic nature of *boundary* becomes apparent, both in regard to distinction-making in the sociocultural world and in regard to differences in spatial metalanguages as means of scientific cognition.

This research sets out to study spatial metalanguages used for social and cultural theory, and more specifically to explain how spatial metalanguage can be used for modelling the semiotic nature of the sociocultural world. I outline a field of spatial modelling that involves several levels of modelling from everyday practices to the metalanguage of social and cultural theories, as well as the presence of various understandings of "space" that are employed for spatial models and that enable the highlighting of different aspects of the sociocultural world.

1. THE SOCIOCULTURAL WORLD: THE OBJECT DOMAIN OF *SOCIOCULTURAL SPACE*

The general interest of the present study is in the use and potential of spatial conceptions for studying the sociocultural world. From this perspective, it appears curious and remarkable that there is no discipline specifically dedicated to the holistic study of this human world – at least, not after the separation of various disciplines dedicated to studies of the human life in the beginning of 20th century (the issue has been discussed as the foundational problem of sociosemiotics, in Randviir 2014, Randviir, Cobley 2010). However, limited exceptions can be found, and a vague paradigm can be seen emerging: first, from holistic approaches in the field of social and cultural theory, and second, from explicitly sociocultural studies in various disciplines. The latter still tend to be limited to certain disciplinary fields, and the expression *sociocultural* sometimes merely serves the rhetorical purpose of disciplinary and institutional labelling. In this vague "paradigm" of the complexity of the human world, it can be analytically observed whether the *sociocultural* refers to the focus of coherence at the object level or at the metalevel, to coherent systems themselves or to (social and cultural) contexts that are not necessarily systematic, but have vital influences on the observable object or subject. In addition, the phenomena referred to tends to vary in scope from a small number of traits to the entire world known by the subject. Besides the somewhat ambiguous uses of the expression, there are also cases where the term *sociocultural* is conceptually central. The *sociocultural approach* in psychology (see Valsiner, Rosa *eds.* 2007; Wertsch *et al. eds.* 1995) and the notion of a *sociocultural system* in anthropology (especially Keesing 1974) would be two examples that help move towards an outline of the scope and nature of the sociocultural world in the present study.

Moving from the sociocultural world toward its spatial modelling, it is important to put emphasis on the aspects enabling the association between spatial models at scientific metalevel and their object. Sets of spatial relations could represent various relations and their organisation in the object world. If the aim is not merely to describe statistically observable, but functioning organisations, spatial modelling of the sociocultural world should focus on the organisation and mechanisms of generating as well as sustaining these at different levels and systems in the sociocultural world – on forms and processes of integration in a most general sense. I argue that for a complex understanding of the sociocultural world, spatial modelling should take into account different kinds, levels and processes of integration. By *integration* I refer to certain aspects of the research object (the sociocultural world) by which the object can be made analysable, that is, particular problems of complexity in the research object that have respective organisations and processes in the empirical world as well. As it thus pertains first of all to the analytical object, integration can be observed throughout various social and cultural theories as a fundamental feature of the complex object.

1.1. *Sociocultural* – context and system, paradigm and labelling

While there is no coherent research paradigm that could be called *sociocultural studies*, a main academic field where one can find explicit identification with such potential perspective – and accordingly also the reasoning behind merging *social* and *cultural* into *sociocultural* – is psychology, wherein a "sociocultural approach" has been called into existence by authors like James V. Wertsch and Jaan Valsiner. According to Valsiner and Alberto Rosa (2007a), *sociocultural psychology* refers to the synthesis of sociological and anthropological research traditions with those of psychology and emerges from historical dialogues within psychology, sociology and anthropology. Relating the personal development to its social and cultural contexts, the approach aims "to explicate the relationships between human mental functioning [or, also restated as *human action*], on the one hand and the cultural, institutional, and historical situations in which this functioning occurs, on the other" (Wertsch *et al* 1995: 3, 11). Despite the intention to involve cultural, institutional and historical situations, the main focus is individual (especially child) development as it is influenced by the social and cultural contexts, which are considered to be relatively determined and static conditions. While spatial conceptions are not frequently applied in these discussions in psychology, the sociocultural approach in psychology essentially outlines the individual as a subject relating to the *sociocultural world*. Furthermore, this subject is developing in dialogue with the sociocultural context. From the perspective of the present study, the latter could fruitfully be conceptualised and described in spatial terms as the sociocultural space one is located in. Accordingly, it would be the development of the subject's (social) abilities in a continuous relationship with the subject's position in sociocultural space.

Three general principles can be outlined characterising the sociocultural approach in psychology. Firstly, human beings have lower (biological) and higher psychological functions; the latter develop in social interaction, that is, higher functions exist first on the interpersonal level to be later incorporated into the intrapersonal level. From this follows that, learning takes place in the sociocultural context – which includes interpersonal communication and interaction, social structure, symbolic systems, artefactual environments, etc. Thirdly, these cultural and social systems have developed historically, and thus include traces of their historical development. Social relations, signs, and artefacts are all historically derived from their social, cultural, and historical contexts; thus it also highlights the importance of the (historically emergent) artefactual environment for learning and socialisation. Michael Cole sums up the general premise of the approach:

> I take the common starting point of all socio-cultural-historical viewpoints [...] to be the assumption that the species-specific characteristic of human beings is their ability to inhabit an environment transformed by

> the activity of prior members of their species. Such transformation and the mechanism of the transfer of these transformations from one generation to the next are the results of the ability/proclivity of human beings to create and use artifacts – aspects of the material world that are taken up into human action as modes of coordinating with the physical and social environment. (Cole 1995: 190)

As discussed by Cole (1995: 112–113) and Wertsch *et al.* (1995: 6–10), labels like *cultural-historical* and *social-historical* have been and could be used. However, with an emphasis on the historical dimension, these could allude to the development of humankind as a whole and a projection of a deterministic view on the individual instead of the focus on personal development in the social and cultural context. Thus, Cole proposes to include all three labels for the approach in psychology, the social (in the sense of "interactional"), the cultural (in the sense of "contextual" and "artefactual"), and the historical (to account for engagement with, and actualisation of, the collective memory). In addition to this past dimension, Valsiner and Rosa (2007b: 30) emphasise the capability of future oriented organisation of one's action, actuations and activities through setting up imagined final causes. The term *sociocultural* in psychology has now been used to denote a "Vygotskian approach", even though Lev Vygotsky himself rarely used the term sociocultural. So we can see here a shift from the combination of inter-personal and ontogenetic aspects in personal development toward the additional engagement of cultural memory and symbolic systems as the historical dimension of personal development.

In addition, as the personal development is taking place in sociocultural context in particular situations, the diachronic aspect of development is closely related to the synchronic aspect of *embodied* cognition and *sociocultural situatedness* of this cognition (see Frank *et al.* 2008). While the concept of *embodiment* refers to one's own body as "the material or bodily basis for mind, meaning and cognition", this view can be complemented by the notion of *sociocultural situatedness*, which refers to the social side of cognition and language:

> Sociocultural situatedness denotes the way(s) in which individual minds and cognitive processes are shaped by their being together with other embodied minds, i.e. their interaction with social and cultural structures, such as other agents, artifacts, conventions, etc. and, more particularly [...] with language itself. (Frank 2008: 1)

These uses of the notion *sociocultural* thus refer to the interpersonal and cultural influences in personal development, or in other words, to interpersonal and symbolic extensions of an individual. Beyond the acknowledgement that personal development as well as cognition are socioculturally motivated and situated, the term *sociocultural* is applied to the explicit integration of social and cultural relations and systems.

Another domain where *sociocultural* can be found as a notion used for outlining disciplinary identity is anthropology. However, instead of interpersonal and cultural contexts of personal development, here *sociocultural* is related either to the integration of object-level phenomena and systems or, in contrast, to the disciplinary identity and a desire to overcome the separation of traditions within the discipline of anthropology – the so-called social and cultural anthropological traditions. According to Merwin S. Garbarino, *sociocultural anthropology* is a general term for the (interpretative) study of culture as a human way of life, and its social organisation, among all the ways of studying humankind, as the total sphere of anthropology – biological anthropology, archaeology and linguistic anthropology (Garbarino 1983: 2). Aside from this institutional classification of disciplinary fields, a distinction has also been made between the traditions of *social anthropology* and *cultural anthropology*. In the context of these often empirical studies of particular cultures, *sociocultural* has sometimes been proposed as an umbrella term to cover both traditions and to avoid threats of social or cultural determinism, at the same time leaving room for the possibility of distinguishing social and cultural aspects in human organisation (Seymour-Smith 1995: 263).

An argument in this connective line is also made by Roger M. Keesing when proposing the *sociocultural system* to be the proper object of studies relating various research traditions with each other through a unification of the object field. In his seminal essay on the systematic discussions of the concept of *culture*, Keesing (1974) places the *sociocultural system* in the context of a mediator in debates over definitions of culture and society, and, simultaneously, as the proper object of anthropology and social science. Keesing defines sociocultural systems as *the patterns-of-life-of-communities*; these systems "represent the social realisations or enactments of ideational designs-for-living in particular environments", asopposed to conceptual *cultural systems* (Keesing 1974: 82). His proposal was made as a rejection of both ideationalist and adaptationalist views on culture in anthropology. To the latter belongs Julian H. Steward, who has also, significantly for the study at hand, conceptualised the *sociocultural* to point to the social and cultural whole of a society. He has proposed (in Steward 1972) the concept of *sociocultural integration* in his attempts to explain cultural change and evolution. His notion of *sociocultural integration* proposes seeing culture through the levels of integration (coherent organisation) in society and *culture core* as the central means and techniques of handling life in an environment. Even though Steward's focus on adaptational management with the environment as an evolutionary *culture core* is not shared by the present study, his ideas about realisation of this *cultural core* through distinct levels of integration (from family to state) point manifestly to the crucial role of integration(s) and its "mechanisms" in the sociocultural world.

To make an intermediary conclusion, the expression *sociocultural* has been used as a unifying name for research traditions attempting a holistic approach. However, regarding the object level, firstly, the notion *sociocultural* has been used to refer to interpersonal relations, symbol systems, artefacts and cultural

memory as the interactive context of personal development. Secondly, *socio-cultural* has been used to refer to the human world not as a *context*, but as a system where *social* and *cultural* aspects interconnect through the empirical realisation of ideational organisations and interrelations with the environment in practices of the society itself. The multitude and interrelatedness of organisations and mechanisms of generating as well as sustaining organisation should be seen as the main target of explanation for spatial metalanguage about the sociocultural world.

1.2. Toward the conception of the *sociocultural world*

With this brief background of the expression *sociocultural*, I can now give some explanation of what is understood here as the *sociocultural world* as the object field of the semiotic study of human collective living. Being the world people live in, the *sociocultural world* is at the same time not equal to the knowledge of the world from a single point of view and is also not a phenomenon existing independently of subjects. The *sociocultural world* as understood in this work can be positioned in relation to a number of similarly well-known concepts like (social) reality, sociocultural system, and sociocultural context. The concept of *reality* as elaborated in (phenomenological) sociology explicates the dependence of the sociocultural world on the subject and interactions. When discussing the existence and relations of multiple realities besides the *world of daily life*, Alfred Schuetz ties the concept of *reality* to the subject's sense of reality: "We begin with an analysis of the world of daily life which the wide-awake, grown-up man who acts in it and upon it amidst his fellow-men experiences with the natural attitude as a reality." (Schuetz 1945: 533). Following him, Peter Berger and Thomas Luckmann (1991) acknowledged the existence of various orders of realities but focused in their discussion on *the social construction of reality*. In their definition of *reality* they still largely follow Schuetz:

> a quality appertaining to phenomena that we recognize as having a being independent of our own volition (we cannot 'wish them away'), and to define 'knowledge' as the certainty that phenomena are real and that they possess specific characteristics. […] The man in the street inhabits a world that is 'real' to him, albeit in different degrees, and he 'knows', with different degrees of confidence, that this world possesses such and such characteristics. (Berger, Luckmann 1991: 13)

However, the focus of their discussion is on social mechanisms in use for the generation and maintenance of this reality as a social fact, for example through institutionalisation and legitimation.

> Society does indeed possess objective facticity. And society is indeed built up by activity that expresses subjective meaning. […] The central

> question for sociological theory can then be put as follows: How is it possible that subjective meanings *become* objective facticities? Or, in terms appropriate to the aforementioned theoretical positions [of Emil Durkheim and Max Weber] : How is it possible that human activity (*Handeln*) should produce a world of things (*choses*)? In other words, an adequate understanding of the 'reality *sui generis*' of society requires an inquiry into the manner in which this reality is constructed. This inquiry, we maintain, is the task of the sociology of knowledge. (Berger, Luckmann 1991: 30)

As Berger and Luckmann emphasise, the social world as a reality is vitally rooted in typifications and descriptions. Only at the point when the objectivity of the institutional world is thickened and hardened in the process of passing it on to future generations "does it become possible to speak of a social world at all, in the sense of a comprehensive and given reality confronting the individual in a manner analogous to the reality of the natural world" (Berger, Luckmann 1991: 77). This world as an institutional world is in itself integrated neither functionally nor logically. It is generated through *ad hoc* typifications in various aspects of the world. The coherence appears only through descriptions, finally to the extent of a symbolic universe, as knowledge about the world held by a well-socialised individual (Berger, Luckmann 1991: 80–83, 113–117).

A further step in detaching the *reality* concept from the subject can be found in John Searle's discussion (in Searle 1996) of the *construction of social reality* where *social reality* can be seen as a result of establishing institutional facts by speech acts abstracted from particular subjects and situations. Rather than being a limited context or the reality known by a particular subject or a group at a particular moment, the *sociocultural world* is understood in this work as the totality of cultural and social systems at work in a society and accordingly the condition for (and at the same time also the product of) subjective (more or less shared) realities. At the same time, the *sociocultural world* is realised in these subjective and socially constructed realities and experienced through them. Each of these realities could be analysed in terms of sociocultural worlds, but compared to the notion of *reality*, this analysis would not focus on mechanisms of generating and maintaining this world. Instead, the focus is on its organisation as a more or less coherent and significant world. Furthermore, while, especially following Schuetz, the term *reality* highlights the multiplicity of realities in human experience and the limited possibility to shift between these, the *sociocultural world*, emphasising their complex unity for the subject, is close to what could be called the human Umwelt (see e.g. Deely 2009: 84).

Concerning the extent of the object domain of similar concepts, the sociocultural world could also be linked to the previously mentioned *sociocultural context* of a child's development as highlighted in the sociocultural approach in psychology, and to the *sociocultural system* as proposed by Keesing. The former, as the nearest environment of a subject, would emphasise the central role of developing and active semiotic human subjects in the sociocultural world,

and respectively relate the paradigm to social psychology as well as pragmatism and symbolic interactionism. The latter, sociocultural system, refers again to a wider organised (objective) context, and regarding the metalevel, enables the study of the empirical world through description of analytical systems and thus relates to the so-called systems approach.

The sociocultural world is thus the world as experienced by the participating person, but more than his or her actualised knowledge, it includes all the participating people, their relationships, their knowledge of the world, and objects they use or think of. Most of all, it relies on various kinds of relations of people, objects and ideas. The *sociocultural world* refers to the human collective living in the complex that involves individuals actively in relationship with their environments, society as both subjective and objective phenomenon, culture as a shared and practiced system beliefs, norms, values and signifying means, the physical environment being used, interpreted and designed, and this heterogeneous whole essentially functioning via semiosic relations and processes.

To give an example, the city can be considered a sociocultural phenomenon. The city as a sociocultural phenomenon is characteristically, based first on social diversity that, besides a variety of roles and role expectations, involves impersonal and voluntary relations to a remarkable degree. Second, it exists as a significant (holistic) object in culture and is an expression of the cultural world view (including values, norms, and knowledge) of the society. Third, the city is the community's living environment where social relations, cultural world views and shared knowledge about the *city* evolve, are lived and are also expressed in physical space and materiality. The semiotic functioning of the city appears at the level of perception of the city in various activities, level of interpersonal interaction and at the level of cultural knowledge. The presence of various historical and intercultural layers, ways of coding, and interpretive subjects results in semiotic heterogeneity of the city, the understanding of which, besides being a theoretical problem, is a practical problem for the daily life of citizens. At the same time, for a human subject, the city is a given context for acting in and making sense of the world, but also a specific inherited environment for human ontogenesis. In relation to the latter, it would be reasonable to talk, for example, about "urban children" in a socio-cultural-historical sense (for a conceptualisation of the city as the *life space* for the urban child, see Muchow, Muchow 2015). While the city and urban living have been for millennia a particular realisation of a way of life and realisation of ideational structures in physical space as well as everyday social behaviour, the contemporary sociocultural world can be considered more and more extensively an urban world. The city can be studied in various aspects, but a holistic study would presume regarding it as a complex sociocultural phenomenon that, among other traits, involves self-referential modelling, which in the case of the city is maybe most characteristically manifested in the multitude of spatialities that are present in theoretical perspectives on the city (see Remm 2011) as well as in practical urban living and management (see Remm 2012c).

The sociocultural world as a complex object thus calls for an integrative approach of study – of which there are a number of examples available. The present study is particularly concerned with the approaches using spatial conceptions as tools for this integrative perspective. In that vein, Sorokin has explicitly aimed to found an *integralistic social science* (Sorokin 1964; Ford 1996), and Lotman has been characterised as founding cultural semiotics as an *integrative study of culture* (Salupere, Torop 2013: 16). The study of the modelling of the sociocultural world can be divided into three main domains: first, the generation and use of descriptive means, or model-building, by the researcher; second, finding elements and relations characteristic to the object field, as it is the researcher's task to find and describe the elements that should, however, be themselves functional parts of the sociocultural world and exist in one way or another in that world (as social facts); and third, the modelling involves the establishment of correspondence between descriptive means (e.g. spatial conceptions),the object domain and phenomena, and the elements and processes within it.

Spatial modelling of the sociocultural world would accordingly aim to provide holistic explanations of the working principles and organisations or functioning order of this complex. Particular spatial conceptions belong to the domain of descriptive means, which should represent in one way or another the functional organisation of the object world. If a spatial model is representing a characteristic functional organisation of the sociocultural world, then a question arises: what is the ground of this organisation and what defines the wholes or unities and units? Sorokin has suggested that for studying the general principles and functioning of the sociocultural world, one should start by elucidating characteristic organisations – principles of association that ground *unities* and relationships in the sociocultural world (Sorokin 2006: 17). These can be called types of integration. Integration can be considered the central feature of the sociocultural world – both as the functioning of relations of diverse kinds and as the generation of cohesiveness. An analysis of models of the sociocultural world should accordingly study the role attributed to integration as well as the types and processes of integration pointed out by particular models.

However, besides models generated for the purposes of research on it, the sociocultural world itself also involves various processes and levels of modelling – as forms of descriptions of one's environment and phenomena in it or self-descriptions of oneself and as operational guidelines for individual actions or large scale changes in culture and society. This variety of object level conceptualisations that are also often made in spatial terms form a part of the complexity of the field of spatial modelling. Another aspect is that spatial conceptions (by both the researcher as well as subjects in the researched society) originate from ongoing social and cultural relations as well as bodily spatial experiences.

Spatial conceptions can thus be crucial cognitive tools for providing descriptions about complex sociocultural phenomena like the city or the sociocultural world more generally. However, this presumes operationalisation of

the object by modelling essential functional organisations of the object and units and unities of the phenomena as existing for the object level (in experiences, behaviour and conceptions of subjects) and analysable at the metalevel. This can take the task of spatial modelling rather far from mapping the physical space to mapping roles, types, and mechanisms of integration to be modelled in the object world.

1.3. The sociocultural world as a research puzzle – units, unities and integrations of the sociocultural world to be modelled

Building a holistic perspective on the sociocultural world and cultural fluctuations within this, Sorokin sees integration as a primary starting point for studying the sociocultural world; he points out that the initial problem is that, from the researcher's perspective, the sociocultural world appears as a chaotic aggregation in which functional systems and characteristic organisations should be found. Accordingly, one should search for patterns of uniformity and for uniformity of relationships in the case of probabilistic unities, and for the identity of meaning or logical coalescence in the case of *significant patterns* (Sorokin 2006: 9–10). While primarily recognised from the researcher's perspective, these patterns should be inherent at the object level. In observable unities, the elements can be tied in spatial, external, functional or logical types of integration:

> All the numerous interrelations of the various elements of culture can be reduced to four basic types: (1) *Spatial or Mechanical Adjacency*, ranging from loose and accidental concurrence of two or more cultural objects to a mechanical union of the elements into one structural unity (say, glued or cemented or sewn or tied together) [congeries]; (2) *Association Due to an External Factor;* (3) *Causal or Functional Integration;* (4) *Internal or Logico-meaningful Unity*. (Sorokin 2006: 4)

All of these types are present in the sociocultural world and in each sociocultural complex. Specifically characteristic to the sociocultural phenomena would be the *logico-meaningful integration*. In the place of this four-part typology, Sorokin later (his *Social and Cultural Dynamics* was originally published in four volumes from 1937 to 1941) proposes a distinction between six main types of unities according to their characteristic integration: (a) spatially contiguous and perceptional unities; (b) spatially contiguous and mechanically cohesive unities; (c) indirect causal-functional objects united by a common external agency; (d) direct causal-functional unities; (e) pure meaningful, logico-aesthetic unities; (f) causal-meaningful unities (Sorokin 1947: 333–334). These distinctions of types of unities in the sociocultural world according to their integrative principles provide the basis for the describeability of the sociocultural

world. Similarly, the task of generating describeability and analysability of a complex object has been emphasised by Peeter Torop (2005; 2006) as the central value of Lotman's (and the TMS's) concepts of *text* and *culture* as well as *semiosphere*.

The logico-meaningful integration of sociocultural complexes is based on a number of *major premises* (Sorokin 2006: 25–26). Complexes tightly integrated in logico-meaningful ways can be regarded as cultural phenomena or even cultures. The observation of forms of integration based on major premises enables Sorokin to outline a typology of cultures and fluctuations between these – an intriguing topic that is also parallel to Lotman's discussions of cultural typologies; however, for the focus of the present work, these discussions remain peripheral. At this point, I intend to only call attention to Sorokin's typology of cultural types and their basis in major premises as far as they are directly relevant to the explanation of the role of integration in spatial modelling of the sociocultural world.

According to Sorokin (2006: 25–26), there are four complexes of ideas or answers to basic questions that cultures' *major premises* give: (1) the nature of reality, (2) needs to be satisfied, (3) the extent to which needs are satisfied, and (4) ways to satisfy those needsSorokin distinguishes his main cultural types according to the solutions to these issues. On one end of the scale, there is the *ideational* type, on the other end the *sensate* type, and in-between there are types which mix the traits of both ideational and sensate type. The most integrated among these is the *idealistic* type. As types logically derived from solutions to major premises, Sorokin lists a cultural typology: ascetic ideational, active ideational, active sensate, passive sensate, cynical sensate, idealistic, pseudoideational (Sorokin 2006: 27–29). While this idea of cultural logico-meaningful integration based on major premises can be applied in descriptions of the state of art of a culture and respective types, Sorokin develops these ideas mainly to study sociocultural dynamics, or *fluctuation*. For descriptions of fluctuation the recognisability of the unit is essential (accordingly, one might use the term *unity* to emphasise the organisational aspect and *unit* for pointing to the recogniseability of an entity). Sorokin notes that in cultural fluctuations, it is reasonable to talk about the same unit as long as it is recognisable – the process is in course as long as the unit is identifiable, and when it is no longer identifiable, that particular sociocultural process is over and another kind of process can be observed in its stead (Sorokin 2006: 53). For example, the development of a form of government could end in a significantly different form that is no longer recognised as a unit sustaining its identity through the change, or in a social formation wherein there is no such structure and function as government. Of course, recognisability can be seen from either the perspective of the researcher or of the practitioner – as an answer to the question of whether the phenomenon is still satisfying the same needs.

As stated above, Sorokin seems to propose that the units for analysis of the sociocultural world can be found from the researcher's perspective and similarly, that the major premises of a culture can be discovered by observation.

However, keeping in mind that a system should be considered to sustain its identity as long as it is recognised as the same, it is clear that the recognition or non-recognition by the cultural agent is essential here. Further, it should be kept in mind that according to Sorokin (1947: 40) the generic characteristic of any sociocultural phenomena (and thus every reasonable research unit) is meaningful interaction wherein the interactional influence must be meaningful for an involved subject. Thus, also for Sorokin, the decision on units of research (based on meaningful integration) depends highly on the participating subjects and the ability to comprehend their knowledge about the world. Cultures' self-descriptions provide observable material on which to base one's decisions for recognising sociocultural phenomena and cultures' basic premises.

Even though Sorokin seems to take cultures as pre-existing wholes, this whole is constituted and definable exactly through integration based on mentality (major premises) and can be viewed at various levels, like that of an individual, social groups or institutions. Two interesting problems derive from this. First, Sorokin takes for his object so-called Western culture and its changes over two millennia, taking as rather unquestionable the integrity of this culture in its geographical area over the time. While the reason for this range of object field can be its fair historical documentation and probably Sorokin's acquaintance with it, he never explicitly questions the integrity of that whole as a continuous unity in the sense of sociocultural integration. The dynamics and contradictions in major premises do not propose possible moments of disintegration in that unity or the dynamics of outer boundaries (of that cultural space) and or draw internal boundaries or sub-unities. Instead, they serve to illustrate the dynamics between types of integration of cultural unity and thus the fluctuations from sensate to ideational cultural types and from ideational to sensate with intermediary mixed types. For example, one might ask whether states and tribes existing in one geographical area, Europe during an era (e.g. Roman Empire, Byzantine Empire and Germanic tribes or local societies and cultures incorporated into some imperial state) would make up one fluctuating yet integrated sociocultural system called *culture*, or should it be understood as an aggregation of disintegrated *congeries*? The main question here is, however: by whom and on what basis can these kinds of questions be answered? A possible solution would be to focus on the mechanisms of association and distinction in cultural identities; that is, on interactions and definitions of research objects – a topic central in Lotman's works. Sorokin's ideas about a culture's major premises being that culture's own solutions to managing basic tasks seem to also open up a way for a more culture specific approach. However, his own analysis of the fluctuations of European culture are to some extent parallel to discussions on the historical development of civilisations and the related paradigm of *area research* (see Steward 1950), which tends to explain culture through traits with spatial adjacency in geographical space and not necessarily logico-meaningful integration. To a large extent, Sorokin's analysis of European culture in history is a retrospective analysis, constructing the integrated unity and its boundaries from the

author's point of view – the history of modern European culture as its contemporary agents (like Sorokin) want to know it.

Besides this problem of outlining sociocultural unity as a research puzzle, inquiry into integration helps to shed light on the relationship of the *social* and *cultural* and their association into the *sociocultural*, as well as to emphasise the particular integrative role of a community in the sociocultural world, which can be described in the model as a central aspect of functional organisation. Sorokin introduces types of integration and types of integrated cultures first of all in the methodological context of outlining cultural units for analytical purposes. However, these categories also relate to integrative "mechanisms" at work in the sociocultural world itself.

1.3.1. Social and cultural parts of sociocultural phenomena as a problem of integration

Sorokin's above described types of integration have been applied by Clifford Geertz in his article *Ritual and Social Change: A Javanese Example* (Geertz 1957) for distinguishing social and cultural systems and their incongruence to explain a situation where a ritual fails to "function properly". He sees the logico-meaningful type of integration in a cultural system, which is in that case the ideological system of norms and values related to religious and secular groups, and the causal-functional type of integration in the social system, which consists of direct interactional relations between agents and behavioural guidelines. In addition to these, there is a third element: "the pattern of motivational integration within the individual which we usually call personality structure" (Geertz 1957: 34). The latter is derived from the Parsonian *theory of action* (Parsons, Shils 2008) where personality system and social system as concrete systems of actions are distinguished from cultural system which is regarded as a pattern of symbols, norms and values that is internalised and applied by the other two. Nevertheless, in Sorokin's framework, the functionality of the social system is something different from the causal functionality and includes also the logico-meaningful aspect. The cultural and the social are for Sorokin essentially a whole that involves the cultural, that is, the mentality together with its expression in behaviour, and the two aspects of the social – the psychological and the logico-meaningful (together with its causal-functional traits). According to Sorokin (1947: 644), the main difference between social and cultural phenomena is that social phenomena are characterised by a degree of solidarity as a kind of integration, while cultural phenomena or cultural systems are characterised by a degree of integration that is based on logical and aesthetic relationships. Sorokin himself explains it in the following way:

> Social relationships of individuals and groups are either solidary, antagonistic, or neutral. Similarly, cultural phenomena, in their relationship to one another, also can be either integrated (solidary), unintegrated (neu-

> tral), or contradictory (antagonistic). They are *integrated* (solidary) when two or more interacting, that is, causally connected cultural phenomena stand in *a logical or, for art phenomena, aesthetic consistency with one another*. They are *unintegrated* (neutral) *when they are logically or aesthetically unrelated to each other*, being neither consistent nor contradictory. They are *contradictory* (antagonistic) *when they are logically or aesthetically inconsistent and contradictory.* The integration, lack of integration, and contradiction of cultural phenomena concerns alike all three levels of culture – ideological, behavioral, and material. Not only the meanings, values, and norms can stand to each other in the relationship of logical or aesthetic consistency, unrelatedness, and contradiction, but also the overt actions and the other material vehicles, so far as they articulate and express the respective meanings, values, and norms. The overt actions of an individual or of a group may either practice what their ideological culture preaches, or not practice it at all, or practice something contradictory of it. Similarly, the material vehicles used may either adequately articulate the ideological culture or not express it at all or express meanings, values, and norms contradictory to the professed ones. (Sorokin 1947:314)

Even though Geertz is applying Sorokin's distinctions between types of integration, he applies them in a Parsonian framework in the sense of keeping social and cultural systems distinctively apart. Relating social structure to the process and organisation of interaction, and culture to the field of meanings and convictions, Geertz suggests the logico-meaningful type of integration to be effective in the latter and the causal-functional in the former. Causal-functional integration, in the context of Sorokin's ideas, would again propose a search for recurrence of forms rather than significant relations in research on sociocultural interaction. In other words, the distinction would not be of different kinds of systems but rather of different kinds of functional relations in a sociocultural phenomenon. Thus, Geertz can be seen attempting to develop a Parsonian systemic approach with Sorokin's distinctions of integration types. At the same time, Parsons also highlights the difference of logical coherence, necessary for a cultural symbolic system, compared to practical functioning and action-related unity, characteristic to concrete systems of action (Parsons, Shils 2008: 179). If Sorokin concentrates on the manifold of the cultural and the social and the ways and levels of internal integration of social and cultural phenomena, then Parsons can be seen as attempting to distinguish the social and cultural systems as subsystems in the *general system of action*. In other words, Sorokin constructs the object field of his *integralistic social science* on the basis of logico-meaningfully integrated sociocultural phenomena. Parsons, in contrast, takes as the object field the whole human-related world to be described in terms of hierarchically organised systems together with their inputs and outputs. Both emphasise *integration* as a central issue, but in different ways. Bringing these frameworks into closer contact could lead to a better understanding of the range of integra-

tive relations and processes in the sociocultural world and perspectives that spatial conceptions provide for modelling this complex object field.

1.3.2. Forms and processes of integration as a core of the sociocultural world

It has been claimed that Parsons' sociology could be seen "as the study of social integration" (Heiskala 1997: 65–69). Indeed, Parsons discusses integration as a prerequisite for action systems (like personality and society) and as their practical function. From the systems perspective, he distinguishes between two aspects of integration: compatibility of components of the system and the establishment of the system in relation to its environment. The general feature of systems is the interdependency of parts, or an organisation that has a tendency of self-maintenance (both as an order and as a continuous process). Action systems are in addition characterised by the tendency to maintain equilibrium in relation to the environment within boundaries that are defined from inside the system itself (Parsons, Shils 2008: 107–108). A process securing equilibrium and functioning of the system is the allocation of resources (for example, use of time in relation to selection needs). Another process is namely integration – that is, "processes by which relations to the environment are mediated in such a way that the distinctive internal properties and boundaries of the system as an entity are maintained in the face of variability in the external situation." (Parsons, Shils 2008: 108).

Thus, integration is the precondition and at the same time the internal function and activity for the *boundary maintaining type of systems* (the nature and role of the *boundary* is further discussed in the last part of the paper). While allocation of resources is the system's general way of working, integration in contrast is, for Parsons (Parsons, Shils 2008: 133–134) related to mechanisms of avoiding and solving conflicts in relationships with the environment of the system.

Similarly, in the context of the general system of action, integration provides a general condition and is also a specific function realised by a particular subsystem, namely interactional community, which is supported by other subsystems (see Parsons 1966: 5–19, 28–29). The general system of action includes here the whole field of human activity, from the physical environment to beliefs about the nature of reality. From the perspective of systems work, Parsons distinguishes four general functions – pattern maintenance, integration, goal attainment, and adaptation – that are realised by four subsystems – the cultural system, social system, personality system, and behavioural organism as a system. In addition to these, there are two distinct types of environment relating to the system of actions: the *ultimate reality* and the physical-organic environment. These subsystems relate to each other hierarchically through cybernetic control on the one side and through generating enabling conditions on the other. What is of interest for the present purpose from this hierarchical outline of systems in

the sociocultural world is its focus on interactional community. The interactional community, as the realisation of the social system, carries the integrative function in the general system of actions. However, the legitimating role of the cultural system could be seen as another kind of integration working on the social system – something that Berger and Luckmann (1991: 113–114) emphasise as the total integration through the *symbolic universe*.

Thus, Parsons' view is built on the descriptions of relations between systems and their environments that are, generally, also systems. To understand Parsons' approach, it is essential to note that the point of view from which he constructs the social system and system of actions is positioned in the *societal community* (particularly highlighted in relation to a general evolutionary perspective on societies in Parsons 1966). This interactional community is the integrative subsystem of society – society here is understood as a self-sufficient social system. The societal community again presumes the shared cultural system as well as the interrelatedness of actors as motivated personalities and as organisms. Thus, the cultural system legitimates the society and the personalities and organisms as systems provide the ground for the society. The legitimative basis for the cultural system can again be found in the *ultimate reality* as the acknowledged understanding of reality. Here one can see a direct parallel with what Sorokin presented as the role of *major premises* of mentality in defining culture as an integrated system and as a basis for the meaning-aspect of interactions. However, Parsons constructs his sociological theory specifically from the limited perspective of an interactional community (Zafirovski 2001: 241–244), and due to this, the world image is left with a relatively minor secondary role in the general system of actions.

While the functioning of any system presumes some integration and resolution of conflicts, each kind of systems have a specific focus of integration. For the social system, it is the interactional societal community and its *patterned normative order* that carries out the integrative function (Parsons 1966: 10) and, where it is necessary, to avoid conflicts. The social system again is the integrative part in the hierarchical organisation of action systems. The coherence of value patterns expressed in attitudes of actors is central for the cultural system; the functioning of value patterns in actual situations should also be considered, in other words, how the functional integration necessary for the social system involves apparently incongruous relations through conflict resolution mechanisms.

This is a place where the theoretical frameworks of Sorokin and Parsons most reasonably link with each other. Sorokin discusses integration in the context of the question of the relations that link phenomena creating congeries and systems that make up the sociocultural world and that can be observed. For Sorokin, systems are characterised by the high degree of integration as compared to unintegrated or disintegrated congeries. As the ground of integration varies among phenomena (as mentioned before, based on grounding principles, Sorokin provides a four-part and a six-part typology of integration), sociocultural systems are specifically dependent on logical and meaningful unities.

For Sorokin, the indivisible complex of the cultural and the social involves on the one side mentality and its behavioural expression; on the other side, it is again partly psychological and systematic in a logico-meaningful sense (with causal functional traits). The main difference between social and cultural systems is that the social system is characterised by solidary integration, and the cultural by logico-causal integration. At the general level, it is exactly the major premises underlying cultural mentality that are the principles for logico-causal integration and its meaningfulness. Sorokin's *major premises* would thus be the integrative core on the level of cultural systems. As a higher level system, it directs the ways of adaptation to the physical environment – to what extent and how the organism's needs are satisfied. In contrast to Parsons, who sees interaction in a group as the central integrating principle of human sociocultural action, from Sorokin's point of view, which might be termed culture-system-centred, it is instead the controlling and legitimating force of meaningful and logical systems (that is, the world image) that establishes existing sociocultural wholes as integrated systems – *cultures*.

The social aspect of the sociocultural complex is directly related to the *meaningful interaction* which is for Sorokin the appropriate minimal unit for studies of the sociocultural world (Sorokin 1947: 40). The interaction is characterised by a solidarity-relationship among agents and its meaningfulness is related to the background system and logico-meaningful integration with it. Meaningfulness is not necessarily to be understood here as a trait pertaining to cultural systems; instead, the motivational system of an individual, to which Parsons points to as a part of the situation of action, is also crucial. While being itself an essential integrating force, the interaction can be structured in multiple ways (according to the characteristics of parties and the solidarity of relationships), and the interaction can initiate or enforce various types of relations between units – not only is it the coherent and mutually understood discourse that an interaction provides. However, the meaningfulness of interaction is always tied to the perspective of a particular participant – the interaction and related systems are meaningful through the interpretative activity of the subject involved in interaction. The active participation of a subject in the sociocultural world is, however, related to one more type of integration.

In addition to the integration with either logico-meaningful, interactional or self-descriptive grounds, it is also possible to see the integration mechanism as irrelevant for the sociocultural world. Accordingly, Bourdieu proposes the conceptualisation of social space for which the issue of integration is interestingly at the same time both central and irrelevant. For the object level, the social worldis the taken for granted reality, judgement making practices, and *habitus* that bind the world together.

With respect to the object level, the sociocultural world, the *social space* and respective *fields* according to Bourdieu are realities a person is placed into; the social space is *the first and last reality* (Bourdieu 1994: 28). The person internalises value judgements and habituses from the direct social environment where he/she has been placed. As this is a given reality that needs to be inter-

nalised, its integration is not an issue for the subject, at least from Bourdieu's sociological point of view. The organisation described as *fields* is constantly transformed by actual decisions by subjects. Where integration becomes essential is in the role of a reflexive subject and also at the metalevel – that is, for providing names and descriptions of organisations of practices and their relations. As Bourdieu presumes that a social agent is to some extent conscious about the social space and negotiating it (Bourdieu 1984: 169), it appears that besides living in a taken for granted everyday world, the reflexive subject attempts to generate an understanding of the coherence of this world or its parts. Asking why one chooses to act in a certain way involves already the projection of a certain logical coherence to the world. The explication that any habitus directly gives – that *one is used to acting in a certain way* – is already a certain kind of integrative principle. The reflection is largely based on the process of generating descriptions and self-descriptions together with constituting the self and *language* used for descriptions – similar to what Lotman describes as the universal activity of a semiotic subject.

Bourdieu's notion of the social subject as a point in space, a point of view, and a perspective on that space (Bourdieu 1994: 28–29) does not necessarily involve the coherence of this perspective, or vision on the social world; instead, it emphasises the co-presence of (potential) objects existing for this perspective. In addition to a reflective activity, Bourdieu's notion of habitus also involves a certain integrative role. As habitus is a predisposition to act in a certain normal, habitual way, it involves an integration based on the accumulation of practices. In Sorokin's terms, it would be a *congery* of practices and not necessarily a *system*. At the same time, being a part of taken for granted reality and judged as normal ways of behaviour, habitus is already a logically coherent structure – as coherent as a world view can be.

The basic integration of the sociocultural world as seen through *social space* relies on habitus as a subject's disposition for semiotising practises – habitus is "necessity internalised and converted into a disposition that generates meaningful practices and meaning-giving perceptions" (Bourdieu 1984: 170). *Social space* is thus capable of describing the resulting expressions, but the principles of integration in the sociocultural world are not its focal concern. Similarly to Bourdieu’s idea of a struggle between fields in social space, Lotman has explicated the research object of culturology as being “the struggle and mutual tension [between previously acquired cultural languages], culture as a unified system, consisting of a set of their mutual relations” (Lotman 2000: 419). In contrast to Bourdieu, Lotman’s focus is namely set on the functional principles of culture and their dynamics from the object level to the level of research on culture.

1.3.3. Self-descriptive modelling in the sociocultural world and in defining the object of meta-level descriptions

Developing Lotman's ideas about culture being simultaneously a subject and an object to itself (see Lotman 1997), Peeter Torop (2005) highlights the place of culture's self-models in constructing the proper object of study for research on culture – this appears to be main aspect in Lotman's works enabling further insights to the fundamental integration of the sociocultural world. Besides generating culture's own vision of itself as a representable whole, self-descriptions are also central for generating the internal cohesiveness of that culture. Lotman's research material consists of texts – literary texts as well as other textualised phenomena. However, in the case of cultures, the constitution of the culture as an object of study (as distinguished from the study material, e.g. literary texts) depends upon self-descriptions. The object of Lotman's studies can reasonably be called culture's self-models that create the object-culture as an integrated whole. This creates, methodologically, a possibly problematic situation wherein the describeability of the object is assured by abstracting from self-descriptive distinctions made at the object level – for example, applying a spatial world image found in cultural texts (in Lotman 1969) for conceptualising the textual functioning of culture in terms of *cultural space* and *semiosphere* (in Lotman 2005). Accordingly, the level of methodological distinctions of integrated wholes and the level of integrative mechanisms and units at the object level partly coincide.

Basic mechanisms of integration that are most essential for Lotman can be found in the description of the structure of the minimal semiotic unit, the *monad*. He describes a structure of two languages that are in principle untranslatable to each other; in its universality, such a structure is suggested to be valid for the levels of culture, text, semiosphere and individual as semiotic subjects – which points to the homomorphous nature of these levels:

> […] on every level of thinking mechanism – from hemispheric structure of human brain to culture at any level of its organisation – we can find bipolarity as the minimal structure of semiotic organisation. (Lotman 1978: 6).

and

> Therefore, the monad of any level is an elementary unit of meaning-generation, and possesses at the same time a sufficiently complex immanent structure. Its minimal organisation includes a binary system, consisting at least of two semiotic mechanisms (languages) which are in a relationship of mutual untranslatability, yet at the same time being similar, since by its own means each of them models one and the same extrasemiotic reality. (Lotman 1997: 10)

To constitute a semiotic subject, the two languages need to be integrated into one unit. According to Lotman (1978), there are two kinds of integrating mechanisms at work in this dialogical process of generating cultural wholes. First, there is the integration of different languages in a common description (generating thus a shared metalanguage). This is accompanied by the gradual change towards that description presumed, to some extent, to have a normative role. From the external point of view, the resulting descriptive unity is seen as a functional unity. The latter can be a recognition of the functioning of a polyglot mechanism or an apparent unity of heterogeneous culture derived by abstraction from actual contradictory tendencies at lower levels (Lotman 2000: 425). An example of the latter would be the unity of Western culture that Sorokin (2006) seems to presume, in contrast to which he simultaneously searches for mechanisms of fluctuations within this system. Second, there is the process of creolisation of coexisting languages, creolisation that even while taking place in practice might be denied in descriptive models if these are based on one, dominant side. Based on their relation to cultural change, three tendencies can be distinguished among culture's self-models:

1. Creation of culture's self-models aiming for utmost nearness to the actually existing culture.
2. Creation of cultural self-models distinguishing from cultural practice and targeted for changing the practice. […]
3. Self-models, culture's ideal self-consciousness, existing and functioning separately from it and not meant to approach it. (Lotman 2000: 420)

The focus of Lotman here is on the difference of languages and their interconnections that forms a ground for cultural typologies as well as for understanding the nature of semiotic subjects on various levels. Torop, for his part, has developed this idea towards the dynamics of role changes of the semiosphere between being an object, a culture's self-model, and a scientific meta-model. Thus we have here a basic and universal principle of integrating a semiotic entity and further employment of self-models for generating integration of a sociocultural unit in relation to the passage of time.

This Lotmanian idea of a semiotic subject thus (1) relates the cultural internal organisation to its self-models, (2) provides a cultural self-descriptive basis for constructing the object of study, and (3) provides describeability of the reality as known by a cultural group through its conceptualisations in self-descriptions. A focus of interest for Lotman, the spatial metalanguage of culture (see Lotman 1969) can be itself either one of those two distinct "languages" about the world or, on the contrary, the "metalanguage" about descriptions of the world and thus the integrating principle in itself. The integrative mechanisms described above are mechanisms that describe the logical process rather than any particular structure of integration. As will be explained further below, *cultural space* as the spatial organisation of a worldview on the contrary suggests a specific structural (or textual) form of integration. The application of a spatial

metalanguage is supported by cultural self-models being *synchronically balanced structures* that provide culture with an image of its unity (Lotman 2000: 419). In this case, the particular structure of integration is essentially reflected in the spatial organisation employed for the spatial model, the *cultural space*.

While cultural self-models provide integration at the descriptive level, what should be pointed out as the specific focus for Lotman is namely culture's internal heterogeneity and processes of dialogue that provide partial integration. In contrast, Sorokin and especially Parsons consider close, even total internal integration to be a premise of sociocultural systems; integration is for Parsons a system's functional mechanism of avoiding conflicts. Lotman's focus on generative mechanisms thus enables a more actional and agentive notion of culture compared to Parsons, who considers culture to be a pattern of values and norms to be internalised and expressed in actually acting systems like personalities and societies.

As it was pointed out in the beginning of the chapter, the spatial metalanguage about the sociocultural world can be well targeted for integrative approaches. There are a number of types and mechanisms of integration found to be characteristic for the sociocultural world and thus in a way grounding the spatial models of this world (see figure 1). In the context of research and producing generalising models, one can focus on only a limited selection of these. Here I would point to four ideas about integration that are used as grounds for models. First, the coherence of the sociocultural world stems from it being a given and taken for granted reality for a subject. This is closely related to the understanding of the position of an agent by Bourdieu and Sorokin as well as to the perspective from the inside of a culture as contrasted to the external view as distinguished by Lotman. In addition to the prescribed and taken for granted character when perceived as *reality* (in the sense of Schuetz 1945), there is a crucial role for the acceptance process during the development of personality in the sociocultural context. Second, integration belongs to the domain of description and self-description – this regards the creation of wholes or unities at the metalevel (for example, by descriptive bounding or naming and classification), reflective activity by social agents, integration of the institutional world in legitimation processes such as the symbolic universe (Berger, Luckmann 1991: 113–114), as well as self-organisation through self-modelling as emphasised by Lotman (1978) and Torop (2005). The latter takes place hand in hand with the third type of integration, namely with integration as a result of interaction. Interaction generates cohesiveness on the material level of agents, among means of interactions, including semiotic systems (e.g. the above mentioned creolisation of languages or negotiation of taken for granted reality), as well as integrates subjects. Forth, integration is a precondition for interaction, both in the sense of a necessary physical relationship and as the presence of a logically organised and mutually shared semiotic system that enables the meaningfulness of interaction. One can find this necessity of integration also reflected in basic elements of the communication situation, like the shared channel and code as pointed out by Roman Jakobson (1981).

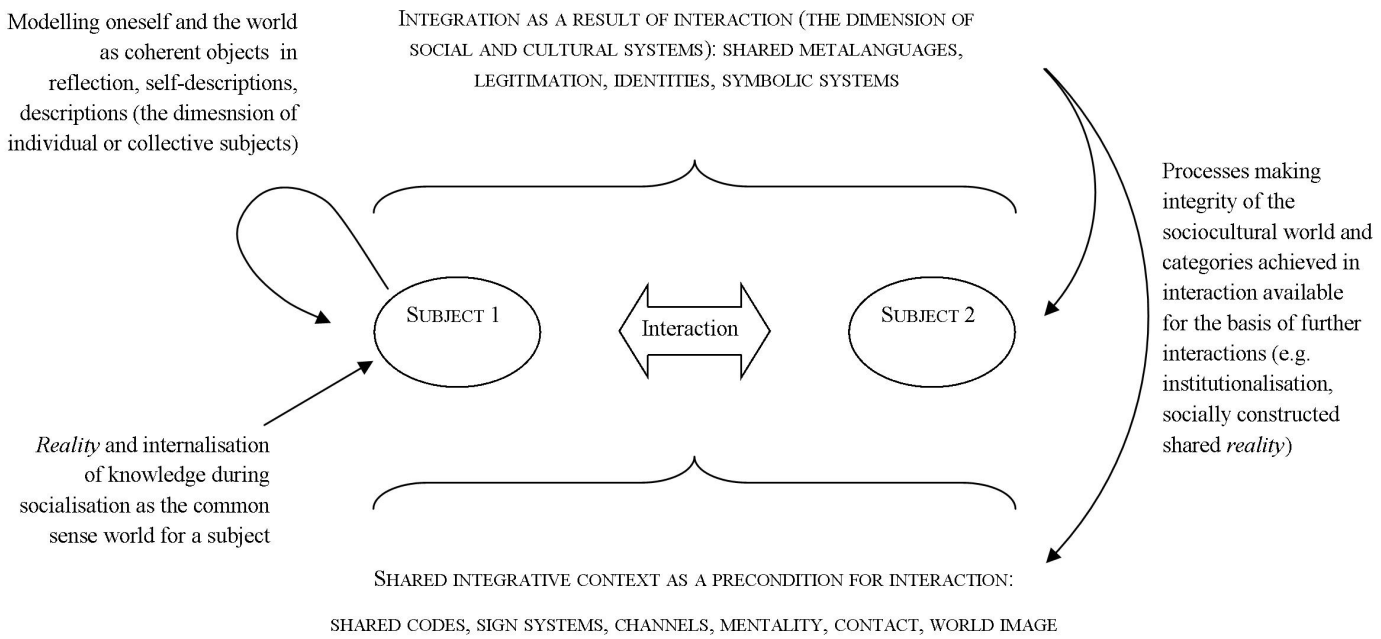

Figure 1. Integrations of the sociocultural world: integration as a condition and a result of interaction, as taking place in the subject's relationship to oneself, to others and to the world.

This variable nature of integration characterises the sociocultural world, and its plurality and processuality could be one point of departure for studies of particular sociocultural phenomena and groups as well as for theoretical studies. As with every description, the application of spatial metalanguage requires choices regarding how to construct the sociocultural world as its object, what aspects should be selected and emphasised, and what descriptive tools should be selected.

1.4. Conclusion of chapter 1

To conclude the first chapter, it can be stated that the sociocultural world is the general object of semiotic research on human collective living and involves complex relations of the individual, society, culture and environment. While involving remarkable variety of processes and relations, the sociocultural world is integrated; that is, functioning by particular types of integrations and integrating processes. What exactly should be modelled at a closer look is respectively variable. This raises again the question (and challenge) of limits for the generality of particular kinds of modelling. Systems theoretical approach is one example of attempts to model this heterogeneity as systems, and the focus of this work is in a similar capacity in the case of spatial modelling. While a main keyword for systems approach is *function*, then for spatial modelling a similar keyword would be *organisation* that takes its more specific form in types of integration and unities as well as dynamics of these. Considering that the object field involves a variety of organisations and dynamics, a respectively comprehensive and dynamic understanding of the field of semiotic spatial modelling needs to be outlined. For this there are a number of crucial points that can be taken from the discussion in this chapter.

– *Sociocultural* refers to the interrelated human complex of individuals actively in relationship with their environments, society as both subjective and objective phenomenon, culture as a shared and practiced system of beliefs, norms, values and signifying means, and the physical environment being used, interpreted and designed.
– There are different types and processes of integration separating as well as uniting social and cultural aspects in the sociocultural world. These can be seen as central aspects to be represented by spatial models.

An open list of these types of integration would include: integration as a precondition of interaction and in contrast as a result of it, integration as an outcome of (self)description, and as the apparent coherence of the sociocultural world due to its being a given and taken for granted reality for a subject, which at the same time does not exclude the dialogic dynamics of this reality in interaction.

2. SPATIAL MODELLING FROM THE SOCIOCULTURAL WORLD TO SOCIOCULTURAL SPACE

The focus of the present research lies in *sociocultural space* as a potential model in the field of cultural and social theories. However, this model is paralleled by a variety of conceptions, among these spatial conceptions, about the sociocultural world held in the object level society, as well as by behaviour and experiences having their own spatial dimension. Theoretical conceptions about the sociocultural world are related to two domains – the represented domain and the domain where these conceptions are derived from. The latter includes both a theoretical paradigm as well as the sociocultural context of the researcher as a social actor and carrier of a culture. The object domain and the researcher's context both involve particular experiences and knowledge of geographical space. In addition, spatial conceptions about the world drive the designs of physical environments. This complex of descriptions and model creation is under study in this chapter. Starting with a discussion of modelling in the context of semiotics and the domain of spatial modelling in particular, I proceed to the background of models in the sociocultural world as their object field and as their source field. The chapter is ended with a discussion on models' dynamic aspects derived from the pragmatic dimension of models in use.

Here I am concerned with approaches proposing spatial conceptions as an analytic framework that is not directly concerned with geographical space in its physical sense, but rather employed as a referential principle relating to the organisation of the sociocultural world as well as knowledge about it. This descriptive framework, however, can be dynamic, complex and even contradictory. For example, in his article *On the semiosphere*, Lotman (2005) claims that the spatiality of the semiosphere is not meant metaphorically, but is about abstract space. This semiotic space is where all sign processes take place. In the form of the semiosphere, it has a specific structure characterised, for example, by boundaries and relations of centre and periphery. At the same time, the semiosphere can be considered a highly metaphoric concept. Regarding the latter, Winfried Nöth (2006) has demonstrated that the concept of semiosphere as well as its derivation is congruent with Lotman's own understanding of the importance of metaphor in culture. To bring another example, for Sorokin (1964), *sociocultural space* is a *referential principle of social science* and at the same time a means of practical orientation directly related to one's social and cultural environment, and thus not a mere (metaphorical) descriptive device: "It is a means of man's orientation in, and adaptation to, the sociocultural universe – the nearest and most important to him, even from the standpoint of a mere survival value" (Sorokin 1964: 154). There are also attempts to relate these spatial models to physical and geographic space. Sorokin ties the emergence of *sociocultural space* as a model to the idea that conceptions of space emerge as adaptive responses to the environment and "the sociocultural milieu in which

man is born and lives also required an adaptation to and an orientation in, and therefore led to some conception of, sociocultural space as the necessary means of adaptation and survival" (Sorokin 1964: 120). This link to the context of generation would again suggest an enormous representational capacity for theoretical concepts – a capacity that involves representation through analogy and through conceptual generative contiguity. On the other side, the geographical space again functions as a screen, an application and a projection of sociocultural space. For Bourdieu (1994: 28), *social space* is *the first and last reality* for the subject, but at the same time, this reality can be reflected and negotiated through the recognition of and reflection on it. The organisation of physical space is for Bourdieu reflecting the social organisation and thereby objectifying it and offering places for contesting the social space through the actual meeting of subjects isolated from each other in social space (Bourdieu 1994: 26; 1984: 124). Thus, we can see that *space* as a conceptual tool in these examples is a complex where spatial modelling is not uniformly defined and can involve dynamic relationships between object-level, metalevel and autometalevel between these two.

What can be found in Sorokin's work as *sociocultural space*, in Bourdieu's as *social space*, and in Lotman's as *cultural space* and also *semiosphere* can reasonably be considered to be a model – each a proposal to use some concept of space as a common basis (which in its content may still vary remarkably) for the description of the sociocultural world. At the same time, these models are not universalistic but object (i.e. certain society and culture) specific – they employ the recognition and organisation of phenomena as taking place at the object level and might apply a metalanguage similar to the one used in object level self-descriptions. Paraphrasing Lotman (2011), a spatial model is an analogue of the sociocultural world or its parts, structures or processes as an object of cognition, replacing it in the process of cognition, and it has been created in accordance with some rules of correspondence and structuring of the concept. The nature of these rules – of what kind and how strict, and whether implicit or explicit – is another issue. Understanding sociocultural space as a model in such a general sense can hardly be problematic either in the case of sociocultural space as a single notion or as a part of a broader spatial meta-language. A more difficult task would be to point out specific relations that are presumed – what exactly does the *analogy* lie in; how have the model-relations been reached; and how are these relations employed? Sorokin (1964) moves towards his own proposal for the model of sociocultural space through a critical discussion of practices of developing spatial models in the social sciences. Similarly, the construction and derivation of Lotman's *semiosphere* has been the object of a number of studies (Kotov 2002, Lotman 2002a, Torop 2005). The variety of these perspectives points to the need to (re)consider the status of spatial modelling in the context of semiotic modelling and modelling systems.

2.1. Modelling systems

The frequent use of spatial conceptions in social and cultural theories might suggest a thoroughly developed and clear cut set of conceptual spatial means, a kind of spatial descriptive language. Instead, it appears that the variety of organisations referred to by spatial terms forms a diverse field of modelling. A study of spatial models in social and cultural theories should study both aspects in their background, the aspect of spatiality and that of modelling. These two aspects make up a heterogeneous domain of spatial modelling. Before outlining this domain, there are some distinctions in semiotic understandings of modelling that should be noted. While the notion *modelling systems* is not understood in semiotics in a univocal sense, its diversity coheres with the heterogeneity of the general field of spatial modelling.

A major source here for studying the nature of *modelling* related to spatial models is the concept of modelling systems proposed by the Tartu-Moscow School. Even if the term *secondary modelling systems* was a camouflage term for the school, the introduction of the term indicates a strive for a holistic and coherent approach in the field of semiotics through the terms of models and modelling (see e.g. Chernov 1988: 9–10). This aim can be traced in the construction of so called modelling systems theory (Sebeok, Danesi 2000). *Modelling systems* and *secondary modelling systems* were discussed in a number of works from the Tartu-Moscow School (see especially Lotman 2011; Zaliznjak, Ivanov, Toporov 1977) and later criticised and applied differently – first and most notably, pointing to the necessity to apply the *modelling systems* notion to the non-linguistic modelling domain as well (starting from Sebeok's work underlining actually non-*verbal* modelling (Sebeok 1988)), and, second, shifting the focus of *modelling system* from abstract semiotic structure to the idea of functional organismal systems (see e.g. Sebeok, Danesi 2000; Kull 2010). As a result, *modelling system* does not appear in semiotics as a univocally defined term, which is a reason for the dispute over possible hierarchies of *modelling systems*, which is not of interest here. Instead, I would emphasise the diversity within the domain of spatial modelling.

Considered as a *system*, a modelling system is characterised by its parts, the relations between these, relations between the parts and the whole, by the environment and the system's relations with its environment. This understanding has been applied by Mario Bunge to *semiotic systems* that for him, however, refer exclusively to the referential aspect of sign systems (Bunge 1998), thus not directly entering the discussions on the topic of modelling systems. Calling something a *modelling system* would still presume clarifying the status of it as a system, its parts, whole and environments, or in other words related sub- and supra-systems. Besides this, the respective idea of *modelling* should be clarified – for example, whether it refers to (a) the model-building process or (b) the functionality of the system as system's reason and/or organising force or (c) to the model-relation in the sense of the ability of a model to function as an analogue of the object (that is, to represent the object that is generally an aspect of

the system's environment). In the case of language for example, the first case would ask what the process is of generating descriptions, terms, and metaphors. The second case would point to the pragmatic role of language as modelling the world rather than communicating, while the third case would ask for semantic relationships. Secondly, the *system* in relation to *modelling* could refer (a) to the whole that is constituted by the modelling activity (either in its constructive, functional, or representational sense) as the system's essential function; (b) to the system as an integrated set of multiple modelling units; or (c) simply to a relatively more complex model. Accordingly, following the previous example, language as a system can be regarded as, for example, a tool for representing the world and constructing a world view, or a set of integrated individual signifying structures, or as a representation of the world view. As a variation on a more loose understanding of the concept, a modelling system could also be a more or less coherent whole in the context of which some modelling relations and processes can be observed, for example even a society. Whether modelling is constitutive of this particular system – society – would be already a question aiming at more specified conceptualisations of *modelling* in the case of society.

The idea of modelling systems has been critically reviewed and related to other notions of semiotics (to name just a few, Sebeok 1988; Anderson, Merrell *eds*. 1991; Jules-Rosette 1993; Kull 2010; Gramigna 2013) but only rarely can explicit definitions be found, with the exception of brief suggestions of overlap with other concepts, for example "semiosic systems are simultaneously *modelling* systems" (Kull 2010: 43, emphasis in orginal). A widely cited definition comes from Lotman, proposing that a modelling system is a regulative framework for the model that as a whole is in a state of analogy with the object field. Modelling is in this concept understood as both the process of creating a particular model (as for example a *work of art*) and as a principle of analogy concerning syntagmatic organisation (*artness*).

> 1.2.1. From the multitude of definitions of *model*, the most general one will be used here: a model is an analogue of an object of perception that substitutes it in the process of perception. [...]
> 1.3.0. *Modelling activity* is human activity in creating models. In order that the results of this activity could be taken as analogues of an object, they have to obey certain (intuitively or consciously established) rules of analogy and, therefore, be related to one modelling system or another.
> 1.3.1. *A modelling system* is a structure of elements and rules of their combination, existing in a state of fixed analogy to the whole sphere of the object of perception, cognition, or organisation. For this reason, a modelling system may be treated as a *language*. (Lotman 2011: 250)

Lotman's discussion in this article suggests two perspectives on art as a modelling system. First, a modelling system is a structure of elements and rules that can have a relation of analogy to an object, and on the basis of which particular models are generated in a similar way as texts realise the language system and

artwork realises artistic languages. Second, a modelling system is a field of artistic activities, including producing pieces of art, expressing a world view, representing, applying diverse semiotic systems (languages), negotiating social relations and providing knowledge. Recalling Parsons' explication of the *general action system* (as outlined in Parsons 1966; and in Parsons, Shils 2008), this kind of modelling system would be a particular system of action that can focus on the cultural system but involves necessarily other levels of action systems also, like organismic, psychological and societal. Accordingly, considering modelling to be a function of cultural systems, there is a close link between Lotman's study of art in the category of modelling systems (2011) and Geertz's study of religion as a cultural system where he distinguishes two types or modalities of modelling – religion as a *model of* and as a *model for* (Geertz 1973: 93), a distinction that will be further discussed in relation to spatial modelling.

The formerly mentioned idea of language-like modelling systems was largely shared by Sebeok in his critical remarks to Lotman. Critique was however mainly derived from distinct interests – Lotman taking a cultural-textual perspective aiming to explain relations between texts, their grounding world images, particular natural and artificial languages and language as a system in general, while Sebeok took a more linguistic perspective on the evolution of language. This emphasis has also been carried on to modelling systems theory: "MST is one of the fruits of an evolutionary branch of semiotics that has come to be called *biosemiotics*" (Sebeok, Danesi 2000: 15). Aside from the evolutionary aspect, what Sebeok highlights for language (or *syntax*) as structuring capacity, as distinguished from communicative speech, is rather close to what Benveniste discussed about the modelling nature of language (*la langue* as distinct from *le langage* and *la parole*, in Benveniste 1981). As I will explain later, despite the diverging idea of *language* as a logical starting point in Lotman's and Sebeok's argumentations, there is a remarkable agreement in their resulting understanding of mechanisms of human modelling – something that becomes apparent namely by asking about spatial modelling.

Thus there are already two kinds of ideas of modelling systems present: (1) *modelling system* as a language like structure or what Lotman, in relation to *space in text* has called modelling means (1986: 4) and (2) *modelling system* as a system of actions. Two more ideas can be found in the work by Sebeok and Danesi on semiotic modelling (2000). Namely, (3) the idea of ontogenetically but also phylogenetically distinguishable and hierarchic modelling systems or the *innate neurobiological capacity for a particular type of modelling* that enables specific kinds of semiotic activity.

> The PMS [primary modelling system] is the innate capacity for simulative modeling, i.e. it is the system that underlies forms produced by the simulation of some property of a referent or referential domain. (Sebeok, Danesi 2000: 44)

and

> *semiosis* is the neurobiological capacity to produce forms (signs, texts, etc.), modelling is the channeling of the *semiosic* capacity towards a *representation* of some referent (the actual act of creating form). (Sebeok, Danesi 2000: 161)

At the same time, while their book is subtitled *Modeling Systems Theory*, Sebeok and Danesi can be found not directly focusing on *modelling systems* as such, but instead on particular types of *modelling* (e.g. *primary*, *secondary* and *tertiary modelling* as largely corresponding to Peirceian iconicity, indexicality and symbolicity in sign relations). An analytically listed collection of modelling relations of a certain type, cut out of their semiotic situation (for example, from representational systems), lacks, however, the internal systemic character. In this sense (4), *modelling system* can appear to be an analyst's system of classification of semiotic relations.

While the idea of *innate neurobiological capacity for a particular type of modelling* focuses on each type of modelling system separately, positioning the focal system differently would allow more emphasis on the interrelatedness of capacities and forms in actual modelling cases. Namely (5) the subject (for example an organism, an individual or a collective) itself can be seen as the focal modelling system, that is, the whole that is actively relating to its environment and for which systems of the previous type are subsystems. The active relationship is characteristically conceptualised in terms of dialogue, for example: "[…] the relation of body to world is dialogic in the sense that the body responds to its environment modelling its world" (Petrilli, Ponzio 2013: 106). This follows the understanding of modelling system as a system actively in relationship with its environment or more particularly, a systemic whole that has the ability (and habit) to build for itself knowledge about its environment and about itself and potentially act in relation to it. The idea is relevant for different levels, from organismal to cultural. Accordingly, the organism is a semiotic subject who is the constructor of its own world (Uexküll 1926), that is, its world model and reality. In more general terms, modelling systems can be equated with living systems (Kull 2010). In the pragmatist and symbolic interactionist idea (Blumer 1969, Mead 1934), the human subject is an active actor who is in a dynamic world engaged in the process of relating to the world (Kilpinen 2009) and defining the situations, objects, other subjects, their actions and stances. Being remarkably based on prior experiences and habits, this ongoing interpretation is at the same time a process of stabilising and automatising the relations with the environment (including other subjects as well as ideas). The understanding of an individual actor in a social situation is further employed by Parsons in his *action frame of reference* and related to a more general notion of a *boundary maintaining type of systems* (Parsons 1951: 36; Parsons, Shils 2008: 107–108). This leads to the broad idea of a society being a modelling system that involves various activities and levels of modelling, with particular attention to establishing the unity of the society as a system through integration and bounding practices. An idea of a similar scope but without the

agentive aspect is present in the understanding of culture as a *signifying order* (Danesi, Perron 1999) or a *connective macrocode*:

> In a fundamental semeiotic sense *culture* can be defined as a *connective macrocode*, made up of the different codes (languages, gesture, music etc.) and the signs, texts, and connective forms that are fashioned and used by people in specific social contexts. This macrocode constitutes a *signifying order*, which can be defined as an interconnected system of signs, texts, codes, and connective forms. (Sebeok, Danesi 2000: 42–43)

This general inherent modelling activity appears as a function in Lotman's notion of *text* as a meaning generator and a modelling device (Lotman 2012), and is involved at another level in mechanisms of cultural teaching and learning as essential functioning mechanisms of culture (Lotman 2000: 419).

Various semiosic and semiotic systems can thus be found functioning as modelling systems throughout various levels of the sociocultural world. To make the distinction more tangible through an example, it is possible to point to various "modelling systems" in the case of the city as a part of the sociocultural world. Accordingly, the organisation of the (physical) urban space, either in the sense of urban space syntax (Hillier, Hanson 1993) or a symbolic signifying system (e.g. Duncan 1990), can be considered a modelling system analogous to language as modelling system. At the same time, one can focus on outlining subjects at different levels – the individual subject, institutions or collectivities and communities as social subjects engaged in the city life. The city itself can be considered a social, cultural, institutional and spatial whole actively relating to internal and external processes like economic, social and cultural developments that are worked on in the framework of urban planning, management and everyday practices. These subjects have different kinds of modelling capacities, starting from organismic up to institutional legitimisation or memory in the form of archives or even news media controlled by the local government. The action of modelling is, however, essentially taking place in actions, interaction situations and respective spatial settings (Rapoport 1990) in the urban environment by semiotic subjects – from cognitive mapping during strolls in the city (e.g. Lynch 1960, de Certeau 1984) to interactions in the city (Bridge 2005) and representing the city. This semiotic activity can also be abstracted from the subject and particular situation to be seen e.g. in the framework of coding in representations of the city, leading to specific discourses on the city as well as *texts of the city in culture* (Mints, Bezrodnyi, Danilevskij 1984; Toporov 1984). In addition to these, cities are widely described and researched in various disciplines, each using some classificatory system that can be considered to be a modelling system.

These few examples of different possible kinds of "modelling systems" in the city are respectively again central aspects for the research in semiotics of the city. However, the aim of this list was not to equate different semiotic processes and phenomena that can be related to *modelling systems* but instead to explicate

the multitude of approaches and at the same time the presence of a variety of modelling relations and processes in the city. In this multitude, the application of the notion *modelling system* to spatial modelling of the sociocultural world appears problematic. Instead it would be reasonable to talk about a complex domain of spatial modelling of the sociocultural world.

2.2. The domain and levels of spatial modelling

Spatial modelling is a domain of modelling that involves a large diversity of relations and actions that even though closely interrelated, hardly make up a clearly bounded unitary system. For a perspective looking for a common minimal trait of spatial modelling (a bottom-up view), one would need to turn attention to the minimal situation where spatiality in recognition appears. Two options can be outlined here. First, minimal spatiality could refer to recognition of at least a binary relation in the object world; that is, the world for the subject consists of at least two simultaneous points (for example, either two distinct objects or the self and the object or the self and environment in general as an object). Respectively selecting one out of two makes recognition significant in the simplest linear-spatial manner. Another option for minimal spatiality would start from a holistic space to which the above described spatial relations would be subordinate derivations. *Space* would thus essentially be the object of a cognitive map, present in the *animal Umwelt* capable of indexical modelling, but not in the (iconic) *vegetative Umwelt* (Kull 2010: 50–53). Logically prioritising the latter, spatiality of a holistic model over spatial relations (while in both cases *space* is essentially a part of the domain of knowledge) makes this space in the simplest animal Umwelt homological with spatial models in social and cultural theories, where operations of cognitive mapping are clearly more complex. What is in the latter meant by *space* is at the same time clearly different from the understanding of everyday geographical space.

My concern here is primarily related with spatial modelling as it appears in relation to spatial models in social and cultural theory. Following the fundamental distinction between *actions* and *notions* (see an overview in Holy, Stuchlik 1983) the object domain of this scientific metalevel can be divided into two levels. The first level involves the actions and behaviours of sociocultural subjects themselves, while the second one involves conceptualisations of the sociocultural world as can be found in the studied society itself (see figure 2, page 46). Based on observed actions and notions in this object domain, the researcher generates an additional notion, a representation on the scientific metalevel. Besides the spatiality of the descriptive metalanguage manifested in a theoretical model, the two object levels have spatial dimensions in their turn, as well as different kinds of spatialities that become interrelated in the context of a general domain of spatial modelling. Accordingly, Ernst Cassirer has explicated three levels of *space*: the *organic space* or space of actions and behaviour, *symbolic space* as a product of interpretation and conceptualisation of the former,

and *abstract space* that requires the prior conceptualisation of space at the two more practically involved levels (Cassirer 1944: 42–43). Thus, while spatial organisation and interpretation of behaviour and cultural world image are objects for spatial modelling in research, at the same time, they involve particular spatial modelling themselves – something that could be called *spatial meaning-making*. In addition, practical experience and cultural knowledge also form a source field for generating descriptive models in theory-building.

Figure 2. Levels in the domain of spatial modelling from spatial models in social and cultural theory to geographic organisation of behaviour, exemplified by a selection of authors and issues related to particular levels and their subdivisions.

Spatiality at the scientific meta-level can be employed in different modes. It can be a descriptive tool, i.e. a spatial metalanguage (as generated from the perspective of the researcher, essentially an *etic* conception). Or it can be an analytical conceptualisation of the world image of the culture (aiming for an *emic* approach). As a third alternative, it can be a description of the physical-spatial organisation of the object field, that is, physical aspects of settings, manifestations and traces of culture and society. The first two are of particular interest for studying the sociocultural world. Accordingly, a spatial model at the metalevel can represent another spatial model held in object-culture and can, in its turn, depend on categorisations manifested in this object-level model. For example, a central meaning of the notion *model* for Lotman would be the cultural world image which, besides being an object of study, is a methodological point of departure for semiotics of culture. In contrast, analytical (*etic*) description and categorisation does not necessarily follow the spatial categorisation of a cultural world image at the object level.

While analytical models can be closely related to conceptualisations at their object level in more *emic* approaches (e.g. ethnomethodology), there is a crucial difference between cultural and scientific levels of modelling. In a traditional perspective, scientific type of modelling works essentially in the field of models and is concerned with securing applicability and controllability of these models through methodological rules in the framework of models. Cultural modelling in contrast works on models as realities, facts, and is primarily concerned with enforcement, usability and respective relevance of models. Thus, while for the scientific activity, interpretations and conceptions of the researcher are part of culture and individual and social behaviour, they involve a step to another level characterised by a particular form of modelling (or, following Alfred Schuetz (1945), to another *finite province of meanings* with its specific attentiveness). In other words, scientific metalanguage is one among many cultural languages, but with a particular modelling character (see Lotman 2011).

Similarly to the variety of modes of space at the scientific metalevel, space appears in several roles among cultural conceptualisations. Thus, spatial modelling is related to the spatial image of the significant world held in culture, that is, the cultural world image of "sociocultural agents" in contrast to the researching agent acting at the scientific metalevel. Particular representations of the world and one's place in it provide a new aspect of spatiality to the symbolic space of world image. Further, the symbolic spatial organisation is employed as a framework for making sense of behaviour and ideas. The latter (spatial signification of behaviour) is a part of spatial behaviour as a signifying system, the other part being the physical or rather, *organic* spatiality of the behaviour to be set into correspondence with this symbolic space.

The level of behaviour in the domain of spatial modelling forms the basis for *sociocultural space*. Again, aspects closely interwoven in the significant spatiality of behaviour or *actional* or *organic* space can be analytically distinguished. Two of them are the spatial organisation of behaviour and the interpretation of the spatial dimension of behaviour. These are mediated by

behaviour "dealing with" space – either by organising physical space or by a semiotisation of space through behaviour.

Behaviour should not be understood here as referring to mere bodily action of human beings. Instead, the holistic outline of the domain of spatial modelling requires the notion of behaviour involving *overt* as well as *covert* action that can be social and cultural, and thus essentially *meaningful* interaction. Furthermore, behaviour is related to cognitive and perceptual spatial modelling. Understanding behaviour in a broader sense, these aspects are already involved as the psychological and organismic aspects of involved subjects – at least as far as spatial modelling of the sociocultural world is concerned. The intra-subjective dimension of modelling is a field of discussion where works by Jakob von Uexküll (e.g. 1926) as well as Sebeok (1988; Danesi, Sebeok 2000) appear to be most useful, but it is not the main focus in this work. It should be noted that the sociocultural world can involve non-semiotised spatiality and aspects of behaviour that are not spatial and not spatialised at any level. However, these aspects remain out of the scope of interest for the present focus on the spatial modelling of and in the sociocultural world.

Before turning to the discussion about spatial models in relation to the internally diverse domain of spatial modelling, some words are warranted on the possibility to regard space as a language-like modelling means, as Lotman states in his preface to the issue of Sign Systems Studies dedicated to the semiotics of space (Lotman 1986: 4). From the perspective of the modelling system as a language-like structure (see Lotman 2011: 250), the trait of fixedness (a state of fixed analogy, in the original: *zafiksoravanoe*) might suggest a static and universalistic view. However, it would be reasonable to emphasise the possible constitutive aspect in Lotman's statement, namely, that the emphasis can be placed on the relative stability that enables a chain of similar models. In addition, a socially instituted relationship of analogy between the general structure at the metalevel and the object field can be emphasised. In other words, a certain describeability or capability for representation of the object is established. While Lotman emphasises that "the relation between model and an object is determined by the structure of the modelling system" (Lotman 2011: 251), the *structure* itself is semiosic and dynamic, generating models.

Modelling systems can thus be characterised by *an established state of analogy*, but a look at a variety of examples of spatial models about the sociocultural world reveals that the structure of elements and their relations, that is, the character of a specific idea of spatiality, is not unified either. From the point of view of social theory, the grounding conception of space and its relation to the described object field is a detail to be decided and explicated during the process of proposing a model. Sorokin (1964) has accordingly titled a chapter in his discussion on sociocultural space, *Why the Space of Mechanics, Geometry, and Topology Is Inadequate in Application to the Sociocultural Phenomena*. In the situation of a diversity of applicable conceptions of space, the total referential capacity presented by the general term *space* can lack the coherence that would be necessary for a conceptual system. Instead of modelling system, it

could thus be more reasonable to talk about more ambiguous *modelling capacity* of the field of spatial conceptions and respectively derived more strict notions. This position is shared in this study. In each case of a particular conception of space that proposes a particular framework for describing (spatial) relations and proposes respective syntagmatic analogies to be established, it can nevertheless be reasonable to talk about modelling systems. In this case, a conception or even a notion of space can indeed function as a systematic resource for model-building activity. These ideas of space can again be of extremely variable kinds. For example, one could think of ideas of various geometric structures (starting from the most simple figures) and types of structuring (vector space *vs.* raster space), and of experientially derived ideas of places or trajectories, also together with respective experiential significance (e.g. *paths*, *edges*, *landmarks*, *nodes* and *districts* as typical elements of cognitive maps about urban space according to Lynch 1960; or *central*, *concentric*, *radial*, *axial*, *biaxial*, *serial* "spatial logics" structuring images of a geographical region, according to Lagopoulos, Boklund-Lagopoulou 1992: 312), and of the possibility to speak of ideas of qualitative and quantitative spaces. The list could be continued, but the unifying aspects of this variety is that all of these ideas can be specified into the form of relatively clear-cut concepts and applied as the basis for creating descriptive models.

An example of a step towards understanding spatial models can be found in typological distinctions of basic spatial relations that have been pointed out for cognitive mapping at a level more basic than what previously mentioned authors Kevin Lynch and Alexandros Lagopoulos and Karin Boklund-Lagopoulou are concerned with. Regarding the structural aspect of cognitive maps, two basic relations can be pointed out: (1) "locating elements relative to one another from a point of view" of the same level and (2) "locating an element relative to a higher order environmental feature or reference frame" (Tversky 1993: 18). This distinction could enable a basic analysis of the structural principles of spatial models. An intermediary type, besides the two mentioned above, would be an "egocentric" conceptual structure presenting elements in relation to the self as a locally and subjectively general reference point. Typically, the latter kind of basic spatial idea can be found in cultural self-descriptions and their respective idea of *cultural space*, where the authority of semiotisation is concentrated into one point, which generates both the relations of elements to each other as well as to the idea of the objective image of all relationships..

Each of the conceptions of space from the previously mentioned variety suggests certain organisations and possible referential relations to be applied in the model. In terms of modelling, each applied conception of space establishes a certain idea of reality with its limits and boundaries. While the potential general relation of analogy between that spatial idea of reality and its object-field can be fixed and pre-existing, particular referential relations are defined by the modelling subject in the process of model-building. The conception *sociocultural space* should hence be considered in relation to this complex domain of spatial

modelling, and as an outcome of the domain in the form of particular spatial models in social and cultural theories.

2.3. Sociocultural space: building a model and representing the world

Having related sociocultural space to the general domain of spatial modelling, it is now possible to focus more particularly on the model-building and representational aspect of models. Following the necessity to distinguish between two perspectives on culture as pointed out by Lotman and his colleagues: "[…] we should distinguish between the conception of culture from its own point of view and from the point of view of a scientific metasystem which describes it" (Lotman *et al* 2013: 53), two domains of spatial models of the sociocultural world can be distinguished. One being the knowledge of sociocultural world held by the community itself and the other being a scientific model about the sociocultural world. The latter is of particular interest for the present study and includes theoretical notions like *sociocultural space*, *social space* and *cultural space*. These notions presume a particular conception of the object to be described (namely of the sociocultural world), as well as a particular conception of space that could be used as a descriptive tool.

An overview and several insights into the complex of modelling, where spatial models about the sociocultural world are generated, can be gained by looking at the main stages of modelling in arriving at a highly abstract spatial model about the sociocultural world (see also figure 3, page 52). Starting from the perspective of the model itself, the model presumes that a representational relationship is established between a particular conception of space and a particular conception of the sociocultural world. The establishment of this relationship again presumes the existence of analytical conceptions of the sociocultural world (e.g. *society* or *culture*) and of space or at least conceptual spatial organisations and the abstraction of these from each other as well as from the realm of the practical knowledge of the community. While in practice these conceptions and their sources might not always be explicitly defined, an awareness of these helps to track down the construction of each theoretical notion. Furthermore, in the final analysis these abstracted notions are not existing by themselves in an abstract domain, but are derived from the knowledge of the sociocultural world (together with its spatiality) including the meaningfulness seen in spatial relations, the spatial organisation of culture and society and the world image in general. At this point, it is essential to draw out the difference between the shared knowledge held by the community under study and the stock of knowledge of the community whose member is carrying out the study, that is, the difference underlying the distinction between *emic* and *etic* categories in anthropology. While in principle, a model is the knowledge of the researcher, its source field can among other aspects involve the knowledge held by the researched community. A crucial issue for studying models of the scientific

metalevel is thus the relation of this object level stock of knowledge to the model and to abstracted conceptions underlying it. The knowledge of the sociocultural world of both the community under study and the community of the researcher is generally derived from behavioural experiences of being in and relating to the spatial environment, and thus both from the species-specific Umwelt as well as from relationships with actual environments.

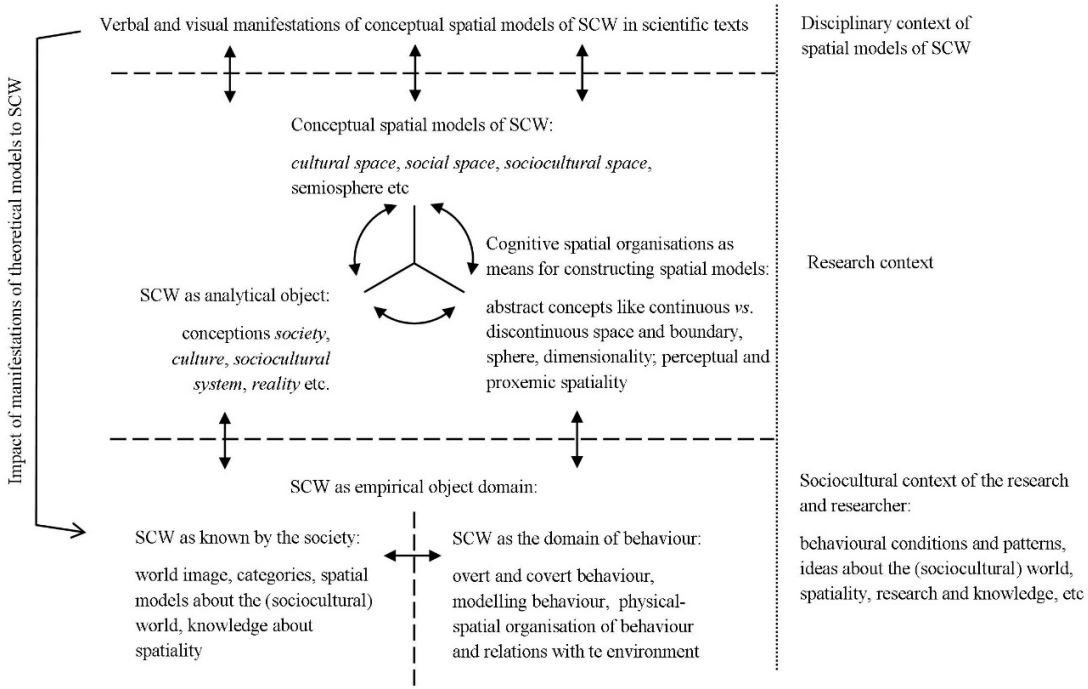

Figure 3. The field of spatial modelling of the sociocultural world (SCW) centred on conceptual spatial models that can model the sociocultural world as an empirical object by interrelating an analytical conception of the sociocultural world and a variety of conceptual spatial organisations as cognitive tools. Involving behavioural as well as conceptual aspects, the sociocultural world is a complex objet and at the same time the source for cognitive tools. Scientific modelling takes place in a narrow disciplinary context, wider research context and general sociocultural context – that all enable and influence modelling and particular relations in it. Conceptual spatial models are manifested in scientific texts that make them communicable in the research context and analysable for the present study, but they also enable the impact of models on the sociocultural world itself.

The stages of modelling can be set into a sequence starting from the domain of behaviour followed by the (sociocultural) world as known by the community. From the former, certain patterns and from the latter, various abstracted concepts can be employed. Concepts of the sociocultural world and concepts of space are in focus in the context of this study. An analytical concept about the sociocultural world is set into representational relationship with a conceptual spatial organisation to form a spatial model of the sociocultural world. This model and the particular concept of space via the involved analytical object can further represent the sociocultural world as an empirical object, either as it appears for the community (this can be called *world image*) or as an aggregation of behaviours, artefacts, etc. This sequence helps to pose some analytical questions. Namely, at what point is a distinction introduced between the object and metalevel, and thus descriptions distinguished from self-descriptions? What exactly appears as the object? And lastly, to what extent are descriptive categories derived from the object culture or from the researcher's own cultural, research and disciplinary contexts?

While the abstract spatial model would belong to the metalevel, there are multiple options regarding where to draw the line between the object and metalevel. In the more *etic* line of research, the object domain can consist of only the aggregation of behaviour or of the knowledge about the world held by the community. An example of modelling ways of living of groups, largely irrespective of their own interpretations of these ways, could be found for example in a diagrammatic spatial model of sociocultural evolution by Edgar Bowden (1969). His proposal for stereoscopic models of multilineal evolution (Bowden 1969: 867) would again provide a good example of a strive for innovating spatial modelling tools, particularly in respect to visual presentation and imageability of complex models (related to the disciplinary and general research context).As will be discussed in more detail later, Bourdieu, Lotman and as well as Sorokin do emphasise that the object field of their studies is not mere artefactual behaviors, but the ways in which the object community makes sense of its world. This leads to the other distinction in relating object and metalevel. Namely, the construction of a metalanguage can be based on either categories derived from researcher's community and academic context (e.g. mathematics or geography as sources for prestigious metalanguages in humanities) or grounded on distinctions made in the studied community itself. The latter could involve using the world image of the object level community and possibly also particular concepts about the society, culture or space for constructing a metalanguage for describing the sociocultural world (then either as behaviour or world image).

With this background, it can be stated that *sociocultural space* is a concept of space that represents a conception of the sociocultural world in some respect. This *some respect* is defined in part by establishing the representative relationship for the model and in part by deriving a particular conception of the sociocultural world from knowledge about the sociocultural world held in the community and in part mediated by the researcher's domain of knowledge about the

sociocultural world, which is related to the respective researcher's community. Thus, it is a combination of what Benveniste names *generative* and *homological* relationships between systems:

> This *generative relationship* is useful between two distinct, contemporaneous systems, of the same kind, where the second one is constructed from the first one and fulfills a specific function. We should carefully distinguish this generative relationship from the derivative relationship, which supposes evolution and historical transition. […] The second kind of relationship is the *relationship of homology,* which establishes a correlation between the parts of two semiotic systems. (Benveniste 1981: 17)

There is a potential natural link between concepts about the sociocultural world on the one hand and concepts of space on the other, a link that is established by their common ground in behaviour and experiences that is simultaneously both sociocultural and spatial. For an analytical concept of *sociocultural space*, this link should, for methodological clarity, be substituted by establishing a conventional, not directly motivated analogy between a concept of space and a concept of the sociocultural world. This is, for example, often explicitly aimed for by referring to some *mathematical* concept of space, which is in fact involved in the argumentation as an operationalised conception. Through this analogy, a model can represent the sociocultural world in a simplifying (and explanatory) manner, that is, be used as a model. However, actual examples of spatial models of the sociocultural world can appear less clear in this respect. Namely, one can find the co-presence of the analytic relationship established as an unmotivated analogy between the model and the world (realised through particular concepts from either side), and *spatiality* that is derived more directly from the object field – a kind of spatiality (*actional space*) based on behavioural experiences that has been *conceptualised* and enforced as significant spatiality (in the sense of *symbolic space*) in a community's stock of knowledge and further, as a seemingly analytical abstract spatiality in scientific models. Accordingly, the same kind of space as a conceptual organisation can be tracked down throughout levels of modelling – characteristically either as a repetition of spatial structures or as the influence of geographic space to the descriptive concepts. An example can be found in geographic manifestations of semiospheric boundaries where not only behavioural and cultural conceptualisations intermingle, but the status of scientific metalanguage also appears problematic. This kind of apparently direct correspondence appears when applying the notion of semiosphere and its boundary to the description of urban space and particularly the city wall in the middle ages. Lotman brings an example of a case in which cultural space (at this point using the expression synonymously with *semiosphere*) takes a territorial form and the semiotic boundary mechanism becomes a geographical phenomenon in the form of imperial territory and borders:

> All great empires, bordered by nomads, whether "steppe" or "barbarians", settled on their borders members of those same tribes of nomads or "barbarians", hiring them to protect the borders. These settlers formed a zone of cultural bilingualism, ensuring semiotic contacts between two worlds. (Lotman 2005: 211)

While the level of practices in geographical space might seem to have a one-to-one relationship to the structure and mechanisms in the concept *semiosphere*, which again might suggest an absolute descriptive capability for the concept, there are in fact more complex modelling relations hidden. These spatial practices of bounding are expressions of a community's world image in material form, aimed at enforcement of certain cultural models and interpreted as forms of it, thus objectivating and legitimating the world image and its spatial forms in the sociocultural context. On the other side, as will be discussed further in the next chapter, the conceptual model of the cultural system, *semiosphere* was largely developed by Lotman based on his earlier ideas of *cultural space* as the spatial organisation of a cultural world image. As a result of the repetition of a certain spatial form of a cultural world image in the model formation at the metalevel and object level practices, this motif of encirclement by a semiotic boundary becomes particularly enforced.

In contrast to these spatial descriptions, the spatial modelling of the sociocultural world also involves the (physical) geographical space in its more objective and subjective aspects – that should be distinguished from the theoretical metalanguage. The geographical spatial dimension of society and its culture is essentially related to the level of behaviour as using as well as designing environmental settings. This behaviour again is closely related to the community's world image, behavioural norms and habits as well as to the need to relate to other communities present within their own sociocultural worlds. The notion *moral region* proposed by Robert E. Park (1915: 610–612) refers to this kind of part of urban space that is characterised by a distinct cultural (or *subcultural*) group with a particular system of norms, values and social relationships, practiced in an urban space which accordingly becomes designed. As a result, moral regions form a pattern of distinct small sociocultural worlds in metropolitan contexts. The physical dimension is thus already closely related to the community's understanding of the world. However, it is not itself the spatial organisation in the respective world image but the physical spatial dimension of the sociocultural world, and thus not a model of the sociocultural world. Derived from spatial behaviour, the way a social group and an individual in it sees the geographic space as the dimension of one's social actions, is again a shared knowledge of the geographical spatiality of one's individual and collective behaviour, but not necessarily a more general model of the sociocultural world. Thus, both of these social aspects of geographical space belong to the level of spatiality of sociocultural phenomena and semiotisation of this spatiality; and *space* remains in these cases the object of scientific knowledge rather than a means of knowledge at this level.

Considering a spatial model to be a product of the domain of spatial modelling, the model itself apparently has influences from several sources. First, the spatial model is influenced by the applied conception of space that is often imported from other disciplines as a metaphor. Second, a model exists in the context of other descriptions of the same object field and can thus have influences from the surrounding metalanguage. Third, as spatial models about the sociocultural world are related to the knowledge of this world as held in the object society, the model can partly depend on the described sociocultural world itself and object-level models of the world. Fourth, a spatial model, as a product of the complex field of spatial modelling, depends on spatial experience and its mediations available to the researcher as well as on the researcher's way of seeing the world, in the context of which the spatial model would be located. Among the variety of sources of a spatial model, it is often possible to point out dominant influences of spatial models proposed in social and cultural theories. Lotman's notion of *semiosphere* is a multisided example here. Winfried Nöth (2006) has located the notion in the context of Lotman's own theoretical thought and especially of the role of metaphor in culture, thus seeing the notion as dominantly influenced by the researcher's understanding of the world (an *etic* dominant of influences for the model). If focusing on the semiosphere as taking the form of the geographical space of empires, attributed the value of the civilised domain by the respective culture (Lotman 2005: 211), the notion of *semiosphere* can obtain an *emic* dominant, that is, influence from the world image of the culture it is describing. Taking *semiosphere* as most of all a metaphoric notion, for example as being an application of the concept of *biosphere*, would undermine the potential to use the concept as an analytical tool for *the semiospherical perspective in the analysis of culture* (see Torop 2003: 336). Emphasising the relationship of *semiosphere* with other concepts like *culture*, *text*, *cultural space* and *textual space* would again set the metalinguistic context to a dominantly influential position.

Research on the sociocultural world involves the potentially problematic relationship between the object field and the tools for its description. Besides description of behaviours, the task of research includes the meaningfulness of these behaviours as well as their reflective conceptualisation and descriptions at the object level. The distinction of the two aspects of meaningfulness, one operational and the other representational, and at the same time the involvement of both, should be considered essential for studying the sociocultural world. In a seemingly conflicting manner, the two aspects are present in Sorokin's conception of *sociocultural space*, which is "a referential principle of social science" together with *sociocultural causality* and *sociocultural time* and the group specific spatial conceptualisation of the world:

> Thus the conceptions of sociocultural space with its system of co-ordinates have indeed been different in different cultures and groups; and, all in all, they have been directly conditioned by a given culture and society.

> Each of them, according to its needs, conceived sociocultural space in its own image and resemblance. (Sorokin 1964: 153)

Besides the phenomena directly represented by the model, the object field also contains the physical aspects of these phenomena – which might not be directly relevant for the model. This points to a potential circularity between object- and metalevel – the spatial model might be built by abstracting the spatial relations and spatial experiences that the model is at the same time representing. In that case, the relation of contiguity of *spaces* (physical space and its experience, concepts of space and spatial concepts in metalanguage) predetermines the representational relationship between the spatiality of the sociocultural world and its spatial model. Thus, what Lotman refers to as "the state of fixed analogy" could then become highly motivated as a state of contiguity equalled with analogy.

A similar circularity at the object level would in turn be an essential principle for the semiotisation of geographical everyday spaces and places as reflecting cultural ideals. A vivid example is the use of the city and the space of the city as a model to describe a cultural ideal like the Heavenly Jerusalem. At the same time, this idealised spatial structure and the concept of the city is applied to the practical planning of urban space, as well as organising its interpretations. It is not merely an inspiration or analogy that is at work here, but sameness through several levels. This contiguity is similar to the conceptual contiguity of spatial organisation at different levels, which can also be seen in the case of anthropomorphic planning of settlement spaces or post-modern architectural planning as materialisation of a dominant metaphor of *genius loci* (Lagopoulos 2009).

While being useful for cultural practices of semiotisation, this circularity is potentially a threat to analytical argumentation. The issue is the more significant keeping in mind that social and cultural theories and studies are part of cultural self-descriptive activity, are based on this activity, and are simultaneously studying as well as designing self-descriptions and guidelines for behaviour. In the context of studying theoretical spatial models, it can thus be considered worthwhile to study the nature of spatial modelling by focusing on the specific conceptualisation of elements in theory, like the position of geographical space (as including both physical space and shared knowledge of this space in society), and the construction of social and cultural subjects as well as artefacts and significant objects. The positions of these categories in a model and respective theory can point to the centrality of self-modelling for the theory, as well as to the implicit frames of adequate applicability in the sociocultural world, that is, to the pragmatic aspect of modelling inherent in the model-building itself.

2.4. Spatial models in use

2.4.1. Spatial models in building the conceptual world

So far I have discussed models from their constructive perspective, to which should now be added the side of model application and thus the pragmatic aspect. An analysis focusing on the model as a tool for managing knowledge and the internal organisation of this tool would see the pragmatic aspect of the model from the perspective of the interpreter that the model proposes. As Sorokin points out, sociocultural space is a metalevel model, *a fundamental referential principle* of social science (Sorokin 1964: 122) and at the same time reality and a way of knowing reality by the sociocultural agent at the object level of social science: "It [sociocultural space] is a means of man's orientation in, and adaptation to, the sociocultural universe – the nearest and most important to him, even from the standpoint of a mere survival value" (Sorokin 1964: 154). These two positions are close to the two possible perspectives that can be obtained in relation to a text in culture, which is seen as a fundamental concept in the Tartu-Moscow School of semiotics (Lotman *et al.* 2013: 57–58): the internal perspective for which the text is a carrier of integral function and the external perspective for which the text is the carrier of integral meaning. The latter can be associated with the perspective of a researcher or any other external interpreter applying a model like *sociocultural space*, while the former can be related to the person living in the sociocultural world. The capacity to switch between the internal and external position can be considered the basis of the creativity of a semiotic subject, e.g. for a culture or a person. For Sorokin, although he makes a distinction between the internal and the external points of view and admits the fact that theoretical ideas are developed in particular sociocultural contexts, he does not discuss the possibility of transition between them. In contrast, that the nature of every social agent is to be at the same time a reflective agent, and that a researcher in the social sciences is essentially a social agent with a reflective habitus, is among the main mechanisms which enable innovative change in society, according to Bourdieu.

These internal and external perspectives, however, concern the perspective implied by the model. In the wider context of modelling, the pragmatic dimension is related to the place of modelling in the sociocultural world and to its organised parts – which can themselves be considered systems actively relating to their environments and thus *modelling systems* in that sense. Two other notions of *modelling systems* should be considered here: one close to language-like systems and the other related to action systems. The first one would suggest an analysis of the model through description of the organisation of the model, and the model's explanation in relation to the (language-like) *system* that enables it. An example can be found among the above mentioned definitions of *modelling activity* and *modelling system* that Lotman has provided at the beginning of his article *The place of art among other modelling systems* (Lotman 2011):

> *Modelling activity* is human activity in creating models. In order that the results of this activity could be taken as analogues of an object, they have to obey certain (intuitively or consciously established) rules of analogy and, therefore, be related to one modelling system or another.
>
> *A modelling system* is a structure of elements and rules of their combination, existing in a state of fixed analogy to the whole sphere of the object of perception, cognition, or organisation. For this reason, a modelling system may be treated as a *language*. (Lotman 2011: 250)

This approach supports the outlined potential for studying models in light of the category of *subject* that such models imply. In his further discussion of art as a modelling system, Lotman also hints at another possibility, namely, that of adopting a broader approach and seeing a modelling system as a set of actions and organisations that constitute a domain of the sociocultural world. In the case of Lotman's discussion of art, art as a *modelling system* includes the whole body of social and cultural phenomena involved in "artistic activity", and not solely the expressive language.

This consideration places modelling activity in the context of social actions and points to pragmatic aspects deriving from the context of the sociocultural world, most notably the purpose-oriented aspects of models. Discussing religion as a cultural system Clifford Geertz points, among other things, to its modelling character and to two types of models, both of which can be observed in the case of religion: *models of* and *models for* (Geertz 1973). Naming these types *representational* and *operational* models, respectively, Ladislav Holy and Milan Stuchlik (1983) add to these *ought models* that stand for evaluative ideals.

Sociocultural space and spatial metalanguage more generally tend to be considered typically as *representational models* (*models of* in Geertz's terms), that is, spatial models present a static overview that offers an abstract (and often idealised) knowledge of reality. Among representational and ought models, one can find the previously mentioned types of cultural self-models that Lotman distinguishes according to their relation to cultural change (in Lotman 2000: 420). Still, spatial models can provide grounds for more dynamic uses of knowledge; for example, by providing key points for conceptualising change, by projecting targeted results as being at a spatial distance, or by drawing boundaries to be transcended or outlining an instructional trajectory to be taken. Thus it is possible to have a topological dynamic for describing transformations. It is typical that spatial models, in order to be dynamic in this way, need to be read in a narrative manner as realised in time – be it the paradigm of sociocultural development that largely constitutes the background of Sorokin's idea of *sociocultural space* (Sorokin 1964; 2006), or the movement of an agent in textual space as in Lotman's works (e.g. Lotman 1970). While in the case of sociocultural space, representational models are related to systematisation and abstraction, operational models objectify principles of models in actions – principles such as the perception of society as spatial, for example, social groups as

"spatial" entities with entrance rituals or an urban district as being *socially* remote and isolated.

2.4.2. Spatial models in building the tangible world

As pointed out by Lotman (2011: 250), models ought to be useful by definition – in the case of *sociocultural space*, by providing describability of the sociocultural world and accordingly, its analyzability. In addition to this usefulness by definition, the character of these models enables the application of *representational models* in the field of *operational models*. First a model, *sociocultural space*, enables decisions grounded in structural descriptions. Second, the general principle of spatiality and a particular concept of space can be projected onto the object field of sociocultural space, namely onto the sociocultural world and its spatial organisation. For example, based on a theoretical model of space, society can be "spatialised" in a particular way through descriptions as well as through societal management, "building" a society according to a spatial ideal and through manifestation in physical space. This is the field of spatial representations of cultural ideals and utopias and the field of their realisation through transformations of physical space (see also, Randviir 2004).

Besides the conceptualisation of geographical space and the organisation of society in it, the creation of theoretical models brings along particular concepts of space and particular analogies between space and the phenomenon described – interconnecting spatial, social and cultural relations. Being actualised in both the descriptions and designs of the world, these particular choices of spatial conceptualisations ground the central, even if often implicit, role that general cultural models about the world have for more specific fields like architecture and urban planning. The reasoning in settlement planning can be found being based mainly on the cultural, political and economic characteristics of the worldview of the culture (for example, town plans as based on *imago mundi* and the idea of Heavenly Jerusalem in the Middle ages (Lilley 2009), or on types of socioeconomic organisation and respective ideologies (Lagopoulos 1983)). However, one can also find examples in which these characteristics are developed into theoretical arguments and definitions about the sociocultural world and its social, cultural and spatial aspects. Accordingly, the change in Philadelphia's planning during the building of a democratic society at the time of the American Revolution has been related to developments in conceptualisations of the *democratic society*: "The American Revolution destroyed the proprietary, which was transformed into a *political administration for the benefit of democratic voters and settlers*" (Carter 1982: 156). While the emergence of spatial societal theories (or "object level theories") from urban planning practices might not be a common trend, the transformation of (utopian) societal ideas into somewhat abstract normative models for urban planning is more apparent and also analysed (Choay 1965,

1997). Another pragmatic dimension of spatial modelling that can be seen in the use of urban planning and architecture lies in designing the spatial environment in order to influence the society. The application of the theoretical work and projects by architect Le Corbusier for building a new kind of society with the help of spatial planning in the USSR (see e.g. Cohen 1992) is an acknowledged example along these lines. In Tartu, the blockhouse district Annelinn as well as other districts were respectively planned or built during particular eras, and present spatial orders related to respective (ideological) models of human and societal functioning. The latter is accompanied by a certain need to influence or change the social and cultural situation by spatial planning and design. Thus, in parallel to generating the new kind of soviet people, *homo sovieticus* through Annelinn, the earlier design of a (partly elitist) district of detached houses, Tammelinn, in the beginning of 20th century, appears as a project for a new, more individualistic society characterised by small condensed family estates. In later decades, the district grew, manifesting the model further in absence of infrastructure like sidewalks – also characteristic to various recent suburban districts.

In terms of the types of models distinguished above, one can see the transition from a *representational* type (e.g. a description of the sociocultural world with a focus on the equality of individuals) through the *ought* type of models (description of how the sociocultural world and its geographic space ought to be organised to ensure equal position for individuals) to the field of *operational* models (how the society can be constructed by building the "right" kind of urban space). During this movement and change of models, and partly due to transformations of society according to those models, the metalanguage used in these models becomes increasingly legitimised as a way of representing the world. A good illustration of this is the role of Euclidean geometry and linear perspective in the development of humanist theories of the sociocultural world and their influence on the practices of designing spatial forms (see e.g. Cosgrove 1998: 20–27).

The pragmatic aspects related to the modelling of the sociocultural world are thus not limited to the pragmatics of scientific models, but concern the society that is planned and imagined through the models – that is, the imaginable and future sociocultural world. This projected world, however, already exists in the present world as a conceptual framework for thinking about the present reality. The field of management of the sociocultural world often also involves elements of scientific theories. This technique for legitimisation of cultural practices by projecting scientific metalanguage to one's autometalanguage is nevertheless not the metalevel but still a cultural practice – a part of the sociocultural world (object level) that a model of sociocultural space can (or at least could) describe and explain.

In conclusion, the understanding of pragmatic aspects of spatial models of the sociocultural world is concerned with the role of a subject. However, when seen from two different perspectives, the role of the subject is crucially different. First, if we understand the *modelling system* as a language-like system with

a representational capacity, the role of the subject would be defined as a category prescribed by the model (and the "language" it is based on). In the case of spatial models, the role of the subject could thus be described as a point of view, an element to be located in space or as shifting between internal-external positions or as finding oneself in spatially described relations. As an alternative, the *modelling system* can be understood as a domain of activities in the sociocultural world. This perspective points to the pragmatic aspects concerned with the creators and users of models, the purpose-oriented character of models and the transfer of theoretical models from the scientific level to the practical organisation of knowledge about society and the organisation of society in physical space.

2.5. Conclusion of chapter 2

Spatial organisation is a tool of semiotic modelling, and spatial conceptions in social and cultural theories are involved in a wider domain of spatial modelling. Spatial models enable structural modelling but are at the same time remarkably dynamic in a number of aspects.

- Construction of abstract models relies on previous (and relatively simpler) experiences of spatial perception, cognition, behaviour and conceptualisation; in this sense, abstract spatial models are not “unmotivated” and unrelated to the domain of the sociocultural world.
- Spatial models are used to conceptualise other domains like (more or less physical-spatial aspects of) behaviour, organisation of thought and the physical world.
- A rich domain of spatial modelling is formed due to descriptions being expressed by means and materials that can be spatial in alternative ways and levels.
- Scientific (meta-level) and cultural (object-level) involve modelling that is closely related and at the same time significantly distinct. Their distinction is relative and the respective positioning of conceptions and theories is also interchangeable during the course of history
- The variety of subject-related semiotisation in spatial modelling is supported by the multiple subjects involved in the domain. Among these are the modelling subject and its possible communication partners (metalevel), subjects acting in the object field and the subject as a dimension of the model.

Therefore, the domain of spatial modelling understood as semiotic modelling is multiple, dynamic, and closely interconnecting the object- and metalevel. This could provide an advantage for modelling the semiotic nature and functioning of the sociocultural world by conceptual spatial means. In the next chapter, I will study the solutions for this task envisioned in three ways of argumentation for spatial models about the sociocultural world.

3. THREE EXAMPLES OF SPATIAL MODELS IN THEORISING THE SOCIOCULTURAL WORLD

In the last chapter I studied the domain of spatial modelling, its layered and systemic organisation and the position of particular models in it. This discussion on spatial models and modelling provides an analytical basis for a more detailed study of spatial modelling in social and cultural theories. I will focus on a selection of examples of theory building that involve explicit discussion and proposals of employing spatial modelling for the study of the sociocultural world: Bourdieu and his concept of *social space*, Lotman and his idea of *cultural space*, and Sorokin and *sociocultural space*. Compared to the general view of spatial modelling in the previous chapter, the central question here is about the internal organisation of those models and their grounding conceptions of space in their operationalised form.

Bourdieu, Lotman and Sorokin, each from his own perspective, have suggested general spatial models as a means of describing the organisation and dynamics of society and culture. The perspective of each of the author is characterised by its emphasis on the semiotic aspect of society and culture, and each also involves the idea that systems of meanings and the generation of these meanings can be described in spatial terms. At the same time, there are significant differences in the respective models. First of all, the *social space* in Bourdieu's work (1984, 1998) appears in the role of a fundamental (though often forgotten by his commentators) concept in relation to which other notions like *habitus*, *fields* or *capitals* can be seen as derivations from; that is, they are not capable of functioning alone outside the conceptual context of the idea of *social space*. Sorokin (in Sorokin 1964), however, formulates his concept of *sociocultural space* as a methodological referential principle of social science that can be found already implicitly employed in his early study of *sociocultural dynamics* (2006, original edition in four volumes dating back to 1937–41) where, in contrast, he did not explicitly apply a spatial metalanguage. In the case of Lotman, one can clearly note the persisting spatial metalanguage as well as occasional attempts to formalise it. Most notably, these attempts can be traced in an article on topological metalanguage for typological descriptions of culture (Lotman 1975) and in the proposal of the concept of *semiosphere* (Lotman 2005) that is largely based on Lotman's earlier ideas about *textual space* (Lotman 1970). As concerns the object that the three authors are modelling, its scope varies from the nature and fluctuation of social differences and their role in culture in the case of Bourdieu, to culture's relation to itself and other cultures (in terms of self-descriptions and textual organisations) in the case of Lotman, and aggregations of meanings and agents into integrated sociocultural systems in the case of Sorokin. Each of the authors has employed different kinds of conceptual spatial frameworks to focus on particular semiosic moments characteristic to the sociocultural world. I begin the chapter with an introduction to the ways of conceptualising spatial models by these three authors, starting with Lotman, whose works have a foundational role for the present study. I end the

chapter with a comparative discussion on the grounding concepts of space and the role of a sociocultural subject in these models, and position these models according to the framework of spatial modelling of the sociocultural world.

3.1. Spatialities in a cultural semiotic perspective: cultural space from the image of the world to a metalevel model

Spatial modelling is a central topic and tool throughout Lotman's works. Spatiality is a pertinent trait in the culture as an object of study and spatial conceptions can be used as cognitive tools in the semiotic study of culture. The statement that "Space in text is a modelling language with the help of which any meaning can be expressed as soon as it acquires the character of structural relations" (Lotman 1986: 4) is following his earlier works on spatial elements and relations structuring the semiotic world in culture or in artistic texts more specifically (Lotman 1970), as well as on spatial metalanguage for semiotic studies of culture (1969). These relations are essentially grounded in the notion of the boundary and the respective idea of internal and external positions, inclusion and exclusion, as well as the dynamic role of the significant person who belongs to a certain domain or is crossing boundaries. These spatial structural relations are central for complex holistic spatial conceptions like *semiosphere* and *cultural space* – belonging to the "toolbox" of a researcher.

Even though Lotman does occasionally use the expression *cultural space*, he never focused on explicitly formulating it as a definitive notion. Therefore, the discussion here can be considered as an attempt to (re-)construct the idea of *cultural space* as an implicit and relatively coherent conception in Lotman's works. There are a number of considerations that recommend this effort. First, Lotman himself argued for the application of topological terminology to the typology of cultures (especially in Lotman 1975 [1969]). The significance of these discussions for him can be identified in a remark made in his book on cultural typologies and published the following year (that is, 1970), a remark that probably implies a reference to himself and to his discussions with colleagues: "For example, a group of researchers from Tartu have recently been experimenting with applying terminology from topology (a discipline of mathematics that studies characteristics of uninterrupted space) as a metalanguage for describing culture types" (Lotman 2000: 450). Second, as has been pointed out by Anti Randviir (2007), not only has the use of spatial metalanguage been characteristic to the Tartu-Moscow school of semiotics, but spatiality is an essential feature of TMS semiotics in general. Third, the conceptual sequence of *text-culture-semiosphere* is not only a diachronic sequence of development of Lotman's ideas but as well a conceptual sequence that is principally grounded by the idea of textuality as combining linguistic and spatial structures (Lotman 2012). The combination of these interdependent ideas leads both to notions formed at the metalevel as well as to ways of defining and describing objects of research. Thus, considering the homomorphous nature of *text*, *culture* and

semiosphere and Lotman's discussions of *space in text* as a modelling language (Lotman 1986, 2012), spatial world models and self-descriptions of culture (Lotman 1975; Lotman *et al*. 2013) and *semiotic space* in the case of *semiosphere* (Lotman 2005), it should be possible to outline a common textual-spatial ground that could be related to the notion *cultural space*. When characterising the idea of *cultural space* through its structural and functional aspects and (re-)constructing it as a model, it becomes possible to study Lotman's spatial metalanguage in a wider comparative context as well.

A reconstruction of the Lotmanian conception of *cultural space* would need to highlight two related but still distinct ideas. First, *cultural space* can be understood as a spatial organisation of a culture's world model or image of the world (*kartina mira*). Second, this model can include the idea of a domain of identification (which can also be projected to the geographical space), called *cultural space,* as contrasted to *extra-cultural* or *non-cultural space* – be it a territory, a set of acknowledged behaviour or ideas or any other domain characterised as "our" in contrast to the "alien". Furthermore, the description of these two ideas in topological terms leads to the conception of *semiosphere* as combining a description of *semiotic space* in topological terms and assigning to it the idea of being an absolute reality from a perspective internal to it.

A rare occasion of Lotman locating the term *cultural space* in a more formalised framework can be found in his article *On the metalanguage of a typological description of culture* (1975), where he proposes the use of a topological metalanguage for studying cultures by focusing on conceptualisations of the world in cultures and on the applicability of some topological terms for describing these ideas. Two areas of discussion should be distinguished here: first, the conception of *cultural space* itself, and second, the topological metalanguage that Lotman introduces for describing *cultural spaces* (as spatial organisation in world models) and for applying the discovered distinctions for cultural typological aims. While the conception *cultural space* is focused on here, the study of the author's topological metalanguage can be usefully applied in a comparative analysis of particular spatial models in studies of the sociocultural world. Even though Lotman hints at terminology from topology as a part of mathematics, what is rather involved is a general idea of *topology* in humanities as referring to the possibility of describing culture in abstract spatial terms and to the problematic but essential relationship between continuity and discreteness. In this sense, this cultural or semiotic *topology* appears as a research puzzle in-between strict descriptions (in association with the discipline of mathematics) and various spatial conceptualisations at the object level culture. As it appears, a similar relationship to topology is present in works by Bourdeiu and Sorokin as well as more recently in studies labelled *cultural topologies* and *topological cultures* (see Lury 2013, Lury, Parisi, Terranova 2012).

Lotman explains the conception of cultural space in relation to a topological metalanguage and links the conception to world images present in cultures and, respectively, to the typological analysability of cultures. He calls a *cultural model* the description of a culture's *image of the world* in a topological meta-

language, while *cultural space* would accordingly be the spatial organisation of this *image of the world* (Lotman 1975: 103–104). A typological description of cultures could employ *cultural models* as units, the object level of which – the cultural image of the world – is a *cultural text*. The cultural text again is an invariant that a researcher can reconstruct from its expression in a set of concrete texts – texts belonging to a culture. Thus, there is a variety of texts and distinctions in these that function somewhat coherently by forming a *cultural text* and expressing an image of the world. The image of the world as functioning and manifested through actual texts can be modelled as a cultural model. As this brings together modelling of the culture by a researcher and modelling in the culture, spatialities from both sources can be present for the resulting conception of *cultural space*. For Lotman, the defining feature of culture is a common *view of the world*: "If one succeeds in describing a collective in which separate texts, ideas, and types of behaviour within the bounds of each level are not connected in one view of the world, then one should speak of its pre-cultural or supra-cultural condition" (Lotman 1975: 101). It is remarkable that Lotman's definition in this typological context is almost identical with Sorokin's idea of culture as a sociocultural system closely integrated in a logico-meaningful way, that is, based on a shared grounding *mentality* (see Sorokin 2006: 24–29). Similarly, in *Typologies of Culture*, Lotman has explained a *type of culture* as the (language-like) semiotic systems existing as a cultural unity in time or in space (e.g. era or culture area), whose organisation is dominantly characterised by a certain coding principle (for example, either semantic, synactic, asemantic-asyntactic or syntactic-semantic types of coding principles) (Lotman 2000: 400–402). It is characteristic that from a culture's internal point of view, this image of the world which grounds a culture type "is related to the whole world and contains, in principle, *everything*" (Lotman 1975: 101). Lotman further points out that *cultural texts* can be divided into two subgroups: (1) texts of static relations characterising the structure of the world, and (2) dynamic texts which describe the disposition and activity of people in the world, i.e. a plot-type of cultural text (Lotman 1975:102–103).

As mentioned above, space in *cultural texts*, according to Lotman, would be a model of *everything* – the general and universal order of the world and the culture from its own viewpoint. While not all knowledge of the world and sets of semiotic relations present in culture are necessarily spatial, focusing on spatial modelling and the use of spatial metalanguage enables the (re)construction of the semiotic spatiality of culture in the context of general cultural functioning. In addition to the spatial structure of the image of the world itself, the models for the typological metalanguage of culture are also created in spatial terms – Lotman accordingly points to *cultural models* as metalevel descriptions of cultural texts that are created with spatial (especially topological) methods of modelling. The basic characteristics of these *cultural models* presenting a universal set of elements of the given culture are (1) types of fragmentation of universal space; (2) the dimension of universal space; and (3) orientation (Lotman 1975:103–104). The simplest form of a *cultural model* would be a

bounded enclosure with its internal and external areas and an orientation either from inside or conversely, from the outside.

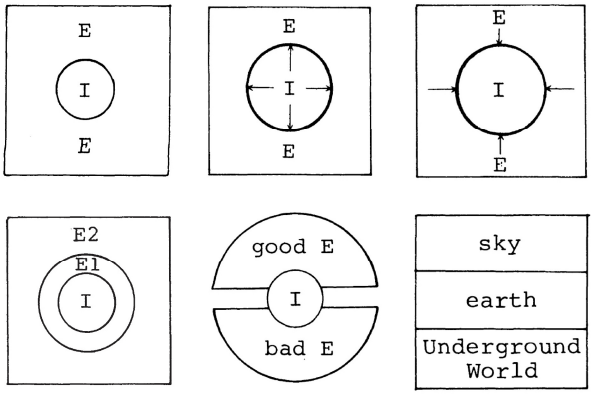

Figure 4. Visualisations of various organisations of *cultural space* by Lotman, *I* standing for *internal*, *E* for *external* and arrows for the orientation of description either from the inside toward the outside or from the outside toward the inside. With the lower three diagrams, Lotman illustrated the tripartite organisation of cultural space where the two borders are hierarchically related as primary and secondary distinctions of the domains (Lotman 1975: 104, 105, 108, 110).

This kind of enclosure is at the core of the other concept of *cultural space*, that is, cultural space as an area of identification found in cultural self-descriptions and being type of spatiality in a cultural world image. From the researcher's point of view from the metalevel, *cultural space* would be the whole characteristic organisation that is presented in a *cultural model*, including the enclosure, its boundary and external space. From an internal point of view *cultural space* would only refer to the enclosure as opposed to the *extra-cultural* or *non-cultural space* (see Lotman et al. 2013, Lepik 2008). The researcher could apply a particular spatial organisation for building a theoretical model of culture – for example, representing the culture as a bounded "area" for which the spatial idea is derived from researcher's own image of the world and respective spatial modelling means. Again, it is to be noted that Lotman in this work concentrates on a specific field, namely the models of cultural self-description and modelling of the universe from the point of view of the given culture. Thus the cultural model is, for him, first of all a model of self-description, and cultural space is the spatial organisation of a self-model as well as of the image of the world.

While the idea of *cultural space* as a spatial organisation of the image of the world does not necessarily limit the types of spatial conceptions used, a kind of territorial idea of one's own limited space contrasted to external space is the most characteristic example here. An example of possible alternative conceptual spatial organisations can be found in the expression of a culture's world model

in cultural interpretations of urban space that can, for example, be dominantly based on the idea of enclosure bounded by the material and semiotic wall or on the axial organisation of a world model according to its axes expressed in main urban roads (as in the structure of the semiotic of urban space in Rome, Lagopoulos 1993). A typological comparison of alternative orders can be found, for example, in Lewis Mumford's distinguishing of two basic types of historical cities: the city as a *container* and as a *magnet* (Mumford 1972: 450–451). Besides different spatial logics for thinking about urban and regional space, these provide two different ideas of societal and cultural organisation – ideas that have the status of representational notions in retrospection and can obtain the status of operational and "ought" notions (as Holy and Stuchlik termed these) in relation to sociocultural practices.

In its specific territorial and enclosed form, the idea of *cultural space* is also transformed into a metalevel conception frequently used in the TMS. This conception that is used for explaining the semiotic mechanism of culture can be seen to emerge from the distinction between a perspective from within a culture and from outside:

> In investigations of a semiotic-typological nature the concept of culture is perceived as fundamental. In doing so, we should distinguish between the conception of culture from its own point of view and from the point of view of a scientific metasystem which describes it. According to the first position, culture will have the appearance of a certain delimited space which is opposed to the phenomena of human history, experience, or activity lying outside it. (Lotman *et al*. 2013: 53)

This conception of the territorial range of a culture can combine a society's geographic range and identification with the area. Cultural space, however, is not necessarily limited to identification with geographical space but involves the identification of cultural units (as anything that is recognised in culture as an existing element), be they parts of physical space, linguistic expressions, behavioural habits or values. From this perspective, *culture* and *cultural space* are overlapping notions standing for the semiotic sphere of culture – a conceptual-territorial (self-)model of culture as a space where a text or a person can belong or be an outsider.

> The opposition "culture-extracultural space" is the minimal unit of the mechanism of culture on any given level. Practically speaking, we are given a paradigm of extracultural spaces ("infantile", "exotic-ethnic" from the point of view of the given culture, "subconscious", "pathological", and others). The descriptions of various peoples in medieval texts are constructed in an analogous manner: in the center there is situated a certain normal "we", to which other peoples are opposed as a paradigmatic set of anomalies. It should be emphasised that from the "inner" point of view the culture appears as the positive member of the afore-

> mentioned opposition, whereas from the "outer" point of view the whole opposition appears as a cultural phenomenon. (Lotman *et al.* 2013: 56)

The organisation in this conception of *cultural space* is apparently coincident with the principles organising the totality of semiotic relations, described as *semiotic space* and *semiosphere* (Lotman 2005) – that is, constituted by a maze of borders and entities (texts), its spatial structure is characterised by the oppositions of inside-outside, centre-periphery. Thus, it can be claimed that besides studying spatial organisation in cultural self-descriptions, Lotman applies a certain type of spatial organisation derived from the study material and topological metalanguage for generating a conception of *cultural space* as a metalevel model for the semiotic totality of a culture, its *semiosphere*. As the external metalevel point of view is parallel to "territorial" self-descriptions, it is possible to create comparative descriptions and typologies of cultures based (a) on their range in geographical or semiotic space either as described from internal or external points of view and (b) based on their characteristic spatiality in self-modelling.

In his foreword to the special issue of *Sign Systems Studies* on semiotics of space, Lotman opposes two conceptions of *textual space.* He gives a rather strong view on spatial organisation or space in text being a universal modelling language:

> Space in text is a modelling language with the help of which any meaning can be expressed as soon as it acquires the character of structural relations. Therefore, spatial organisation is one of the universal means for the construction of any cultural model (Lotman 1986:4).

The basis for this programmatic statement is developed in Lotman's earlier works on the structure of the artistic text (1970), typological metalanguage for describing cultures (1975), as well as in proposing the concept of semiosphere (2005). The conception of space behind *space in text as a modelling language* is a framework of several structural-spatial relations that can work as meaning generating mechanisms or oppositions involving relative positioning as meaningful. Examples include notions like boundary and centre-periphery, but also personage in text as a position becoming significant by crossing boundaries and thus being a dynamic element of space in text. These elements, which form the space of text, work (and can be studied) as basic elements for textuality, including hierarchical structuration and processes of semiosis. In the background of this particular concept of space, spatiality in text is to be regarded as a field of resources for modelling, from which each text can use a particular conceptual framework as a more or less coherent modelling system related to a specific world model. Lotman distinguishes this perspective of *artistic space* as based on a "more abstract understanding of space" (Lotman 1986: 4), and as modelling language from another perspective that he relates to Bakhtin's idea of *chronotope* (2001) as an organisation of time and space characteristic to a literary genre that is derived from "natural time-space" by particular rules of trans-

formation. The latter can in a sense be called "cosmological" as contrasted to a "structural" idea of space in text. These two approaches can be seen as two aspects of the conception of *cultural space* – the aspect of world image and the aspect of textual space as a descriptive device. In addition, the metalevel concept of *semiosphere* combines these two aspects into a third form.

For Lotman, *space*, though abstract, does not refer to an abstract universal dimension, but first and foremost to the context of a unit, which is a precondition for the functioning of the unit. Accordingly, a text is in a textual space, an act of language occurs in the space of language, a sign is in the semiosphere, etc. At the same time, it is remarkable that we can more frequently find the notion of the *space of non-culture* and *extra-cultural space* than *space of culture* in Lotman's writings. As Peet Lepik shows (in Lepik 2008: 66–91), this antithetic cultural space (a topologically symmetric and semantically anti-symmetric opposition of *culture* and *anti-culture*) is related to the antithetic self-reflection as a working mechanism of culture. It is also in coherence with the more general "reconstructive approach" of the Tartu-Moscow school as proposed in the *Theses on the Semiotic Study of Cultures* (Lotman *et al.* 2013), as well as recognisable in the idea that a *primary modelling system* can only be reconstructed on the basis of a textual whole that is defined by the means of *secondary modelling systems* and thus, that a primary modelling system is not a primary entity but rather a derivation defined from the perspective of the secondary one. For spatial self-models of a culture, this line of thought suggests again that the conception of a territory or a sphere of culture presumes, besides sensory spatial modelling, a prior spatial image of the world held by those making the respective description of culture – an image that would propose the distinction of non- or anti-culture and culture and their references.

In conclusion, the idea of *cultural space as the semiotic space of culture* can be seen as coinciding with *cultural space as a spatial self-model* as applied at the metalevel. Thus, the cultural self-descriptive categories and worldview are transferred from cultural (self-) descriptive practices to the typological language for description at the scientific metalevel. In Lotman's case, we can see the application of his own cultural typological-topological theoretical apparatus in concepts that present culture and cultural space as semiosphere(s). The *space* given in descriptions of cultures (through models with topological metalanguages) is applied as a pre-given model at the level of cultural research. Oppositions of *our space* and *their space* or *cultural* and *non-cultural* (and *extra-cultural*) becomes a universal tool of description – *cultural space* as an analytically descriptive model. Thus, Lotman's own works have a problematic relationship with his ambitious task for which he suggested the use of a topological metalanguage:

> The creation of a uniform system of metalanguage, which would not coincide in any part of the description with the language of the object […], will be a prerequisite for determining the cultural universals, without which it clearly makes no sense to speak of a typological study. (Lotman 1975: 100)

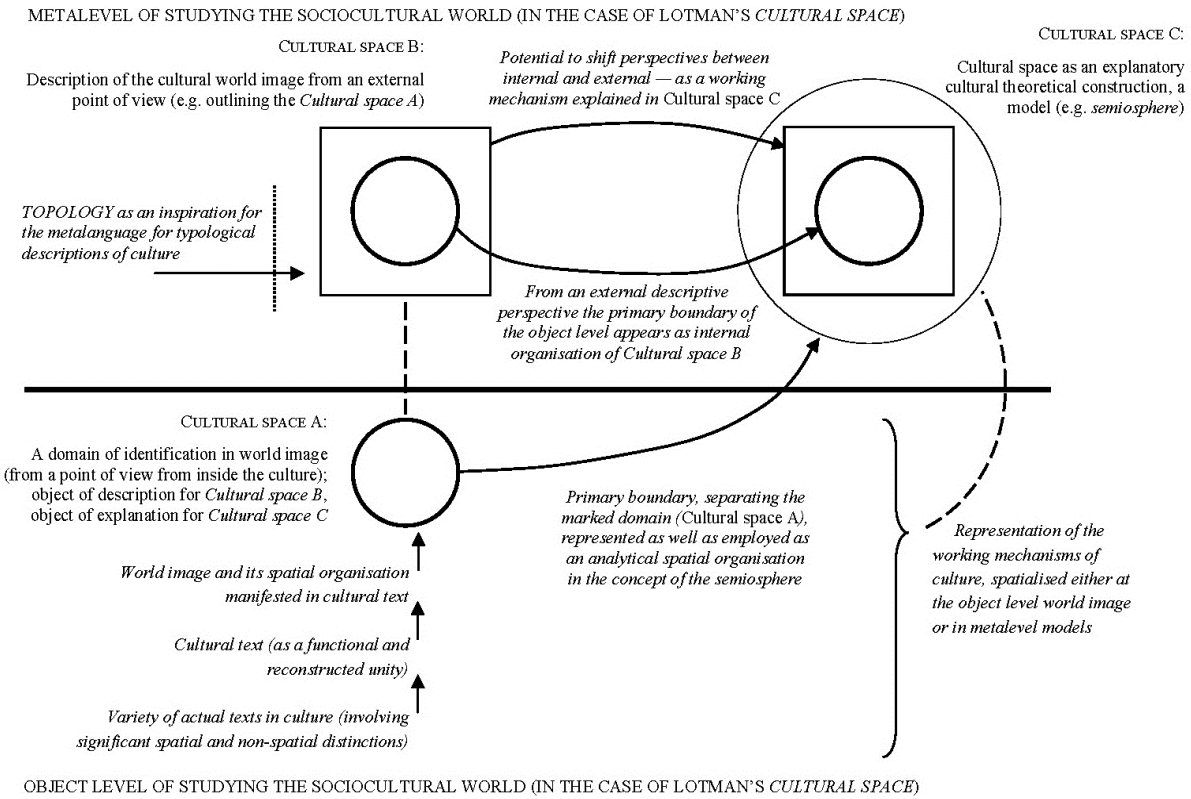

Figure 5. A reconstruction of three interrelated conceptions of *cultural space* in Lotman's cultural semiotics: the object level spatial organisation in the cultural world image, a spatial description of the cultural world image at the metalevel, and a spatial model explaining working mechanisms of culture and being generated on the basis of spatial organisation of the world image.

Having discussed *cultural space* as the spatial organisation of an image of the world and as a descriptive tool in the hands of a researcher, there is a further problematic point in the modelling of cultures that needs to be outlined. The spatial metalanguage, including the notion of *cultural space*, in Lotman's work is closely related to his concepts of *text*, *culture* and *semiosphere*, and essentially to self-descriptions. This conceptual complex involves a potentially ambiguous and problematic relation between (a) constructing models and metalanguages and (b) the representational aspect of models. This problematic relationship is partly due to the self-descriptive aspect in spatial modelling.

As discussed above, *cultural space* can refer to the image of the world expressed in cultural self-descriptions and to the enclosed range (or sphere or territory) of a culture, either as seen from the culture itself or seen as a self-descriptive mechanism of the culture from an external point of view. The notion of *semiosphere* again (Lotman 2005) integrates, besides spatial elements, two aspects of *cultural space* as two aspects of a holistic phenomenon – first, semiosphere as an enclosure containing texts and semiosis and second, the general principles of the structural organisation of the semiosphere. The latter also works as a projection of an object level principle of spatial descriptions for metalevel descriptive means. As a spatial model, *semiosphere* proposes a means to study complex and dynamic phenomena holistically – by outlining a limited whole from the internal perspective and outlining the respective structure as a working principle.

> We have in mind a specific sphere, possessing signs, which are assigned to the enclosed space. [...]The semiotic universe may be regarded as the totality of individual texts and isolated languages as they relate to each other. In this case, all structures will look as if they are constructed out of individual bricks. However, it is more useful to establish a contrasting view: all semiotic space may be regarded as a unified mechanism (if not organism). In this case, primacy does not lie in one or another sign, but in the "greater system", namely the semiosphere. The semiosphere is that same semiotic space, outside of which semiosis itself cannot exist. (Lotman 2005: 207, 208)

As *semiosphere* represents not merely a structure but rather a mechanism of culture (a mechanism that is related to a culture's world model), it has the capacity to model the dynamic aspect of culture; this has been highlighted as the added value of *semiosphere* compared to *text* or *culture* (e.g. Torop 2005). A comparison of the conceptions of *text*, *culture* and *semiosphere* reveals the path in Lotman's works of constructing new models which are based on earlier ones and are homomorphous with them. As a further development of the notions of culture and cultural space, semiosphere entails continuity in principles like spatiality and focus on self-descriptive meaning generation. At the same time, cultural space and its characteristic self-descriptiveness is the object of the semiosphere. This object can again be described from an internal as well as an

external, analytical point of view. *Cultural space* thus appears simultaneously as an object of description (that is, semiotised reality) and as a descriptive model. Here Lotman can be seen constructing new models based on previous ones by making the new model (*semiosphere* or *culture* and *cultural space*) homologous with the former one (respectively *cultural space* or *text*), and the previous model re-emerges as an objectivation of the new model.

3.2. Social space as a social stock of knowledge

Lotman proposes *cultural space* as a) the spatial organisation of an image of the world held in a studied society, b) a particular, antithetic version of it as a basic mechanism of culture and c) the semiotic "space" or totality of a culture and its projection onto geographic space. In contrast, the nature of Bourdieu's *social space* is significantly different. However, both authors have thought about the sociocultural world in spatial terms and focused on providing tools for describing and explaining the aspect of semiotic reality which constitutes this sociocultural world. In a sociological phenomenological perspective, *social space* for Bourdieu is essentially a conglomeration of recognised differences working as a framework for further actions, decisions and recognition of differences. Its spatiality is a relational one, a space of positions defined in relation to one another. In his discussion of *social space and genesis of groups*, Bourdieu explains,

> Initially, sociology presents itself as a *social topology***.** Thus, the social world can be represented as a space (with several dimensions) constructed on the basis of principles of differentiation or distribution constituted by the set of properties active within the social universe in question, i.e., capable of conferring strength, power within that universe, on their holder. Agents and groups of agents are thus defined by their relative positions within that space. [...] Inasmuch as the properties selected to construct this space are active properties, one can also describe it as a field of forces, i.e., as a set of objective power relations that impose themselves on all who enter the field and that are irreducible to the intentions of the individual agents or even to the direct *interactions* among the agents. (Bourdieu 1985:723–724)

These features, such as objective power relations, multidimensional organisation, and the role of agents in activating properties while at the same time subordinated to them, characterise social space as an objective but dynamic and relational complex of social relations, agents, and objects.

Figure 6. Visualisation of *social space* by Bourdieu (Bourdieu 1998: 5) associating aspects of life-style with political preferrences; a selection of diagrams relating various domains of preferences, from food to politics, can be found in Bourdieu's *Distinctions* (1984). While comparison of this graph to the one by Lotman (figure 4, page 67) reveals conceptual differences, no similar kind of visualisation of *sociocultural space* can be presented from Sorokin's part.

Bourdieu describes the general structure of social space as comprising three dimensions. These dimensions are defined by "the volume of capital, composition of capital, and change in these two properties over time (manifested by past and potential trajectory in social space)" (Bourdieu 1984:114). The general working principles of social space, as Bourdieu depicts this, are to be found in two key notions: *field* and *habitus*. The *field* (*le champ*) is a dynamic and exclusive system of positions, dispositions and contesting forces. According to Paul

DiMaggio (1979: 1462) the inspiration for the *field* metaphor could partly be tracked down to Kurt Lewin's field theory (Lewin 1936, 1951) but Bourdieu himself is referring in general to concepts from physics, as well as explicitly linking different aspects – for example, the *field* as related to forces or struggles:

> This structure is not immutable, and the topology that describes a state of the social positions permits a dynamic analysis of the conservation and transformation of the structure of the active properties' distribution and thus of the social space itself. That is what I mean when I describe the global social space as a *field*, that is, both as a field of forces, whose necessity is imposed on agents who are engaged in it, and as a field of struggles within which agents confront each other, with differentiated means and ends according to their position in the structure of the field of forces, thus contributing to conserving or transforming its structure. (Bourdieu 1998: 32)

While tracking down the sources of the field metaphor is not the aim here, two characteristic traits of field metaphors can be underscored, namely the *uniformity* and the *confrontation* of internal forces inside the field. Stemming from cultural history, which functions as a source for conceptions in social science as well as in physics, the first trait can be traced to the concept of a field in the context of an agricultural landscape, and the second trait to the idea of a military battlefield. As previously mentioned, going into such details is not a priority for this discussion. The notion of *habitus* is again for Bourdieu the element that should support overcoming the split between the objective and the subjective in the social realm, as it involves human beings as simultaneously active conscious agents and agents of observable practices.

Although *social space* is not often recognised as the most important concept for Bourdieu's theory or its applications, it is reasonable to consider it as a grounding conception. Concepts that have gained more theoretical and applied attention, like *habitus*, *capital* and *fields*, have an essential place in explaining the dynamic work of the social space and the role and working of individuals and practices. Taken separately, Bourdieu's concepts of *habitus*, *capital* or *field* might not need a general model of space in and of themselves. However, looking at these concepts together, they are built on the concept of social space and this space integrates these concepts into a whole through their common ground. While the search for the objectivity of social structures as a constitutive environment for the conscious subject is an aspect that distinguishes Bourdieu's views from the pragmatist tradition of habit based action (for the latter see e.g. Kilpinen 2009), the idea of *social space* outlines a totality that should integrate the acting and thinking subject, pre-existing social structure, various fields and different types of *capital* in these. In this sense, Bourdieu bridges the more structuralist and more pragmatist thinking in social theory.

In this role of a grounding conception, the reference to space or topology by Bourdieu is not an odd metaphor but an instance of spatial modelling relating subjective and objective aspects of the sociocultural world. Bourdieu's social space is an analytically abstracted model of *practical space* (as actually lived relations) and it is at the same time also an *objective space* (as a structure of relations) for agents who contemplate it and have the will to transform or conserve it. Through reflective discourse, agents can be said to form a kind of inner metalevel of social space. However, an agent here is primarily *a point in social space*, a point of view, a perspective defined by its objective position in that space. Social space again is, for that agent, the first and last reality and thus determines the agent's perspective to the social space itself (Bourdieu 1994:28–29). This mutuality in determination includes the potential for the emergence of a reflective agent. This potential reflectivity is a feature that enables a close link between Bourdieu's notion of *social space* and Lotman's *cultural space* as largely derived from cultural (self-)descriptions. The individual subject and culture are respectively for Bourdieu and Lotman the central semiotic subjects that, though at different levels, appear similar in their semiotic functioning described by Lotman through homomorphism of semiotic mechanisms. Lotman's notion of culture as a semiotic subject focuses on the distinction of culture and non- or anti-culture in autocommunication. Bourdieu's semiotic subject is essentially concerned with the relationship of objective givenness and subjective value judgements and choices of practices. The former is thus concerned with the subject's self-descriptions in spatial terms and the emerging spatial image of the self and world, while the latter is concerned with the subject's positioning in a spatially modelled objective context and with the subject's reflection about their position and its spatiality. As self-descriptive distinctions are often expressed in oppositions of "us" and "them", "me" and "he/she", the spatiality discussed by Lotman is also remarkably positional in its manifestations.

Although the idea of *point of view* and the ability to reflect on one's own social space might suggest an opposite intention, what interests Bourdieu is not so much the space in discourses (even though his models could be applicable to that as well), but rather the relational space of practices or behaviour. Practices have their place in social space through habitus as a set of preferences realised in practices and possessions which define and follow from the position of the agent in social space. This position is not a ranking (hierarchical) position but rather one of relational situatedness in social space. It is important to note that habitus creates practices which can be classified and, at the same time, classifies them. The latter includes the creation of classification system(s). These classifications can in turn act as material for a spatial image of the world, that is, the stock of knowledge about social reality conceptualised in spatial terms.

In the context of *social space*, agents, their practices, geographical location and their possessions become significant only through their relational meaning; that is, through pure difference that is recognised in classifying practices. Harold Riggins has pointed to multiple sources of the significance and *socialness of things*, including their emergence and use in social interaction, their

current context, a subject's lifelong experience and knowledge about an object and its intertextual relations in culture (Riggins 1994: 2–3). Bourdieu instead focuses essentially on the symbolic significance of objects. Objects, especially antique objects, as possessions become part of social space primarily as distinctive features of agents:

> The objects are not there to fulfil a technical or even aesthetic function, but quite simply to symbolize that function and to solemnize it by their age, to which their patina bears witness. Being defined as the instruments of a ritual, they are never questioned as to their function or convenience. They are part of the *taken for granted* necessity to which their users must adapt themselves. (Bourdieu 1984:313)

Both, however, involve the twofold semiotic dynamics of the sociocultural world, apparent through processes of institutionalisation and socialisation.

As suggested by Bourdieu, geographic space is involved in social space as a distinction-making resource which supports social identity, instantiates social distance, and enables encounters between people with distant positions in "bad" geographical places (Bourdieu 1994: 26). Urban public space is one example of this kind of space in which the separate trajectories of people may cross. Whether or not the other is recognised during this encounter, and how, is the question of meaning generation through recognised differences. Thus, those places of encounters between subjects are not some neutral *physical space* but rather highly semiotised *geographical space* that supports social distance and distinctions through physical distance. This geographical space is partly managed as a means of maintaining or changing the social space through changes in the accumulation or reassessment of capital.

This change of social relations over time and the management of change forms a temporal dimension that is already embedded in social space. Above all, *social space* for Bourdieu is historical, the outcome of specific changes and states of *fields*. In addition, *historical time* is integrated into social space as changes in the volume and composition of capital over time, and furthermore, changes in capital can be interpreted as past and potential future trajectories of persons in social space (Bourdieu 1984: 114). Time is made manifest in social space through the recognition of the historicity of capital, objects, and habitus. The subject learns and embodies *habitus* through ongoing interactions with social surroundings – thus going through a socio-cultural-historical path of personal development (see chapter 1). The subject or agent changes position in the sense of social mobility in multiple dimensions, while the system of positions and dispositions is simultaneously changing too. Thus, the context of the agent in that space changes even if personal practices are sustained by the agent. Additionally, positions and dispositions have their own trajectories of development – past and future – which the agent realising the position is supposed to follow. At this point, we can see that the determination of certain developments can be included in social space as a kind of reflective tendency of habitus to

organise the world "to be normal". This could be called an inherent "normalising" temporality in habitus and in social space.

Although time is an essential factor in Bourdieu's thinking, his use of time in the context of spatial models is mainly that of external, chronological time of a type which does not depend on the social space in question or the views of the agents located in that social space. One area in Bourdieu's concept of *social space* in which multiple experiences and conceptualisations of (context specific) time (and space) may generate tension is in the struggle over systems of classifications as a form of the more general struggle of fields (Bourdieu 1984: 479–481). The possibility that each opposing field and subfield might have a particular way of conceptualising time and space (similarly to Lotman's concept of a *world image*), is closely related to differences in judgements of historicity as a value and the emphasis placed on this. Interpretations of the accumulation of time in objects, and interpretations of historicity as the accumulation of time which legitimises authority, are crucially dependent on *reflective habitus*. Nevertheless, reflective habitus is not directly included in *social space* by Bourdieu, nor is it discussed by him at length. A possible reason for this could be that these interpretative aspects of time are scarcely measurable, even in relativistic models, and thus remain outside the sociological approach within which Bourdieu discusses *social space*.

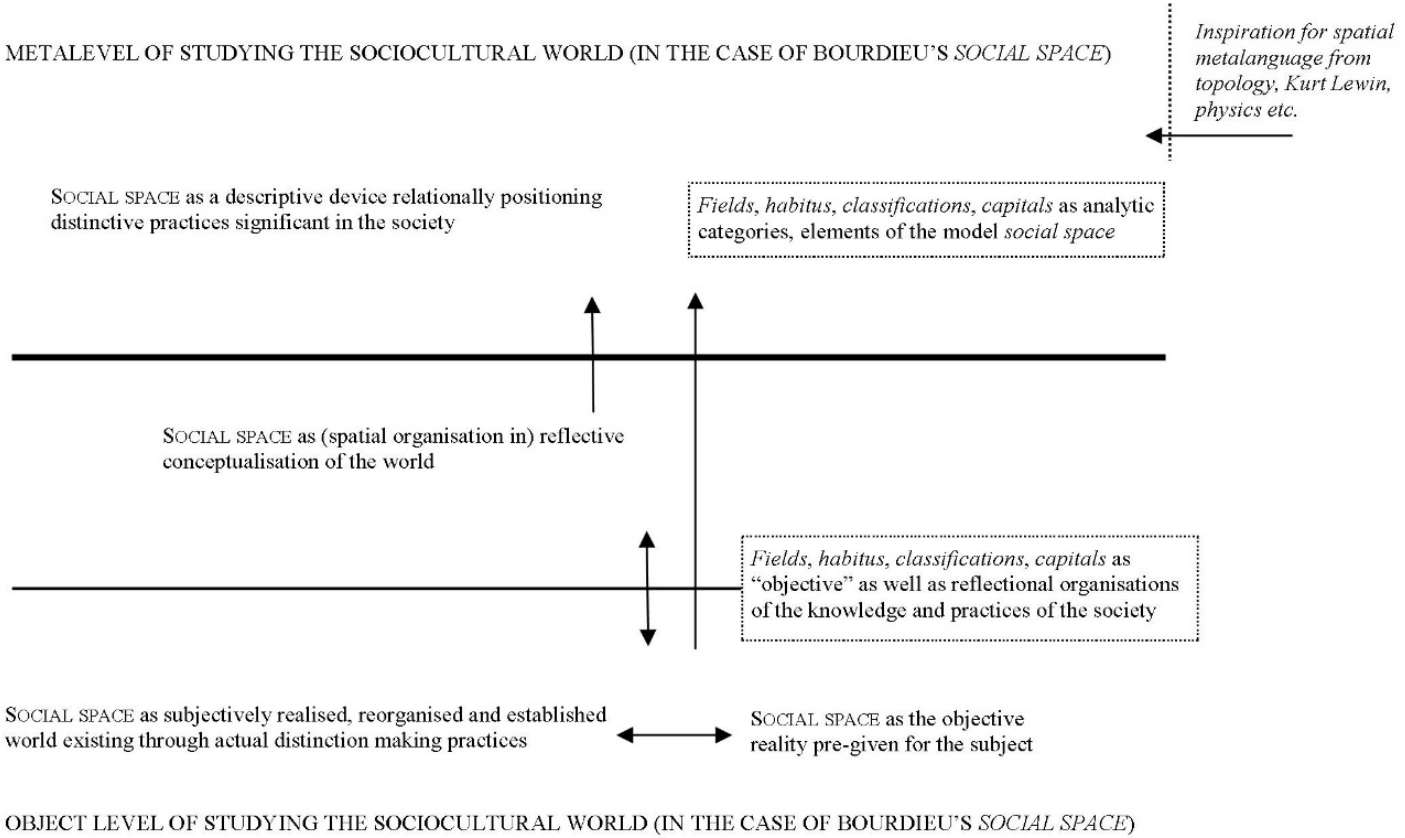

Figure 7. Interrelationship between the object and metalevels of Bourdieu's *social space*, as focused on distinction making practices and reflective classifications.

3.3. Sociocultural space as a referential principle of social science and the closest universe for a subject

A social theorist and a predecessor of today's sociology, Sorokin employs a conception of *sociocultural space* comparable to the conceptions by Lotman and Bourdieu – similarly arguing for analysability but in a different paradigm and in different ways of conceptualisation. He explains the conception of *sociocultural space* through two aspects: *function* and *structure*. Structurally, sociocultural space is described as representing "a specific manifold, consisting of three fundamental planes or aspects that characterise any sociocultural phenomena: (1) the plane of meanings; (2) of vehicles; and (3) of human agents" (Sorokin 1964:123). This structural description is further developed by an analogy with multi-dimensional geometric space in which the main dimensions are language, science, religion, art, ethics and law and their sub-divisions, giving the specificity required in the case of a society at hand. These dimensions, which represent the areas in which cultural mentality organises the management of individual needs, form the core of Sorokin's analytical framework and were applied as early as his *Social and Cultural Dynamics* from the 1930s (Sorokin 2006). Along with providing this structural definition, the function of *sociocultural space* in social science is to define the position of sociocultural phenomena in relation to other sociocultural phenomena and to enable the description of different forms of change in the sociocultural universe.

> Sociocultural space aims to locate the sociocultural phenomena and their components in the sociocultural universe: the component of meanings in the universe of meanings; the component of human agents in the universe of differentiated and stratified universe of human societies; component of the vehicles in the universe of sociocultural phenomena. It is a means of man's orientation in, and adaptation to, the sociocultural universe – the nearest and most important to him, even from the standpoint of a mere survival value. (Sorokin 1964:154)

The conception of sociocultural space reflects thus an attempt to map the sociocultural world in a systemic perspective (the latter is described in more detail in the first chapter). According to Sorokin, when defining the position of meaning, we accentuate *cultural* systems, and when positioning human agents, we accentuate their position in *social* systems (Sorokin 1964:134–135). Thus, the topic of sociocultural space can be approached from a *cultural* perspective, describing the domain of meanings in that space, and objects as the vehicles of these meanings; or alternatively from the *social* point of view – as a framework for social positioning, specifically related to human agents, their social positions, activities and the significant dimension of these. By referring to possible social and cultural perspectives, Sorokin does not, however, suggest a distinction between *social* and *cultural space*; instead, he points as a major issue to the relationship and possible incongruence between the mentality and overt

behaviour of a group (Sorokin 2006: 36). Sorokin proposes *sociocultural space* together with two other referential principles – that of *sociocultural time* and *sociocultural causality*. The first (discussed further on) is related to culture-specific ways of temporal organisation and conceptualisation; the latter concerns directly the type of integration characterising the sociocultural world, namely its meaningful-causal relations (discussed in more detail in the first chapter).

Sorokin's emphasis on logico-meaningful integration within one sociocultural unit (culture) suggests a complex concept of sociocultural space. In a way, Sorokin's sociocultural space combines the object and metalevel knowledge of the world and its conceptualisation in spatial terms. Accordingly, sociocultural space is for Sorokin firstly *a reference principle of the social and human sciences*, a feature that can be used to describe a social process in addition to its units, temporal character (in terms of social time (see also Sorokin, Merton 1937)), and direction (time direction, space direction, quantitative direction, and qualitative direction) (Sorokin 2006: 53–56).

> Any process takes place somewhere and in spatial relationship with other processes and phenomena chosen as points of reference. [...] A different problem is raised in dealing with the *kind of space* and the *system of space co-ordinates* (vector) to be used for the "location" of cultural processes. *Physical or geometric space and its system of co-ordinates (vector of mechanics), which are suitable for the description of the spatial relationships of the physical bodies, are often quite inadequate for that of psychosocial processes and of cultural phenomena generally.* As a matter of fact, for their adequate description, *many sociocultural phenomena require a special category of social space with its own system of co-ordinates*. (Sorokin 2006: 54 [emphasis in original – T.R.])

Secondly, sociocultural space can be called a *culture-specific conceptualisation of space*; this includes concepts of space and spatial concepts about the world in a specific culture or even more narrowly, within a specific sociocultural system. While sociocultural change can be described in the terms of a spatial metalanguage, the object level culture-specific concept of space is itself subject to this *sociocultural change*:

> With the change of the type of culture, not only do the first principles change [i.e. scientific and philosophical aspects of human thought], but a deep transformation of their meaning is experienced also by the *basic categories of human thought* such as *time, space, number, causality*, that are indispensable for any cognition of any phenomena. (Sorokin 2006: 388)

Regarding the structural aspect of sociocultural space, Sorokin uses a hierarchically organised triadic model consisting of meanings, subjects and objects.

Sociocultural space is constituted essentially by meanings and their systems. By *meanings*, Sorokin refers to three traits characteristic to meaningful phenomena: *cognitive meaning*, the value, and the norm of conduct that a value presupposes with reference to its realisation or rejection (Sorokin 1947: 47). Agents and vehicles in this basic triad are not independent, constitutive parts of sociocultural space, but accordingly, *human agents of meanings* – "human bearers and agents of a given system or congeries of meanings" – and *vehicles of meanings* (see Sorokin 1964:130, 136). The structure of the respective parts of sociocultural space (systems of agents and of vehicles) is organised in the same way as the aspect of meanings: "the sociocultural position of a person is determined through a reference to the same sociocultural system of meanings through which the place of a meaning in the universe of meanings is determined" (Sorokin 1964:134). The formal triad thus turns out to be a double dyad characterising the category of meanings as the key aspect of sociocultural space and agents and vehicles primarily in their aspects of meaningfulness. The two relationships of meanings with agents and of meanings with vehicles accordingly appear for Sorokin as two parallel domains with homomorphous organisation rather than a mutual triadic organisation of agents-meanings-vehicles. This dual organisation is also visible in Sorokin's comparison of social and cultural unities and interactions as being, respectively, characteristically integrated, unintegrated or disintegrated, and solidary, neutral and antagonistic. The third potential link, the direct relationship between agents and vehicles either as physical manipulation or interpretative use (as a form of *meaningful interaction*), remains outside the scope of Sorokin's explication of *sociocultural space*. In other words, what is left out is the dimension of overt behaviour as the geographical-spatial organisation of human action and the activity of organising material space and objects (see also figure 2, page 46). In contrast, semiotisation of the material world through practices and especially alternative uses of objects and geographical space is a domain that can effectively be described in terms of sociocultural space, its agents-meanings-vehicles and types of integration in and between user groups and their mentalities. A vivid example is the subcultural re-semiotisation of urban space through alternative uses, like skating on public stairs, in squares, parking lots and other sites (Borden 2001). A specific way of relating to urban space in practices can also become the determining trait of a subcultural mentality – for example, as *liminality* characterises the everyday spatial practices of bike-messengers and their subcultural identity (Kidder 2005).

A direct relationships between agents and objects occur in Sorokin's *socio-cultural space* through physical space – first, being set particularly in the role of vehicle and second, by being involved with agents and their behaviour. The specific attention that Sorokin gives to the material vehicles, as compared to Lotman and Bourdieu, draws the question of the specific role of physical space in relation to sociocultural space in his theory. According to Sorokin (1964:148), physical space has a two-fold relation to sociocultural space. Firstly, physical space is the domain of the materiality of a sociocultural system

and the bearer of meaning in it. However, this material aspect has its connection to the sociocultural system only through its function as a vehicle for meaning. Thus, physical space as a system of vehicles objectivates the system of meanings, and the system of meanings itself makes vehicles socioculturally real, i.e. creates tangible cultural objects. Secondly, the material domain conceptualised in the notion of *physical space* is the product of a specific sociocultural milieu or system (Sorokin 1964: 142). While physical vehicles objectivate systems of meanings in the empirical setting of sociocultural reality, conversely, every concept of physical space is sociocultural in its essence. This interrelationship of physical and sociocultural spaces contextualises the conceptualisation of *geographical space* as comprising a combination of physical, semiotic and agentive aspects from a spatial point of view. A similar idea is present in the conception of the *text of St.Petersburg* as discussed in TMS writings (e.g. by Mints, Bezrodnyi, Danilevskij 1984; Toporov 1984; Lotman 1984b), which involves, besides the symbolic urban space present in literature, the material space of St. Petersburg and the significance of urban space in the actual practices of human agents. From a semiotic perspective (as hinted in outlining the problem area of the present study) there are apparently more relevant distinctions pertaining to the semiotisation of the physical space than what Sorokin brings forth.

The question of material space and the objects in it is central to Sorokin's efforts to construct sociocultural space as a spatial modelling tool – he rejects the conceptions of space inherited from natural science and geometry, while simultaneously constructing his notion of space on the grounds of selected structural and ideological principles (see Sorokin 1964: 113–122). Although *sociocultural space* could be a universal and all-encompassing descriptive model in and of itself, it also forms a conceptual pair with *sociocultural time*. Time, for a social (and cultural) researcher, in the context of spatial models, can in principle be a feature included in the explication of that space (alongside the discussion of material objects, agents, material space, etc.) or as an equal counterpart and additional model of organisation.

For Sorokin, sociocultural time (as alongside sociocultural space and sociocultural causality) "*conceives and measures sociocultural phenomena* – their duration, synchronicity, sequence, and change – *in terms of other sociocultural phenomena taken for the point of reference*" (Sorokin 1964:171). The main characteristics of sociocultural time are that it is qualitative, having indivisible units that are of social origin; it does not 'flow on evenly' as a mere quantity; it is determined by social conditions, and it reflects the rhythms of a group's social life (Sorokin 1964:197). From here it can be concluded that sociocultural time is, above all, practical time that creates a reference system for sociocultural phenomena. This is a system of temporal organisation as perceived and conceptualised by a group itself, and it reflects and facilitates the rhythms of that society's existence. Sorokin pays much attention to culturally specific concepts of daily time flow as well as time reckoning and measurement. Nevertheless, his conceptualisation of sociocultural time in terms of three temporal planes

(or types) – *aeternitas*, *aevum* and *tempus* (Sorokin 1964: 172) – is coherent with his general typological approach to the analysis of cultural mentality. This threefold division, which is derived from medieval philosophical conceptualisations of time (see for example Porro 2001), corresponds to the three main types of cultural mentality that Sorokin outlines: *ideational*, *idealistic* and *sensate,* which again form the core phases for cultural dynamics over history in Sorokin's study (2006).

While Sorokin builds a spatial model of the sociocultural world, it should not go unnoticed that his *Social and cultural dynamics* (2006) is centred on dynamics, discussing the change in practices and principal mechanisms of those changes over the history of humankind. Although the concept of *sociocultural space* is a descriptive tool for Sorokin at that point, the distinctions between the *ideational*, *idealistic* and *sensate* phases of development are expressed in an analogous manner in his conceptualisations of time and of time-related practices. From this linkage between historiosophic phases and categories of referential principles of the social sciences follows the particular significance of his distinctions between types of sociocultural time – *tempus*, *aevum*, and *aeternitas* – as notions of time, age and eternity. Sorokin thus transforms the three planes of time from medieval, primarily theological, categories into cultural and sociological categories. While *tempus* includes the phenomena of the movement, change, and flow of time and the reckoning and measuring of time, *aeternitas* and *aevum* help to locate sociocultural phenomena that seem to be outside of daily and empirical understandings of time (as in meanings and validities actualised in time but not temporally bound) (Sorokin 1964: 215–216). Thus, we can conclude that, for Sorokin, sociocultural space locates and organises sociocultural objects statically to enable the study of sociocultural change by comparing different states of the system over a period of "external time". Sociocultural time, on the other hand, enables the study of different types of dynamic aspects integrated into these states of *tempus, aeterntias* and *aevum* and conceptualised as modes of change and relation within society's own relational temporal organisation. While Sorokin seems to outline such a twofold model, in his own analysis the external time dimension and internal temporalities are not analytically set into relations for a study of cultural dynamics and its potential conceptualisations, which would be a significantly complex research task for social and cultural research.

Sorokin refers to both sociocultural time and space as referential principles of an integralistic social science. At the same time, both are closely dependent on the conceptualisation of the world at the object level – that is, cultural mentality that can be related to Lotman's idea of the *world image*. While sociocultural space still primarily represents the sociocultural world and the world image of a group, sociocultural time for Sorokin is, above all, "socioculturally specific time" with its group (culture-) specific units, measurement techniques, and attached values at the object level. Following the discussion above, the relationship that metalevel *sociocultural space* (a model and referential principle) has to its object level can be characterised as *generative* and also as a

relationship of *homology* in Benveniste's (1981: 17) terms. In the context of modelling sociocultural change, if the model remains intact, the relationship of homology becomes a relationship of *interpretance*. A new organisation at the object level – for example, the shift from ideational to sensate mentality – would in turn suggest the need to change referential principles and introduce a new model – a new kind of sociocultural space (figure 8).

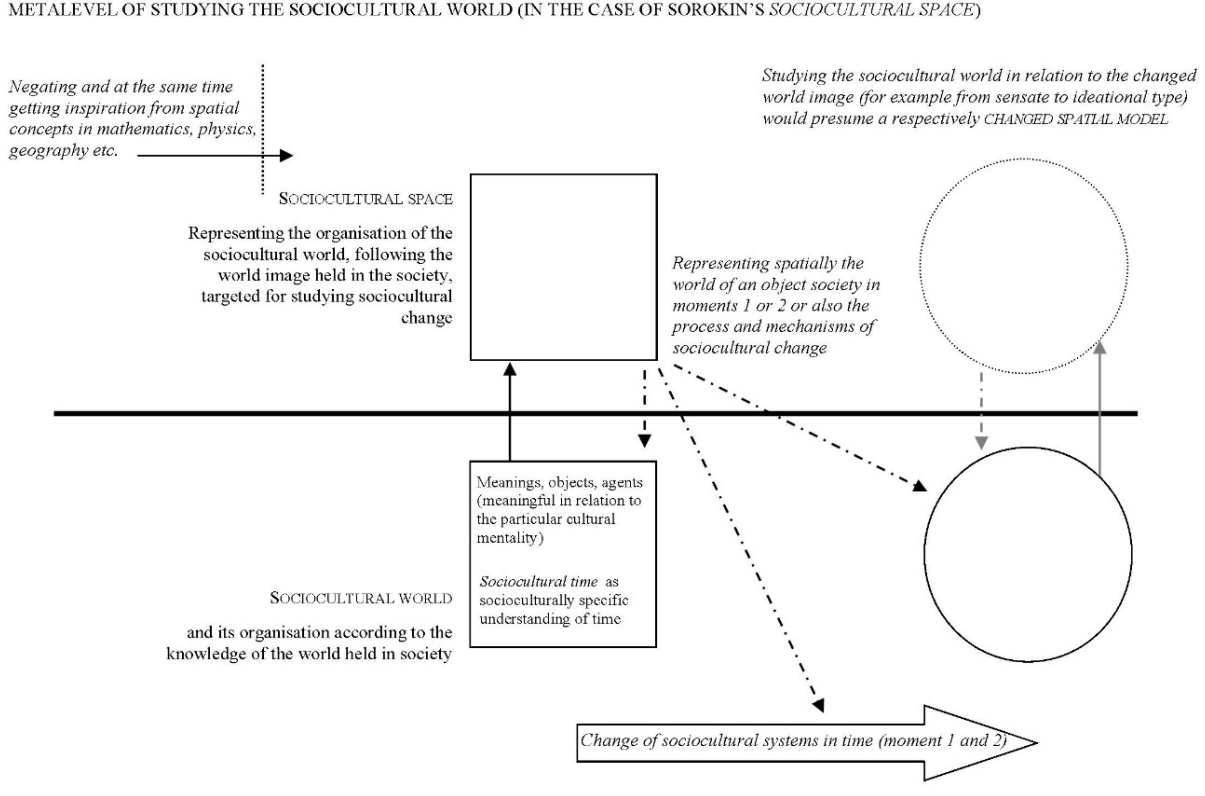

Figure 8. Sorokin's conception of sociocultural space, its object- and metalevel in the light of an orientation toward studying sociocultural change.

In light of the model-building activity discussed in the previous chapter, it can be seen that Sorokin occasionally makes use of the analogy between spatiality and social categories that has already been established in the sociocultural world and its self-descriptive and self-explanatory discourses. In relation to Sorokin's studies, this world is the described object level where the respective phenomena belong to the social, cultural or material realm, while the object-level theories and descriptions about these belong to the cultural realm of interpreting and assigning meanings, values and norms. Sorokin's analytical model-building includes two essential discussions: a critical review of the alternative concepts of space and an explication of the types of integration characteristic to the sociocultural world. However, the analogy between the sociocultural world and sociocultural space as a model of the former does not lie precisely between sociocultural integration and an organisation proposed by a conception of space. Instead, admitting the particularity of the sociocultural world for each group, the model, *sociocultural space*, partly becomes a projection from the object level to the metalevel of a group's world image together with its organisation and spatiality, and of the group itself together with its interactions and integrations. *Sociocultural space* thus remains general only in that it proposes the use of spatial metalanguage, but not in proposing a particular (universalistic) terminology for that purpose. The latter should be derived from the vision of meaningful organisation of sociocultural unities held and practiced first of all by the particular group itself.

3.4. Bridging modelling across object- and metalevel and three spatial orders

The preceding introduction of three approaches for applying spatial terminology in describing the sociocultural world provides a basis and need for bridging them in the framework of spatial modelling. Each spatial model of the sociocultural world is necessarily based on some particular conception of space. Accordingly, such models can be characterised by the source conceptions of their historical derivation and their operational use for the construction of an analytical framework in the hands of a researcher, thus outlining the *derivative* relationship (Benveniste 1981: 17) beneath the model and modelling system. For example, as mentioned beforehand, Lotman relates his ideas about *cultural space* explicitly to "experimenting with applying terminology from topology as a metalanguage for describing culture types" (Lotman 2000: 450). Lotman's use of topological terminology should not be taken as an application of mathematical topology, but rather an operationalisation of the idea of *topological space* and topological properties as "those properties of spaces that do not change with homeomorphic changes" (Lotman 1975: 100). This idea is accompanied by a number of traits that form a conceptual framework for Lotman; besides *continuity of space*, these include *proximity, boundaries*, axiological structures like *top-bottom, right-left, concentric-eccentric, inclusive-exclusive* and *trajectories*.

Lotman gathers these into a basic formulation: "The basic characteristics of cultural models are: (1) types of fragmentation of universal space; (2) the dimension of the universal space; (3) orientation" (Lotman 1975: 104). It is of interest to note that the opposition centre-periphery becomes a crucial one for Lotman only later, especially for explaining the internal organisation and *semiotic irregularity* of the semiosphere (Lotman 2005: 212–214), and is not part of his initial proposal for this topological metalanguage (as claimed for example in Kim 2014: 26). The introduction of *centre-periphery* emphasises the dynamics of the internal organisation of cultural space as a field or a territory, and thus presumes a gradualisation of the perspective. Graduality is again not a part of the initial elementary model of a boundary dividing continuous space into internal and external parts.

Similarly to Lotman, Bourdieu relates his idea of *social space* to topology: "Initially, sociology presents itself as a *social topology*" (Bourdieu 1985: 723). However, agents and their practices, as initially points in topological space forming sets in various dimensions, are significant for him in that they form and belong to fields of forces. In a way, it could be claimed that Lotman proposes a metalanguage for describing an elementary level of distinction-making that is further organised into the relations characterised by Bourdieu as fields of power. This perspective supports the conceptualisation of struggles in and between fields as essentially struggles over world images that take their most nominative form in *struggles over classifications*. In contrast, the organisation of fields can be understood as the segmentation of topological space into areas with some internal organisation and relation to the external world – in this case, conceptions of Lotman and Bourdieu would be positioned in a reversed order compared to the former relationship. The ground for Sorokin's concept of *sociocultural space* is similarily close to the idea of a topological space of sets. Nevertheless, as I will show, the terminology of Lotman, Bourdieu and Sorokin is not interchangeable, but rather each has a specialised capacity to explain different levels of modelling of the sociocultural world. If the structure of the *space* and the definition of its parts are for Lotman and Bourdieu closely related to their metalanguage, then Sorokin aims to relate the more detailed structure and units of *sociocultural space* to the world image of respective societies in a more dependent way. His *sociocultural space* works as a referential principle only through the characteristic structure of conceptions of the world at the object level. Thus, while sociocultural phenomena are mostly defined through their belonging to sets of meanings, agents and vehicles (that is, similarly to belonging to *cultural space* or *a field*), the sociocultural space of a particular society can also have a different, for example, quantitative character – as long as this is a central trait in self-modelling as in, for instance, describing one's social and cultural mobility in a society. An example of a specifically quantifying tendency can be seen in the role acquired by currency and monetary systems as universal quantifying measures that enable translation between different types and aspects of space and time (Harvey 1994).

Bourdieu proposes the notion of *social space* as a field, i.e., the space of forces as an abstract representation generating the capacity to map the social world (Bourdieu 1984: 169). The notion of *field* for Bourdieu is in a way close to Sorokin's understanding of primary sociocultural systems as dimensions of sociocultural space – namely the division of *language, science, religion, art, ethics and law*. However, compared to Bourdieu, Sorokin models dynamics only within these dimensions and not between them. The idea of sociocultural mobility (Sorokin 1959) does not describe the re-positioning of phenomena between sociocultural systems as dimensions of sociocultural space. This kind of repositioning necessarily initiates the re-definition and thus re-semiotisation of that phenomena. For example, one could imagine the transformation of a legal rule into a religious doctrine – which is doubtlessly a sociocultural change, but is not explained in terms of sociocultural mobility. In contrast, such transformations could, at least partly, be satisfactorily explained within the framework of *the struggle of fields* and *over definitions*.

A similar difference is characteristic in the case of practices. Sorokin describes the three basic planes of sociocultural space – those of meanings, their agents and vehicles. On the level of their interconnections, however, he is not interested in particular actions and particular social relations. Instead, what he proposes is a general nominative system for categorisation. Each plane of sociocultural space is based on its own internal categories (differences of meanings, differences of agents, differences of vehicles) or on some external position, but is not based on the interrelationships of meanings, agents and vehicles, that is, on the actual meaningful interaction that, according to Sorokin, is the "the most generic model of any sociocultural phenomenon" (1947: 40).

Categorisation is a central issue for Bourdieu, but his primary concern is categorisation by the agent itself in social space. For Bourdieu, the agent is a point, or a position in space, that is accompanied by a specific perspective onto that space. This perspective is an ego-centric world image that is at the same time in constant flux due to the struggles of fields and struggles in the form of defining the boundaries of oneself and the world. In the process of classifying and defining the world and oneself, an understanding of the world is established. From the same subjective point of view, this world can also be coherent. Coherence is maintained by the habitus that organises decisions regarding actions as well as decisions on classifications. In this sense, Bourdieu focuses on perspective, or the world view of an individual agent that is objectivated and made observable in decisions about everyday practices. When Lotman discusses cultural space, he proposes the idea that cultural space is a world image modelled in spatial metalanguage. This world image is a coherent subjective understanding of the world but, in contrast to Bourdieu's discussion, it is characteristic at the level of culture and not primarily to an individual.

A world image is expressed in individual texts (by individual authors), but for Lotman it essentially expresses and forms a shared invariant, the *cultural text*: an image of the world. The integrity of the world image thus characterises the level of culture and not an individual who may be the bearer of various

world models and can actively switch between them in the course of interpretations of the world. For Sorokin's sociocultural space again, the human subject is a social agent of meanings. In relation to sociocultural space, the existence of an agent is prior or external to it. This detail makes it clear that sociocultural space essentially belongs to the descriptive level. Aside from this spatial metalanguage, other languages can thus be used to describe subjects (agents) and objects (vehicles) – for example, as physical entities. Being descriptive and therefore not aimed at prescription – that is, *representational* and not *operational models* (in the sense of Holy, Stuchlik 1983) – this notion of sociocultural space does not suppose questions about its realisation in action. In the case of Bourdieu's notions, social space can be characterised as a system of possibilities that, in principle, precedes action; fields again exist in actual practices. Although the realisation of social space is dependent on practices, the existence and form of social space is, in principle, not directly dependent on practices. However, the actual practice of studying the sociocultural world does not clearly follow that principle, because the subject engaged in analytical activity is generally positioned inside the sociocultural space and is engaged in self-referential and autoreflexive activity.

> The mere fact that the social space described here can be presented as a diagram indicates that it is an abstract representation, deliberately constructed, like a map, to give a bird's-eye view, a point of view on the whole set of points from which ordinary agents (including the sociologist and his reader, in their ordinary behaviour) see the social world. Bringing together in simultaneity, in the scope of a single glance – this is its heuristic value – positions which the agents can never apprehend in their totality and in their multiple relationships, social space is to the practical space of everyday life, with its distances which are kept or signalled, and neighbours who may be more remote than strangers, what geometrical space is to the 'travelling space' (*espace hodologique*) of ordinary experience, with its gaps and discontinuities.
>
> But the most crucial thing to note is that the question of this space is raised within the space itself – that agents have points of view on this objective space which depend on their position within it and in which their will to transform or conserve it is often expressed. Thus many of the words which sociology uses to designate the classes it constructs are borrowed from ordinary usage, where they serve to express the (generally polemical) view that one group has of another. As if carried away by their quest for greater objectivity, sociologists almost always forget that the 'objects' they classify produce not only objectively classifiable practices but also classifying operations that are no less objective and are themselves classifiable. (Bourdieu 1984: 169)

To conclude, an attempt to interrelate spatial conceptions from Bourdieu's, Lotman's and Sorokin's works is a step towards a more comprehensive

description of spatial modelling of the sociocultural world throughout its different levels (see also figure 2, page 46). The spatial metalanguage and models that Bourdieu, Lotman and Sorokin propose are descriptive devices in the hands of researchers. These descriptive devices themselves appear in particular sociocultural contexts and are an expression of particular (spatial) world images in particular sociocultural systems (the field of social and cultural theories in 20th century Western sciences) and thus, their universalism is a specific abstraction. On the other hand, these models do not construct a description of the sociocultural world as an ontologically objective reality, but as a description of the sociocultural world that is already modelled (in spatial terms) in object-level conceptualisations of the world and the subjects in it. Spatiality at the level of abstract models is thus targeted to describing its object field – that is, aspects of the sociocultural world – and it can remain in the role of a descriptive tool constructed from the perspective and in the terms of the researcher. However, as all three authors emphasise, their spatial models are grounded in the spatial conceptualisation of the world at the object level. As a result, spatial models are also targeted to interpretations of behaviour through the world image held by a society. In contrast to this relationship between abstract and symbolic spatiality, the three conceptions are less concerned with the actual geographical organisation of societies and cultures, and the geographical-spatial organisation is relevant in their models primarily as a projection of *sociocultural space*.

Thus the spatiality derived from the world image of the object society is central for all three authors. The spatial world image of culture and its expressions in texts describing the world and the culture itself can be considered the main focus of Lotman's *cultural space*; it is also a knowledge that must be established as a premise for Sorokin's *sociocultural space* as far as it should reflect the world as understood by the object level society, but the process of arriving at this knowledge is not extensively discussed by Sorokin. The spatiality of the world image applied by a sociocultural agent (that is, a member of society as opposed to the researching agent) for interpreting behaviours should be understood as the central object of Sorokin's *sociocultural space* – complexes of behaviour that are meaningfully integrated for agents and can be related to the spatial organisation of their world image. For Bourdieu, it is also central, namely for the ability of social agents to be reflective on practices, to explicitly distinguish categories, classes and even *fields* – these are conceptualisations that can further be employed in descriptions from the researcher's perspective. Object level interpretations from the internal perspective of a culture are important for Lotman, especially when expressed in textual form, as in descriptions of behaviours belonging either to the cultural or extra-cultural sphere (Lotman *et al.* 2013: 55), as well as in the context of understanding everyday behaviour as a semiotic system (Lotman 1984a).

Spatiality from the level of behaviour, or in Cassirer's terms, the *space of action* (1944: 42–43), is an important part of the object level for Bourdieu. This is the domain of classifications, i.e. a resource for distinctions and

categorisations in actual decisions – for example, in the form of "bad places" (Bourdieu 1994: 26) or in the form of mapping urban nightlife places in relation to *subcultural capital* (Chatterton, Hollands 2002). The use and organisation of physical space can be interpreted through pragmatic or symbolic codes and thus appear as a projection of social and cultural organisation, even as a metaphoric expression, or it can be seen as a specific spatiality of behaviour that emerges from actions and results in knowledge of the action space that is significant primarily as an operational model as contrasted to the spatiality of the world image as a representational model.

3.5. Conclusion of chapter 3

In this chapter I analysed three approaches for conceptualising the sociocultural world in spatial terms. Each approach has its own sources and aspects in focus, the combination of which could work for a holistic study of the sociocultural world. There are a number of issues in the previous discussion that should be emphasised for moving towards a synthetic approach of sociocultural space.

- Relations between scientific modelling and the modelling taking place in the society itself are necessarily involved when modelling this kind of self-reflective object, but at the same time need to be made explicit. Involving society's world image in the spatial model results in the double existence of *sociocultural space* – as a meta-level model and as a model and reality at the object level, that is, for the society itself.
- Different spatial conceptions with variable descriptive capabilities are involved and constructed in spatial modelling. Respectively, the choice of particular spatial concepts influences the construction of data in research. The latter is exemplified in specific semiotic relations or processes focused on as central for understanding the sociocultural world.
- The acting subject can be a grounding point for modelling the sociocultural world. However, there are also collective subjects and culture as a point of view (and thus a functional semiotic subject) involved in the functioning of the sociocultural world.

4. SOCIOCULTURAL SPACE: SEMIOTISATION AND SPATIALISATION

Spatial metalanguage connects practical geographic space, world image and theoretical conceptions of space into a modelling sequence where spatial models can draw attention to particular semiotic aspects of the sociocultural world. The conception of the *sociocultural*, as discussed in the first chapter, implies a holistic idea of the object world. It respectively brings along a need to focus on forms and processes of integration in that world. Spatial metalanguage is rooted in our experiential spatiality. The use of our sociocultural and spatial experience to generate highly abstract spatial models of the sociocultural world is thus part of the wider modelling complex discussed in the second chapter. In the third chapter I introduced examples of spatial modelling in social and cultural theory. In the following I focus on the relationship between spatial modelling and its object world. While previously introduced spatial conceptions by three authors are aimed at describing and explaining the essentially semiotic sociocultural world, it is not yet explicit how spatiality (as a modelling tool) and semioticity (as the essential trait of the sociocultural world) are related and thus, how spatial metalanguage enables modelling the semiotic nature of the sociocultural world. To solve this, I start by asking for the central semiotic aspects that Lotman, Bourdieu and Sorokin focus on. Next, I elaborate on how spatiality and its different forms in models could be correlated with the semiotic character of the object world. Following these considerations, I turn to manifestations of spatial modelling in relation to geographical and semiotic space. Finally, by explicating the semiotic and spatial nature of *boundary*, I move toward a preliminary outline of the essentials of the framework of semiotic spatial modelling of the sociocultural world.

4.1 Semiotic features of the object world for Sorokin, Bourdieu and Lotman

All three conceptual frameworks introduced above presume the object world to be essentially semiotic. While the sociocultural world as an integrated meaningful totality for the subject involves numerous different semiotic relations and processes, each model, being a simplification, reduces this plurality and represents the world as dominantly characterised by one or a few kinds of semioses. The role of the semiotic aspect of an object world that a model highlights is part of a more general question about the focus of the model.

In his works, Sorokin (Sorokin 1947; 2006) aims to provide the describeability of the sociocultural world by identifying integrated sociocultural phenomena, their interrelatedness in cultural mentalities as well as their forms of actualisation in realised preferences that can be observed in the course of historical and contemporary societies. This scope of the whole sociocultural universe divideshis *sociocultural space* into three primary domains: *meanings*, *subjects*,

and *objects* (Sorokin 1964: 137). Sorokin intends to map various coherent aggregations of these with special focus on the *systems of meanings* that are again organised in each culture according to the culture's type of *mentality* (Sorokin 2006: 25). In the context of mapping sociocultural phenomena in respective systems as dimensions of sociocultural space, Sorokin can be seen to suggest that the central semiotic aspect of the object domain, the sociocultural world, lies in a subject realising the cultural mentality and acting in a respectively meaningful environment.

A closer look reveals that there are two main domains where meanings are studied in Sorokin's works. First, from the point of view of making sense of observable sociocultural phenomena and systems, *meaningfulness* is based on *cultural mentality* and the *major premises of culture* – that is, the signification of the world is derived from the basic definitions of reality and the extent and ways of satisfying one's needs (Sorokin 2006: 25–26). Second, there is *meaningful interaction* as the basis of the sociocultural universe (Sorokin 1947: 40). Here, meaningfulness has to do with *symbols, norms* and *values* that are realised by an individual subject engaged in interaction. Of course, symbols, norms and values are again closely related to the cultural mentality that the individual bears. However, these categories first and foremost pertain to the level of actual interactions as constitutive situations of the sociocultural world.

Aimed at mapping the meaningful relations of social agents, Bourdieu's perspective can be considered similar to Sorokin's; however, he outlines a more specific focus on the relationships of practices and preferences of agents, and fluctuations on a smaller scale through the conception of habitus. Bourdieu's conception of *social space* (see Bourdieu 1984, 1994) focuses primarily on the taken for granted, socially maintained reality of the members of a society – questions of what does exist for whom, how these phenomena are arranged in categories and taxonomies, and how the existence of these categories is maintained and how it is changed. Bourdieu places the semiotic aspect of the world at the interconnection of the subjective and the objective domains, between the pre-given structure of the social universe, and subjective distinction making (perception, attitudes and actions towards it). *Social space* represents the world of choices subdivided into fields of possible preferences where subjects are perspectives making distinctions that make differences to themselves. Bourdieu's discussion on the existence of social classes (1985) can be seen as an application of the distinction-based concept of *social space* to the classification of social human agents – a topic that is extensively discussed as a fundament of sociology by Sorokin (1947), and where Lotman's concepts could also be applied, for example starting from the rhetorical construction of the 'we' category in particular societies (as for example in Ventsel 2007). However, for the present study the interest lies in the principles of spatial models and less in their particular applications.

For Lotman's complex ideas of *cultural space* – as the spatial organisation in a culture's world image and an area of identification, and as the semiotic space of a culture or as *semiosphere* – the focus is first set at the level of cultural

world images (which is a central idea of a *model* for Lotman) and self-descriptions expressed in various texts, and second at the level of aggregations of texts forming the enabling context for semiosis. There are two aspects that should be underlined in thefocus of this study. First, working on cultural self-descriptions means that the objects of Lotman's studies already involve definitions of holistic and bounded units by themselves. In Lotman's terms, this culture is both an intellectual subject and an object of its own self-descriptions; essentially, through the ability to produce new texts and using itself as material for new texts, culture functions as a meaning generating device (Lotman 1997: 9) – which is already a semiotic mechanism that could be described in spatial terms. Second, Lotman emphasises the homomorphism between levels of semiotic entities, from texts to personalities and cultures:

> The invariant model of the meaning-generative unit signifies, first of all, its definiteness, self-sufficiency and presence of a border between the unit and the "outside" semiotic space. This enables us to define the meaning-generative structures as semiotic monads of their kind, functioning at all levels of semiotic space. The monads of this kind are both the culture as a whole and any sufficiently complicated text incorporated in it, including separate human personalities, regarded as texts. (Lotman 1997: 9)

Due to this suggested homomorphism, the focus of Lotman's theories can be outlined but not exclusively fixed to any part of the sociocultural world. As a further application of Lotman's idea, cultural space represents the semiotised world from the point of view of a culture either as identification with a part of geographic space or with a part of the world in general. This idea is applied, for example, in the idea of the semiosphere being expressed in geographical form:

> In instances where cultural space has a territorial character, the border is spatially located in elementary meanings. However, even in this instance, the border retains the idea of a buffer mechanism, a unique unit of translation, transforming information. [...] All great empires, bordered by nomads, whether "steppe" or "barbarians", settled on their borders members of those same tribes of nomads or "barbarians", hiring them to protect the borders. These settlers formed a zone of cultural bilingualism, ensuring semiotic contacts between two worlds. Areas of multiple cultural meanings carry out the very same function on the boundaries of the semiosphere: town, trade route and other areas forming a kind of creolisation of semiotic structures. (Lotman 2005: 211)

Although expressed and objectivated in geographical space, the space of the *semiosphere* should not be considered geographical. Instead, the semiosphere or "the whole semiotic space of the culture in question" (Lotman 1990: 125) is a relatively integrated complex of semiotic relations (comparable to *signifying*

order in the sense of Danesi, Perron 1999) involving a semiotic *self* that defines boundaries of that space and thus ensures the heterogeneity of the larger system.

Although different concepts of *cultural space* can be found in Lotman's works, from the perspective of meaning generation they make up a dynamic and indivisible whole that involves certain cultural-semiotic relations and processes, relating these to the spatial environment and organising it conceptually in a particular, spatial way. This points to the semiotic multiplicity and layered complexity of the sociocultural world that spatial models should consider. Similarly, for Bourdieu, social space combines three planes: it is a meaningful world for the subject, a tool for mapping meaningful reality by the acting subject and a mapping tool for a reflective subject (Bourdieu 1984: 169). Sorokin suggests a similar two-sidedness for sociocultural space as the "closest environment for man" and as a referential principle for integralistic social science (Sorokin 1964: 154). At the same time, his main emphasis in the model of sociocultural space lies in representing the meaningful world, and the aforementioned double position of meanings in the theory (in *cultural mentality* and *meaningful interaction*) characterises the sociocultural world, and is not always explicit in the presentation of the spatial model of *sociocultural space* itself.

The theories discussed here as well as other semiotic approaches to the sociocultural world generally assume, but do not discuss extensively, recognition as the generic semiotic feature grounding more complex relations and structures. Recognition can be found and described in various forms, relations and levels. These include dealing with recognition of oneself through self-descriptions, categorising others and behaviours by differences that make differences, and recognition of sociocultural entities (groups, meaningful phenomena etc.) as sustaining their identity during fluctuations. The segmentation of the sociocultural world necessarily follows recognition by some agent. An agent may again be either a collective or an individual subject who generates descriptions of reality and of itself, an individual carrying out behaviours and reflecting on these, or in other terms, a sociocultural system recognising the functioning or mal-functioning of its parts. Even a researcher looking for observable units in the sociocultural world and suggesting segmentation from the perspective of a metalevel can be in the role of this agent. Moreover, spatial organisation as a modelling tool requires recognition as a cognitive basis for semiotic spatiality.

Apparently, the semiotic nature of the sociocultural world can be elaborated through several aspects, including mentality as a basis for meaningfulness, meaningful interaction, categorisation and distinction making, distinguishing one's own and alien features, the principle of polyglotism, etc. Now it remains to be asked how these semiotic features can be spatial – how they can be spatially represented and how they relate to the dynamic domain of spatial modelling.

4.2. Spatial modelling of semiotic features of the sociocultural world

It could be presumed that spatial models propose an understanding of semiotic relations that is rather static. If (paraphrasing Lotman 2011) a concept of space as a modelling device is set into a relationship of analogy with its represented object field, then it could be presumed that the semiotic sociocultural relations are presented through the characteristic spatial relations in the model – for example, distance, adjacency, positions, dimensionality, inclusion-exclusion, spatial oppositions, etc. However, a closer look at the spatial models studied here reveals that the proposed semiotic nature of the world is essentially described through spatial dynamics. In contrast, so-called binary oppositions (up vs. down, inside vs. outside etc.) in their static form are indifferent and insignificant from the perspective of these models – at least as long as they are not involved in dynamic realisation. In this sense, it is not a *signifying system* as a system of symbolic representations but instead, a cognitive modelling system. Furthermore, the role of physical space in the sociocultural world should be considered through dynamic semiosic relations.

As already mentioned, there is a systemic and a processual semiotic aspect for Sorokin. For his *sociocultural space*, meanings are one of the three components of sociocultural space, together with agents and vehicles of these meanings. These three planes of sociocultural space are realised only in the context of meaningful interaction. Sociocultural space is accordingly not merely an abstract model for presenting an imaginable sociological structure, but is grounded in the process of meaningful interaction which is based on and produces regularities that a spatial model can map.

> Every process of meaningful human interaction consists of three components, each component, in turn, being made up of many elements that determine its concrete form. These components are (1) thinking, acting, and reacting human beings as subjects of interaction; (2) meanings, values and norms for the sake of which the individuals interact, realizing and exchanging them in the course of the interaction; (3) overt actions and material phenomena as vehicles or conductors through which immaterial meanings, values, and norms are objectified and socialized. (Sorokin 1947: 41–42)

Meaningful interaction is for Sorokin the essential object for studying sociocultural phenomena. When discussing the appropriate object of study for social science, Sorokin is critical of searches for minimal units (units like an individual, family, group, etc.); research should instead concentrate on finding "generic properties of all sociocultural phenomena" (1947:40). As a mechanism underlying the sociocultural world and, accordingly, sociocultural space, a meaningful interaction is any event in which either the influence of one party on another

has been attributed some value or the influence or part of it stands for something else, and thus directly involves a semiotic component:

> The most generic model of any sociocultural phenomenon is the meaningful interaction of two or more human individuals. By "interaction" is meant any event by which one partly tangibly influences the overt actions or the state of mind of the other. In the absence of such an influence (unilateral or mutual) no sociocultural phenomena is possible. [...] By "meaning" is to be understood "anything which, for some mind, stands as a sign of something else. The generic significance of meaning is that in which A means B if A operates as representing B, if it stands for B, or calls it to mind." [while Sorokin makes the quotation from C. I. Lewis 1943. The modes of meaning. *Philosophy and Phenomenological Research*, vol IV (1943), p. 236, C. I. Lewis in his turn is with these words citing C. S. Peirce – T.R.] A meaningful interaction is any interaction where the influence exerted by one party over another has a meaning or value superimposed upon the purely physical and biological properties of the respective actions. (Sorokin 1947: 40)

The three components of meaningful interaction form the basis of a sociocultural world that is thus interactional and semiotic, and these components are also the three planes of *sociocultural space*, a model. The world represented by *sociocultural space* is by nature dynamic, and due to its interactional ground, not reducible to a singular point of view. The model itself is designed to make broad generalisations about the fluctuations of *cultural mentality*. *Cultural mentality*, or in another sense a "world view", is the background system providing meaningfulness and coherence in interaction. One can in contrast imagine modelling the sociocultural world in a way that does not emphasise the dynamic and integrative interactional ground; in that case, the sociocultural world would be pictured as a *congery* (as opposed to the *system* of Sorokin) of atomistic sociocultural interactions and their components. Besides its general basis in interaction, this is the other, more historiosophic end of Sorokin's conception of sociocultural space together with its own specifically dynamic aspect. This aspect can be found in sociocultural space as a category that enables the conceptualisation of large scale cultural fluctuations like the alternations of sociocultural mentalities throughout the history of humankind. In Sorokin's works, both questions are present: the analytical question of how the sociocultural world and its parts work (especially in Sorokin 2006 and 1947), and the emphatic one of where it all leads contemporary society (especially in Sorokin 1992).

For Lotman, the semiotic nature of *cultural space* is even more dependent on two spatialising practices. First is the primary distinction based on inclusion-exclusion or including encountered phenomena into one's knowledgeable world (into a world image that has the possibility for some kind of spatial organisation). Second is categorisation through explicit bounding and ordering of the

conceptual world and the subject itself through descriptions and self-descriptions. While the former provides a primary semantic categorisation, the latter is related to the structural organisation of the spatial world image. The distinction of internal-external and its dynamics is present in Lotman's explanation of cultural meaning generation by the production of new texts and taking oneself as an object:

> The fundamental question of the semiotics of culture is the problem of the generation of meaning. By the generation of meaning we understand the ability of the culture in general and its separate parts to produce at its "output" new non-trivial texts. [...] The other feature of the functioning of this structure is its ability to enter through its own input and, accordingly, to transform itself, since from its own point of view, it acts like a text among texts and is therefore a normal semiotic "food" for itself. (Lotman 1997: 9)

This principle of any semiotic unit, monad, culture or semiosphere being simultaneously a subject and its own object is, in the case of *cultural space*, specifically spatialised. This suggests the understanding of *spatialisation* as a semiotic mechanism – a form of textualisation which involves spatial structuring and semantic coding according to a "spatial language".

Lotman's claim that an essential element of a semiotic unit is the involvement of two distinct languages (Lotman 1997: 10) can involve spatiality in two ways: as a spatial division and as a more general spatial language. In the case of *cultural space* however, the organisation providing the significant form is essentially constructed on the basis of spatial categories, and thus the distinction between languages is already spatialised: "Culture is *fundamentally* multilingual and its texts are always realised in the space of, at minimum, two semiotic systems" (Lotman 2012: 10; *emphasis in original*). The distinction of the two languages can even, for example, take the form of assigning territoriality to languages (or to the *sphere of a language*) or, in the case of an abstract evaluative spatiality, assigning an evaluative position to languages denoting a *high* or a *low* style.

Concerning the second way that spatiality is involved, spatial language as a part of the minimal semiotic unit is a central trait in Lotman's conceptualisation of culture, most generally where it figures as the other *primary language* next to natural language:

> Genetically speaking, culture is built upon two primary languages. One of these is the natural language used by humans in everyday communication. […] The nature of the second primary language is not quite as clear. This language is the structural model of space. Any human activity is related to classificatory models of space, its division into "own" and "other" and the translation of various social, religious, political, kinship, and other ties to the language of spatial relations. […] In order for a system to be able to

> perform a broad range of semiotic functions, it must possess a mechanism for duplicating (actually repeatedly multiplying) the object that constitutes its meaning. (Lotman 2012: 9–10)

While this statement is followed by Lotman's explication of *text* as a meaning-generative semiotic mechanism, the somewhat vague nature of the spatial *primary language* can become more clear, namely in relation to *cultural space*. Lotman conceptualises cultural space on the basis of *topological space* (see e.g. Lotman 1975; 1970). However, the semiotisation is realised by contesting and destructing that topological space. Topological space, at least the conceptual framework of "topology" as used by Lotman in an operationalised manner, can be characterised (in Lotman's own terminology) as *analogical* or *continuous* in contrast to *discontinuous* space. If topology is concerned with continuity and transformability of spatial forms, then the boundary (that will be set into the context of spatial modelling more thoroughly later) has the function of bounding the space of the shape. It is not primarily an intersection of inner and outer space – the outer space does not exist from the point of view of the internal continuous space. This is consistent with Lotman's own statements as well as those present in the Tartu-Moscow School *Theses* and can be recognised as the *inner perspective*:

> Yet the very opposition of inclusion in some closed sphere and exclusion from it constitutes a significant feature of our interpretation of the concept of culture from the "inner" point of view. Herein occurs a characteristic absolutisation of the opposition: it seems that culture does not need its "outer" counteragent and can be understood immanently. (Lotman *et al.* 2013: 54)

Following Lotman, the generation of meanings emerges exactly on these intersections of inner and outer space: the inclusion and semiotisation of the external, internalisation of the self as an external (that is, creating new sub-boundaries), crossing the boundaries by a textual personage who then belongs to multiple spaces and different kinds of spaces or a similar crossing of a boundary by a text, and the intersection of two different types of languages, discrete and continuous. Topological space is itself characterised as *uninterrupted space* (Lotman 2000: 450). Establishing internal differences and thus semiotising that spatial universe presumes already contesting its topological basis. Thus, it can be claimed that while Lotman constructs cultural space on the basis of topological space, topological space itself is meaningless and will be semiotised in acts breaking down that space. An example pointing to this principle can be found in the *Theses* of the TMS:

> 1.3.3. The cultural function of the tension between the inner (closed) and the outer (open) spaces is clearly revealed in the structure of houses (and other buildings). In making a house, man thereby partitions off a part of

> space which – in contrast with the outer sphere – is perceived as culturally assimilated and regulated. However, this initial opposition acquires cultural significance only against a background of continual breaches in the opposite direction. (Lotman *et al.* 2013: 57)

This is in line with the notion of the necessity for at least two languages as a precondition of semiotic phenomena – here the two languages take the form of, respectively, the continuous topological space and discontinuous spatiality focusing on the borders and their dialogical work. Another case of this double codedness is a (self-)description that imposes a discrete, bounded self-model on otherwise continuous practical space.

According to Bourdieu, *social space* as the system of relative positions and dispositions of subjects and their practices is meaningful due to "differences that create differences", that is, a choice of practice that is recognised as a distinct decision and respectively assigned a value. In this respect, it is the relationship of distinct practices and not a general mentality or world image that constitutes the meaningfulness of the sociocultural world. However, this *social space* as social semiotic space is organised in a more coherent manner due to habitus, on the one hand, and on the other, to reflective subjects able to take positions towards practices, conceptually organise them and change their prescribed trajectories as well as alter a partly automatised habitus. At the same time, this reflective subject is, for Bourdieu's *social space*, nothing more than *a point in space*, or a *point of view* (Bourdieu 1994: 28–29). Social space and the various fields within it present a structure based on differences; to become actually semiotic, this structure still needs an active practicing subject.

> In fact, the main idea is that to exist within a social space, to occupy a point or to be an individual within a social space, is to differ, to be different. […] a difference, a distinctive property [...] only becomes a visible, perceptible, non-indifferent, socially *pertinent* difference if it is perceived by someone who is capable of *making the distinction* – because, being inscribed in the space in question, he or she is not *indifferent* and is endowed with categories of perception, with classificatory schemata, with a certain *taste*, which permits her to make differences, to discern, to distinguish [...]. (Bourdieu 1998: 9)

The central semiotic aspect in the focus of Bourdieu's conception of *social space* is thus the categorising cognition of practices by the self or another person close enough in social space; this cognition makes the distinctions relevant, that is, not indifferent. Considering the interpretative role of the agent and at the same time being just a point in space, it can be asked whether the active subject and meaning generation, in the act of recognising differences, remains partly outside the model of social space with the social space remaining a mere object to be related to. In other words, is habitus partly wider than social space? This ambiguity of the subject can be solved in two ways. First, the subject could be

regarded as a point that implies its perspective on social space – a set of practices, habitus and memory – that is, the subject is not an extracted point but a point or even a region vitally integrated with its surroundings in social space. Second, the subject could be regarded in terms of a sub-space of social space – a space where decision making, reflection and self-reflection take place and that is organised in its own way. A reasonable ground for describing this "sub-space" can be found in George Herbert Mead's conceptualisation of the *social self* (Mead 1934). This enables, in parallel to Lotman's explanation of homomorphism between an individual, text and culture as semiotic systems, a reconstruction of homomorphism between various levels and kinds of entities organised through classificatory struggles in and between fields – from an individual social self to youth culture, media industry and whole societies. Mead's understanding of the *self* as an internally multiple but holistic knowledge of oneself, appearing in social interaction as a kind of reflection from the respective community, points to the high congruency of Bourdieu's, Lotman's and Sorokin's spatial models with the understanding of the sociocultural world from the perspective of the pragmatist tradition and related perspectives, including symbolic interactionism (Blumer 1969), social systems theories (Parsons 1951; Parsons, Shils 2008) and sociosemiotics (Randviir, Cobley 2010; Randviir 2014).

Spatial models thus provide the possibility to present and understand large scale generalisations about the sociocultural world, as models that are at the same time grounded in that object-world – that is, in specific processes generating and maintaining that same significant world. Being concerned with different aspects of the sociocultural world, each author has emphasised different mechanisms underlying the semiotic nature of the sociocultural world in relation to the possible spatial modelling of it. In Lotman's conception, two aspects should be pointed out. First, the generation of separate domains or spaces is brought about through elementary spatial distinctions and bounding. A similar elementary bounding that generates internal, external and mediating spaces is also outlined as the basis of the *social logic of settlement space* by Bill Hillier and Julienne Hanson (1993). The other basic semiotic aspect of *cultural space* is the relationship of discrete and continuous spatial codes. Distinction between these enables a *semiotic mechanism* involving two spatial languages, but this duality is present already in the elementary action of bounding continuous space and thus generating discrete spatial organisation for the next level. Bourdieu in contrast focuses on the semiotic mechanism of the social agent as a point of view making significant distinctions (that is, distinctions that make a difference for somebody) that are further organised and directed by *habitus* and *fields*. While for Sorokin, the *meaningful interaction* is the generic model of sociocultural phenomena, the semiotic aspect of this is based on the organisation of meanings, and objects and agents in relation to these – that is, a structure that can be described in spatial terms. Moving from the level of interactions and relatively smaller sociocultural phenomena to a more general level of

understanding a society and its culture, the basis for meaningful unity appears to be its cultural mentality.

Spatial models of the sociocultural world do not present their objects as chaotic aggregations, but rather aim to explain them as semiotic systems, and primarily as "holistic" ones. Benveniste points to two types of semiotic systems: first, those in which "meaning emerges from the relationship forming a closed world" and second, those in which meaning "is inherent in the signs themselves" (Benveniste 1981: 16). In Lotman's conceptualisation of *cultural space*, the meaningfulness of the world is generated through the creation of the closed world and opposing it to the *extracultural* domain. Keeping in mind that for Sorokin and Bourdieu, this world is the world for a subject (or a community), the sociocultural world appears as a closed world where significance appears as a result of internal organisation. However, Bourdieu emphasises equally the role of an active agent and actual, rather than determined, decisions that aggregate and form and change the structure of social space. That is, active social agents enable the dialogue between discrete and continuous organisation in the sociocultural world as a semiotic system. In addition, as a structural model, sociocultural space could in principle be used to map the sociocultural world as a discrete system and to determine the significance of sociocultural phenomena from their position. Such a practice of mapping significance, while demonstrated by Bourdieu and Sorokin themselves, can miss large parts of the dynamic and relational nature of the sociocultural world.

Above I have pointed to two kinds of relationships between levels in the field of spatial modelling – using terms from Benveniste (1981: 17), the generative relationship between "spatiality" at different levels and relationships of homology in *sociocultural space* representing the sociocultural world and knowledge of it. Seen from the perspective of modelling, *sociocultural space* is again the interpreting system of its object. The interpreting relationship here can be seen as not limited to the level of scientific modelling. The dynamic interrelatedness of metalevel spatial conceptions with the object level sociocultural world and world image held by society was addressed specifically in Lotman's work, but it is also treated in Sorokin's and Bourdieu's conceptions. These dynamics in the field of spatial modelling suggest a modelling capacity similar to language (*la langue*) being, according to Benveniste, the interpreting system of all other semiotic systems, because:

> No other system has at its disposal a 'language' by which it can categorize and interpret itself according to its semiotic distinctions, while language can, in principle, categorize and interpret everything, including itself. (Benveniste 1981: 18)

This gives an additional perspective on and justification for Lotman's claim that *the structural model of space* is one of the two primary languages upon which culture is built (Lotman 2012: 9). Still, when considering *sociocultural space* interpreting itself and everything else, it is not a system in the strict sense, but

rather a field of spatial modelling and complex of various systems, including natural language.

M. Lotman (2002b) has suggested the need to continue developing the holistic approach in semiotic studies. What I have discussed here were models of the sociocultural world and the role and mechanism of semiosis as seen through these spatial models that can be argued to have holistic perspectives. While these models accept the crucial role of language for the semiotic world, at the same time, linguistic semiosis is not construed as the constitutive element of the sociocultural world. Instead, natural language is crucial as a mediator and descriptive-reflective classifying tool as well as a tool for communication and negotiations over classifications (that are partly established by the very same language). In addition, language itself provides the material that is subjected to the recognition of differences – for example, the use of different styles or nominatative systems that define the possibility of distinguishing a particular selection of elements in the world. Language is thus important as a tool for communication and modelling, but it is apparently not the primary ground of the sociocultural world.

To sum up, an inclusive approach to spatial modelling of the sociocultural world and its semiotic aspects should consider, first, the variety of spatialities from simultaneous totalities to spatial ordering by distinction making and bounding to spatial structures; second, the variety of levels and modalities of subjects from embodied individuals to imagined collectivities and textual subjects; and third, particular materials where spatial organisation can be manifested. In the following, I relate the latter – material of manifestations – to the spatial and subject related aspects of spatial modelling of the sociocultural world.

4.3. From spatial relations to abstract spaces: limits and boundaries of sociocultural space

From a semiotic perspective, *space* can be defined as a set of recognised spatial relations. The latter, spatial relation, refers again to a situation of at least duality in the object field or the co-presence of two objects. From a semiotic perspective, the recognition of this duality of actual or potential objects by someone is essential. While this minimal spatial relation can involve two objects, one of these could also be the recognising agent as an object of recognition or alternatively, it can be the environment as an object of recognition. According to this view, the mere relation and gap between subject and object ought to not be considered spatial as long as it does not involve the distinction of the object from something else. In a discussion of the ontological basis of socially organised geographical space, Edward Soja emphasises the human ability to objectify the world by distancing oneself from the object world, i.e. a conscious human distancing from inanimate objects (Soja 1989: 132). In my view, the situation of recognising a dual relationship in the object world requires a recognising

subject of some kind with, at least, an indexical object-world. Thus, an animal Umwelt (according to Kull 2010) is required, but not necessarily a *conscious human person*. In addition, it is reasonable to consider the distancing between a subject and its environment as *spatial* as long as it involves both parties as objects for the subject (or as Soja characterises *existential alienation*: "a state of separation from oneself and from the objective world" (1989: 133)) – in other words, as long as the semiotic situation involves the act of bounding. The requirement of the co-presence of objects points to an essential aspect of semiotisation – objects that are otherwise not possibly co-present in actuality can be brought together by semiotic mediation – actualising a past object by remembering it or combining representations of various near, far and imaginable objects into co-existence in one "cognitive space". As space is based on recognition, it refers first and foremost to the organisation of knowledge, and through this, to the organisation of the object of knowledge.

According to this basis, there is a potential for different spaces – differing in their involved relations and their variable organisations. As the minimally presumed duality can involve either two objects or an object and the subject as its own object, the general primacy should not be attributed to ego-centric or non-egocentric orders. There can be different ways of organising spatial relations into a holistic *space* – which links types and processes of integration of sociocultural phenomena (see chapter 1.3.) directly to particularities of spatial modelling of the sociocultural world. In addition, the notion of space as a holistic set of recognised spatial relations is remarkably close to Lotman's idea of *text* as an organised meaningful unity.

Spatial metalanguage is studied here as a tool of cognition applying sets of spatial relations for representing organisation of the object field. Aimed for adequacy and usefulness of descriptions, spatial models can be based on different concepts of space that combine spatial relations in variable ways. In one dimension, this abstract conception of space is generated on the basis of a particular world image and symbolic space related to it, which is again based on spatiality of behaviour. In another dimension, this abstract space as a spatial model is aimed at representing the object field which involves its own symbolic space of world image and spatiality of behaviours in it (an outline of dynamically related layers in the spatial modelling of the sociocultural world can be seen in figure 9).

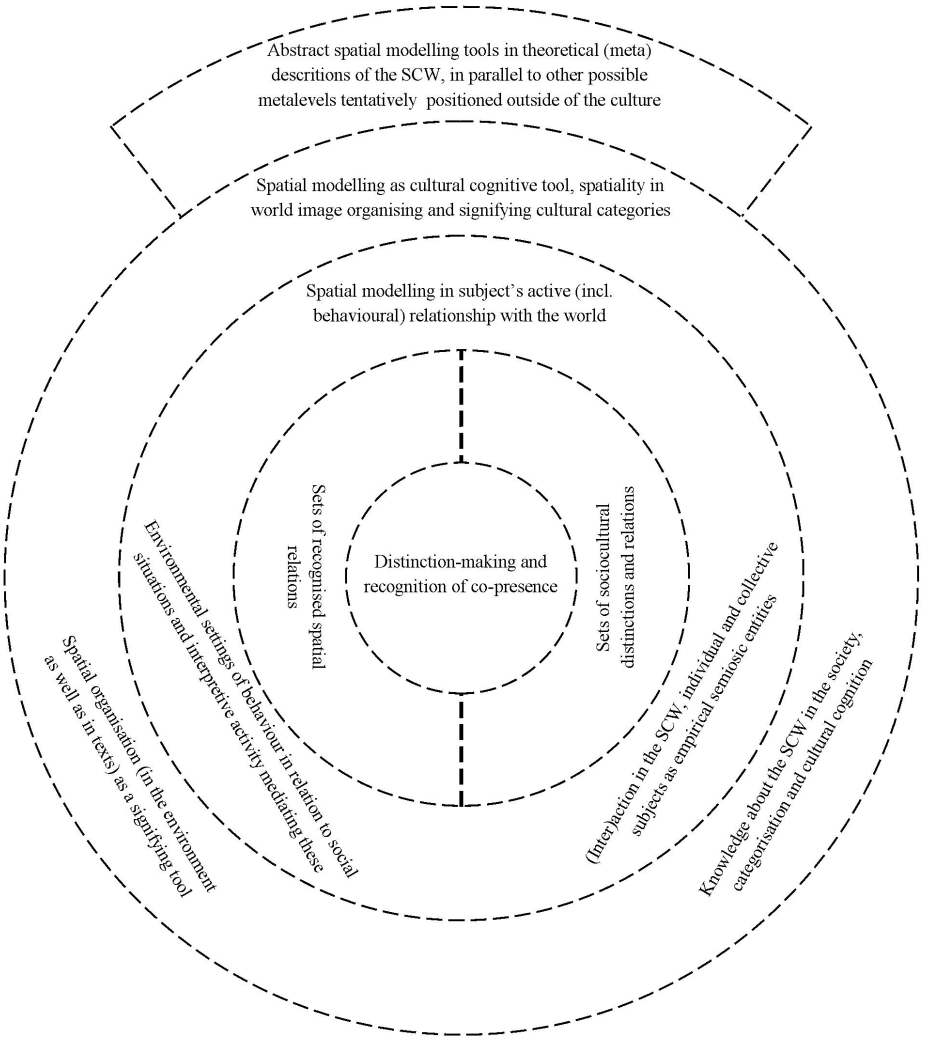

Figure 9. Layers and main dimensions in spatial modelling of the sociocultural world: perceptual, interactional, cultural cognitive and theoretical layers and dimensions of the *sociocultural*, semiotisation of space, and spatial modelling. Spatial models in social and cultural theories are a result of a multi-layered domain of modelling. The capacity for distinction making and recognising spatial relations is a basis for further established relations between various spatial organisations and sets of sociocultural distinctions and relations. A primary layer of relation-making is the semiosic interaction that associates dynamically and interpretationally sociocultural relations with environmental conditions, behaviours and subjects. This forms a basis for spatial organisation of knowledge, incl. world image, cultural descriptive categories and space as a signifying system. Scientific models are different from other descriptions in culture due to their abstraction from object level situations and tentative positioning on the metalevel. In culture, scientific models can be parallel to other descriptive systems provisioned as external perspectives on the sociocultural world. The distinction of scientific modelling from

culture is a methodological step that enables analytical perspective on central features in spatial modelling like bounding – in the form of spatial dividers, behavioural differences manifesting spatially, and spatializing distinctions that enforce particular spatial and semiotic organisation.

It appears from the above discussion that, besides the different focus of their object fields, Bourdieu, Lotman and Sorokin present spatial conceptions that also have a different structure and a respectively differently represented object field. For Bourdieu, it is the environment of differences and distinctions and the structure of the environment emerging from these distinctions; it is a space of differentiating distinctions that have a social dimension. That space involves differences, recognition of differences, activity of agents and social or intersubjective relating activity. The core of Lotman's spatial conceptions involves semiotic space as a bounded and organised set of semioses that appear relatively coherent for an internal perspective; in contrast to Bourdieu's concept, spatiality here is not grounded in relations of co-present possibilities for distinction among differences, but in bounding and boundary maintenance as an act of spatialising the relation between one's own domain and the alien domain. In Sorokin's conception, sociocultural space is a relatively coherent complex of meanings, their agents and vehicles, with *space* thus describing the internal organisation of a whole. As Sorokin emphasises, this structure is not a purely theoretical construction at the metalevel, but follows in its organisation and components the knowledge of the world held by the object society. Thus, its spatial character is at least involving *emic* traits.

The spatiality of these models can be further explicated through two aspects. First, a dominant way of understanding spatiality in social and cultural theories is concerned with studying geographical space, its social organisation and its use as a source of models. Notions of sociocultural spaces can be considered in light of this view. Second, the role and nature of *boundary* as well as its presence or absence in spatial modelling tools help to bring these conceptual frameworks together in relation to semiotic space as well as to geographical space.

4.3.1. Sociocultural space beyond geographical space and mapping

The basic level of spatiality of the sociocultural world, the space of actions – more particularly, the materiality of relations of actions and actors – is also the ground for many geographic discussions on the sociocultural world and space, including Marxist ideas on *social space* or *spatiality* as "the created space of social organisation and production" (Soja 1989: 79). The focus of this *social space* is namely in social-geographical spatiality, and more generally, in the totality of social relations of production (Lefebvre 1991: 31–33). Soja

distinguishes between the physical space of material nature and the mental space of cognition or representation; he emphasises the need to understand these as parts of the social construction of spatiality (Soja 1989: 120). The combination of material and ideological dimensions in social spatiality is crucial for analysing practical projections of spatial conceptions and descriptions; however, when focusing on *sociocultural space* as a modelling tool in social and cultural theories, this aspect mainly belongs to the object level of spatial models and can be left aside. In a discussion on Marxist social semiotics of space, Lagopoulos draws a similar dividing line restricting the domain of semiotics "by excluding the study of scientific metalanguages" (Lagopoulos 1988: 603) – which, however, as explained in the present study, are closely related to the general field of spatial modelling.

In line with the preceding analysis, it can be claimed that it is semiosis that is the essential trait of the sociocultural world and that spatial models are accordingly models of the semiotic world. As a model generally gives simplified knowledge of its object, one may ask whether the sociocultural world, as a semiotic world, can be reduced to semiosis. At the level of spatial models, this question could take the form of sociocultural space being either *semiotic space* or *semiotised space.* In line with Keesing, who proposed the study of sociocultural systems in order to include the symbolic, social as well as material dimensions of otherwise segregated studies of these aspects of cultures (Keesing 1974: 82), models of sociocultural space underline the existence of the semiotic aspect as well as other aspects of the sociocultural world. Sorokin acknowledges the physical dimension of agents and vehicles but leaves this to be described by various concepts of physical space instead. While Bourdieu is interested in artefacts mainly for their character of being possessed or produced and thus parts of some capital, this view clearly leaves certain parts of the world outside the scope of his idea of *social space*. In a similar way, geographical space is not a direct materialisation of sociocultural space and also not a simple form of expression. Geographical space instead forms a relatively independent field of organising physical space and spatial relations between human agents, as well as organisation of the conceptual level of the geographical environment. This complex could be called *landscape*, but it has also been studied under the name of *social space* by Lefebvre (1991). Rather than being presented as an expression of sociocultural space, geographical space is a case of textualisation that interrelates the physical environment, sociocultural space (as the holistic knowledge of the human world) and particular interactional relations of people with space and people in space. In other words, in the context of *sociocultural space*, geographical space is seen as projecting the spatial world image of a person or a group onto spatial behaviours and projecting these spatial behaviours again into the spatial world-image. Due to the processual character of those interactions, this *geographic space* does not form a static relation of correspondence, but is instead constantly in the process of semiotisation. Thus, compared to geographical space as *semiotised space*, sociocultural space is essentially *semiotic space* – in the sense that spatiality is interdependent with

semioticity, rather than the semiotic aspects being an additional layer added to the external material space. At the same time, sociocultural space also involves the physical aspects of agents, vehicles and environments.

The relationship of spatial models to geographical space can further be explicated by re-considering the nature of *spatiality* throughout the domain of spatial modelling, as outlined beforehand. To begin with, a distinction should be made between two types of *spatiality*: the physical-spatial dimension of human action and conceptual spatiality. Together with the organisation of behaviour becoming an object of knowledge, their physical-spatial dimension becomes known and conceptualised. Besides being characteristic of the metalevel, conceptual spatiality is pertinent for the world image and practical conceptualisations of the surrounding world. The meaningful spatiality of symbolic space is thus intermediate between the abstract space of theoretical models and practical space (in the sense of Cassirer 1944: 42–43), and partly overlapping with both.

For the conceptual frameworks of Bourdieu, Lotman and Sorokin, geographical space that includes behaviour as well as symbolic aspects is a part of the object level. At the same time, geographical space can appear as a part of the metalevel in the spatial modelling of the sociocultural world. Lotman points to mathematical topology on the one hand and the world images expressed in cultures under study on the other hand as the basis for his spatial conceptions. Similarly, a notion of geographical space can become the conception of space used for modelling the sociocultural world (that is, a conceptual spatial organisation referred to in figure 3, page 52). An example of this conceptual move can be found in studies related to the so called *spatial turn*, as influence and inspiration from the field of cultural geography was taken on by a wide range of social sciences and humanities. According to the intention expressed in one introductory statement: "We seek to explore how geographers have influenced other fields of scholarship and the many forms in which geography has motivated scholars to think spatially" (Warf, Arias 2009: 2). The shift of geographical space from the object of study to the means of study is visible in proposals for *geocriticism* (Westphal 2011, Tally 2013). As Robert T. Tally claims,

> In short, geophilosphy joins with the poetics of space, the production of space, the spatial analytics of power and knowledge and conception of sites and movements of resistance, in order to help form the theoretical bases of a geocriticism (Tally 2013: 139–140).

The approach of geocriticism is particularly concerned with the variable spatiality in literature and centrally engages the idea of *mapping*:

> […] the increased relocation of the concept of spatiality within the methods and practices we use to make sense of the world in which we live has made clear that mapping is now crucial to a concrete understanding of our being-in-the-world. (Tally 2013: 144)

In this sense, literary descriptions of space, or each literary work as a description of a possible world as well as quotidian descriptions of space, work as mapping and provide *maps*.

Lefebvre, who has been considered as one of the foundational authors for the *spatial turn*, has developed an understanding of the dynamic and meaning-generative nature of geographic space in the sociocultural world. His discussion on *abstract space* arising from *social space* points again to a reductionist potential of geographical (abstract) space.

A central distinction for Lefebvre in his discussion of *the production of space* is that between *social space* and *abstract space* (1991). As the present discussion has largely been focused on the variable relations between object and metalevel in spatial modelling, *social space* for Lefebvre belongs essentially to the object level – asking about the ways of knowing the spatial sociocultural world by the society itself and also building the material spatial world according to one's knowledge about the world. In its Marxist-materialist way, *social space* it involves the set of relations of production, reproduction and representations of both of these (Lefebvre 1991: 31–33); as these relations are *material* (in a Marxist sense), *social space* is for Lefebvre essentially the totality of social life. Thus, the concept is clearly different from, for example, Bourdieu's notion of *social space*. There are three essential aspects of social space according to Lefebvre: space perceived in relation to practices (*espace perçu*), the space of representations or conceptualised space (*espace conçu*), and space as lived through (*espace vécu*) or the representational space (Lefebvre 1991: 38–39), which would essentially be the socioculturally meaningful space. Compared to the framework given in figure 2 (page 46), Lefebvre's *perceived space* is related to the relationship between behaviours and their geographical organisation – involving the perception of behaviour, management of material space and behaviour as an elementary semiotising action. Lefebvre's *conceived space* is related to the aspects of world image, and the *lived space* again interrelates the level of world image closely to that of behaviour. An important part of Lefebvre's analysis concerns the process by which the idea of *abstract space* emerges from social space. The emergence of spatial conceptions is related to scientific metalevel concepts, but in the case of Lefebvre, even more so to using conceptions of space to build spatial self-models of culture and applying these to society and its geographic space. The emergence of an idea of abstract space that is closely related to the popularisation of linear perspective and development of cartographic mapping (the development of this line of spatial ideas and practices has been considered a major ground for the 20th century *spatial turn*, see Tally 2013: 17–26) is important because it enables a new kind of integration of the sociocultural world: integration through uniformity or standardisation. In other words, abstract space can be seen functioning as a new metalanguage providing common (standardised) describeability with the ambition of universal translatability into mapping as abstract spatial representation and also the reverse – application of the abstract space to management of the sociocultural world.

The approach of spatial modelling used in the present study aims to underscore the multiplicity of different spatialities and the remarkable independence of levels of spatial modelling, that is, their functioning by interpretational relations. The influential power of geographical space, especially in association with linear perspective and cartography, is in contrast closely related to the generation of automatisms among relations of levels in spatial modelling – from the spatial organisation of behaviour to the symbolic space of world images and models in social theory. In the context of the metalevel, geographic space as one of a number of concepts of space brings with it a particular idea of spatial modelling, namely *mapping*. The standardisation aspect of mapping should thus be contrasted to mapping as an ad hoc interpretational and cognitive problem solving activity.

Curiously, neither Bourdieu, Lotman nor Sorokin use the term mapping, and instead the meaning generative aspects of space are related to key words like textualisation, integration, and languages, as well as processes of distinction and interaction. In the conceptions of Bourdieu, Lotman and Sorokin, the object domain can generally be indicated as either the meaningful organisation of behaviour or the structure of a cultural world image. However, the central concern with the object level is in the relationship of these two domains. In this relationship, behaviours become significant in relation to the world image and the latter is formed and expressed through behaviour. Thus, *space* works as a basis for meaning generation, first as an *organisation* that encompasses significant differences (for example in the form of fields and positions as discussed by Bourdieu or world image as discussed by Lotman and Sorokin). These differences at the same time need to be realised in behaviour, including descriptive behaviour – that is, it presumes not only *textualisation* as meaningful organisation but also *texting* in the sense of the actual production of organised, meaningful artefactual wholes (see also Randviir 2004: 28–29). Second, significance can emerge in change, destruction (restructuring) or mobility in spatial structure. Third, any *spatial language* can initiate a semiotic-generative moment when meeting a different language (see Lotman 1978, 2012), either: (a) on the basis of the structural differences between spatial languages (for example, the relationship of the concentric and radial basic spatial logics in world images, and urban or regional models, see for example Lagopoulos, Boklund-Lagopoulou 1992: 312); or (b) due to their different grounding spatial conceptions (for example discrete and continuous spatial structures); or (c) in the meeting of spatial and non-spatial languages. At the same time, the meaning-generative connection between the two domains of the object level worksas a point of fusion between the object and metalevel, because structures from the object level (world image, reflective notions, etc.) are introduced to the metalevel as descriptive or even explanatory tools, and because conceptual spatial structures and even abstract notions can be applied to "build" the object world by organising behaviours, their conceptualisations, as well as their material dimension.

Sociocultural space is first of all an organisation – a spatial description at the metalevel and an organisation of the object world. While it already involves significant differences, it is primarily a structure and potential that emerges in particular semiotic processes. Considering sociocultural space to be a kind of semiotic space (constituted by sociocultural semiosis) provides a coalescence of what Sorokin calls *spatial* and *logico-meaningful unities* (Sorokin 2006: 4). First, describing sociocultural phenomena in terms of sociocultural space, these phenomena appear as spatial unities in that abstract space. In other words, the abstract space at the metalevel functions as the framework for logico-meaningful integration. In this sense, Lotman employs the notion of *semiotic space* in the context of semiosphere – "semiotic space of the culture in question" (Lotman 1990: 125), each space and subspace having its own semiotic self (Lotman 1990: 138) defining respective "type of semiotics" or a signifying order and its extent. Second, concerning more directly the object level, due to the mutual interrelationships of the spatiality of behaviour and the spatiality of world image (as well as the abstract space of models), *spatial* and *logico-meaningful* principles of integration are closely interrelated in actual sociocultural interactions. This intertwined complex of spatialities is, though in different terminology, the focus of Lefebvre's conceptualisation of *the production of space* (Lefebvre 1991). While an example of overlap between spatial and logico-meaningful integration can be found in the nature of the sociocultural world being given and taken for granted by a subject – who is thus "placed into" meaningful reality – the interrelationship of the two principles is also a core aspect of Lotman's conceptualisation of *text* (especially Lotman 2012, 1970, Lotman *et al.* 2013).

In line with Lotman's use of the term *text* (see especially Lotman 1970), *textualisation* can be described as the generation of organised meaningful wholes that acquire their meaningfulness largely by being of expressive character and being based on multiple semiotic systems or languages. As Lotman points out, spatial organisation is a basic and universal language (Lotman 1986; 2012) that, being related to other languages, forms a meaning-generative mechanism: "The complex dialogical and playful relations between the different substructures of the text that constitute its internal polyglotism are mechanisms of meaning generation" (Lotman 2012: 12). In addition to this heterogeneous spatial structure involving separation of something from its externalities by a boundary and establishment of internal hierarchical organisation with internal boundaries, due to their polyglot nature, texts can involve spatial codes of various structure and origin. For this reason, a sociocultural phenomenon can often appear spatial in multiple ways that are not reducible to one origin (e.g. to the material environment). For example, *city* can simultaneously be a point in discursive space, a unit in a world image, a spatial structure, the object of actions, and a material environment. Accordingly, the space of the city as a sociocultural phenomenon and a study object cannot be reduced to a single "spatiality" (see also Remm 2012c, 2011).

Multiple coding evolves in time through texting and especially through what Rick Iedema has discussed as *resemiotisation* (Iedema 2001). According to

Iedema, various discourses in planning and negotiation processes go through numerous phases of (re-)semiotisation where particularly problematic issues are textualised. This involves content becoming more and more abstract and depersonalised, giving the expression a more and more durable form, literally from speech into stone. Thus resemiotisation can instead of additional semiotisation appear to be "de-semiotisation". The latter is not to be understood in absolute terms but as claiming a non-semiotic nature for a text through objectivation and naturalisation in a particular context. In the process of urban planning, for example, interests and values of various individual, collective and also imaginary (e.g. mythological or mythologised) participants are brought together and are organised internally and in relation to each other. In the process of textualisation and texting, an intertextual field is formed where, among other issues, the structure and ideals of the community are negotiated and spatialised. Spatialisation here involves both the structural organisation (for example the structure of values) as well as the form of existence as spatial relations and as material-spatial form.

While re-semiotisation, if seen as concretisation, could appear as de-semiotisation, at each new level the object is placed into new relationships with different semiotic systems. Thus it is indeed a process of additional and altering semiotisation and the emergence of different spatialities and objects. In this sense as well, mapping, whether cartographic or literary, can be seen as a process of the spatial-semiotic generation of new information and not de-semiotising, reductive description.

4.3.2. Boundaries in and limits of sociocultural space

With the role and nature of boundary, some important variations among spatial models can be explained. As for a methodological aspect, boundary mechanisms are important object-level phenomena that enable a grounded construction of the study object. Thus, boundary as *spatialising distinction* and traces of boundaries can be added to the list of traits that should be looked for, according to Sorokin, when starting a study of the sociocultural world – to patterns of uniformity, uniformity of relationships and identity of meaning or logical coalescence (Sorokin 2006: 9–10). In the context of Lotman's notion of semiosphere, boundary would appear as a universal basic element of the semiotic world. However, a closer look reveals the specificity of the notion and object of *boundary* which suggests that the notion of boundary is not a universal unit of description of the semiotic universe, but has its heuristic limits.

Boundary is spatial. The statement might seem obvious and uninformative. However, it is crucial to note that even the most abstract kind of boundaries are spatial. They are spatial as descriptions and projections. Thus, observing and cataloguing numerous boundaries is not enough – one needs to understand different kinds of spatialities behind them. Cassirer's distinction between *actional*, *symbolic* and *abstract space* (Cassirer 1944: 42–43) can be taken as a starting

point here. These refer respectively to the geographical spatial dimension of practices, organisation of world image and self-descriptions, and to the abstract category of space that can be used as a modelling tool. Furthermore, considering *space* as a set of recognised spatial relations, it is necessary to understand the kind of *space* related to the boundary and interconnections of different spaces through boundary. For example, institutionalised borders relate abstract and symbolic spatiality to a practical spatiality and distinctions are expressed and enforced by material means. Boundaries in the context of non-spatial phenomena exist in relation to spatial descriptions. Constituting a boundary is at the same time spatialising the object, and thus it should be asked of what kind, at what level and of which significance this space is.

Besides being spatial, boundary is fundamentally semiotic in the sense of being based on recognition. The mechanism of boundary can be found in distinction, more specifically in spatialising distinction. It is basically recognising difference by someone. Thus, it is not a mere difference, but an act of distinction with a particular agent and perspective, relational in nature and concerning a certain level of abstraction. From an external perspective, boundaries might appear ambivalent and arbitrary, while from the perspective of the "world" of these boundaries, they are rather concrete and indispensable.

Boundary depends on the subject's recognition and interpretation. According to Bourdieu (Bourdieu 1994: 24–25), the significance in social space is essentially difference that creates difference or a distinctive distinction that requires a subject with specific competence, or in other words, a subject situated in the particular *field*. It is remarkable that Bourdieu did not discuss *boundaries* themselves, such as boundaries of a social class. While he was concerned with *distinctions*, he did not focus on descriptively outlined wholes. In Bourdieu's context, acts of distinctions can be seen related to boundaries but they do not set up wholes with the distinction of co-existent internal and external domains. The holistic dimension for him is instead in *social space*, where distinctions are made and could be seen as episodes of internal boundaries. Constituting a systemic hole from these would presume additional conceptualisation – for example, in the form of explicit description of social classes and belonging to one or another.

For Lotman, in contrast to Bourdieu, *boundary* is a central notion in the semiotic study of culture in relation to notions like cultural space, semiosphere and text. The notion of boundary in Lotman's theory has been extensively discussed (see Andrews 2003; Kim 2014; Monticelli 2008, 2012; Veidemann 2008, among others); here I focus exclusively on relations of *boundary* to spatial metalanguage. Lotman's proposal for topological metalanguage and the notion of *cultural space* is based on the idea that boundary divides otherwise homogenous space into distinct internal and external space (Lotman 1975: 104). Similarly, semiosphere is characterised by the external boundary and organised by heterogeneity of internal boundaries. For the semiosphere and each of its parts or sub-spheres, there is a *semiotic I* from whose position the boundary is constituted (Lotman 1990: 138). The function of boundary is to filter and adapt

the external into the internal (1990: 138). Boundary is thus the distinction made by the *semiotic I* between what is its "semiotic space" and what is not – the distinction that both bounds and mediates. Semiotic space here is againnot merely a set of semioses, but a particularly organised domain of semiosis, the domain of *semiotics of particular culture* as distinguishable from alternative ones (Lotman 1990: 125). In this sense, the *space of semiotics of a particular culture* is comparable to the notion of *signifying order* as "a complex system of different types of signs that cohere in predictable ways into patterns of representation which individuals and groups can utilise to make or exchange messages" and which is the basis of culture (Danesi and Perron 1999: 67), but also to Sorokin's *sociocultural space* as a particular organisation of meanings, agents and vehicles in the world of a society and its culture.

The *semiotic I* is the point of view establishing the organisation and boundaries of respective semiotic space. It is not a mere semiosic agent but a point applying a world view, a *metasystemic self-description* in Daniele Monticelli's words (2008). While each semiosic relation presumes semiotic space as a whole (Lotman 1990: 125), the semiotic space is not a given but established by the *semiotic I*. A similar function of an instituting point is attributed to the subject in relation to *social space* also by Bourdieu: the subject as a point in social space and a point of view on that space. However, Bourdieu emphasises the subject being located in that space where practices and ways of their distinction and assessment already exist.

Discussing the boundary as the central topic for Lotman's semiotics, Monticelli (in 2008: 191–210; 2012; 2009) points out three functions of boundary according to Lotman: "(1) the boundary as an instrument of internalisation, separation or closure; (2) the boundary as an instrument of connection […]; (3) the boundary as an instrument of differentiation, the acceleration of semiotic processes and the generation of newness" (Monticelli 2008: 193). The first one is related to the *metasystemic self-description*, the perspective of the *semiotic I*, which centralises and draws the external boundary of the internal homogenous structural whole. The second function is related to the boundary as a dialogical mechanism providing partial translatability of at least two different systems: "The boundary as bilingual belt and space of intersystemic play is the place where the homogeneity of the structural whole is suspended in order to make dialogue possible" (Monticelli 2008: 200). Envisioning this connective boundary as a space of its own, for the third function, Monticelli equates this *border-zone* or *boundary-space* with Lotman's notion of periphery.

Boundary and periphery can overlap in spatial imagination as well as in empirical material. Lotman refers to the *periphery of periphery* as a border area (1990: 141). However, analytical categories *boundary* and *periphery* are significantly different and are related to distinct spatial structures. Boundary separates internal and external space and should be understood namely through this relationship. *Periphery* is a binary notion with *core* or *centre* – the centre of culture is the domain of dominant organisation and self-descriptions, the periphery in contrast is the domain of dominated and heterogeneous organisations and

processes (for an attempt to associate *boundary* and *centre* in Lotman's conceptual framework, see Lagopoulos, Boklund-Lagopoulou 2014: 476). As a *separating instrument*, boundary separates the internal from the external (system from its environment or from another system) and is the marked element of self-descriptions. Periphery and centre are instead aspects of the internal organisation of the system. For spatial self-descriptions, boundary would be the marked element (the dominant organising factor). The marked element for the system's internal organisation would in contrast be the centre which defines the *type of semiotics* characteristic for the system and defines what remains peripheral. While spatial discreteness is crucial for boundary, continuity is emphasised in relating centre and periphery. The semiotic mechanism of periphery is indeed partly close to that of the connective function of the boundary: active mediation of the own and the foreign. At the same time, a dominant feature of culture can be an active interaction with the external domain, which should be described as positioning the cultural centre or core on the boundary of culture. This can be found not only in the case of founding St. Petersburg, referred to by Lotman, but also as a typical trait in the culture of large cities in general. This can serve as a further example of Lotman's grounding semiotic principle of bilinguism at the level of spatial models themselves.

Monticelli is interested in what he calls *procedures of totalisation* of semiotic systems. From the perspective of spatial metalanguage, it appears that two functions of boundary – internalisation or separation and connection or dialogue – are articulating two basic kinds of spatial relations – an ego-centric and a bi-polar one. While the latter depends on the viewpoint set outside of this object domain relation, the former involves an actual or projected perspective from the inside of the domain. However, this function requires a more general point of view for defining something as *external* or for generating *remainders of totalisation* in Monticelli's terms. Parts of different models, *border area* and *periphery*, can again be equated in the perspective of the totalising system itself. In this case, periphery is a realisation of both functions of boundary: being clearly defined by the external boundary, the system (culture) has a centre and a boundary constituted by metasystemic self-description, that boundary again appears to function as a bilingual belt and thus a zone of peripheral ambiguity. This boundary as periphery is thus constituted by the totalising centre. In other words, Monticelli appears to claim that from the point of view of a totalising system (e.g. *semiotics of a given culture* as a system but not the internally plural and dynamic domain of semiosis of a culture) boundary coincides with the periphery as a negated zone of undefineability and innovation.

Thus, in addition to the distinction of perspectives from inside the culture and the scientific metalevel as related to a separating and a connective boundary (see Lotman *et al* 2013: 53) a dynamic plurality of perspectives, wholes and boundaries can be found in the interactional reality of the sociocultural world.

There are three points to be emphasised in the basic idea stating that boundary separates the semiotic space of a culture (or some other system) from its

environment. First, boundary and the distinguished space are described from the perspective of the culture. Second, it is not a "semiosic space" as congeries of semioses but a "semiotic space" as a more or less coherent system of semioses for which boundary has the function of constituting the whole (and thus spatialising) and the function of textualisation. As a whole, this semiotic space has its characteristic *type of semiotics* and thus the recognition of boundaries by an observer presumes and involves the textualisation already at the object level (for example, in considering a culture or a city as a text and not as a language like system). Third, the notion of space needs to be contextualised. Space as an organised whole is based on a set of recognised spatial relations; boundary and bounding as making distinctions forms this spatial whole. This reveals that the expressions *domain*, *space* and *sphere* (*oblast*, *prostranstva*, *sfera*) in works by Lotman and colleagues (e.g. in Lotman *et al.* 2013) should not be taken as random but referring to levels of semiotic organisation. *Domain*, as in the distinction of *cultural* and *non-cultural domain*, refers to a set of relations and differences where there can be limits but not significant boundaries. *Space* refers to distinction, organisation and spatialisation of differences, particularly by boundary. *Sphere* denotes again a particular form of organisation of relations where the bounded area is characterised by internal structure through centre and periphery and several sub-spheres.

The mechanism of boundary involves relating together and making a distinction. Through the act of distinction, boundaries are actualised and exist as significant at that moment. While boundaries are, to an extent, part of descriptions, they are also processes of relating different systems and their elements, that is, translation and mediation. A system can be linked to another system and an external observer can recognise the functioning of mediation, but as long as the *Other* does not exist for the system itself, it would be more correct to talk about sub-systems or periphery or differences between systems, but not about a boundary between systems at the object level. In this sense, considering Lotman's ideas on systemic relations at the level of languages, culture or texts exclusively as aspects of *semiotic space* (see Monticelli 2012, 2009, 2008) would be an over-spatialising interpretation of Lotman's ideas. As a result, useful distinctions to the extent of descriptive organisation as well as between object- and meta-level organisations can be lost.

In Monticelli's treatise, *space* stands for the internal synchronic organisation of the totalising system as applied to its constituents: "space seems to function as the layer by which beings are inscribed within the totality of a system" (2008: 110). This kind of totalising space characterises descriptive systems like cultural self-models. However, space can be of more heterogeneous character and a system more dynamic and less totalised – involving what Monticelli discusses as de-totalisation.

In *The structure of the artistic text*, Lotman defines the space of an artistic text as a set of objects purified from all traits except those regarded as similar to ordinary spatial relations (contiguity, distance etc.) (Lotman 1970: 266). This is a clear example of the use of *space* as a modelling tool. Lotman also refers to

abstract space when discussing the concept of semiosphere (Lotman 2005). Indeed, semiosphere applies a concept of space as a modelling device. However, the spatiality becomes an object there: the semiosphere is a system that takes its spatial organisation as an object of structuration. The process of structuration involves the definition and dynamics of boundaries and relations of centre and periphery that respectively appear not primarily as spatial but as systemic traits.

While boundary is spatial, the boundary-like mechanism can be more general. *Mediation*, *disruption*, *explosion*, and *crisis* are all notions about similar mechanisms without actualising specifically spatial aspects. Spatial and temporal organisation is interconnected, for example, in Bahtin's notion of *chronotope of threshold* (or of *crisis*) as space-time of alteration and uncertainty (Bakhtin 2001: 248–249). In addition to this specific type of chronotope, every shift between chronotopes or in variety of potential space-time organisations characteristic for experiential situations is a more general case of a chronotopical threshold. Conceptualising something as boundary would thus need to consider its distinction from other possible mechanisms of distinction and mediation.

Cultural boundaries are not merely ideational but they are furthermore applied and objectivated in interactions and in particular environments. This follows the view that sociocultural systems or *enactments of ideational designs-for-living in particular environments* should be studied in the human and social sciences (Keesing 1974: 82) and makes boundaries tangible and valuable elements for researching cultures. Talking about cultural boundaries is talking about cultural space and respectively, some particular way of thinking about culture. Thus, it should be asked what the notion of boundary actualises in theories about culture and on the other hand, how these boundaries exist in the empirical world. For example, considering landscape as environment as understood by people, it appears to be a vital issue to recognise significant boundaries in the surroundings and also inventing and marking the boundaries. Boundary is in this case an object of recognition linked to the environment and a way of relating to it, but not necessarily a part of the physical environment.

Culture is constantly relating to its boundaries and creating them. The act of establishing a boundary is at the same time the creation of semiotic reality and its objectivation. Articulating boundaries generates the shared knowledge of the boundary and thus also the limits of a respective signifying order. A central basis for culture can be found in the ability to share one's ways of orienting towards the world (see Parsons, Shils 2008: 162). Establishing a boundary constitutes an area where a particular way of orienting to the world is shared and controlled. Even more, establishing the boundary establishes a place for sharing different ways of orienting towards the world;for meeting cultural *Others* physically and more importantly, informationally. While semantically and syntactically, boundary can be found separating (spatial separation creates and expresses semantic distinction), the pragmatic aspect of boundary is related to the application of distinction, that is, to the potential for crossing the boundary

and the reverse, deterrence from it. Boundary functions as a border through deterrence – that is, recognition of the lack of reasonable potential for crossing it and thus creating the tension between connection and disconnection (as an alternative kind of limit, the full end without imaginable potential for crossing is not functioning as a boundary). Deterrence is directly dependent on the accuracy of vehicles of boundary – be they institutional rules and sanctions or material walls to be assessed in the particular situation.

Besides being interpretational frameworks, cultural theories are crucial for constructing particular research objects. Studying cultural boundaries involves both a particular conceptualisation of culture and the role of boundaries in this conception. Boundary is a central notion for Lotman's conceptions of culture; for other authors discussed here, the picture appears somewhat different. For example, considering culture as a logico-meaningfully integrated system of values, norms and symbols (e.g. following Sorokin 2006, 1947; but also Parsons, Shils 2008) allocates less significance to the system's external boundary or internal boundaries. However, Parsons emphasises that systems of action are a *boundary maintaining type of systems*, meaning that the existence of the system presumes, besides internal organisation, the maintenance and distinction of the system in relation to its environment (Parsons, Shils 2008: 107–108). This relationship is, for the system (a society for example), mainly a problem of avoiding the system's internal conflicts and thus avoiding disintegration of the system. At the same time, culture is for Parsons *a condition, component, and product of action system* and needs to be internalised into a personality or society as real action systems. Thus, when considering a functional mechanism a process in action system "viewed in terms of its relevance to the problems of the system" (Parsons, Shils 2008: 125), culture apparently can have no functional mechanisms, including boundaries as mechanisms (see also Parsons, Shils 2008: 237, 240). Lotman's interest in dialogical processes at cultural boundaries are thus not shared by this approach, firstly because of its focus on the coherence of a cultural system as abstracted patterns to be internalised and applied by actual agentive social and personality systems. Secondly, the focus of interest is set inside and not in-between systems. As a result, the spatiality of boundary is not actualised for Parsons beyond being a systemic border in a general sense.

In conclusion, according to the semiotic view, conceptions of space are sets of recognised spatial relations; spatial models are applying these relations and their organised sets to describe and explain the sociocultural world. There are some typical ways of organisation and integration employed in combining relations into these sets. The first way is a basic spatialisation of elements and relations in the form of establishing a spatial relation by recognising the presence of duality in the object situation. Second is the bounding the space from an internal point of view and the respective maintenance of this boundary. Third is generating a more extensive and relatively consistently conceptualised space by relating multiple subparts, which can be spatialised by making them co-present parts of the space. The fourth way is a structural ordering of space in the sense

of a structuring system's internal organisation and various parts, i.e., ordering that can focus on boundaries but does not necessarily do so.

Concerning limits and boundaries of sociocultural space as spatial modelling, it appears that there are no a priori limits of spatial modelling. However, spatial modelling should set its own boundaries, as limits do not provide relevance and adequacy but instead bounding and focusing, as distinctions do. For example, Parsons (Parsons 1951; Parsons, Shils 2008) presents in contrast a systemic and semiotic description of the sociocultural world, but does not explicitly use spatial metalanguage besides the notion of boundary. Several principles that, for example, Bourdieu, Lotman and Sorokin describe in spatial terms have their analogues in elements and principles of Parsons' theory of action. This uncovers a limit for applying spatial metalanguage: the need to focus spatial conceptions on selected aspects of the sociocultural world. An experiment of re-wording Parsons' systemic theory of action in spatial metalanguage would thus obviously need to involve numerous different spatial conceptions that need further explanations to cohere with each other as elements of one metalanguage, and would thus reduce the coherence of the presentation and graspability of the theory. In this sense, semiotic spatial modelling of the sociocultural world is inevitably multiple.

4.4. Conclusion of chapter 4

Spatial modelling of the sociocultural world can highlight and make analysable different central semiotic aspects of that world – e.g. cultural mentality, meaningful interaction, distinction making and classification activity, and meaning generation in contacts between different systems and their descriptions. While spatial metalanguage enables "mapping" of the large scale object by traits like distance, adjacency, positions, dimensionality, inclusion-exclusion, spatial oppositions, etc., it can also model dynamic complexity. Spatial models provide the possibility to present and understand large scale generalisations about the sociocultural world, being models that are at the same time grounded in that object-world, or in specific processes generating and maintaining that same significant world. Further, these spatial models do not present their objects as chaotic aggregations but rather aim to explain them as semiotic systems, and in a holistic manner. In relation to this, the dynamic field of spatial modelling could be suggested to have a modelling capacity as similarly comprehensive as that of natural language's.

The approach of spatial modelling used in the present study underscores the multiplicity of different spatialities and undetermined relations between levels of spatial modelling functioning through interpretational relations. The influential power of concepts and knowledge of geographical space tends to be, in contrast, biased towards providing automatisms among relations of levels in spatial modelling from the physical spatiality of behaviour to the symbolic space of world images and models in social theory.

The semiotic perspective for spatial modelling of the sociocultural world takes into account, first, the multiplicity of different spatialities and undetermined relations between levels of spatial modelling functioning through interpretational relations. These spatialities include the basic simultaneity (of particular objects or more general settings), spatialising distinctions and bounding as well as more complex spatial structures (e.g. "manifolds" and "spheres") and respective organisation at described object domains. Second, the variety of levels and modalities of involved subjects from abstracted points of views or embodied individuals to imagined collectivities and textual subjects needs to be considered. Third, spatial organisation can appear and be manifested in various material – in physical matter, meaningful artefacts, conceptual categories, power relations, social interaction as well as in the ordering of semiosic relations themselves.

CONCLUSION

This research set out to study the potential use of spatial concepts for modelling the sociocultural world in its semiotic complexity. For this I outlined a field of spatial modelling that involves, first, several levels of modelling from everyday behaviour to the metalanguage of social and cultural theories and second, the presence of various understandings of "space" that underlie spatial metalanguages and that enable the researcher to highlight different aspects of the sociocultural world. In the context of the sociocultural world, these aspects are again actualised by the multiplicity of subjects and their semiotic relationships with the world. Thus, the aim of studying the sociocultural world in its semiotic complexity by the means of spatial modelling presumes the acknowledgement of the variety of spatial notions and models being part of the wider dynamic field of semiotic spatial modelling. The latter combines, first, the understanding of semiotic modelling as a fundamental process of semiotic subjects for relating to their surrounding world as meaningful for them and, second, the multitude of semiotic spatialities and semiotised spaces from individual perception to spatial utopias in cultures. With this framework, the spatial organisation of a cultural world view as well as the semiotic everyday modelling activity of studied subjects can be actualised for spatial models at the metalevel.

The understanding elaborated in this thesis has a number of consequences that open further perspectives for studies. First, the variety of spatial metalanguages in social and cultural theories should be considered as more than mere metaphors and furthermore, various conceptions are not fully separate but can be bridged through the understanding of semiotic modelling and the semiotic nature of the object field. To give an illustrative example, in Lotman's claim that the space of the semiosphere is not to be understood as a metaphor but as abstract space, the nature of this *abstract space* becomes clear namely through considering the multitude of spatialities that he mentions (from mathematical topology to physical boundaries of empires and self-descriptive bounding) as articulations of the domain of semiotic spatial modelling.

Second, it is worthwhile to continue studying the relationships between spatial modelling in its semiotic sense and usages where the semiotic aspects are not primarily focused on. Allthree authors whose conceptions were studied more closely – Bourdieu, Lotman and Sorokin –have stated some reliance on mathematical topology; however, in general the aims of mathematical and semiotic modelling are often considered to be not even close. A closer study of this relationship could be of value especially in relation to the discussion on *topologies of culture* (see e.g. Lury 2013, Lury, Parisi, Terranova 2012) as well as *diagrammatology* (see Stjernfelt 2007).

Third, the understanding of sociocultural space in the framework of semiotic spatial modelling provides a chance for integration among the multitude of spatial conceptions in theoretical approaches, as well as among varieties of theoretical and practical spatialities in the context of management of the sociocultural world. In the latter, the physical space and various forms and levels of

semiotic spatialities are actualised and often result in conflict situations, be they conflicts over the location, status and uses of a monument or irreconcilable arguments in urban planning processes or any other cases. These are just a few examples of the extent of the issues discussed that hint at the general significance of developing a semiotic understanding of spatial modelling. Spatial modelling provides a variety of possibilities for studying complex systems such as sociocultural phenomena, and while I have focused on limited issues, elaboration of this approach would open further fundamental perspectives.

REFERENCES

Andrews, Edna 2003. Conversations with Lotman: Cultural Semiotics in Language, Literature, and Cognition. Toronto: University of Toronto Press.

Anderson, Myrdene; Merrell, Floyd (eds.) 1991. *On semiotic modelling.* Berlin, New York: de Gruyter.

Bakhtin, M.M. 2001. *The Dialogic Imagination.* Austin: University of Texas Press.

Benveniste, Émile 1981 [1969] The semiology of language. *Semiotica* 37-1: 5–23.

Berger, Peter L., Luckmann, Thomas 1991 [1966]. The Social Construction of Reality: A Treatise in the Sociology of Knowledge. London: Penguin Books.

Blumer, Herbert 1969. *Symbolic Interactionism: Perspective and Method*. Englewood Cliffs: Prentice-Hall.

Borden, Iain 2001. *Skateboarding, Space and the City: Architecture and the Body*. Oxford, New York: Berg.

Bourdieu, Pierre 1994. *Raisons pratiques: sur la théorie de l'action.* Paris: Seuil.

Bourdieu, Pierre 1998 [1994]. *Practical Reason: On the Theory of Action*. Cambridge: Polity Press.

Bourdieu, Pierre 1984. *Distinction: A Social Critique of the Taste.* Harvard University Press: Cambridge.

Bourdieu, Pierre 1985. The social space and the genesis of groups. *Theory and Society* 14 (6): 723–744.

Bowden, Edgar 1969. A dimensional model of multilinear sociocultural evolution. *American Anthropologist*. 81/5: 864–870.

Bridge, Gary 2005. Reason in the City of Difference: Pragmatism,Communicative Action and Contemporary Urbanism. London, New York: Routledge.

Bunge, Mario 1998. Semiotic systems. In: Altmann, Gabriel; Koch, Walter A. *Systems: New Paradigms for the Human Sciences*. Berlin, New York: Walter de Gruyter, 337–349.

Buttimer, Anne 1969. Social Space in Interdisciplinary Perspective. *Geographical Review*. 59-3: 417–426.

Carter, Harold 1982 [1972]. *The Study of Urban Geography*. London: Arnold.

Cassirer, Ernst 1944. An Essay on Man: An Introduction to a Philosophy of Human Culture. New Haven: Yale University Press.

Cassirer, Ernst 1969 [1931]. Mythic, aesthetic and theoretical space. *Man and World*, 2-1: 2–17.

Certeau, Michel de 1984 [1980]. *The Practice of Everyday Life*. Berkeley: University of California Press.

Chang, Han-liang 2003. Is language a primary modeling system? On Juri Lotman's concept of semiosphere. *Sign Systems Studies*, 31.1, 9-23

Chatterton, Paul; Robert Hollands 2002. Theorising urban playscapes: producing, regulating and consuming youthful nightlife city spaces. *Urban studies* 39 (1): 95–116.

Chernov, Igor 1988. Historical survey of Tartu-Moscow Semiotic School. In: Semiotics of culture. Proceedings of the 25th Symposium of the Tartu-Moscow School of Semiotics, Imatra, Finland, 27th–29th July, 1987. Henri Broms and Rebecca Kaufmann, eds. Helsinki: Arator, 7–16.

Choay, Françoise 1965. *Urbanisme. Utopies et réalités*. Paris: Seuil.

Choay, Françoise 1997 [1980]. The Rule and the Model: On the Theory of Architecture and Urbanism. Cambridge, London: The MIT Press.

Claval, Paul 1984. The concept of social space and the nature of social geography. *New Zealand Geographer*. 40/2: 105–109.
Cohen, Jean-Louis (1992 [1987]). Le Corbusier and the Mystique of the USSR: Theories and Projects for Moscow, 1928–1936. Princeton: Princeton University Press.
Cole, Michael 1995. Socio-cultural-historical psychology: some general remarks and a proposal for a new kind of cultural-genetic methodology. In: Wertsch, James V.; del Rio, Pablo; Alvarez, Amelia (eds.) *Sociocultural Studies of Mind.* Cambridge: Cambridge University Press, 187–214.
Cosgrove, Denis E. (1998 [1984]). *Social Formation and Symbolic Landscape.* Madison: The University of Wisconsin Press.
Danesi, Marcel; Perron, Paul 1999. *Analyzing Cultures: An Introduction and Handbook*. Bloomington, Indianapolis: Indiana University Press.
Deely, John 2009. *Basics of Semiotics*. (5th edition) Tartu: Tartu University Press.
DiMaggio, Paul 1979. On Pierre Bourdieu. *American Journal of Sociology*, 84(6): 1460–1474.
Duncan, James S. 1990. The City as Text: The Politics of Landscape Interpretation in the Kandyan Kingdom. Cambridge: Cambridge University Press.
Durkheim, Emile 1990 [1912]. Les forms élémentaires de la vie religieuse: Le système totémique en Australie. Paris: Quadrige.
Ford, Joseph B. 1996. Sorokin's methodology: Integralism as the key. In: Ford, Joseph B.; Richard, Michel P.; Talbutt, Palmer C. (eds.) *Sorokin and Civilization: A Centennial Assessment.* New Brunswick, London: Transaction Publishers, 83–92.
Frank, Roslyn M. 2008. Introduction: Sociocultural Situatedness.In: Frank, Roslyn M.; Dirven, René; Ziemke, Tom; Bernárdez, Enrique (eds.) 2008. *Body, language and mind. Volume 2, Sociocultural situatedness.* Berlin, New York: Mouton de Gruyter, 1–18.
Frank, Roslyn M.; Dirven, René; Ziemke, Tom; Bernárdez, Enrique (eds.) 2008. *Body, Language and Mind. Volume 2, Sociocultural Situatedness.* Berlin, New York: Mouton de Gruyter.
Garbarino, Merwyn S. 1983 [1977]. *Sociocultural Theory in Anthropology: A Short History.* Prospect Heights: Waveland Press.
Geertz, Clifford 1957. Ritual and social change: A Javanese example. *American Anthropologist*. 59/1: 32–54.
Geertz, Clifford. 1973 [1966]. Religion as cultural system. In: Geertz, Clifford. *The Interpretation of Cultures: Selected Essays*. London: Fontana Press, 87–125.
Gramigna, Remo 2013. The place of language among sign systems: Juri Lotman and Émile Benveniste. *Sign Systems Studies* 41 (2/3): 339–354.
Harvey, David 1994 [1989]. *The Urban Experience*. Oxford, Cambridge: Blackwell.
Heiskala, Risto 1997. Society as Semiosis: Neostructuralist Theory of Culture and Society. Helsinki: University of Helsinki.
Hess-Lüttich, Ernest W. B. 2011. Spatial Turn: On the Concept of Space in Cultural Geography and Literary Theory. *Lexia. Rivista di semiotica.* 9-10: 23–42.
Hillier, Bill; Hanson, Julienne 1993 [1984]. *The Social Logic of Space.* Cambridge: Cambridge University Press.
Holy, Ladislav; Stuchlik, Milan 1983. Actions, Norms and Representations: Foundations of Anthropological Inquiry. Cambridge University Press.
Iedema, Rick 2001. Resemiotization. *Semiotica* 137-1/4: 23–39.
Jaisson, Marie 1999. Temps et espace chez Maurice Halbwachs. *Revue d'histoire des sciences humaines.* 1: 163–178.

Jakobson, Roman 1981 [1956]. Linguistics and Poetics. In: Jakobson, Roman *Selected Writings III: Poetry of Grammar and Grammar of Poetry.* Paris, New York: Mouton Publishers, 18–51.

Jules-Rosette, Bennetta 1993. Semiotic modelling systems: The contribution of Thomas A. Sebeok. *Semiotica* 96-3/4: 269–283.

Keesing, Roger M. 1974. Theories of culture. *Annual review of anthropology* 3: 73–93.

Kidder, Jeffrey L. 2005. Style and Action: A Decoding of Bike Messenger Symbols. *Journal of Contemporary Ethnography*, 34-2: 344–367.

Kilpinen, Erkki 2009. The habitual conception of action and social theory. *Semiotica* 173, 99–128.

Kim, Soo Hwan 2014. Lotmanian explosion: From peripheral space to dislocated time. *Sign Systems Studies* 42(1): 7–30.

Kotov, Kaie 2002. Semiosphere: Chemistry of being. *Sign Systems Studies* 30.1: 41–55.

Kull, Kalevi 2010. Umwelt and modelling. In: Cobley, Paul (ed.) *The Routledge Companion to Semiotics*. London: Routledge, 43–56.Lagopoulos, Alexandros Ph. 1983. Semiotic urban models and modes of production: A sociosemiotic approach. *Semiotica* 45 (3/4): 275–296.

Lagopoulos, Alexandros Ph. 1988. Marxism, semiotics, and urban space: The social semiotic typology of urban texts. In: Herzfeld, Michael; Melazzo, Lucio (eds.) *Semiotic Theory and Practice: Proceedings of the Third International Congress of the IASS Palermo, 1984*. Volume II. Berlin: de Gruyter, 601–610.

Lagopoulos, Alexandros Ph. 1993. From the stick to the region: Space as a social instrument of semiosis. *Semiotica* 96-1/2: 87–138.

Lagopoulos, Alexandros Ph. 2009. The social semiotics of space: Metaphor, ideology, and political economy. *Semiotica* 173: 169–213.

Lagopoulos, Alexandros Ph.; Boklund-Lagopoulou, Karin 1992. *Meaning and Geography. The Social Conception of the Region in Northern Greece.* Approaches to Semiotics; 104. Berlin, New York: Mouton de Gruyter.

Lagopoulos, Alexandros Ph.; Boklund-Lagopoulou, Karin 2014. Semiotics, culture and space. *Sign Systems Studies* 42(4): 435–486.

Lefebvre, Henri 1991 [1974]. *The production of space*. Oxford, Cambridge: Blackwell.

Lepik, Peet 2008. Universals in the Context of Juri Lotman's Semiotics. Tartu: Tartu University Press.

Lewin, Kurt 1936. *Principles of Topological Psychology.* New York, London: McGraw-Hill.

Lewin, Kurt 1951. Field theory in social science; selected theoretical papers. New York: Harper & Row.

Lilley, Keith D. 2009. City and Cosmos: The Medieval World in Urban Form. London: Reaktion Books.

Lotman 1969 = Лотман, Юри М. 1969. О метаязыке типологических описаний культуры. *Труды по знаковым системам*. *(Sign Systems Studies)* 4: 460–477.

Lotman 1970 = Лотман, Юрий М. 1970. *Структура художественного текста.* Москва: Искусство.

Lotman, Juri M. 1975 [1969]. On the Metalanguage of a Typological Description of Culture. *Semiotica* 14, 2: 97–123.

Lotman 1978 = Лотман, Юрий М.1978. Феномен культуры. *Труды по знаковым системам. (Sign Systems Studies)* 10: 3–17.

Lotman, Juri 1984a [1977]. The Poetics of Everyday Behaviour in Russian Eighteenth-Century Culture. In: *The Semiotics of Russian Culture*. Ann Shukman ed, 231–256, Ann Arbor: University of Michigan Press.

Lotman 1984b = Символика Петербурга и проблемы семиотики города. *Труды по знаковым системам.* (*Sign Systems Studies*) 18: 30–45.

Lotman, Juri M. 1986. From the editor = Ot redakcii (K probleme prostranstvennoj semiotiki). *Trudy po znakovym sistemam. (Sign Systems Studies)*.19: 3–6.

Lotman, Yuri M. 1990. *Universe of the Mind: A Semiotic Theory of Culture*. London, New York: I.B. Tauris.

Lotman Juri 1997 [1989]. Culture as a subject and an object in itself. *Trames* 1(1): 7–16.

Lotman 2000 = Лотман, Юрий М. 2000. Семиосфера. Культура и взрыв. Внутри мыслящих миров. Статьи. Исследования. Заметки. Санкт-Петербург: Искусство-СПБ.

Lotman, Juri 2005 [1984]. On the semiosphere. *Sign Systems Studies* 33, 1: 205–229.

Lotman, Juri 2011 [1967]. The place of art among other modelling systems. *Sign Systems Studies* 39(2/4): 249–270.

Lotman, Juri 2012 [1992]. Text and cultural polyglotism. In: International Congress Cultural Polyglotism. To the anniversary of Juri Lotman's 90th birthday. Tartu, February 28 – March 2, 2012. Abstracts. Tartu.

Lotman, Juri M.; Ivanov, Vjatcheslav V.; Pjatigorskij, Aleksandr M.; Toporov, Vladimir N.; Uspenskij, Boris A. 2013 [1973]. Theses on the semiotic study of cultures (as applied to Slavic texts). In: Salupere, Silvi; Torop, Peeter; Kull, Kalevi (eds.) *Beginnings of the Semiotics of Culture.* Tartu Semiotics Library 13. University of Tartu Press, 51–77.

Lotman, Juri; Uspensky, Boris A. 1978 [1971]. On the semiotic mechanism of culture. *New Literary History* 9 (2): 211–232.

Lotman, Mihhail 2002a. Umwelt and semiosphere. *Sign Systems Studies* 30.1: 33–40.

Lotman, Mihhail 2002b. Atomistic versus holistic semiotics. *Sign Systems Studies* 30.2: 513–527.

Lury, Celia 2013. Topological sense-making: Walking the Mobius strip from cultural topology to topological culture. *Space and Culture* 16(2) 128–132.

Lury, Celia; Parisi, Luciana; Terranova, Tiziana 2012. Introduction: The becoming topological of culture. *Theory, Culture & Society* 29(4/5) 3–35.

Lynch, Kevin 1960. *The Image of the City*. Cambridge, London: The MIT Press.

Mead, Georg Herbert 1934. Mind, Self, and Society: From the Standpoint of a Social Behaviorist. Chicago: University of Chicago.

Mints, Bezrodnõi, Danilevski 1984 = Минц, З. Г.; Безродный, М. В.; Данилевский, А. А. "Петербургский текст" и русский символизм. *Труды по знаковым системам (Sign Systems Studies)* 18: 78–92.

Monticelli, Daniele 2008. Wholeness and its Remainders: Theoretical Procedures of Totalization and Detotalization in Semiotics, Philosophy and Politics. (Dissertationes semioticae Universitatis Tartuensis 11). Tartu: Tartu University Press.

Monticelli, Daniele 2009. Crossing boundaries. Translation of the untranslatable and (poetic) indeterminacy in Yuri Lotman and Giacomo Leopardi. *Interlitteraria* 14 (2), 327–348.

Monticelli, Daniele 2012. Challenging identity: Lotman's "translation of the untranslatable" and Derrida's *différance*. *Sign Systems Studies* 40 (3/4): 419–339.

Muchow, Martha; Muchow, Hans Heinrich 2015 [1935]. The life space of the urban child. In: Mey, Günter; Günter, Harmut (eds.) *The Life Space of the Urban Child: Perspectives on Martha Muchow's Classic Study*. New Brunswick, London: Transaction Publishers, 63–146.

Mumford, Lewis 1972. City: Forms and functions In: David L. Sills (ed.) *International Encyclopedia of the Social Sciences.* Volume 1. New York: Free Press; London: Collier and Macmillan, 447–473.

Nöth, Winfried 2006. Yuri Lotman on metaphors and culture as self-referential semiospheres. *Semiotica*, 161, 1–4: 249–263.

Robert E. Park 1915. The City: Suggestions for the Investigation of Human Behavior in the City Environment. *American Journal of Sociology*, 20.5: 577–612.

Parsons, Talcott 1951. *The Social System*. Glencoe: Free Press.

Parsons, Talcott 1966. *Societies: Evolutionary and Comparative Perspectives.* Englewood Cliffs (N.J.): Prentice-Hall.

Parsons, Talcott; Shils, Edward A. 2008 [1951]. *Toward a General Theory of Action: Theoretical Foundations for the Social Sciences.* New Brunswick, London: Transaction Publishers.

Petrilli, Susan; Ponzio, Augusto 2013. Modelling, dialogism and the functional cycle: biosemiotic and philosophical insights. *Sign Systems Studies* 41 (1), 2013: 93–115.

Porro, Pasquale (ed.) 2001. The medieval concept of time: studies on the scholastic debate and its reception in early modern philosophy. Leiden, Boston, and Köln: Brill.

Randviir, Anti 2004. Mapping the World: Towards a Sociosemiotic Approach to Culture (Dissertationes semioticae Universitatis Tartuensis 6). Tartu: Tartu University Press.

Randviir, Anti 2007. On spatiality in Tartu-Moscow cultural semiotics: the semiotic subject. *Sign Systems Studies* 35, 1–2: 137–159.

Randviir, Anti 2010. *Ruumisemiootika: tähendusliku maailma kaardistamine.* Tartu: Tartu Ülikooli Kirjastus.

Randviir, Anti 2014. Semiotic management of communicative situations: New people(s) and old methods. *Sign Systems Studies,* 42(1): 42–71.

Randviir, Anti; Cobley, Paul 2010. Sociosemiotics. In: Cobley, Paul (ed.). *The Routledge Companion to Semiotics*. London, New York: Routledge, 118–134.

Rapoport, Amos. 1990 [1982]. The Meaning of the Built Environment: A Non-verbal Communication Approach. Tucson: University of Arizona Press.

Remm, Tiit 2010a. Is the notion of sociocultural an early instance of transdisciplinarity? Kroó, Katalin (ed.). *In honour of Peeter Torop 60 : a collection of papers from young scholars.* Budapest, Tartu: Eötvös Loránd University; University of Tartu, Department of Semiotics, 93–112.

Remm, Tiit 2010b. Time in spatial metalanguage: the ambiguous position of time in concepts of sociocultural, social and cultural space. *Trames: Journal of the Humanities and Social Sciences*, 14(67/62), 4, 394–410.

Remm, Tiit 2011. Understanding the city through its semiotic spatialities. *Sign Systems Studies*, 39.2/4, 124–144.

Remm, Tiit 2012a. Pragmatical Aspects of Models of Sociocultural Space. *Chinese Semiotic Studies*, 8: 238–248.

Remm, Tiit 2012b. Sociocultural Space and Time as Semiotic Modelling Systems. In: Pilar Couto Cantero, Gonzalo Enriquez Veloso, Alberta Passeri, José Maria Paz Gago (eds.). *Culture of Communication/Communication of Culture. Proceedings of the 10th World congress of the International Association for Semiotic Studies.*

(IASS/AIS): Culture of Communication/Communication of Culture. 10th World congress of the International Association for Semiotic Studies (IASS/AIS), A Coruna, Spain 22-26.09.2009. A Coruna: Servizo de Publicacionis Universidade da Coruna, 999–1010.

Remm, Tiit 2012c. Tajuline, objektiivne ja sümboliline linnaruum Supilinnas. *Acta Architecturae Naturalis*, 2, 193–207.

Remm, Tiit 2014. Ühtsest nimetamisest tegevuseni: integratsiooni mõistest ja objektist sotsiokultuurilise maailma uurimisel. [From common naming to action: on the notion and object of *integration* for research on sociocultural world] *Acta Semiotica Estica*, 11: 11–30.

Riggins, Stephen Harold 1994. Introduction. In: Riggins, S.H. (ed.) *The Socialness of Things: Essays in the Sociosemiotics of Objects.* Approaches to Semiotics 115. Berlin, New York: Mouton de Gruyter, 1–6.

Saldre, Maarja; Torop, Peeter 2012. Transmedia space. In: Ibrus, Indrek; Scolari, Carlos A. (eds.) *Crossmedia Innovations; Texts, Markets, Institutions.* Frankfurt etc.: Peter Lang, 25–44.

Salupere, Silvi; Torop, Peeter 2013. On the beginnings of the semiotics of culture in the light of the Theses of the Tartu-Moscow School. In: Salupere, Silvi; Torop, Peeter; Kull, Kalevi (eds.). *Beginnings of the Semiotics of Culture*. Tartu: Tartu University Press, 15–37

Schuetz, Alfred 1945. On multiple realities. *Philosophy and Phenomenological Research*, 5.6: 533–576.

Searle, John R. 1996. *The Construction of Social Reality*. London: Penguin.

Sebeok, Thomas A. 1988. In what sense is language a "Primary modeling system?" In: Broms, H. Kaufmann, R. (eds.) *Semiotics of Culture.* Helsinki: Arator, 67–80.

Sebeok, Thomas A.; Danesi, Marcel 2000. *The Forms of Meaning: Modeling Systems Theory and Semiotic Analysis.* Berlin, New York: de Gruyter.

Seymour-Smith, Charlotte 1995 [1986]. Sociocultural system. In: *Macmillan Dictionary of Anthropology.* London, Basingstoke: Macmillan, 263.

Soja, Edward W. 1989. Postmodern Geographies: The Reassertion of Space in Critical Social Theory. London, New York: Verso.

Sorokin, Pitirim 1947. Society, Culture, and Personality. Their Structure and Dynamics. A System of General Sociology. New York, London: Harper & Brothers.

Sorokin, Pitirim A. 1959. *Social and Cultural Mobility.* Glencoe: Free Press.

Sorokin, Pitirim A. 1964 [1943]. Socio-Cultural Causality, Space and Time: A Study of Referential Principles of Sociology and Social Science. New York: Russel and Russel.

Sorokin, Pitirim A. 1992 [1941]. *The Crisis of Our Age*. Oxford: Oneworld.

Sorokin, Pitirim A. 2006 [1957]. Social and Cultural Dynamics: A Study of Change in Major Systems of Art, Truth, Ethics, Law, and Social Relationships. (Revised and Abridged in One Volume by the Author.) New Brunswick and London: Transaction Publishers.

Sorokin, Pitirim A.; Merton, Robert K. 1937. Social Time: A Methodological and Functional Analysis. *American Journal of Sociology*, 42.5.: 615–629.

Steward, Julian H. 1950. *Area Research: Theory and Practice.* New York: Social Science Research Council.

Steward, Julian H. 1972 [1955]. *Theory of Culture Change: The Methodology of Multilinear Evolution.* Urbana, Chicago: University of Illinois Press.

Stjernfelt, Frederik 2007. Diagrammatology: An Investigation on the Borderlines of Phenomenology, Ontology, and Semiotics. Dordrecht: Springer.
Tally, Robert T. 2013. *Spatiality.* London, New York: Routledge.
Tchertov, Leonid 2015. On spatial modelling. *Sign Systems Studies* 43(1): 77–101.
Toporov 1984. = Топоров, Владимир Н. Петербург и петербургский текст русской литературы: (Введение в тему). *Труды по знаковым системам (Sign Systems Studies)* 18: 4–29.
Torop, Peeter 2003. Semiospherical understanding. Textuality. *Sign Systems Studies* 31.2: 323–338.
Torop, Peeter 2005.Semiosphere and/as the research object of semiotics of culture. *Sign Systems Studies* 33.1: 159–173.
Torop, Peeter 2006. Semiotics, anthropology and the analysability of culture. *Sign Systems Studies* 34.2: 285–315.
Tversky, Barbara 1993. Cognitive maps, cognitive collages, and spatial mental models. In: Andrew U. Frank, Irene Campari (eds.) *Spatial Information Theory: A Theoretical Basis for GIS : European Conference, COSIT'93 Marciana Marina, Elba Island, Italy September 19–22, 1993. Proceedings.* Berlin: Springer-Verlag, 14–24.
Uexküll, Jakob von 1926 [1920]. *Theoretical Biology.* New York: Hartcourt, Brace & Co.
Valsiner, Jaan 2000. Culture and Human Development: An Introduction. London: Sage.
Valsiner, Jaan; Rosa, Alberto 2007a. Editors' introduction: Contemporary social-cultural research: Uniting culture, society, and psychology. In: Valsiner, Jaan, Rosa, Alberto (eds.) *The Cambridge Handbook of Sociocultural Ppsychology*. Cambridge: Cambridge University Press, 1–20.
Valsiner, Jaan; Rosa, Alberto 2007b. The myth, and beyond: Ontology of psyche and epistemology of psychology. In: Valsiner, Jaan, Rosa, Alberto (eds.) *The Cambridge Handbook of Sociocultural Ppsychology*. Cambridge: Cambridge University Press, 23–39.
Valsiner, Jaan, Rosa, Alberto (eds.) 2007. *The Cambridge Handbook of Sociocultural Ppsychology*. Cambridge: Cambridge University Press.
Veidemann, Rein 2008. Piiri mõistest Juri Lotmani semiootikas. *Keel ja Kirjandus*, 10: 803–814.
Veidemann, Rein 2009. About the Boundary/Boundaries of Estonian Culture. *Interlitteraria* 1(14): 129–141.
Ventsel, Andreas 2007. The Construction of the We-category: Political rhetoric in Soviet Estonia from June 1940 to July 1941. *Sign Systems Studies*, 35(1/2): 249–267.
Vygotsky, Lev S. 1978. *Mind in Society: The Development of Higher Psychological Processes.* Cambridge, Massachusetts, London: Harvard University Press.
Warf, Barney; Arias, Santa 2009. Introduction: the reinsertion of space in the humanities and social sciences. In: Warf, B.; Arias, S. (eds.). *The Spatial Turn: Interdisciplinary Perspectives*. Lomdon: Routledge, 1–10.
Wertsch, James V.; del Rio, Pablo; Alvarez, Amelia 1995. Sociocultural studies: history, action and mediation. In: Wertsch, James V.; del Rio, Pablo; Alvarez, Amelia (eds.) *Sociocultural studies of mind.* Cambridge: Cambridge University Press, 1–34.
Wertsch, James V.; del Rio, Pablo; Alvarez, Amelia (eds.) 1995. *Sociocultural studies of mind.* Cambridge: Cambridge University Press.
Westphal, Bertrand 2011 [2007]. *Geocriticism: real and fictional spaces*. Basingstoke, New York: Palgrave Macmillan.

Zafirovski, Milan 2001. Parsons and Sorokin: A Comparison of the Founding of American Sociological Theory Schools. *Journal of Classical Sociology* 2001 1: 227–256.

Zaliznjak, A.A.; Ivanov, V.V.; Toporov, V.N. 1977 [1962] Structural-typological study of semiotic modelling systems. In: Lucid, Daniel P. (ed.), *Soviet semiotics: An anthology*. London: Johns Hopkins University Press, 47–58.

SUMMARY IN ESTONIAN

Sotsiokultuuriline ruum: sotsiokultuuriline maailm ja ruumiline modelleerimine

Sotsiaalne ruum, kultuuriruum, väli, sotsiokultuuriline distants ja mobiilsus, piir – nende ja mitmete teiste ruumiliste väljendite sagedat kasutust sotsiaal – ja kultuuriteooriates võib pidada kontseptuaalseteks valikuteks võimalike kirjeldusvahendite hulgast. Ühed ruumilised mõisted toovad kaasa teisi ning moodustavad nii metakeelelisi kimpe. Ühelt poolt leidub siin teadusliku metakeele ambitsiooni, teisalt suhtutakse neisse ruumilistesse väljendeisse ka kui metafooridesse. Isegi kui tegu ei ole kitsas mõttes teadusliku metakeelega, on ometi tegu metakeelega kui kirjeldamise ja teooria loomise abivahendiga. Autoriti varieeruvad kesksed kasutatavad mõisted, nende laiemad kogumid, silmas peetav ruumiline korrastus ning kirjeldatavad objektid. Sotsiaal- ja kultuuriteooria interdistsiplinaarsel väljal moodustub nii mitmekesine ja ühtselt korrastamata kogum ruumilistest kirjeldusvahenditest. Kui viimaste puhul võib ühe iseloomuliku joonena näha suhtekogumite süsteemse kirjeldamise püüdu, siis sotsiokultuurilise maailma objektiks võtmine toob kaasa selle objekti sidususe probleemi. Need kaks korrastatust saavad teineteist toetada, ent erinevatel viisidel – mida on sotsiaal- ja kultuuriteooriate mõistmisel oluline tähele panna.

Sellest lähtuvalt uurib siinne väitekiri, kuidas ruumiline metakeel oma mitmekesisuses sotsiokultuurilise maailma uurimisvahendina toimib. Ruumilise metakeele mitmekesisus tuleb ilmekalt esile üldiste ja ulatuslike mõistete nagu *sotsiaalne ruum* ja *kultuuriruum* puhul, kus *ruum* võib osutada sootsiumi, kultuuri või kultuurijoonte levikuareaalile, identiteediga seotud territooriumile, interaktsioonide ja väljenduste kohale, sotsiaalsetes ja kultuurilistes protsessides kujundatavale materiaalsele ruumile, metafoorsetele ruumilistele kategooriatele või suhete ja nähtuste korrastatud kogumile kui abstraktsele ruumile. Oma uurimuses keskendun kolme autori, Pierre Bourdieu, Juri Lotmani ja Pitirim Sorokini poolt sotsiokultuurilise maailma uurimiseks esitatud ruumikontseptsioonidele, milleks on vastavalt *sotsiaalne ruum*, *kultuuriruum* ja *sotsiokultuuriline ruum*.

Väitekirja eesmärgiks on selgitada nende valitud ruumiliste kontseptsioonide semiootilist (sh modelleerivat) olemust ning seotust oma objektvaldkonnaga (sotsiokultuuriline maailm) ja kitsamalt konstrueeritud objektiga. Kolme mudeli võrdlus aitab selgitada *sotsiokultuurilise ruumi* kui sotsiokultuurilise maailma ruumilise modelleerimise iseärasusi ka laiemalt. Töö keskendub viiele peamisele uurimisküsimustele. Esiteks, mida kujutab endast uuritava ruumilise metakeele objektvaldkond, s.o sotsiokultuuriline maailm, süsteemse objektina? Teiseks, kuidas mõista ruumilisi mudeleid ja ruumilist metakeelt kui sellist semiootilise modelleerimise kontekstis? Kolmandaks, kuidas on Bourdieu, Lotmani ja Sorokini *sotsiaalne ruum*, *kultuuriruum* ja *sotsiokultuuriline ruum* „tehtud“, sh millisest ruumilisuse ideest need mudelid lähtuvad ja mis on nende kitsam huviobjekt? Neljandaks, milliseid sotsiokultuurilise maailma semiootilisi

aspekte need mudelid rõhutavad ja selgitavad? Viiendaks, kuidas on *sotsiokultuuriline ruum* modelleerimisvahendina seotud *geograafilise ruumi* kontseptsiooniga sotsiaal- ja kultuuriteooriates?

Käesolevas töös olen lähtunud arusaamast, et semiootilisest vaatenurgast tuleks *ruumi* suhtes esmaseks pidada ruumilisi suhteid ning *ruumi* võib vastavalt määratleda kui ruumisuhete kogumit, täpsemalt, äratuntavate ruumisuhete kogumit. *Ruumiline suhe* omakorda viitab koosolemise võimalikkusele ehk vähemalt kahesusele objektvaldkonnas. Ruumikontseptsioonid, olgu füüsikalise või semiootilise maailmakirjeldusega seotud, sisaldavad eneses hulka ruumisuhteid ning nende konkreetset korrastust. Seetõttu on erinevad ruumikontseptsioonid ka omavahel võrreldavad. Semiootilisest perspektiivist tuleb rõhutada, et tegu on kellegi suunatuse või äratundmise objektidega, ning seega eksisteerib ruumiline suhe kellegi jaoks.

Sotsiokultuurilise ruumi puhul on tegu sotsiokultuurilise maailma ruumilise modelleerimisega; seetõttu tuleb uurida selle modelleerimise protseduure. Neist keskendun esmalt mudelite objektvaldkonna, sotsiokultuurilise maailma üldisele selgitamisele ning sellele, kuidas näevad objekti ja selle terviklikkust töös analüüsitavad autorid. Juba omadussõnaline mõiste *sotsiokultuuriline* kannab endas kirjeldustasandi huvi luua integratiivset käsitlust sellest, kuidas inimesed oma maailmas elavad. Ühelt poolt toimub just sotsiokultuurilises keskkonnas ja interaktsioonis teistega isiksuse areng, teisalt tegutseb ja tunnetab inimene maailma olukordades, mis on interaktsioonilised ning sotsiokultuuriliselt tingitud ja vahendatud. Kuigi sotsiaalseid ja kultuurilisi süsteeme (ning nende uurimisi) võib analüütiliselt abstraktsioonidena eristada, toimivad need pigem koos, sotsiokultuuriliste süsteemidena. Nii hõlmab sotsiokultuuriline maailm niihästi seda reaalsust, milles inimesed elavad (ning mida võib nimetada ka inimlikuks omailmaks), kui ka selle toimemehhanisme, mis subjektile vahetult kättesaadavad (st ilmsed) ei pruugi olla. Sotsiokultuurilise maailma uurimine toob niisiis esile objekti loomise protseduurid, iseäranis küsimuse vaadeldavate nähtuste sisemisest korrastatusest ning ühikutest.

Sotsiokultuurilise maailma kui uurimisobjekti üheks olulisemaks iseloomustavaks jooneks võib pidada selle integreeritust. Kui sotsiokultuurilise maailma mudel ei esita üksnes nähtuste kogumit, vaid olemuslikku korrastatust, mis on sotsiokultuurilise maailma toimimisprotsessi aluseks ja tulemuseks, siis püstitub küsimus, mis täpsemalt on selle korrastatuse alus (ehk milline on sidusus) ning mis määrab tervikud ja ühikud selles. Käsitlen integratsiooni tüüpe ja protsesse objektmaailma mõtestamisel ja uuritavaks tegemisel, lähtudes Lotmani kirjeldatud integreerivatest mehhanismidest semiootilises üksuses ja selle kirjeldamisel ning Sorokini esitatud ühtsuse tüüpidest. Neid täiendan Talcott Parsonsi vaatega kogukonnale kui sotsiaalse süsteemi integreerivale tuumale ja Pierre Bourdieu *habitus'*e rolliga sotsiokultuurilise maailma mõtestamisel sidusa ja tähendusliku tervikuna.

Käsitlusi, mis püüdlevad sotsiokultuurilise maailma integratiivsele uurimisele, iseloomustab integratsiooni rõhutatavate tüüpide ja mehhanismide mitmekesisus. Komplekssе terviku kirjeldamisel ja uurimisel võib keskenduda

valikule neist tüüpidest ja mehhanismidest, mis kirjeldatavas maailmas samas üksteist täiendavalt toimivad. Vaadeldud käsitluste puhul tulevad selgelt esile neli arusaama integratsioonist. Esiteks: sotsiokultuurilise maailma sidusus on subjektile etteantud ning enesestmõistetav reaalsus. See arusaam seostub Bourdieu' ja Sorokini töödes sotsiaalse agendi positsiooniga, Lotmanil aga kultuurisisese vaatepunkti eristatusega kultuurivälisest. Lisaks sidususe etteantusele ja reaalsusena tunnetamisele on siinjuures oluline selle omaksvõtmise protsess isiksuse sotsiokultuurilises kontekstis toimuva arengu käigus. Teisalt on integratsioon kirjelduse ja enesekirjelduse valdkonda kuuluv nähtus. See on nii terviku loomine metatasandil (piiritlemise ning iseäranis nimetamise kaudu), refleksioon ja institutsionaalse maailma kui sümbolilise universumi integreerimine legitimeerimisprotsessis, kui ka korrastumine (enese)modelleerimise mõjul. Viimane seostub integratsiooni kolmanda aspektiga, nimelt integratsiooni kui interaktsiooni toimega. Interaktsioon toimib niihästi materiaalsel tegutsejate ja vahendite tasandil sidususe loojana, semiootiliste süsteemide sidustajana kui ka subjektidevahelise sidustajana. Neljandaks tuleb silmas pidada, et integratsioon on ühtlasi interaktsiooni tingimus, seda nii füüsilise kontakti kui ka loogiliselt korrastatud ja jagatud semiootilise süsteemi olemasoluna.

Sorokini ja veelgi enam Parsonsi jaoks on sotsiokultuuriliste süsteemide integreeritus osa nende süsteemide olemusest. Sorokini jaoks on kõnekad sotsiokultuurilistes nähtustes leiduvad erinevad ühtsuse tüübid. Parsonsi käsitluses on tihe (loogikaline) integreeritus süsteemi olemuslik tingimus; samas toimib integreerimine süsteemi seisukohalt erinevate konfliktide vältimise ja tasakaalu tagamise mehhanismina. Lotmani perspektiiviasetus on oluliselt erinev. Lotmani käsitluste keskmes on pigem mitte-integreeritus ja integreerituse loomine, milles ometi jääb kestma ka vastuolulisus, mis on omakorda tähendusloome aluseks. See dünaamilise aspekti (sh süsteemi kujunemisloo ja seega ka habituaalsuse) rõhutamine toob kaasa kultuuri mõistmise tegevuslikuma süsteemina kui üksnes normide ja väärtuste muster. Sotsikultuurilist maailma iseloomustab niisiis mitmese olemisega integratsioon, ning selle mitmesus ja protsessuaalsus on üks aluseid, millelt lähtuda nii sotsiokultuurilise maailma teoreetilistes uurimustes kui ka konkreetsete sotsiokultuuriliste nähtuste ning inimgruppide loogilis-tähendusliku sidususe ja nn sotsiaalse lõimumise uurimisel.

Ruumiline modelleerimine on sotsiokultuurilise maailma teoreetilise käsitlemise üks vahendeid ning sellisena üks üldisema semiootilise modelleerimise valdkond. Seejuures ilmnevad semiootilise modelleerimise käsitluste mitmekesisuse juures mõned ruumilise modelleerimise olulised jooned, iseäranis ruumilisuse kui teadmusvaldkonna korrastatuse paljusus ning samas erinevate tasandite ruumilisuse omavaheline seotus nimelt modelleerivate suhete kaudu.

Sotsiaal- ja kultuuriteooriates kasutatud ruumilistel mudelitel on olemas nii *eemilised* kui ka *eetilised* aspektid: nad on seotud objekttasandi sootsiumi arusaamade ja ruumiliste kirjeldustega maailma kohta ning ruumiliste tegevuste ja kogemustega, aga samuti uurija enda kantava kultuuri ja selles leiduva ruumilise maailmamõtestamisega. Lisaks suunavad ruumilised kontseptsioonid ka

füüsilise maailma kujundamist. Alustanud modelleerimise käsitluste vaatlusest semiootikas, liigun edasi ruumimudelite generatiivse tausta problemaatika juurde sotsiokultuurilises maailmas, mis funktsioneerib ühtaegu nii nende mudelite objekt- kui ka lähtevaldkonnana. Edasi käsitlen mudelite dünaamika pragmaatilisest mõõtmest lähtuvaid aspekte.

Kuna ei *modelleerimine* ega *süsteem* pole universaalselt määratletud terminid, on modelleerivaid süsteeme semiootikas käsitletud õige mitmeti: näiteks on nii Lotman kui ka Thomas A. Sebeok neid vaadelnud *keelelaadsete* maailmapildi ja selle esitamisega seotud süsteemidena, kasutades seejuures mõistet *keel* oma argumentatsioonis küll erinevalt. Taolise representatsioonistruktuuri asemel võib keskenduda ka *modelleerivatele süsteemidele* tegevuslike süsteemidena või organismi neurobioloogilise võimekusena teatud tüüpi modelleerimiseks, mis võimaldab konkreetseid semiootilisi tegevusi. Samuti võib modelleeriva süsteemina mõista uurija loodud süsteemi semiootiliste suhete klassifitseerimiseks või ka subjekti ennast süsteemse tervikuna, mis aktiivselt suhestub keskkonnaga ja enese osadega neid tunnetades ja muutes. Taoliseks subjektiks võib olla nii organism, sootsium kui ka kultuur.

Seostades ruumilise metakeele ideega modelleerivast süsteemist kui keelelaadsest struktuurist, saab ruumilise modelleerimise ja seega ruumi kui teadmuskorrastuse alust otsida ühelt poolt holistlikust vaatepunktist tervikule ning teisalt minimaalsetest ruumilistest suhetest. Ruumiline modelleerimine ehk olukord, kus äratuntav objektvaldkond on vähemalt binaarne, st tuntakse ära koosolu, vajab vähemalt animaalset ehk indeksiaalset omailma. Omailma esmaseks seadmine ehk arusaam, et ruumilised suhted eksisteerivad kellegi jaoks, laseb jällegi näha lihtsaimate omailmade seotust sotsiaal- ja kultuuriteoreetiliste mudelitega – teadmusvaldkonda kuuluva ruumilisuse ilmnemistena.

Lisaks terviku ja elementaarsuhte mõõtmelel ilmneb ruumilisus veel mitmel erineval tasandil: tegevuste ruumina, maailmapildi sümboolse ruumina ja abstraktse ruumina. Tegevuslik ja sümboolne ruum moodustavad generatiivse aluse abstraktsele ruumile: sümboolne ruum lähtub tegevuslikust ruumiteadmusest (ning ka representeerib seda), abstraktne ruum aga sümboolsest. Abstraktset ruumi omakorda kasutatakse objektsootsiumi tegevusliku ja/või sümboolse korrastatuse representeerimiseks. Niisiis eeldab näiliselt konkreetne ruumiline metakeel tinglikke valikuid kirjeldusvahendite loomisel ning vastavuste sätestamisel. Pidades silmas, et struktuure ja vastavussuhteid sisaldav ruumiline modelleerimine on modelleerimise tegevus, ilmneb ka selle valdkonna dünaamilisus ning pragmaatiline aspekt – niihästi kontseptuaalse kui ka materiaalse maailma loomisel.

Ruumilise modelleerimise ning sotsiokultuurilise maailma kui selle objektvaldkonna käsitlused loovad aluse kolme valitud autori välja töötatud sotsiokultuurilise maailma ruumimudelite täpsemaks analüüsiks. Uurimaks, kuidas on Bourdieu, Lotmani ja Sorokini *sotsiaalne ruum*, *kultuuriruum* ja *sotsiokultuuriline ruum* „tehtud“, vaatlesin, millisest ruumilisuse ideest need mudelid lähtuvad ning mis on nende kitsam huviobjekt. Nii Bourdieu, Lotman kui ka Sorokin on pakkunud välja ruumilisi vahendeid ühiskonna ja kultuuri korrastuse

ja toimimise kirjeldamiseks, ent teinud seda erineva lähteideega ruumist ning erinevalt fokusseeritud eesmärkidega.

Lotmani töödes tähistab *kultuuriruum* mõneti erinevaid ideid, mis haakuvad kultuurisisese ja -välise vaatepunkti eristamises. Ühelt poolt on tegu kultuuriliste enesemudelite esitatava korrastusega, kus piir eristab sisemise ruumi välisest. Kui kultuuri enese seisukohast on *kultuuriruumiks* siin sisemine ruum, siis metatasandi vaatepunktilt ilmneb *kultuuriruumina* kogu vastava kultuuri maailmapildi ruumiline korrastus. Semiosfääri kontseptsioonis omakorda on *kultuuriruum* taolise kirjelduslikku korrastusena üle viidud kultuuri toimimise modelleerimiseks – piiritlemisel põhinev algselt (enese)kirjelduslik ruumiline korrastus osutub toimivaks süsteemiks, tekstide dünaamiliseks kogumiks. Metakeele aspektist ilmneb, et laiendades oma kultuurisemiootilist käsitlust kirjanduslike tekstide tähendusloomelt kultuuri ja semiootilise kõiksuseni, rakendab Lotman sama piiritlemisel põhinevat ja eri vaatepunkte arvestavat ruumilist struktuuri üha järgmiste tasandite mudelite loomiseks.

Bourdieu kontseptsioon sotsiaalsest ruumist on jäänud selle konkreetsemate aspektide nagu *habitus*'e ja *väljade* mõistete varju. Samas loob just see ruum üldisema korrastusena kitsamatele aspektidele kirjeldusvõime. Sotsiaalne ruum on Bourdieu jaoks suhete ja eelkõige suhestumiste kogum, reaalsete ja potentsiaalsete suhete kooseksisteerimise äratundmise korrastus. Lotmani kirjeldatud maailmapildistruktuuri võib taolise positsioonide võtmise struktuuriga siduda kas ühe klassifitseerimisprintsiibina (kuuluvuse määratlemine) või vastupidi, näha sotsiaalsete otsustuste ruumi kultuuriruumi (või ka semiosfääri) sisekorrastusena ehk konkreetse kultuuri semiootilise ruumi kui tähistuskorrana.

Sorokin esitab sotsiokultuurilist ruumi integratiivse sotsiaalteaduse kirjeldusvahendina, mis analoogselt füüsikaliste ruumikontseptsioonide kui füüsikaliste nähtuste kirjeldusvõimalusega peaks võimaldama sotsiokultuuriliste nähtuste üldist kirjeldust kolme aspekti – tähenduste, nende kandjate ja teostajate – kaudu. Samas rõhutab Sorokin, et *sotsiokultuuriline ruum* ei ole üksnes uurija analüütiline mudel, vaid vastab ka sellele, kuidas uuritavas sootsiumis maailma tunnetatakse. Seetõttu jääb mõneti määramatuks *sotsiokultuurilise ruumi* kui mudeli struktuur ehk ruumiliste suhete korrastus, millest Sorokin räägib kui *paljumõõtmelisest paljususest*. Mõneti aitab seda kontseptsiooni täpsustada Sorokini ruumilisuse käsitluse seostamine tema käsitlustega sotsiokultuurilisest ajalisusest ning muutlikkusest koos vastava kultuuritüpolooiaga.

Sotsiokultuuriline maailm on olulisel määral semiootiline, ent seda paljudes eri laadi aspektides ja viisidel. Käsitlused saavad keskenduda valitud semiootilistele aspektidele ning valida oma kirjeldusviise. Kui Bourdieu rõhutab *sotsiaalse ruumi* juures eristuste tegemise semiotiseerivat olemust, siis Lotmani jaoks on kultuuriruumi *ruumilisus* ise tähenduslik ning tähendusloome mehhanismi võib leida selle ruumilise korrastuse rikkumises: piiri ületamises, erinevate korrastuste kohtumises jne. Sellega sarnaselt on Sorokini jaoks tähenduslikel interaktsioonidel põhinev sotsiokultuuriline maailm protsessuaalselt tähenduslikkusega tegelev ning teisalt korrastatud loogilis-tähenduslikesse ühtsustesse, millest üks hõlmavamaid on konkreetset kultuuri iseloomustav

kultuuriline mentaliteet. Esitatavate semiootiliste aspektide mitmesus ning samas seotus subjekti kogemusega osutab ruumiliste mudelite puhul võimalusele, et ruumiline modelleerimine omab objektvaldkonna representeerimise (ning osalt sellest lähtumise) kõrval sotsiokultuurilise maailma suhtes keelega sarnast üldise tunnetusliku vahendi potentsiaali.

Kuigi selle potentsiaali oluline eeldus on ruumilise modelleerimise seotus isikliku kogemuse ja geograafilise ruumiga, ei piisa semiootilise vaate jaoks geograafilise ruumi kontseptsioonide rakendamisest, vaid teadvustada tuleb ka ruumilisuse semiootilist alust koosolemise äratundmises. Nii saab ilmseks, et ka mõiste *piir* kasutamist ei tuleks näha mitte füüsikalise ruumi metafoorina, vaid kirjeldusobjekti ruumistamise vahendina, mis põhineb piiril kui olemuslikult semiootilisel (ehk äratundmisega seotud) ja ruumilisel (ehk koosoluga seotud) nähtusel – olgu tegu eri aegade kontseptuaalse kokkutoomisega *ajaliste piiride* näol, materiaalse ruumi semiotiseerimisega või hoopis kontseptuaalsete eristuste ruumistamise ja materialiseerimisega geograafilises ruumis.

CURRICULUM VITAE

Name: Tiit Remm
Year of birth: 1981
Work address: Department of Semiotics, University of Tartu, Jakobi 2-302, 51014 Tartu, Estonia
E-mail: tiit.remm@ut.ee
Current occupation: Junior researcher in semiotics, Institute of Philosophy and Semiotics, University of Tartu

Research interest:
Sociosemiotics and social theory, semiotics of space and spatial modelling, urban semiotics

Education:

2007– ...	Doctoral studies in semiotics, University of Tartu
March – June, 2012	Visiting research at Centre Interuniversitaire d'Études Hongroises et Finlandaises, Université Sorbonne Nouvelle – Paris 3
2005–2007	MA in Semiotics and culturology, University of Tartu
1999–2003	BA in Semiotics and culturology, University of Tartu

Professional experience:

2008– …	Researcher in semiotics, Institute of Philosophy and Semiotics, University of Tartu
2009–2012	Local management of international curriculum development project "The European Mind: Doctoral Studies in Semiotics for a Knowledge and Value Based Society, SEMKNOW" (European Commission Lifelong Learning Programme), University of Tartu

Acknowledgement:

2011	Juri Lotman Stipend for works on semiotics of space

Selected publications:

Remm, Tiit (Forthcoming). Textualities of the city – from legibility of urban space toward social and natural others in planning. *Sign Systems Studies.*

Remm, Tiit (2014). Ühtsest nimetamisest tegevuseni: integratsiooni mõistest ja objektist sotsiokultuurilise maailma uurimisel. [From common naming to action: on the notion and object of *integration* for research on sociocultural world] *Acta Semiotica Estica*, 11, 11–30.

Remm, Tiit (2012). Pragmatical Aspects of Models of Sociocultural Space. *Chinese Semiotic Studies*, 8, 238–248.

Remm, Tiit (2012). Sociocultural Space and Time as Semiotic Modelling Systems. In: Pilar Couto Cantero, Gonzalo Enriquez Veloso, Alberta Passeri, José Maria Paz Gago (eds.). *Culture of Communication/Communication of Culture. Proceedings of the 10th World congress of the International Association for Semiotic Studies. (IASS/AIS): Culture of Communication/Communication of Culture. 10th World congress of the International Association for Semiotic Studies (IASS/AIS), A Coruna, Spain 22-26.09.2009.* A Coruna: Servizo de Publicacionis Universidade da Coruna (999–1010).

Remm, Tiit (2012). Tajuline, objektiivne ja sümboliline linnaruum Supilinnas. [Perceptual, objective and symbolic urban space in Supilinn] *Acta Architecturae Naturalis*, 2, 193–207.

Remm, Tiit (2011). Understanding the city through its semiotic spatialities. *Sign Systems Studies*, 39.2/4, 124–144.

Remm, Tiit (2010). Is the notion of sociocultural an early instance of transdisciplinarity? Kroó, Katalin (ed.). *In honour of Peeter Torop 60 : a collection of papers from young scholars.* Budapest, Tartu: Eötvös Loránd University; University of Tartu, Department of Semiotics, (93–112).

Remm, Tiit (2010). Time in spatial metalanguage: the ambiguous position of time in concepts of sociocultural, social and cultural space. *Trames: Journal of the Humanities and Social Sciences*, 14(67/62), 4, 394–410.

Remm, Tiit (2009). "Alguse" ja "lõpu" kui linna kirjeldamise vahendite kuulumisest linna juurde. [“The beginning” and “the end” as descriptive tools and aspects of city] *Acta semiotica Estica*, 6, 86–105.

ELULOOKIRJELDUS

Nimi:	Tiit Remm
Sünniaasta:	1981
Kontaktaadress:	Tartu Ülikooli semiootika osakond, Jakobi 2-302, 51014 Tartu, Estonia
E-post:	tiit.remm@ut.ee
Amet:	Semiootika nooremteadur, Tartu Ülikooli Filosoofia ja semiootika instituut

Uurimisvaldkonnad:
Sotsiosemiootika, sotsiaalteooria, ruumisemiootika, linnasemiootika

Hariduskäik:

2007–2015	Tartu Ülikool, doktoriõpe, Semiootika ja kultuuriteooria
märts – juuni, 2012	külalisõpingud- ja uurimistöö ülikoolis Sorbonne Nouvelle – Paris 3, Centre Interuniversitaire d'Études Hongroises et Finlandaises
2005–2007	Tartu Ülikool, magistriõpe, semiootika ja kultuuriteooria MA
1999–2003	Tartu Ülikool, bakalaureuseõpe, semiootika ja kulturoloogia BA

Teenistuskäik:

2008– …	Teadus- ja õppetöö Tartu Ülikooli semiootika osakonnas
2009–2012	Rahvusvahelise õppekavaarenduse projekti "The European Mind: Doctoral Studies in Semiotics for a Knowledge and Value Based Society, SEMKNOW" (Euroopa komisjoni elukestva õppe programm) juhtimine Tartu Ülikoolis

Tunnustused:

2011	Juri Lotmani stipendium ruumisemiootika alaste tööde eest.

Valitud publikatsioonid:

Remm, Tiit (ilmumas). Textualities of the city – from legibility of urban space toward social and natural others in planning. *Sign Systems Studies.*

Remm, Tiit (2014). Ühtsest nimetamisest tegevuseni: integratsiooni mõistest ja objektist sotsiokultuurilise maailma uurimisel. *Acta Semiotica Estica*, 11, 11–30.

Remm, Tiit (2012). Pragmatical Aspects of Models of Sociocultural Space. *Chinese Semiotic Studies*, 8, 238–248.

Remm, Tiit (2012). Sociocultural Space and Time as Semiotic Modelling Systems. In: Pilar Couto Cantero, Gonzalo Enriquez Veloso, Alberta Passeri, José Maria Paz Gago (eds.). *Culture of Communication/Communication of*

Culture. Proceedings of the 10th World congress of the International Association for Semiotic Studies. (IASS/AIS): Culture of Communication/ Communication of Culture. 10th World congress of the International Association for Semiotic Studies (IASS/AIS), A Coruna, Spain 22–26.09.2009. A Coruna: Servizo de Publicacionis Universidade da Coruna (999–1010).

Remm, Tiit (2012). Tajuline, objektiivne ja sümboliline linnaruum Supilinnas. *Acta Architecturae Naturalis*, 2, 193–207.

Remm, Tiit (2011). Understanding the city through its semiotic spatialities. *Sign Systems Studies*, 39.2/4, 124–144.

Remm, Tiit (2010). Is the notion of sociocultural an early instance of transdisciplinarity? Kroó, Katalin (ed.). *In honour of Peeter Torop 60 : a collection of papers from young scholars*. Budapest, Tartu: Eötvös Loránd University; University of Tartu, Department of Semiotics, (93–112).

Remm, Tiit (2010). Time in spatial metalanguage: the ambiguous position of time in concepts of sociocultural, social and cultural space. *Trames: Journal of the Humanities and Social Sciences*, 14(67/62), 4, 394–410.

Remm, Tiit (2009). "Alguse" ja "lõpu" kui linna kirjeldamise vahendite kuulumisest linna juurde. *Acta semiotica Estica*, 6, 86–105.

DISSERTATIONES SEMIOTICAE UNIVERSITATIS TARTUENSIS

1. **М. Ю. Лотман.** Структура и типология русского стиха. Тарту, 2000.
2. **Елена Григорьева.** Эмблема: структура и прагматика. Тарту, 2000.
3. **Valdur Mikita.** Kreatiivsuskäsitluste võrdlus semiootikas ja psühholoogias. Tartu, 2000.
4. **Ирина Аврамец.** Поэтика новеллы Достоевского. Тарту, 2001.
5. **Ян Левченко.** История и фикция в текстах В. Шкловского и Б. Эйхенбаума в 1920-е гг. Тарту, 2003.
6. **Anti Randviir.** Mapping the world: towards a sociosemiotic approach to culture. Tartu, 2004.
7. **Timo Maran.** Mimikri kui kommunikatsiooni-semiootiline fenomen. Tartu, 2005.
8. **Элеонора Рудаковская-Борисова.** Семиотика пищи в произведениях Андрея Платонова. Tartu, 2005.
9. **Andres Luure.** Duality and sextets: a new structure of categories. Tartu, 2006.
10. **Peeter Linnap.** Fotoloogia. Tartu, 2006.
11. **Daniele Monticelli.** Wholeness and its remainders: theoretical procedures of totalization and detotalization in semiotics, philosophy and politics. Tartu, 2008.
12. **Andreas Ventsel.** Towards semiotic theory of hegemony. Tartu, 2009.
13. **Elin Sütiste.** Tõlke mõiste dünaamikast tõlketeaduses ja eesti tõlkeloos. Tartu, 2009.
14. **Renata Sõukand.** Herbal landscape. Tartu, 2010.
15. **Kati Lindström.** Delineating Landscape Semiotics: Towards the Semiotic Study of Landscape Processes. Tartu, 2011.
16. **Morten Tønnessen.** Umwelt transition and Uexküllian phenomenology. An ecosemiotic analysis of Norwegian wolf management. Tartu, 2011. 231 p.
17. **Anu Sarv.** Õppejõu enesereflеksioon ja professionaalne identiteet. Tartu, 2013, 141 lk.
18. **Vadim Verenich.** Semiotic models of legel argumentation. Tartu, 2014, 249 lk.
19. **Maarja Ojamaa.** The transmedial aspect of cultural autocommunication. Tartu, 2015, 173 p.