This article deals with spatial aspects of traditional writing technologies, from inscriptions in stone to the printed page. It is argued that writing technologies, by their potential of connecting texts as artifacts and human bodies in space, have an interpersonal, disciplining function that tends to be overlooked by research. Readers are bodily placed in relation to written texts quite differently than are interacting speakers. This argument is elaborated using two examples technological innovations in writing: the rune stone and the classroom. The analysis draws on the contextual theory of social semiotics. It is proposed that, in order to better understand the connections between text, body and space, written texts should be seen as potential participants in interpersonal relations.

1. Writing technologies and the change of conditions for meaning making

It is widely recognized that writing technologies change the conditions of social meaning making on both the societal and the individual levels. In seminal works on writing technology (such as Goody & Watt 1963; Goody 1977; Ong 1982), however, there is a strong emphasis on describing the emergent literacy not as an interpersonal, but primarily an ideational revolution. In other words, the most important or interesting changes in communicative conditions have usually been taken to be those related to knowledge (re)production, not to interaction.

This priority of ideational aspects is a clear trend also in social semiotics, the theory based on the work of the British-Australian
linguist Michael Halliday, that will frame the analysis in this article. In spite of the theoretical axiom that the ideational and interpersonal form two parallel dimensions of both text and context (Halliday 1978; Halliday & Matthiessen 2004; see further below), the central concern has been to show how writing enables a sophisticated use of ideational linguistic resources, the cardinal example being semantic processes coded not as verbs but as nominal expressions (‘ideational grammatical metaphors’). This linguistic reification of experience, typically used in the written mode, has been discussed as a foundational condition of specialized, institutional social practices (Halliday 1989, 1998). Without attempting in the least to deny the ideational impact of writing, the present article wants to supplement this picture. To put it in the terminology of social semiotics: the choice of written mode is constitutive for changes not only in field (the ideational context) but also in tenor (the interpersonal context). For a person who is already successfully socialized into a literate culture, the interpersonal dimension of writing technology is almost invisible. This article aims at showing that the changes in interpersonal conditions are far from trivial.

The possibilities of elaborating an analysis of the interpersonal conditions involved in writing technology will be explored by introducing ‘place’ as a category at the context stratum of the social semiotic framework. This attempt is guided by three research questions, the first empirical, the second theoretical and the third ‘inter-theoretical’:

1. How is writing technology in specific social practices connected to spatial, interpersonal conditions of meaning making?
2. How is the contextual theory of social semiotics challenged by such an analysis?
3. How does a spatial, interpersonal approach within social semiotics open up for fruitful exchanges with other theoretical and analytical frameworks?

2. Theoretical framework

In social semiotic theory, the concept of ‘context’ serves to emphasize meaning making as discursive and social activities, as something we do together through texts, written as well as spoken. According to this theory, three aspects can be recognized in every discursive meaning making activity: the field of discourse, the tenor of discourse, the mode of discourse (Halliday 1978; cf. Lukin et al. 2011; Holmberg 2012a). The ‘field’ of discourse refers to the culturally recognizable type of activity in which the text is playing some part. This aspect also includes what is referred to as the ‘subject-matter’. The ‘tenor’ of discourse refers to the structure of roles of, and relations between, the interacting participants in the activity. The ‘mode’ of discourse, finally, refers to principles of symbolic organization, including what part the text plays within the activity. Each of these three contextual aspects is, according to a well-known postulate in social semiotics, typically related to variation within different linguistic systems. This means that the field is realized in ideational choices of process types, the tenor is related to interpersonal systems of speech functions and mood, and the mode of discourse is related to, for example, thematic text structure (Halliday & Matthiessen 2004).

Social semiotic research on the tenor of discourse has hitherto focused on interaction in speech, not writing. Studies have explored the shifting roles and relations in talk between mothers and children (Hasan & Cloran 2009), friends (Eggin’s & Slade 1997), salespersons and customers (Ventola 1987), teachers and students (Christie 2000), surgeons with different degrees of specialization (Lukin et al. 2011), and so on. When written texts have been analyzed from an interpersonal point of view, this has normally been done within another framework for understanding context, that of genre theory (Martin 1999, 2009). In this alternative approach, the contextual stratum, with active and reacting participants, is conflated with dif-
 differing cultural forms of writing, called 'genres' (for a critique, see Hasan 1995; Holmberg 2012b).

The present article will discuss the tenor of discourse with regard to its implications for an understanding of writing technologies. In order to do this, I will also make use of the category of 'place' – a category which has scarcely been used as theoretical category in social semiotics (see however Thibault 1995). I use place to refer to how 'space' is semiotically construed and coordinated into meaningful constellations – in contrast to 'space', taken as a category of everyday experience on the same abstract level as 'time', with an infinite number of possible locations. This is in line with what has been dubbed the "humanistic perspective" on place and space (Tuan 1979). It is also consistent with how the concept of place is elaborated in human geography: not as a mere location in space but as a "combination of materiality, meaning and practice" (Cresswell 2009: 169). In some spatial theories, similar distinctions are made with other terms. Henri Lefebvre, for example, in his famous work on The Production of Space (1974) characterizes his object of study as 'social' space (not 'place'), in contrast to 'physical' space.

Before entering upon the analysis of the tenor of discourse, I want to make a brief note on how place also enters the field and mode of discourse. It is obvious that place is constructed ideationally in many different fields of discourse, such as in encyclopedic and tourist-oriented information about places, as well as in descriptions of fictitious places in novels. In the written mode, place can, on another level of analysis, be a part of the internal symbolic organization. This is clearly the case when expressions like 'to the left, 'in the corner' etc. refer to locations on a printed page, or when 'home' refers to a webpage. These two dimensions (place from the perspective of the field vs. place from that of the mode of discourse) will not be elaborated on in the following analysis. In a more extensive discussion about place in social semiotics, however, it is essential to take not only tenor, but all three contextual aspects into account.

3. Model of analysis and choice of examples

The present article investigates four aspects of writing technologies with respect to how they regulate the social structure of space by imposing constraints on the reader. First, for each case it is described how the written text, being itself a spatially defined artifact, also places the reader in space. Second, it is pointed out how the written text, as a consequence of its materiality, circumscribes the reader's freedom of movement. Third, it is illustrated how in the process of decoding, the written text might activate the voice of the reader. Fourth, it will be discussed how the written text, through its consistency in space and time, powerfully demands the reader's response. By putting focus on writing practices as naturalized exercises of power, these four aspects intend to lay the groundwork for a better understanding of the interpersonal potential of the writing artifact.

In order to illuminate the interpersonal conditions of writing technologies, the present article uses two examples and two complementary perspectives. The rune stone example illuminates writing technology from the perspective of phylogenesis, whereby the intrusion of writing technology is seen in the macro history of culture. The classroom example changes the perspective to that of ontogenesis, such that (institutionalized) writing is seen in the micro history of the individual. What once was a new linguistic experience in the culture at large becomes, at some point of time, a new experience for all of us (cf. Halliday & Matthiessen 2004: 47).

My own curiosity about reading and writing, both in the context of Viking age rune monuments and that of contemporary classrooms,
stems from previous research. The spatial context of writing is however more or less 'black-boxed', both in my studies of rune inscriptions (Holmberg & Jansson 2011) and of student writing (Holmberg & Wirdenäs 2010; Holmberg 2011, 2012b).

4. The placement of readers by writing monuments in the Viking age

As first example I have chosen one of the most famous Swedish rune stones, the so called Roek Stone (in Swedish rökstenen). It was carved and raised in the province of Östergötland, eight kilometers east of Lake Vättern, about 1200 years ago, in the early Viking age. The area in question was already in the Viking age a fertile agriculture landscape, traversed by early roads connecting the provinces of what was to become the Swedish kingdom. The exact original position of the stone is not known, since it was later built into the medieval wall of the Rök church. But the weight of the stone, estimated at four thousand kilograms (close to 9,000 pounds), is a strong argument for a position close to the place where it was re-erected, which means that the stone was probably visible from the former main west-east route through the province. The stone is well known for its long and cryptic inscription, but in this context I will leave aside the disputes surrounding the reading, translation and interpretation of the rune text, and instead approach the stone as it was raised as an inscribed monument in the landscape (see Picture 1).

We know next to nothing about the role of rune stones in the literacy practice of the Viking age, except for what can be understood from the meaning of the inscriptions. But we do know that the rune stones were typically raised in connection with roads, sometimes as a part of the construction of the road itself, of a bridge or an embankment. This means that the road, the stone monument and the writing, taken together, had a great impact on anyone who

travelled, placing the person in a reader’s position, even if he or she was not able to decode the runes. The Roek Stone was raised at a height of about two and a half meters (about 10 ft) above ground level and it was therefore clearly visible from a distance of more than one kilometer (or three quarter miles) across the fields. Where many different passages were possible through the landscape, the raised stone constituted a strong suggestion as to which path to choose. From a distance of about one hundred meters (about 300 ft) it would be evident for the traveler that the stone was not just an impressive boulder, but also a ‘speaking stone’ covered by inscriptions; from an even closer position to the stone, say ten meters (or 30 ft), it is possible to identify the topmost runes, while the smaller ones make it necessary for the traveler to approach more closely.

With the reader placed in a position where the runes become readable, the stone has circumscribed the reader’s freedom of movement for the time needed for the reading. This is most obvious in case where the inscribed text is long and difficult to decode, or if it covers more than one side of the rock, or if the text is ordered in other ways than in straight horizontal rows. All these three circumstances are relevant in encountering the Roek Stone. Its inscription is both long and difficult: it consists of more than 700 characters, two different alphabets are used, and four different kinds of cypher occur in the latter part of the text. The inscription covers all of its five sides: front and back, the two end sides, and the top. The dominating ordering principle of the inscription is that of vertical columns with characters tilted ninety degrees. These three traits of textual organization can be understood as conditions that regulate the reader’s body movements. When reading the inscription, the reader is obliged to stay in close proximity to the stone for a fairly long time, to move around the stone, and – in order to follow the text through its vertical columns – to repeatedly bow down in front of the stone (see Picture 2).
It seems, however, that the act of reading the stone’s runes was not just a matter of subordination in terms of body movements; it also activated the reader’s voice. It is widely agreed that all ancient reading was practiced aloud. As to ancient Greek writing, it has been stated that "... writing was first and foremost a machine for producing sounds" (Svenbro 1993: 2). When applied to the practice of reading runes, it can be said that the very conventions of inscription favored, or even required, reading aloud. For example, not only does the inscription of the Roek Stone lack word separation, it also uses at least one arbitrary line wrap. Although otherwise socialized into silent reading, even the contemporary reader who is familiar with reading runes, thus tends to read from rune stone inscriptions aloud (the use of cypher makes of course silent reading even less plausible). In addition, we can imagine that the decoding process involved other vocal activities than plain reading, such as counting and repeating the runic alphabet. According to Svenbro (1993), the practice of reading aloud has strong psychological implications; the act of reading was perceived as a physical subordination of the reader to the text by which the text forced the reader to give voice to its wording.

The interpersonal impact does however not stop at the point in time when the reader has articulated the inscribed text. Every string of characters that expresses some speech act also calls for immediate (inter)action on the part of the reader. Thus, a statement demands confirmation of the information that is given; a question is a request for an answer that gives the information asked for; and so on (Halliday & Matthiessen 2004: 106-111). Most rune stone inscriptions from the Viking age typically express a single statement, one that provides information about the ‘stone raiser’ that the reader is supposed to confirm. The Roek Stone inscription is an exception in two important ways. Firstly, it contains more than fifteen speech acts. Secondly, it asks not only for confirmation of its statements, but also, and most importantly, the reader has to show his or her ability to provide the information requested in a long sequence of riddling questions. In other words, this stone is one of the interpersonally most demanding rune stones raised in the Viking age. It therefore clearly illustrates and elaborates on what was said above about ‘voice activation’. A rune stone demands that the reader give voice to its inscription, but at the same time, it also demands that he or she formulate relevant responses to its speech acts.

Anyone passing by the stone today is prone to undervalue the interpersonal impact I have tried to describe here. Encounters with speaking artifacts are no longer rare; even the Roek Stone must nowadays compete with other artifacts for the traveler’s attention. A handful of signs with written messages have been put up in the close neighborhood of the stone, and the stone may have to share the public’s attention with movable writing artifacts such as travelers’ brochures or smartphone apps. In times when the Roek Stone was the only speaking artifact for miles around, one may reasonably imagine that the sense of being obliged to examine its written text was much stronger than it is today, when it is possible to rely on different types of reproducing technologies that enable the reading of transcriptions or photographs at distant points in time and space. In this way, the modern reader may have lost the idea of reading a rune stone as a matter of the here and now, in the sense illustrated above. As to the stone’s riddles, they are more comfortably solved while one is sitting in an armchair, rather than being forced to walk around, and bow down to, the stone.

5. The placement of readers by activities in the classroom

As my second example, I will use three intermediate level classrooms in a Swedish elementary school, where reading and writing activities
were observed during a week. The classrooms are located in different school buildings in a suburban area outside of Gothenburg. The schools were all built in the seventies of the last century, as were the greater part of the apartment complexes where the pupils (but none of the teachers) live. The school buildings are, in contrast to the apartment complexes, single floor constructions. The vast majority of the area’s inhabitants speak first languages other than Swedish. In fact, according to the teachers, none of the pupils in the three classrooms have Swedish as their first language, as many of them have immigrated to Sweden fairly recently. The complex language situation prevalent in the area is a necessary background for the study, since the disciplinary and other problems arising out of this situation were handled by the teachers in part by maximizing the disciplining potential of writing technologies.

That the classroom serves as a space for textual practices is not immediately visible from outside the school building. However, anyone familiar with school architecture will easily recognize the schools in this suburb as designed for mass consumption and (re)production of text. These school functions are signaled not only by the typical school yards, but also by the special way the windows in the façade are clustered. Every classroom has a row of about five windows, put close together to ensure daylight for reading and writing. The standard position of the pupils can be predicted from the outside, as it is normally preferred that daylight should fall on the pupil’s books from the left, in order to avoid shadows when their right hands, placed on the desks, follow the lines of a book with their index fingers or pens. In the three classrooms I visited for this study, this prediction turned out to be right. All pupils were positioned facing the whiteboard in the front of the classroom. All four walls were decorated with texts, but the texts that were supposed to call for the pupil’s attention were written on the whiteboard. Here, the teacher had written today’s schedule of ‘subjects’; each ‘subject’ translated in practice into the requirement for each pupil to pick up one of the books that are kept inside his or her desk and put it on the desk (the exceptions being sports and art) (see Figure 1).

Figure 1: Texts and reading positions in one of the classrooms.

Pupils are not allowed to leave their reading positions during lessons. But the teachers are free to move around, and they regularly come upon pupils who announce that they cannot continue their reading for one reason or another. Since the classroom period for reading and writing activities is divided in advance into measured time-slots, termed ‘lessons’, it is important that the pupils never run out of books in the middle of a lesson. Accordingly, in each of the three classrooms there are special text-stores that the teachers have access to. When a pupil has finished working on one book, there is always another book to replace it.

The written texts which pupils put on their desks during lessons not only place them as readers in distinct positions in the classroom, but also efficiently circumscribe their freedom of movement as read-
ers. The pupils focus their gaze on the books they are reading and normally steady the book with at least one hand. In activities where reading is combined with writing, often in an additional book, the motoric control is even more complicated. A usual way for pupils to concentrate on reading and resist the impulse to leave their reading positions is to twist their feet behind the front legs of their chairs. In one of the classrooms, the teacher remarked that a number of pupils still were not able to read. However, since all of the pupils show a similar behavior when reading, the outside observer cannot easily determine which of them actually have acquired reading skills and which have not.

At this intermediate level of instruction, the pupils are supposed to have acquired the skill of silent reading. Many activities however, are organized for reading aloud. Pupils are reading aloud together in chorus, reading in turns, imitating the teacher and so on. Texts are also voiced in drama and song. And sometimes texts are read aloud by the teacher. This frequent display of reading aloud activities has, aside from various other pedagogical goals, the obvious function of synchronizing the pupils’ reading. Also, when the text activates the voice of the person reading, it is easier to check if an actual reading process is going on, rather than one of just viewing.

That the written texts insistently demand the reader’s response is especially evident in the classroom activities which are performed by individual silent reading. In these cases, the response to the reading is always given by writing. As a minimal response, the pupils make a note on a special form in order to register the amount of pages they have read. This kind of response is sufficient in the case of reading literary texts, which typically do not seek to obtain any information, goods or services directly from the reader. In other cases, a typical way of giving response to the text in these classrooms is by answering the text’s questions or following its instructions. This kind of response is written in blanks left for this purpose in the book itself, or in a separate booklet. The reading is not considered finished until these written responses are given.

The writing and reading activities in contemporary classrooms, as I have described them in this section, are organized in ways that are well known. In spite of this, or maybe precisely as a consequence of the classroom’s familiar character, it takes some effort to recognize how the practices of reading throughout the school day regulate the actions of the pupils and other participants. It is necessary to enter a state of ‘Verfremdung’ in order to denaturalize the writing practices at hand, as they appear so natural as to easily escape critical attention.

I have shown how the classroom activities heavily rely on reading and writing as a tool for keeping the pupils ‘in place’ in the classroom. From the analysis, it is thus evident that the disciplining function of writing technologies operates on several different spatial scales. On a micro scale, the pupils become restricted to certain places within the classroom itself. The same reading activities, however, also contribute to the placement of the pupils at the very locality where the classroom is situated. Seen on a larger spatial scale, this underpins the maintenance of urban ethnic segregation. In order to meet the challenges in areas where a vast majority of pupils do not have Swedish as their first language, it is crucial to investigate how writing technologies may expand the pupils’ potential of establishing interpersonal relations, not only to writing artifacts, but also to people in other places.

6. Concluding remarks

We usually think of writing technology as something we use as human beings in our mutual relations. In this article, I have tried
to elaborate a complementary perspective: writing technology, including the semiotic artifacts produced by this technology, inserts itself into our interpersonal relations, sometimes in powerful ways. I have tried to indicate some of the principal differences between the interpersonal relations that are established between human bodies in speech, and the relations between those bodies and artifacts in the shape of written texts such as books, posters, monuments, papers, digital screens etc. These differences are related to the readers’ placement. While the relations between speaking bodies typically allow movements through space, the relation to a semiotic artifact typically locates the reader at a place for reading and circumscribes his or her freedom of movement. While the speaking bodies may in principle relate to one another in symmetrical ways when exchanging information, semiotic artifacts will continue to demand their readers’ attention and response all the way until the screen is switched off, the monument destroyed, or the book burnt.

If the field of discourse, rather than the tenor, had been taken as the main contextual point of view, the picture would have been different. The corresponding analysis would have focused on the kind of activities going on, such that it would have been possible to investigate how technology of writing works towards the reproduction of the same ideational meaning through time and space, and also how this can contribute to the semiotic construal of place. What would have been left out of the picture without any analysis of the tenor of discourse is the impact of technology on meaning making bodies, and the questions of power, control and resistance that arise in this perspective.

In the field perspective, the memorial practice of the rune stone is essentially a connection between the inscribed text (the memory) and the spatially located writing monument: “In memory of Vámôdr stand these runes and Varinn coloured them…” In other words, the stone tells us something about its own place. Without an analysis of the tenor of discourse, however, we would not have recognized how the inscription in fact contributes to place-making already by its forceful placing of the readers.

By contrast, in the case of the classrooms, we would have encountered a situation that is quite the reverse, namely that the ongoing reading activities construe the classrooms as ideationally empty places. The texts that are read here never take up the classroom or the school itself as a subject-matter. On the contrary, the classroom emerges as a place for making (ideational) meaning about other places: for example, geographical places in social science, fictitious places when reading fantasy, and textual places when doing mathematics. (The question "How long is the crocodile?" refers to an animal occurring in a mathematics textbook, not in the classroom!) Only by analyzing the tenor of discourse can we show how reading is an essential activity, not only for learning about places (and other things), but for learning to be in place. Writing and reading are not just technology that pupils pick up and learn to use in the school location; in a tenor perspective, the technology of writing is a necessary condition for schooling.

The way of analyzing tenor that I have proposed in this article offers some challenges to the contextual theory of social semiotics. Most important among these seems to be that the tenor of discourse has hitherto been theoretically construed as relations between the human participants in a discursive activity. The term ‘interpersonal’ has in other words been taken strictly etymologically to mean relations between persons. In the analysis presented above, I have assumed that also artifacts can be part of the pattern of interpersonal relations, and that this is what is happening – at the contextual stratum – in the case of writing technologies. In their concluding discussion of Halliday’s contextual theory, Lukin et al. (2011) suggest that it may
be possible "to give contextual variables from the perspective of different individuals, groups of individuals or even technology" (2011: 207, my emphasis). My analysis is an attempt to push the theory in that direction. Such a move might open for a fruitful exchange with actor-network theory, a theory that has strongly emphasized the idea that agency may be assigned to non-human actors (see, for example, Latour 1987).

Closely linked to this issue is also the question of power. Since tenor has been taken to cover mutual human relations, it is also within such networks that power usually has been understood. My analysis points towards another understanding of power, which in addition ties power to the spatial configurations and arrangements that structure social life. The approach advocated in the present article seems to be, at least in principle, consistent with Foucault’s statement that "space is fundamental in any form of communal life; space is fundamental in any exercise of power" (from an interview with Foucault; Rabinow 1984); it would likely profit from a closer engagement with Foucault’s notion of power as situational, intrinsic and reciprocal (Foucault 1991).

Finally, it should be noted that the ideational priority in research on writing technology outside of social semiotics has for a long time been questioned by more practice-oriented researchers (cf. Scribner & Cole 1991, in the debate presented in Karlsson 2011). An interest in spatially located literacy practices potentially involves an interest also in interpersonal aspects (see for example Barton & Hamilton 1998; Karlsson 2009; Karlsson & Nikolaidou 2012). Strengthening the analysis of the tenor of discourse will allow us to further increase the points of contact between this tradition of practice research and social semiotics.


