Peter Auer, Martin Hilpert, Anja Stukenbrock, and Benedikt Szmrecsanyi

Integrating the perspectives on language and space

This book brings together different perspectives on the relation of language and space. The contributions in this volume were originally presented at a conference series held at the Freiburg Institute for Advanced Studies in the fall of 2009. These meetings focused on three aspects of language and space that are quite well-researched within themselves, but which so far are lacking productive interconnections. Specifically, the Freiburg workshops on language and space addressed the following issues:

- Language, space, and geography
- Grammar, space, and cognition
- Language and interactional spaces

It was the chief purpose of these workshops, and by extension of this volume, to create a common forum for research traditions that show substantial overlap in their subject matter but which differ in theoretical outlook and research methodology. It is our contention that a rapprochement of these largely separate research traditions is necessary for further progress in the study of language and space and that a more inclusive view holds mutual benefits for each of the participating fields. But what exactly are the traditions that we aim to bring closer together?

Under the rubric of »language and space«, linguists have been researching several seemingly unrelated areas of language. Most straight-forwardly perhaps, »language and space« refers to the areal distribution of linguistic forms. Here, the objects of investigation are linguistic expressions that vary across space, so that it is possible to map linguistic forms onto geographical areas. In another interpretation, »language and space« focuses on the grammatical expressions of a language which are used to locate entities or describe movements in space. This notably includes deictic elements, but also spatial adpositions and lexical elements that denote spatial relations. Yet another view of »language and space« refers to the use of space in linguistic interaction, i.e. how groups of speakers arrange themselves in space and how they make use of co-speech gesture. The use of space as a communicative resource has also been studied extensively in research on signed languages. When one compares these three traditions – areal linguistics, research on spatial expressions, and the study of space in linguistic interaction – it appears that these fields of enquiry are not only concerned with entirely different phe-

nomena, but that they furthermore embrace opposing ways of conceptualis-
ing space that have been competing in Western philosophical thinking for a
long time. Areal linguists regularly refer to *absolute spaces* (»containers« exist-
ing independently of the linguistic forms that are located »within them«),
while grammatical markers of spatial relations often encode *relative spaces*, so
that for instance a deictic expression locates an object in space relative to a
point of reference, such as the speaker or a salient landmark. It seems that
language lends itself to both views of space – the absolute and the relative –
but with very different resources. In order to motivate a rapprochement of
the research traditions that are represented in this volume, we want to argue
that the seemingly mutually exclusive opposition between the pragmatics of
space in the narrow, deictic sense and the areal distribution of linguistic
forms is less compelling than is often thought. The commonalities between
the two become apparent as soon as they are seen as two instances of lin-
guistic indexicality that are both rooted in interaction. It is this idea that
motivated the tripartite structure of the FRIAS workshops on language and
space and that is continued in the different sections of this volume, which are
meant to mutually illuminate one another. When studies on different aspects
of language and space are arranged side by side, one can begin to see unity in
the diversity that characterizes the study of language and space.

In the remainder of this introductory chapter, we will first offer a more in-
depth argument for the unification of perspectives that we envision; after
that, we present a short explanation of how the volume is structured and
what topics are covered by the individual contributions.

1.   The traditional view

Since antiquity, Western *philosophical thinking* about space has been characte-
rised by two different approaches. The Aristotelian view is that of space
being *absolute*, i.e. existing before and beyond individuals' acting in space, and
even before and beyond the existence of any matter in it. In this tradition,
space was first (in antiquity) thought to be a container, the limits of which
were the stars. Later (in Newton's view), the container lost its limitations and
was conceived as endless; nonetheless, it was thought to exist independently
of the objects it contained and of their relationship to each other – an empty
space (cf. von Weizsäcker 1986). Since modernity, the Euclidian notion of
space as a three-dimensional, metric space has also dominated *common-sense*
thinking. The popularity of this view is due in many ways to the development
of techniques of mapmaking in early modernity, a technology of reducing
three-dimensional to two-dimensional space by which every point on the

earth can be defined exactly by its longitudinal and latitudinal parameters. GPS and the applications of geographical computer technology are perhaps further strengthening the idea of an absolute space, since this technology provides ways of locating all sorts of things and experiences independently of the spatial location or perspective of the human user.

There is, however, a different tradition of theorising space, according to which it is always *relative*. The phenomenological version of relative space introduces the human experiencer and the body (in the sense of *Leib* – ›lived body‹; Merleau-Ponty 1945) as the reference point from which all spatial relations originate. For phenomenologists, space is always *oriented* towards the lived body, its movements and actions, so that human beings *live space*, rather than *live in space*. Space is thus actively construed by human agents, be it as fleeting interactional spaces which are formed and dissolved with every social encounter (Goffman 1963), or as more permanent *places* – socially meaningful spaces that are relevant because of the activities taking place in them, the values ascribed to them, or the social conventions that are associated with them.

Although it was claimed above that common-sense thinking about space since modernity has been dominated by the absolute notion of space, relative notions of space also continue to play an important role today in *everyday practices*. For instance, it continues to be more important to find the way from ›here‹ to ›there‹ incrementally (i.e. by being able to decide correctly at each junction where to turn), than to know the location of the origin and the target in absolute space. Modern technologies of wayfinding (GPS systems in cars) are adapted to this preference: They are not restricted to indicating the way from ›here‹ to ›there‹ on a map, but they also translate this knowledge into pragmatically contextualized route directions that guide the car driver from one location to the next until the target has been reached.

The relative conception of space is firmly established in the linguistic tradition of studying deictic expressions. One universal design feature of human languages is the existence of linguistic signs that deal with space in a relative, perspectival way (Bühler 1934). These signs have been the object of detailed study (cf. Jarvella & Klein eds. 1982; Weissenborn & Klein eds. 1982; Fillmore 1975[1997]), and the recent cognitive turn in linguistics has further contributed to this field of research (cf. Habel & von Stutterheim 2000) by linking the pragmatics of spatial deixis to research on human (collaborative) orientation and movement in space. Most of this research is concerned with spaces that are visually accessible. The relative nature of spatial deictics is obvious, since their interpretation is dependent on the establishment of an *origo*, most often the speaker. This origo can be transferred to

non-speaking, even imaginary humans (displaced origines, deixis in the im-
agination), and some types of objects can even be conceptualised as having
an intrinsic perspectivity (Bühler 1934; Levinson 2003), yet the nature of
spatial reference of this kind remains perspectival. Recent research on point-
ing activities and spatial deixis in non-European cultures/languages has also
demonstrated how the choice of deictic elements, rather than being deter-
mined by spatial parameters, *construes* spaces (including social ones; cf. Hanks
1990, 2004; Enfield 2003).

Independently of this research tradition, linguists have used absolute no-
tions of space to investigate *the diversity of language(s) in areal terms*. In this tradi-
tion (sometimes called geolinguistics, or areal linguistics), geography is used
to locate linguistic forms in space. Its origins go back to nineteenth-century
dialectology, the field of linguistics in which arguably the highest degree of
geolinguistic sophistication has been reached. As shown in Auer (2005), its
origins coincide with the heydays of spatial thinking as a constitutive feature
of nation building, i.e. the political idea that nations have their own language
spaces which they occupy exclusively (and vice versa: language spaces are at
the basis of the existence of nation states). However, linguistic cartography
has survived the national(istic) preoccupation with space and its political
connotations and has flourished in recent years, after a period of dominantly
non-spatial sociolinguistic theorising about language variation. Again, the
availability of new technological tools seems to have played its part in the
emergence of a new generation of map-based, partly georeferenced lin-
guistic studies, which are now concerned not only with the distribution of
dialect forms in national or transnational spaces, but also with the distribu-
tion of linguistic forms in the languages of the world (see, as a particularly
impressive example, the WALS).

2.   A reappraisal: the field of spatial indexicalities

At first sight, then, it seems that language is linked to space in two different
ways; first, spatial deictics provide languages with a specific technique for
constructing spaces which are perspectival and orientated. Second, language
features are distributed in a way which can be mapped onto geographical
space. However, a closer look into how space is made relevant in interaction
will reveal that this distinction is less clear than it initially appears. We would
like to argue *that the way in which interaction is organised necessitates a reappraisal of
the seemingly simple distinction between spatial pragmatics on the one hand and the areal
distribution of linguistic forms on the other.* The reappraisal suggests a shift of per-
spective particularly on the areal side, but partly also on the side of spatial

deixis. The basic argument is that both spatial deictics and linguistic forms indexing geographical position overlap in their function to *emplace* individuals and social communities. The term *spatial indexicality* is suggested as an overarching term which covers both ways of referring to and making relevant space through language.

Despite the arguments presented in this section for a rapprochement of the two conceptions of space, it goes without saying that there are fundamental differences regarding the nature of deictic indexicality on the one hand and geographic, variation-based indexicality on the other. Both are locational devices, but they locate in different ways, with different limitations and on different cognitive and social foundations:

(1) Spatial deictics function on the basis of shared spatial representations that are contingent on the interactional »formation« in the sense of Kendon (1976) (i.e. the roles and bodily positions of speaker and hearer). This representation of space is highly adaptive and temporally unstable, since the *shared space* is recreated with each new interactional formation. By contrast, linguistic variation can be used to locate speakers in space only on the basis of relatively stable knowledge about how people speak in different places, i.e. on the basis of *ethnolinguistic knowledge*. Matching speakers with places on the basis of language is a procedure in which the experience of difference between the way ›we‹ speak and the way ›they‹ speak is the index (cf. Irvine's notion of style as difference, 2001), and knowledge about who supposedly speaks in which way is the indexed. This may of course be second- or third-hand knowledge and not derived from participants' personal experience.

(2) Spatial deictics are a way of referring to objects *tout court*, while variation-based indexicality is obviously restricted to locating speakers; non-human referents usually do not speak and therefore do not have a linguistic style on the basis of which they could be ›emplaced‹. But by the same token, variation-based indexicality carries more than geographical meaning; it almost inevitably implies a social evaluation of the speaker. It shares this feature with non-deictic spatial expressions. Deictic indexicals of space, by contrast, do not usually carry social meaning.

(3) Variation-based indexicality is relatively stable across different situations, but it is also subject to interpretative mistakes (somebody is wrongly assigned a place because the hearer does not have sufficient ethnolinguistic knowledge) and fakes (somebody may pretend to be from a place from which s/he actually is not). Above all, over historical time the link between

6   Peter Auer, Martin Hilpert, Anja Stukenbrock, and Benedikt Szmrecsanyi

geography and language may be weakened, entirely dissolved, or redefined, even though stereotypical knowledge about it may persist in a community. In general, speakers are able to accommodate their interlocutors, and they may have more than one »authentic« linguistic variety or style at their disposal. It is one of the consequences of modern and postmodern social as well as geographical mobility that the most telling indices of spatial belonging, the traditional dialects, have disappeared more or less completely, and that speakers are either multidialectal (and multilingual) or only use varieties which are relatively difficult to locate in space.

(4) Spatial deictics constitute a well-defined field of linguistic expressions whose primary function it is to locate referents in space. Variation-based indexicality is a secondary kind of indexicality in the sense that *any* linguistic expression, in addition to whatever function it may have, can carry an additional layer of information which emplaces the speaker.

We can now come back to our initial claim that the distinction between absolute and relative notions of space cannot be associated with the two types of spatial indexicality in a one-to-one way. First, it should be noted that non-deictic spatial expressions (such as place names) often occur in combination with deictic elements in interaction and that deictic and non-deictic expressions are often mutually paraphrased. More important for our argument is however another group of spatial deictics, which are built on an absolute notion of space, i.e. so-called environment-centred frames for reference (cf. the contributions by Bohnemeyer & Tucker and Diessel in this volume). In the modern European languages, they survive in two formats which still compete in referential expressions for two places in geographical space relative to each other. The older format is based on natural topography, while the newer format is based on cardinal directions. For instance, the location of, say, the city of Munich relative to the city of Ratisbon can be described as ›up (-hill)‹, and accordingly, one would go from Ratisbon *nach München rauf* ›up to Munich‹ based on the fact that Munich is closer to the Alps than Ratisbon; but competing with this absolute spatial reference is another one in which Ratisbon is ›up‹, and a speaker who follows this system would go from Ratisbon *nach München runter* ›down to Munich‹, based on the fact that Munich is south of Ratisbon, and ›south‹ equals ›down‹ on a map. In both reference systems, the spatial description of the two cities (and movements from one to the other) remains the same, regardless of whether the speaker is in Munich or Ratisbon or in neither of the two cities. The verbal expression is not dependent on the speaker-origo.

Absolute frames of reference of this kind have recently been the object of a huge amount of anthropological research, mainly on languages in Northern Australia and Central America in which they are not only a marginal possibility like in German, but the dominant, unmarked system (see Levinson 2003, Bennardo 2009). In these languages, all objects are placed relative to a frame of reference which is determined by (usually culturally salient) distinctions such as ›towards the sea‹ vs. ›towards the mountain‹, or ›up-mountain‹/›down-mountain‹. The typological distinction between languages that favour origo-centred, and those that favour absolute[1] frames of reference shows that the placement of objects in space is not universally based on a relative notion of space. There is reason to believe that absolute systems are typical of traditional, pre-modern societies. However, as the example of the cardinal directions shows, modern societies have specialised uses of absolute systems as well, even though their use is limited – above all, absolute frames of reference would not be used when the objects to be described spatially are within the visual reach of the participants or within buildings.

While the typologically somewhat marginal case of languages that prefer absolute frames of reference for spatial expressions shows that spatial pragmatics and absolute notions of space are not incompatible, we now turn towards the more important relationship between variation-based spatial indexicality and relative notions of space. The decisive point to be made here is that although the areal distribution of language features can be plotted onto maps that are the technical counterpart of an absolute, two-dimensional conception of geography, these maps do not do justice to the ways in which linguistic variation functions as an index to a speaker's spatial belonging in interaction. They disregard the sociolinguistic function of linguistic variability as a way to tell where somebody »comes from« and where s/he »belongs«, both in the concrete, spatial and in the more derived, social sense. We would like to propose that the categorisation of interactional co-participants – particularly of strangers – is a fundamental function of language, and that »placing« a speaker plays a central part in this categorisation, minimally consisting of the distinction between »one of our kind« and »one of a different kind«, which is perhaps a version of »someone I can understand (easily)« and »someone I cannot understand (easily)«. As soon as a community shares

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[1] Sometimes the term »relative frame of reference« is used to refer to ego-centred frames of reference; this however, is misleading since intrinsically organised frames are equally relative. Origo-centred frames of reference are therefore one type of relative frames only.

some ethnolinguistic knowledge about how language features are areally distributed, this knowledge can enter into a process of social categorisation in which social attributes are derived from spatial locations. Linguistic differences are exquisitely suited for this purpose; they can be extremely fine-grained and thereby convey information that is more subtle than, for instance, bodily attributes such as skin colour. Furthermore, they are less subject to voluntary change than, for instance, clothing styles: languages can be learned, and accents lost, but this takes effort and time and is subject to many restrictions. Linguistic features therefore are a relatively reliable and at the same time fine-tuned instrument to display and recognise local and thereby social differences between speakers.

The claim put forward here is that linguistic differences index spatial parameters (belonging, place, provenance) in terms of social parameters (inclusion/exclusion, superior/inferior, known/unknown). The exact nature of the link between spatial and social categorisation is complex and subject to historical change. Positing such links is contingent both on the structure and size of (to-be-categorised) speakers' repertoires (their multilinguality, multidialectality, multistylistic resources) and the ethnolinguistic knowledge of the recipient-interpreters. In Europe, as well as elsewhere, both aspects have been substantially restructured over the last 500 years or so: many dialectal forms have been lost, regional and national varieties have developed. Regardless of these changes, the ethnolinguistic resources recipients use to place a speaker areally and socially remain perspectival, i.e. they are structured differently in the vicinity of the speakers' own location and in faraway places (cf. Preston 1989, Niedzielski & Preston 2000).

Building on Silverstein's (2003) orders of indexicality and Labov's (1972) distinction between indicators, markers and stereotypes, Johnstone et al. (2006) identify three types of *variation-based indexicalities* which can be defined by their different alignments of geography and social structure. Very roughly, they can be approximated to traditional, modern and late modern models of spatial-social indexicalities, although a precise historical account would need to differentiate between groups of speakers along the social hierarchy with their specific linguistic repertoires. The first (»traditional«) model of spatial-social indexicality is based on a strict one-to-one relationship between spoken language and geographical location. In this model, spatial parameters can be read from language more or less directly; the way in which somebody speaks betrays his or her place of origin (which equals the place of living), and very often, this place of origin/living also makes some kind of social categorisation possible. The »others« are those who live in another place. As a rule of thumb in ethnolinguistic categorisation, the relative degree of incom-

prehensibility indicates the distance of the place to which the speaker be-
longs (with all the fallacies such a rule of thumb may imply).

In modernity and late modernity, this strict »language–body–place connec-
tion« (Quist 2010) becomes untied in two steps. In Johnstone's second-order
indexicality, space remains the most important source of linguistic heteroge-
neity, but its interpretation assumes a more complex structure. Since one sym-
bol of and justification for modern nation building is language (Stukenbock
2005), sameness or difference of language is now relevant not only on the level
of the traditional dialects, but also on the level of the nation-state, which has
»its own language«. The national language space, unlike dialectal space, cannot
be grasped by experience alone: it is an imagined space with borders that
mainly exist on paper, above all in the format of maps,[2] and which is defined
by a new type of language variety, the standard. The tension between the local
vernacular (dialect) and a normative, standardised language associated with
the nation-state becomes the motor and the new symbol of social differenti-
ation, i.e. it defines a vertical structure on top of the existing horizontal one.
This leads to a reevaluation of all forms of speaking: what used to be nothing
more than the ›natural‹ way of speaking in a given location now becomes, in
the worst case, the language of the underprivileged classes who have no access
to education, a variety that needs to be avoided in out-group situations.

The second social transformation is the late modern one which leads to a
third model of spatial-social indexicality based on linguistic heterogeneity. It
occurs in the context of the processes called globalisation which set in during
the last quarter of the last century, and which Bauman (1998: 8) calls the
»Great War of Independence from space«. But globalisation not only means
dissolving the language-space connection. The age of globalisation has also
seen a countertendency – a new interest in symbolising belonging in spatial
terms, in turning abstract space into places (Cresswell 2004) which are im-
pregnated with meaning, and which symbolise belonging. The ›local commu-
nity‹ is no longer brought about by space itself (if it ever was), since the
former limits on travel and communication beyond the local community
have largely disappeared. Rather, people who live in a location – born there
or (more often) not – may choose to construe a local identity for themselves.
Place-making activities abound. The less speakers »naturally« give off in-
formation about »their« spatial grounding by the way they talk (based on the
assumption that they have no choice), the more important talk about place
seems to be; and there is surely more of it – about places of birth, places of

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[2] See Anderson 2006: 170–178 as well as Dipper & Schneider (eds.) 2006 on the re-
lationship between modern cartography and the nation state.

living, differences between places – than 100 years ago. In the tension be-
tween standardisation and destandardisation which characterises the present
situation, the new media play an important role. For one thing, they provide
an instrument of communication by which diasporic language spaces result-
ing from migration can be held together and tied back to their »home
country«. Additionally, they enable non-standard, vernacular forms to
spread around the globe (Meyerhoff & Niedzielski 2003), as well as make
available a repertoire of linguistic forms which are not those the speaker/
writer »owns« (*crossing* in Rampton's 1995 sense): these linguistic variables ap-
pear in new functional contexts and assume multiple meanings (as prototypi-
cally shown by the use of fragments of Afro-American English or Jamaican
Creole by speakers of completely different ethnic belonging).

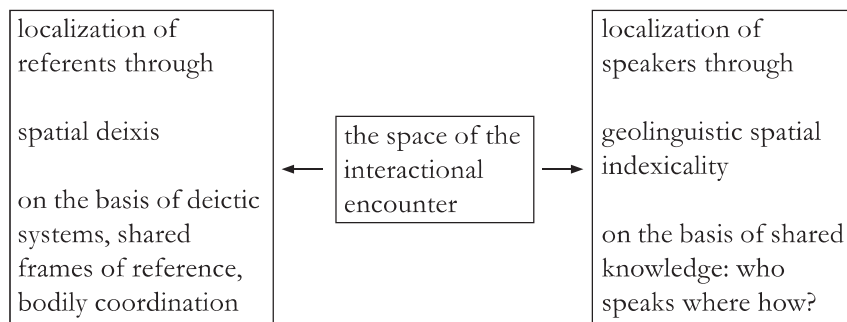| localization of referents through spatial deixis on the basis of deictic systems, shared frames of reference, bodily coordination	←	the space of the interactional encounter	→	localization of speakers through geolinguistic spatial indexicality on the basis of shared knowledge: who speaks where how?

Fig. 1: Dimensions of »language and space«: the double spatial indexicality of
language

In sum, the spatial-social indexicality of linguistic variation is deeply linked
to the ongoing social transformations of the world; however, *it always becomes
relevant and is activated within situated encounters – the same encounters in which par-
ticipants establish reference by spatial deictics.* The *double spatial indexicality of language*
(cf. Fig. 1) which results from these employments of very different linguistic
resources can become intertwined in many ways. Although this argument
does not preclude the possibility and justification of treating the two types of
spatial indexicality in different domains of linguistic research (spatial prag-
matics on the one hand, areal linguistics on the other), it also speaks in fa-
vour of a reappraisal of the theoretical and methodological embeddings of
the two fields. In particular, it is not the case that spatial pragmatics is built
on relative notions of space, while areal linguistics are intrinsically bound to
absolute notions of space. In the field of person reference and person cat-
egorisation, both overlap and are often used together.

3.   Structure of this volume

The present volume is structured into six sections. The first two sections address language and geography, the first focusing on variation across languages and the second on variation within languages. Section three and four present different analyses of interactional spaces, both in stationary and mobile settings. Section five extends the discussion to mediated spaces, which include digital landscapes and computer-based channels of communication. Section six wraps up the volume with contributions on typology and spatial reasoning. In each of the sections, the contributions are concluded by a commentary that highlights common threads or offers pointers that go beyond the specific case studies. The following paragraphs give a brief overview of the individual contributions.

3.1   Geography and variation across languages

MICHAEL CYSOUW addresses the problem that typological similarity between languages can be due to two potentially confounding factors: a close genealogical relation or close geographical proximity. Quite often these two factors go hand in hand so that it is difficult to disentangle their respective effects. Cysouw uses data from the WALS to develop a solution to this problem.

JOHANNA NICHOLS argues that areal linguistics has paid insufficient attention to the variable of altitude, which often disappears in the making of two-dimensional maps. Nichols shows that altitude has tangible sociolinguistic effects, notably isolation, but also others, which in turn leave their mark on language structure. Focusing on mountain areas with a central crest, Nichols explores what generalizations can be made about how language responds to verticality relations.

WALTER BISANG explores two aspects of language contact and shows that contact-induced structural convergence is not limited to geographic contiguity. He compares situations of contact through speaker mobility with contact situations in which speakers and their respective speech communities are in contact only by way of writing. As Bisang argues, the latter type is not limited to modern electronic communication (cf. section 4 on mediated spaces); a far longer tradition can be claimed for them. In discussing these phenomena, Bisang shows that language contact matters even beyond geographically contiguous areas.

EKKEHARD KÖNIG concludes this section by reflecting on the notion of space in linguistic typology.

3.2   Geography and variation within languages

BARBARA JOHNSTONE elaborates on the concept of place, which critically goes beyond a geographic localization, but which is revealed to be an ideological construct that is created in human interaction. Varieties of speech that speakers perceive as being tied to places emerge through the process of *enregisterment*. Encounters with linguistic differences or emblematic linguistic forms can enregister these forms, that is, turn them into a mark of place and place-identity.

PAUL KERSWILL discusses identity, ethnicity and place in the construction of youth language in London. His paper reports on two research projects, namely *Linguistic innovators: the English of adolescents in London*, and *Multicultural London English: the emergence, acquisition and diffusion of a new variety*. In these projects, Kerswill and collaborators collected speech data from the inner London boroughs of Hackney, Haringey and Islington, as well as the outer borough of Havering. The projects investigated not only the production of inner- and outer-city speech but also the social construction of inner- and outer-city varieties in a complex interplay of factors such as ethnicity, social class, gender, age and place.

BERND KORTMANN poses the question how well geography can explain degrees of morphosyntactic variation. By comparing a large catalogue of morphosyntactic features across a global set of varieties of English, Kortmann shows that geography discriminates well at the micro-level, particularly at the level of traditional British dialects. At the same time, the global comparison shows that variety type, i.e. the question whether a variety of English is for instance a traditional dialect, a learner variety, or a creole, largely outranks geography as a predictor of morphosyntactic structure.

ELVIRA GLASER makes the case that the geographical distribution of forms, although well-researched, is not as properly understood as would be desirable, specifically so with regard to morphosyntactic forms. On the basis of data from Swiss German, she develops an approach towards a firmer grasp of this idea. She also argues that the geographical distribution of morphosyntactic variants is prevailing, even though the dissolution of traditional dialects is a commonplace in popular discussions of language.

JOHN NERBONNE shares his opening observation with Johanna Nichols: Most geolinguistic studies have reduced geography to the mere distance between two points. He goes on to develop an alternative operationalization of geography that includes the notion of area. In a study based on German dialect atlas data it is shown that this operationalization is a useful complement to the simpler, distance-based implementation. Nerbonne suggests that

geography can in fact be modeled in a more complex way that includes several mixed forms of geographical influence on language.

Concluding this section, BENEDIKT SZMRECSANYI comments on the many geographies and methodologies in research on variation within languages, asks whether research in this area may be lost in space, but identifies the social dimension of language variation as a common denominator towards which all contributions are oriented.

3.3   Interactional spaces

HEIKO HAUSENDORF explains that space in linguistic interaction is not an invariant medium that pre-exists the speakers, but rather that space is interactively achieved in the speech situation. Hausendorf breaks down this process into the sub-problems of *co-orientation* (referring to perception), *co-ordination* (referring to movement) and *co-operation* (referring to action). A close inspection of these sub-problems reveals that the speech situation emerges as the participants' solution to these problems.

JÜRGEN STREECK investigates the concepts of space and place in a study of social interaction on a South American plaza in the city of Cartagena de Indias, Colombia. The study shows how the plaza can be understood as a self-organizing and self-sustaining system of face-to-face interactions, where repeated types of social interaction lead to an emplacement of their participants. This for instance includes the social apprenticeship of younger participants, who observe, and eventually participate in, the age-graded social practices that the plaza affords.

JOHN HAVILAND reports on spatial expressions in a nascent sign-language that was created by Zinacantec Indians from the Mexican Chiapas Highlands. Haviland compares the spatial frames of reference of the surrounding spoken lanugage, Tzotzil, with the devices that are used in this emerging sign language. This is done through an elaboration of Jakobson's (1957) distinction between a *narrated event* and a *speech event*, which is used here to distinguish a *narrated space*, a *speech event space* and an *interactional space*.

LORENZA MONDADA further develops the notion of interactional space, defining it as the situated, mutually adjusted changing arrangements of the participants' bodies within space. These arrangements depend on the activity the participants are engaged in, the objects that are involved in this activity, and the participants' mutual focus of attention. This interactional space is dynamic, it is constantly updated within the activity. Mondada illustrates these concepts with examples of conversational openings and acts of giving directions.

The section ends with a commentary by ANJA STUKENBROCK.

14   Peter Auer, Martin Hilpert, Anja Stukenbrock, and Benedikt Szmrecsanyi

3.4   Mobile spaces

Pentti Haddington focuses on mobile interactional spaces in a study of
how speakers handle the navigation of a car as a collaborative social and spa-
tial task. On the basis of video-recorded interactions in cars, it is shown how,
on the one hand, action shapes space, i.e. how participants construct a mu-
tual understanding of space and, on the other hand, how space shapes ac-
tion, i.e. how participants adapt to the pre-existing features of space by ad-
justing their verbal and embodied behavior to the spatial context.

Elwys De Stefani also addresses aspects of linguistic interaction in mo-
bile settings, emphasizing that participants may modify their relative posi-
tions in space as they interact. Certain activities, such as giving directions or
pointing out topographic features, require bodily repositionings that allow
participants to use the affordances that are provided by the spatial environ-
ment. From this point of view, the surrounding space of an interaction is a
resource that speakers can exploit in shifting ways for their communicative
purposes.

In her commentary, lorenza mondada sketches the conceptual, analyti-
cal and methodological challenges posed by the new mobility paradigm as it
»mobilizes« our notions of language, space, (inter)action and context.

3.5   Mediated spaces

Marco Jacquemet describes how contemporary electronic media create
a communicative space that is characterized by language mixing, hybridi-
zation, and syncretic communicative practices. Whereas mediated communi-
cation has in the past been approached as a unidirectional, centralized, and
production-centered phenomenon, these defaults no longer apply in con-
temporary digital environments. Jacquemet's paper explores the communi-
cative practices of social groups in various media technologies, exposing
how different languages and communicative codes are simultaneously in use.

Michael Beisswenger investigates the use of spatial deictics in com-
puter-mediated written communication, specifically chats. Using spatial
deictics in environments where the communicating parties do not share the
same physical space and neither see nor hear each other is bound to be prob-
lematic. Beißwenger shows how these problems are dealt with in the practice
of interaction, which can draw on commonalities in the physical computer
workspace (keyboard, mouse) and the chatroom interface on the screen to
anchor deictic expressions.

Christian Mair and Stefan Pfänder study the ways in which specific

social groups use their real-world vernacular and multilingual resources in order to »perform« online identities. Mair and Pfänder observe that digital communication technologies are instrumental in the current global spread of ex-colonial languages such as Cyber-Jamaican or Cyber-Peruvian. On the basis of web forum data, Mair and Pfänder show that these new digital vernaculars challenge conventional assignations of prestige and stigma familiar from face-to-face interaction, and that it is necessary to acknowledge them as medium-specific vernacular styles.

SUSANNE UHMANN's study analyzes the use of spatial deictics by surgeons who perform laparoscopic surgery. Deictics such as *here* and *there* thus refer to coordinates in a space that the interacting parties can only see on a computer screen. Uhmann identifies three important aspects that characterize use of deictics in such a mediated space: First, surgeons can only use their laparoscopic instruments, not their hands, for pointing. Second, the manoeuvrability of these instruments is highly restricted. Third, all team members can observe the instruments and their actions on a monitor.

In her commentary, MONICA HELLER discusses the social practice of constructing space in mediated contexts as a phenomenon that can be conventionalized to different degrees.

3.6   Typology and spatial reasoning

GISELA FEHRMANN examines the use of space in several signed languages of the world, outlining their functions and constructing a typology of space usage in signed languages. The use of space in signed languages includes for instance the association of a sign with a point in the signing space, a referential index. Another important aspect of the use of space is inherent in the concepts of reversed space and mirrored space, which are alternative strategies to engage with the deictic signs used by an interlocutor. By discussing these strategies, Fehrmann shows that signers are not merely representing a pre-existing space, but that they are actually *making* space.

JÜRGEN BOHNEMEYER and RANDI TUCKER discuss the hypothesis that speakers of languages in which shape-based meronymy is a prevalent resource for the expression of spatial relations may show a bias against the use of relative frames of reference. Data from Yucatec Maya is brought to bear on this hypothesis. In Yucatec Maya, human body meronyms (foot, head, arm, etc.) are routinely used to express spatial relations between non-human objects. Bohnemeyer and Tucker offer experimental results that speakers of Yucatec Maya indeed show a preference for intrinsic frames of reference over relative frames of reference.

ALAN CIENKI examines the relation of language and space with regard to co-speech gesture. He offers an overview of research on gesture that takes into account the spatial dimensions of gestures, their possible connections to grammar, and the consequent cognitive implications. In doing so, Cienki distinguishes pointing gestures and referring gestures, which in turn may either represent an object, trace an imagined outline of an object, or re-enact a manual movement. In addition, there are also discourse-related gestures that function as metanarrative deictic elements. Cienki concedes that current research does not support a clear one-to-one correspondence between co-verbal gesture and grammar, but the evidence does point to substantial systematicity in gesture use.

In the final commentary, HOLGER DIESSEL connects the contributions of this section to the typological debate surrounding relative and absolute frames of references in the world's languages, showing how the grammatical class of demonstratives can shed new light on this issue.

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