Space and Time in Languages and Cultures

Language, culture, and cognition

Edited by
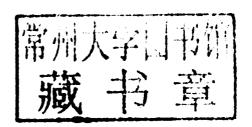Luna Filipović
Kasia M. Jaszczolt

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Luna Filipović
University of East Anglia

Kasia M. Jaszczolt
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Volume 37

Space and Time in Languages and Cultures. Language, culture, and cognition
Edited by Luna Filipović and Kasia M. Jaszczolt

Editors and contributors

Editors

Luna Filipović
School of Language and
Communication Studies
Faculty of Arts and Humanities
University of East Anglia
Norwich Research Park
Norwich, NR4 7TJ, United Kingdom
L.Filipovic@uea.ac.uk

Kasia M. Jaszczolt
Department of Theoretical and
Applied Linguistics
University of Cambridge
Cambridge CB3 9DA, United Kingdom
kmj21@cam.ac.uk

Jürgen Bohnemeyer
Department of Linguistics
University at Buffalo
The State University of New York
609 Baldy Hall
Buffalo, NY 14260, USA
jb77@buffalo.edu

Bernard Charlier
The Mongolia and Inner Asia
Studies Unit
Department of Social Anthropology
University of Cambridge
The Mond Building
Free School Lane
Cambridge CB2 3RT, United Kingdom
bc262@cam.ac.uk

Contributors

Valentina Apresjan
Department of Linguistics
Philological Faculty
Higher School of Economics
Khitrovsky per., 2/8, korp. 8
109028 Moscow, Russia
valentina.apresjan@ gmail.com

Nicholas Asher
CNRS, Laboratoire Institut de Recherche
en Informatique de Toulouse
Université Paul Sabatier
Toulouse, France
Nicholas.Asher@irit.fr

Vera da Silva Sinha
Universidade Federal de Rondônia
Departamento de Letras e Lingüística
(Lingüística e Línguas Indígenas)
CEP: 76801-059
Porto Velho-RO Brazil
vera.sinha@gmail.com

Jonathan Davies
University of Bristol
Faculty of Medicine
First Floor South, Senate House
Tyndall Avenue
Bristol, BS8 1TH, United Kingdom
jd9039@bris.ac.uk

Grzegorz Drożdż
Institute of English
University of Silesia
Ul. Grota-Roweckiego 5
41-205 Sosnowiec, Poland
grzegorz.drozdz@us.edu.pl

Kateřina Fibigerová
Department of Psychology
Faculty of Arts
Charles University of Prague
Celetná 20
110 00 Praha 1, Czech Republic
&
Laboratoire Octogone-ECCD
Pavillon de la Recherche
Université de Toulouse-Le Mirail
5, Allées A. Machado
31058 Toulouse Cedex 9, France
katerina.fibigerova@univ-tlse2.fr

Luna Filipović
School of Language and
Communication Studies
Faculty of Arts and Humanities
University of East Anglia
Norwich Research Park
Norwich, NR4 7TJ, United Kingdom
L.Filipovic@uea.ac.uk

Sharon Geva
Developmental Cognitive
Neuroscience Unit
UCL Institute of Child Health
30 Guilford Street
London WC1N 1EH, United Kingdom
sharon.geva@cantab.ne

Anna Gladkova
School of Behavioural, Cognitive
and Social Sciences
University of New England
Armidale NSW 2351, Australia
anna.gladkova@une.edu.au

Michèle Guidetti
Laboratoire Octogone-ECCD
Pavillon de la Recherche
Université de Toulouse-Le Mirail
5, Allées A. Machado
31058 Toulouse Cedex 9, France
guidetti@univ-tlse2.fr

Minyao Huang
Department of Theoretical and
Applied Linguistics
Faculty of Modern and
Medieval Languages
University of Cambridge
Sidgwick Avenue
Cambridge CB3 9DA, United Kingdom
mh538@cam.ac.uk

Julie Hunter
Universite de Pau
et des Pays de l'Adour, Pau
Institut Jean Nicod and Ecole des Hautes
Études de Sciences Sociales
Paris, France
juliehunter@gmailcom

Marlene Johansson Falck
Department of Language Studies
Umeå University
901 87 Umeå, Sweden
marlene@magicspelling.com

Ronald W. Langacker
Department of Linguistics
University of California, San Diego
9500 Gilman Drive
La Jolla, CA 92093-0108, USA
rlangacker@ucsd.edu

Carolyn O'Meara
Seminario de Lenguas Indígenas
Instituto de Investigaciones Filológicas
Universidad Nacional Autónoma
de México
Circuito Mario de la Cueva
Ciudad Universitaria, 04510
México, D.F.
omeara.ck@gmail.com

Carol Priestley
Languages and Linguistics
Griffith University
170 Kessels Road
Nathan, QLD 4111
c.priestley@griffith.edu.au

James Russell
Department of Experimental
Psychology
University of Cambridge
Downing Street
Cambridge CB2 3EB, United Kingdom
jr111@hermes.cam.ac.uk

Wany Sampaio
Universidade Federal de Rondônia
Departamento de Letras e Lingüística
(Lingüística e Línguas Indígenas)
CEP: 76801-059
Porto Velho-RO Brazil
wansamp@gmail.com

Chris Sinha
Lund University
School of Languages and
Literature (Linguistics)
PO Box 201, 221 00 Lund, Sweden
chris.sinha@ling.lu.se

Lenka Šulová
Charles University of Prague
Faculty of Arts
Department of Psychology
Celetná 20
110 00 Praha 1, Czech Republic
lenka.sulova@ff.cuni.cz

Alan Wallington
School of Linguistics and
English Language
Bangor University
College Road
Bangor
Gwynedd LL57 2DG, United Kingdom
Alan.Wallington@gmail.com

Jörg Zinken
University of Portsmouth
Department of Psychology
King Henry Building
King Henry I Street
Portsmouth, Hampshire PO1 2DY
United Kingdom
joerg.zinken@port.ac.uk

Space and time in languages, cultures, and cognition

The two volumes comprising *Space and Time in Languages and Cultures*, published as HCP 36 and HCP 37, originated as a selection of papers from *Space and Time across Languages, Disciplines, and Cultures* (*STALDAC 2010*) – an international conference organised by the editors of this collection at Newnham College, Cambridge, April 8–10, 2010. The conference gathered participants from various continents, presenting and discussing work on how humans represent space and time in various languages – including exotic and endangered – as well as how space and time are researched in linguistics, psychology, anthropology, philosophy, and various areas of cognitive science.

The very intricate nature of the relationship between space and time is confirmed by the diversity of the areas of research that are represented by the contributions to the two volumes. This multifaceted approach to spatial and temporal constructs in human language, cognition, and culture enables us to shed new light on the interaction between potentially universal and language-specific/culture-specific features that shape the way people interact with each other and with their environment. Language as a uniquely human phenomenon provided a unifying platform for the discussions in the present volumes. The principal aim we have with this collection of contributions is to show that an all-encompassing understanding of space and time in language is not achievable in isolation, within a single discipline, but can be attained only through the study of linguistic habits, social contexts, scientific knowledge, and philosophical interpretation.

The chapters in the collection follow several leading themes. The first volume, HCP 36, focuses on *language diversity* and presents research on, among other things, how location in space and time is conveyed in various languages; space and time in language acquisition; and speaking about motion, with its universal and language-specific aspects (see the Introduction to HCP 36). The second volume, HCP 37, devoted to *language, culture, and cognition*, focuses on the central topic of the representation of events; cross-cultural differences in representing time and space; and various aspects of the conceptualisation of space and time (see the Introduction to HCP 37). For the reader's convenience, the tables of contents of both HCP 36 and 37 are listed in each volume.

Looked at more summatively, in juxtaposing the conceptual domains of spatial and temporal thought, the present two-volume collection contributes to various interrelated domains of research and types of research methods. Thinking and speaking about space and time frequently requires mobilising both linguistic and extralinguistic means of expression and hence these two domains are particularly conducive to fulfilling a role as the testing ground for theories of interaction, and therefore division of labour, between lexicon, grammar, and pragmatics. Several contributions address this question of the lexicon/grammar/pragmatics trade-offs, for example in the domain of spatial deixis, time/tense mismatches, aspect, and language acquisition. Chapters in this category also contribute valuable data and theorising to the debate on linguistic relativity vs universalism.

The topic of event construction can be safely regarded as pervading all sections in both volumes. Event type, its internal structure, boundaries, or the language-dependence of the construal are taken up in most contributions. Space is frequently addressed through cross-linguistic or cognitive analyses of motion events. Similarly, temporality, both external (tense) and internal (aspect) to the event, yields easily to contrastive, developmental, and psychological analyses.

As far as methods are concerned, the theme of spatial and temporal reference is particularly conducive to experimental and other empirical testing: data-based studies prevail in the collection. Formal semantic, philosophical, and theoretical contrastive linguistic approaches are also represented. They contribute to the discussion of event structure, tense, and aspect, among other things. The first volume collects many pertinent examples of contrastive linguistic research, both synchronic and diachronic, and both experimental and non-experimental. The second volume exemplifies interdisciplinary research methods, crossing the boundaries both within and between linguistics, anthropology, psychology, and philosophy.

There are, of course, many aspects of time and space research that have not been covered in this collection, for example in the areas of neuroscience, formal syntax, metaphysics of time, or tense logic, to name a few. The field is indeed vast. The present collection, albeit cross-disciplinary, has language and cognition as its uniting theme but even in this domain, broad in itself, it contributes merely a selection of ideas that are currently in the focus of attention. We hope it will galvanise the emergence of new research questions, ideas, and solutions.

We would like to acknowledge our gratitude to our colleagues who assisted us in the preparation of this collection. First, we would like to thank Malcolm Todd for his careful and thoughtful copy-editing. Next, our thanks go to Jos Tellings for editorial assistance in the early stages of the project and to our Cambridge STALDAC team for their help in organising the event from which the papers stem: George Walkden (Conference Secretary), Alistair Appleton, Jesper Carlson, Chris

Kasia M. Jaszczolt
Luna Filipović

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Language, culture, and cognition

Linguistic, cultural, and cognitive approaches to space and time

Luna Filipović and Kasia M. Jaszczolt
University of East Anglia / University of Cambridge

1. Preliminary remarks

The interaction among language, culture, and cognition is vibrant, dynamic, and multidirectional. Language impacts culture in numerous ways, for example by being the medium for preservation of culture. It also impacts cognition by providing the most efficient system of categorisation, aid to memory, or spatial orientation. Similarly, culture impacts cognition through entrenching culture-specific preferences for the understanding of the environment. For instance, both spatial and temporal configurations may bear culture-specific traits in addition to cognitively universal ones, which may restrict which linguistic and cultural parameters become more, or less, important under different circumstances and conditions. It is this multifaceted nature of the relationships that are forged in and via language, culture, and cognition that inspired the equally multi-layered but highly interconnected collection of chapters in the current volume.

Space and time are central conceptual domains in human experience. They constitute a large proportion of topics in daily conversations and they are omnipresent in human reasoning and planning even when language is not explicitly used. They provide an insight into spatial and temporal understanding of culturally and linguistically different communities. This second volume brings together a variety of approaches to interactions between language and culture, conceptualisation, development, memory, and human interaction with the environment. The authors approach the topic of spatial and/or temporal categories from a variety of interdisciplinary angles in an attempt to show both unity and diversity in thinking and talking about these domains within and across languages and cultures.

Crucially, it is not just a matter of the same spatial or temporal features being expressed differently in different languages, but it may be the case that because

they are expressed in different ways, speakers may differ with respect to how they think about them. Linguistic diversity does not necessarily preclude cognitive diversity although it does not completely exclude the latter as a possibility. This possibility can be seen in the revival of neo-Whorfian strands in linguistics and psychology, which report evidence that language-specific effects on cognition (e.g. categorisation of objects or events and memory) are more than just a speculative possibility. With regard to relativist claims, we can notice a cline in the strength of linguistic relativity effects (cf. Malt et al. 2003; Levinson 2003a; Slobin 2000, 2003, 2006).

There are good reasons for combining research on space with research on time in one state-of-the-art collection. The main question here is whether the conceptualisations of space and time are interrelated. There is some evidence that speakers are unable to ignore spatial concepts while representing time (e.g. Casasanto and Boroditsky 2008; Vallesi et al. 2008), which strengthens the currently widely researched hypothesis that the human concept of time is (asymmetrically) dependent on the concept of space. By the same token, the experience of duration is claimed to be asymmetrically dependent on the experience of spatial length. On the other hand, when it comes to left-right spatial orientation, relativity can be observed: some cultures conceptualise time vertically, some horizontally, and if horizontally, there are some interesting differences in the use made of directionality. Cyclic time, such as recurring seasons, can also dominate in some languages and in some contexts (see Jaszczolt 2009). The arrow of time often maps onto the spatial left-to-right dimension but this mapping is not universal. Next, even when cultures share the left-to-right conceptualisation, there may be differences that lie elsewhere. While in Mayan codices time was represented as running from left to right, it moved, so to speak, "in leaps and bounds": it was not measured by units of equal duration. In recent research (see Aveni 2010), the method of the Maya is called 'intervallic time reckoning': an important event is followed by another memorable event but they are separated by an interval of a length particular to these adjacent events. And it is to this variable duration of a unit that the Maya were turning their attention. In the Christian calendar, we have a mixed system: sometimes it is the interval that takes precedence in conceptualisation, for example Lent is always of the same duration of forty days, while for some other parts of the calendar events determine the duration, as in the case of the interval between Christmas Day and Easter Sunday. The aspects and levels of possible diversity are therefore themselves numerous.

Moreover, experiments strongly suggest that in addition to not being universal, the time-space mapping is not automatic either (Ulrich and Maienborn 2010) but rather proceeds as a simple metaphorical mapping. Next, there is a question

as to how deeply ingrained this relativity is; in other words, whether linguistic relativity precludes the existence of a common level of concepts (Levinson 2003a; Boroditsky 2001) and whether the effect of language on concepts can be overcome by a conceptualisation specific for L2 (January and Kako 2007). There are important metaphysical questions inherent here, such as whether time and space are metaphysically analogous; for example, whether we can have empty time just as we have empty space (Rundle 2009). The unidirectionality of metaphorical mapping seems to provide one plausible answer – or, more generally, linguistic semantic investigations help provide answers for big metaphysical questions. This is where the importance of this interdisciplinary collection lies – in the emphasis on language and language diversity on the one hand, and on the wider cognitive perspective on the other, both applied to the space-time relation.

Both time and space conceptualisation rely on a well-delineated theoretical construct that pertains to some abstraction over situations. This role is normally fulfilled by events – or eventualities, where the latter subsume static and dynamic events, that is, events, states, and processes. Events are abstract entities; they can be construed "thinly", with fine-grained distinctions, whereby Tom's walking to the newsagent is considered a different event from Tom's walking fast to the nearby newsagent, or "thickly", with coarse-grained distinctions, whereby these two count as descriptions for the same event.[1] But they have to conform to one necessary characteristic: they have to obey temporal continuity and manifestation of the same object. For example, Tom's playing football and Tom's playing hockey cannot be construed as one event, and neither can Tom's putting on his coat and Jim's putting on his coat, although syntactically they can easily be combined into simple sentences, respectively, as in (1) and (2).

(1)   On Saturday Tom played football and hockey.

(2)   Tom and Jim were putting on their coats.

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1.   But it has to be remembered that when abstract entities were first introduced into semantics by Frank Ramsey in the 1920s they were contrasted with abstract facts: the fact that Brutus stabbed Caesar is abstract, while the event of Brutus's stabbing Caesar is real and has its spatio-temporal location. Nevertheless, the ensuing discussion on the individuation of events and criteria for 'eventhood' threw up different principles of classification. See e.g. Davidson (1967), Chisholm (1970), Kim (1973) for these early discussions, and Montague (1960) on *events as properties of time*. The abstract nature of events is well elaborated in Asher (2000), who points out that facts have to be true and are eternal (e.g. the event of raining in Cambridge on 8 November 2011), while events, such as *raining in Cambridge*, acquire temporal specification externally. For further discussion see Jaszczolt (2009), Section 3.2.

The literature on this topic is ample (see e.g. Higginbotham et al. 2000). In the current collection events are in the focus of attention for several reasons. Firstly, and most importantly, they are units in which one discusses the passage of time and motion in space. Next, they are units of our memories, experiences, and anticipations. Thirdly, by looking at how events are expressed in languages we have access to perception, conceptualisation, including mechanisms for lexicalisation and grammaticalisation of concepts, and, generally, human cognition. Next, discourse about events provides material for addressing semantic questions such as ambiguity, vagueness, or reference. All of these topics are addressed in Part II of this volume.

Crucially, the domains of space and time are instrumental in our search for the understanding of language-specific and universal aspects of human language and cognition. In the spatial domain we notice that while universal categories can be posited (e.g. *à la* Jackendoff 1995, 2003), an impressive variation is also evident (e.g. Levinson and Wilkins 2006) and at times this variation appears to undermine claims that all languages are the same underneath. What is "underneath" is still highly contested in the literature. Strong universalist claims are not based on empirical knowledge nor can they be since universalists in the Chomskyan vein for example are not interested in processing data, which are accessible for examination, but rather believe that universality lies in internalised computations, sadly not accessible for any kind of examination (see Hawkins, forthcoming, for a definitive overview and insightful discussion).

The domain of space is widely researched for the purpose of finding universals in language and thought. Conflicting evidence is offered when it comes to how humans perceive space, interact with it, and talk about it. For instance, Jackendoff (1995, 1997, 2003) proposes a set of universal categories that feature in the human conceptualisation of space, such as THING, PLACE, DIRECTION, EVENT, MANNER, PATH, AMOUNT. For Jackendoff, cross-linguistic variation is merely a matter of complex packaging at a different level (see Filipović 2012 for discussion). However, this "packaging" of information at the language-specific level is not to be dismissed as less relevant or less consequential for the understanding of how spatial language and spatial cognition relate to each other. Levinson (2003a) and Levinson and Wilkins (2006) argue that universals in spatial language and cognition should be sought at the atomic levels of conceptualisation, where notions such as contact, vertical relation, adhesion, containment, and perhaps others reside. Complex concepts, termed "molar" by Levinson (2003a) like ON or IN are not good candidates for universals as previously thought (cf. Landau and Jackendoff 1993). Furthermore, it is at the molar level, the level of language-specific "packaging" of information, that we operate in our everyday lives when communicating our thoughts and experiences. It is also at this level that we can