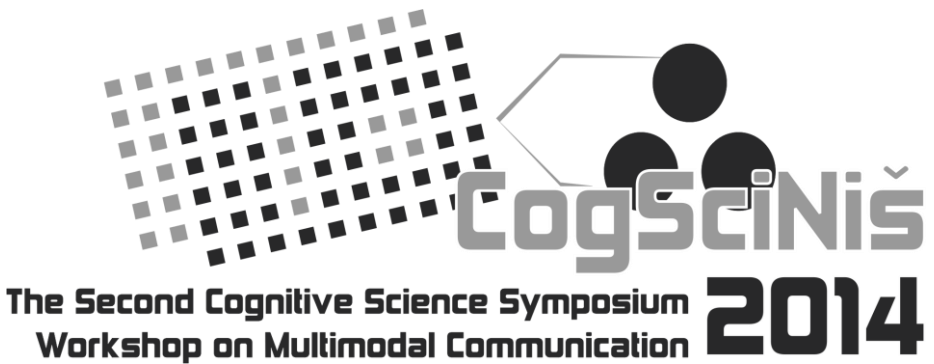




Joint Research Center  
of the Serbian Academy and  
University of Niš



**THE SECOND COGNITIVE SCIENCE SYMPOSIUM  
CogSciNiš 2014  
WORKSHOP ON MULTIMODAL COMMUNICATION**



**FACULTY OF PHILOSOPHY, NIŠ, MAY 3–4, 2014**

**WORKSHOP PROGRAM AND BOOK OF ABSTRACTS**

## WORKSHOP PROGRAM

**Saturday, May 3<sup>rd</sup>, 2014 (Room 434)**

### **12:00–12:10h Opening Ceremony:**

**Welcome Address** by Professor Dragan Antić, Rector of the University of Niš and Professor Mihailo Antović, Head of the Center for Cognitive Sciences

### **12:10–13:40 Plenary Lecture 1**

**Mark Turner** – *Mind and Media: Cognitive Processes of Persuasion During Virtual Interaction*

### **13:40–14:30 Session A (Session Convener: Mihailo Antović):**

**Angeliki Athanasiadou** – *Figuration and if-clauses: Can metaphor and metonymy simultaneously contribute to their communicative effect?*

**Evgeniya Hristova, Veselina Kadreva, and Maurice Grinberg** – *Emotions and Moral Judgment: A Multimodal Analysis*

### **14:30–15:00 Lunch Break**

### **15:00–17:05 Session B (Session Convener: Djordje Vidanović):**

**Mateusz-Milan Stanojević** – *Conceptual Metaphor: Its Global and Local Aspects*

**Djordje Vidanović** – *On the Tractability of Conceptual Blending*

**Boban Arsenijević** – *Spatial cognition and the exclusivity of recursive computations*

**Svetlana Čičević, Aleksandar Trifunović and Milkica Nešić** – *Multimedial Approach for Language Learning*

**Mihailo Antović** – *Music, Language, Meaning and Cognition: A Research Program*

Sunday, May 4<sup>th</sup>, 2014 (Room 434)

**10:00–11:30 Plenary Lecture 2**

**Aleksandar Kostić** – *Cognitive Constraints and Language Structures*

**11:30–13:10 Session C (Session Convener: Renata Geld):**

**Anna Piata** – *Conventionality and Creativity in the Conceptualization of Time in Greek: A Conceptual Integration Approach*

**Evgeniya Hristova and Maurice Grinberg** – *Cooperation in Prisoner's Dilemma Game: Influence of Social Relations*

**Renata Geld** – *Linguistic Meaning Construal in the Language of the Blind*

**Milkica Nešić, Svetlana Čičević, Joviša Obrenović, Vladimir Nešić** – *Relation between graphomotoric and vocal expression in the serial subtraction seven task*

**13:10–13:40 Lunch Break**

**13:40–14:55 Session D (Session Convener: Vladan Pavlović):**

**Vladan Pavlović** – *The N1 V (N2) (to-)Infinitive Construction in English in View of the CLOSENESS IS STRENGTH OF EFFECT Metaphor*

**Ivana Pedović** – *Convergent Validity of Two Models of the Assessment of Cross-modal Interaction Within an Evaluative Model*

**Vladimir Figar** – *Equilibrium in Single-Scope Metaphorical Conceptual Integration Networks: The Role of Compression and Interaction of Optimality Principles*

**Plenary lectures: 1 h 15 min + 15 min for discussion**

**Regular talks: 20 min + 5 min for discussion**

## PLENARY LECTURE 1

Mark Turner  
Case Western Reserve University

### MIND AND MEDIA: COGNITIVE PROCESSES OF PERSUASION DURING VIRTUAL INTERACTION

Persuasion depends upon interaction, as Aristotle and centuries of rhetoricians have analyzed. Interaction most fundamentally takes place in a scene of *joint attention*, and in particular, a scene of *classic joint attention*. A scene of joint attention is one in which people are not only attending to the same thing but know that they are all attending to the same thing and know moreover that each of them knows that they are all attending and knows that they are interacting with each other by so attending. “Classic joint attention” is a scene of joint attention with just two or a very few people communicating about what they are attending to. It is the basic scene of persuasion. But mediation – posters, advertisements, television news, films, music, and so on – typically creates a scene that does not fit classic joint attention. Media gets past this impediment by creating a scene of blended classic joint attention. This talk will present the basic mental operation of *blending* and how it is used to bring the powers of joint attention to scenes that do not fit its features. Special attention will be paid to the techniques of engagement and persuasion used in broadcast network news.

## PLENARY LECTURE 2

Aleksandar Kostić  
University of Belgrade

### COGNITIVE CONSTRAINTS AND LANGUAGE STRUCTURES

A number of empirical studies on language processing indicate that the cognitive system is extremely sensitive to probability of individual words and grammatical forms. This insight is provided through a number of experiments with the lexical decision task, where it was demonstrated that the probability of grammatical forms, transformed into the amount of information (bits), highly correlates with processing latency to inflected forms of Serbian open class words (nouns, adjectives and verbs). In regression analysis almost all processing speed variation is accounted for by the amount of information carried by the inflected forms presented in experiments (See Figure 1, Graph a.).

Of interest for the present study is the slope of the regression function,<sup>1</sup> which indicates the processing speed per bit of information in a given experiment. It was observed that the slope of the regression function (i.e. processing speed per bit of information) varies from experiment to experiment. The slope variation correlates with the cross-entropy of an experiment. The relation between the slope variation and cross-entropy is nonlinear (hyperbola): the higher value of cross-entropy is paralleled with the smaller value of the slope in a given experiment, i.e. with a higher processing speed per bit of information (see Figure 1, Graph b.).

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<sup>1</sup> On X-axis is the amount of information, while on Y-axis is the processing latency to inflected forms expressed in milliseconds.

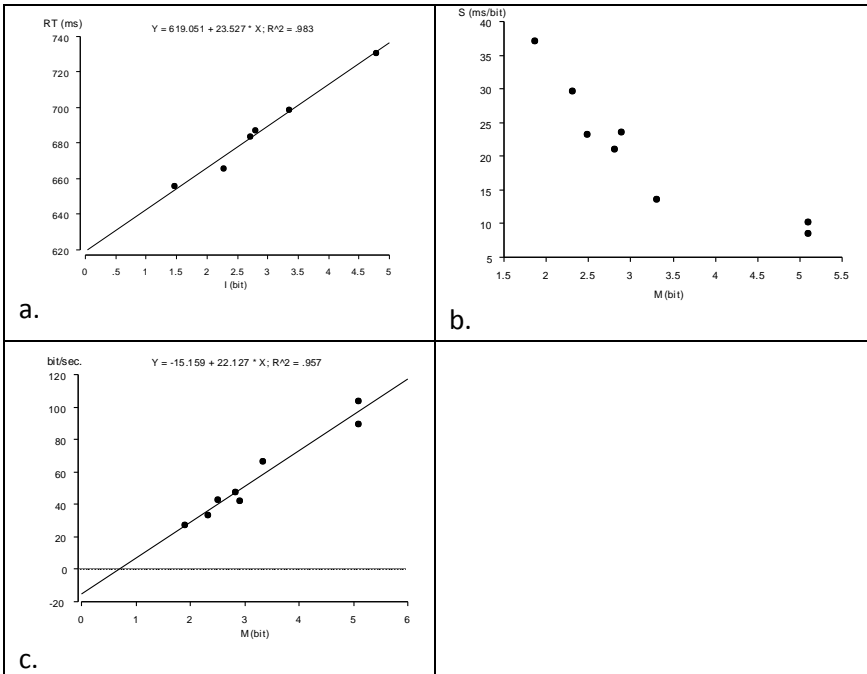


Figure 1. Graph a. The relation between the amount of information (bits) carried by six inflected forms of Serbian feminine nouns (X-axis) and their processing speed (ms); Graph b. The relation between cross-entropy (X-axis) and the slope of linear function (ms/bit) for eight experiments; Graph c. The relation between cross-entropy and the amount of information processed per unit of time (bit/sec).

In other words, the higher the processing load of an experiment expressed in terms of cross-entropy, the shorter the processing latency per bit of information. Put differently, the increase in processing load is compensated by the increase of the amount of information processed per unit of time (bit/sec) /Graph c./.

Graph b. in Figure 1 indicates the boundary conditions of the cognitive system. Within entropy margins of 0.5 and 6 bits (right graph) the system is allowed to generate language structures (Graph c.). Exceeding these margins is not permissible because the system would not be able to compensate the complexity increase by increasing processing speed per bit of information or, put differently, by increasing the amount of information processed per unit of time.

Mihailo Antović  
University of Niš

## MUSIC, LANGUAGE, MEANING AND COGNITION: A RESEARCH PROGRAM

In the present talk, I will describe some segments of an ongoing research program conducted by the music cognition group at the Center for Cognitive Sciences, University of Niš, Serbia. In our recent studies we have mostly looked into connections between musicology and linguistic semantics, i.e. the conceptual basis behind some aspects of “musical meaning”. Our research has included the study of formal constraints on metrical and melodic segmentation (Antović, 2007), conceptualization of elementary musical structures (Antović 2009a; Antović, Bennett & Turner, 2013), conceptual integration of background music with animated visual stimuli (Mičić, 2013; Antović & Mičić, 2014) and neurophysiological basis of elementary metrical perception (Antović, 2009b). Results so far suggest that musical meaning is a psychologically plausible construct, that it centers around phenomena such as metaphor, connotation, and conceptual integration, and that linguistic semantic approaches, such as Conceptual Metaphor and Conceptual Blending theories, may significantly assist in its appreciation.

In the next four-year period we will aim to broaden our theoretical and empirical program so as to encourage *cooperation* between formal and functionalist approaches in music and language cognition, in particular in the domains of *computational constraints* and *experientialist embodiment*. The goal will be to show that in *metrical and melodic segmentation*, *musical concept construction*, and *the emergence of musical connotations* one may (a) infer abstract schematic constraints behind different crosscultural instances of conceptualization and (b) best expose these constraints by introducing the notion of embodiment in the experimental paradigm. The grand goal of these envisaged studies will be to pave the way for a new, integrated theory of meaning in music, a “Multilevel Grounded Semantics”, which I have recently begun developing. In the talk, I will provide a sketch of these planned

experiments, in the hope of feedback and potential interest in cooperation by other participants in the workshop.

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**Boban Arsenijević**  
**University of Niš**

## **SPATIAL COGNITION AND THE EXCLUSIVITY OF RECURSIVE COMPUTATIONS**

Most comparative cognitive investigations between humans and other animals look for the counterparts of typically human capacities (language, arithmetic, music) in other species, and make general conclusions based on whether they can be identified, and on the degree to which they can be considered to be developed. Such approaches observe animal species in the context of capacities not typical for the conditions in which they have evolved and to which they have accommodated, outside of their natural environment. This paper implements a methodology which targets more fundamental properties of cognition – namely properties of the cognitive computations, within a cognitive capacity that is well developed and functionally loaded, while being set in a natural environment for the animal. It reports on an interrupted experiment which explores the availability of recursive cognitive computations in animals, in the domain of their spatial cognition. Spatial cognition is chosen due to its universal availability in animal species, and its deep



similarities with language (some biologists even argue that the cognitive computations crucial for language have origins in spatial cognition, e.g. Bartlett & Kazakov 2005). Departing from the standard models of spatial cognition in animals (Nadel, Willner & Kurz 1985), I identify possible processing patterns in spatial cognition based on recursive computations. I present an interrupted experiment on one such type of patterns, which tests for the availability of one such pattern in the horse's spatial cognition, aiming at testing two hypotheses based on the recent discussions of recursive computations as a cognitive ability (Hauser et al. 2002): that cognitive computations are an exclusively human cognitive trait, and that recursive computations are an exclusively linguistic cognitive phenomenon. The preliminary results of the experiment attest recursive computations and thus falsify both targeted hypotheses, but more reliable conclusions can only be made after the experiment is completed.

**Angeliki Athanasiadou**  
**Aristotle University of Thessaloniki**

**FIGURATION AND IF-CLAUSES: CAN METAPHOR AND METONYMY  
SIMULTANEOUSLY CONTRIBUTE TO THEIR COMMUNICATIVE EFFECT?**

The aim of the presentation is to discuss the way figurative processes operate on grammatical constructions, as well as the communicative effect they have on them.

Grammatical constructions can be motivated by the cognitive process of metaphor (modal verbs from deontic to epistemic modality (Sweetser 1990: 59)), by the cognitive process of metonymy (English constructions with predicative adjectives (Rita Brdar-Szabó and Mario Brdar 2004)) or by metaphonymy (intensifiers like *tremendously*, a case in which from the metonymic target we have a metaphor which in its turn gives rise to metonymy (Athanasiadou 2013)).

In this presentation it will be argued that the two cognitive processes may operate simultaneously in one and the same grammatical construction, each one serving a communicative purpose.

The area under study is a particular type of conditional construction called Course of Events Conditional or factual conditional (Athanasiadou and Dirven 1996, and Dirven and Athanasiadou 2005). It is called factual because both the events in the *if*-clause and the main clause actually take place. The question is why hypothetical *if* (prototypically opening hypotheticality space) is employed in order to talk about events that actually take place: *If there is a drought at this time of the year, the fertilized egg remains dormant* (2005: 99).

This type of conditional construction is claimed to be a case of metonymy grounded in metaphor. The metonymy that licenses the hypotheticality for naturally occurring events ('whenever there is drought the egg remains dormant') is HYPOTHETICALITY FOR REALITY. Reality is here presented as if it were hypothetical. This is a case of metaphor. The description of the event is deliberately presented as hypothetical because speakers do not wish to appear as "all-knowing" and commit themselves to a factual description.

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**Svetlana Čičević, University of Belgrade**  
**Aleksandar Trifunović, University of Belgrade**  
**Milkica Nešić, University of Niš**

## **MULTIMEDIAL APPROACH FOR LANGUAGE LEARNING**

Mobile assisted language learning is characterized by mobility, which, in addition to the possibilities of spatial and time shifts, has great learning opportunities, especially for the younger audience. Due to its multimedial content, mobile technologies facilitate the development of specific mental skills by employing almost all senses to improve learning outcomes.

This empirical study aims to examine students' performance in learning English vocabulary by implementing Tablet PC as a presentation tool, as well as the potential impact of the loud utterance of the target words when performing a task.

The participants were given a tablet PC, each, with a 7-inch touch screen, WiFi connection, and a Webcam, with basic audio/video functionalities, running Google's Android OS Google. The stimuli material - the new vocabulary items from the engineering field that are commonly used, were delivered via a power point presentation. The task was to link a noun in the English language with the appropriate picture. The aim of this experiment was to learn new terms in English. The second session consisted of nouns in English (identical items as in the first session) and the corresponding nouns in Serbian. The task was to match the term in English with the corresponding term in the Serbian language. The primary objective of the second part of the presentation was to test whether the respondents actually have acquired the knowledge of the new terms in English, as well as to test whether it was easier for participants to learn by linking the word with the image, or to make associations between related words. In both parts of the experiment, in one situation the participants performed the task while speaking aloud the words that were to be acquired, while in the second situation speaking an utterance aloud was absent. The number of correct answers on each item served as a measure of learning efficiency.

Generally, students showed higher percentage of correct answers when their task was to match pairs of corresponding words. In the situation with no utterance, females showed greater accuracy than males, while males had a higher number of correct responses when matching two words. When words were spoken aloud, males showed better performances when connecting the images with words. In the part of the task involving loud pronunciation, males became significantly more efficient, while females showed significantly better results when speaking the words aloud was excluded.

As far as the sex differences in learning outcomes are concerned, the conclusion could be drawn that different learning approaches and instructional methods, or, even better, their combination, should be employed for different learners to help them achieve optimal results. The implementation of Tablet PCs in language learning, due to their high interactivity, offers such opportunities.

**Vladimir Figar**  
**University of Niš/University of Novi Sad**

## **EQUILIBRIUM IN SINGLE-SCOPE METAPHORICAL CONCEPTUAL INTEGRATION NETWORKS: THE ROLE OF COMPRESSION AND INTERACTION OF OPTIMALITY PRINCIPLES**

The present paper aims to investigate the conditions of equilibrium in metaphorical single-scope networks. More precisely, an in-depth analysis of the most dominant outer-space vital relations and their compressions, coupled with the discussion of Optimality Principles and the ways they compete and interact with each other is expected to yield a thorough insight into the structure and dynamics of single-scope metaphorical conceptual integration networks. To that end, the analyses are conducted on a corpus of metaphorical expressions extracted from articles dealing with foreign and domestic politics published in the online editions of The New York Times during November 2011. Corpus formation methodology is adopted from Charteris-Black (2004), and it involves the

stages of *metaphor identification*, *metaphor interpretation*, and *metaphor explanation*. Furthermore, the collected metaphorical expressions are also grouped in accordance with the *conceptual metaphors* (e.g. ELECTIONS ARE A BATTLE, ELECTIONS ARE A FIGHT, etc.), and *conceptual keys* (e.g. POLITICS IS CONFLICT) that they instantiate. In addition to the main guidelines of *Conceptual Blending Theory* (e.g. Fauconnier and Turner 2000; 2002; Coulson and Oakley 2005), the paper also makes use of the basic tenets of *Conceptual Metaphor Theory* (e.g. Lakoff and Johnson 2003[1980]); Lakoff 2006[1993]) which was also essential in the initial stages of corpus construction. Additionally, the paper also relies on the ideas of *cobbling* and *sculpting* (Fauconnier and Turner 2008), and *generalized integration networks* (Fauconnier 2009). The main steps that the analyses follow include: (i) identification of the most dominant vital relations and their compressions; (ii) analysis of emergent structures; (iii) exploration of network dynamics and the discussion of the relevant Optimality Principles and their interaction. In conclusion, the obtained results show a high degree of systematicity in the form of emergent structures, and also reveal a pattern of interaction of Optimality Principles that is disclosed by the examples from the present corpus. Additionally, the paper also lends support to the conclusion that such conditions of equilibrium contribute to both the efficacy and online efficiency of meaning construction at *human scale*.

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**Renata Geld**  
**University of Zagreb**

## **LINGUISTIC MEANING CONSTRUAL IN THE LANGUAGE OF THE BLIND**

Investigating linguistic meaning is difficult. It is difficult because meaning changes - it is dynamic and it is subjective. Its intimate relation to thought makes it susceptible to various language internal and language external factors. However, if we accept its somewhat unstable and playful character, and, at the same time, remain open-minded about whatever might determine its demanding nature, we are likely to obtain extraordinary insights into both language and thought.

Basic domains like TIME, SPACE, MATERIAL, FORCE, COLOR, HARDNESS, HUNGER, PAIN, LOUDNESS, etc. are rooted in directly embodied human experience and they represent the base for semantic characterization of concepts (Langacker, 1987). Embodiment assumes both tendencies and limitations which act as a connection between perception and conceptualization, and which are evident on various levels – from the neural to the cultural level (see Rohre, 2007; Ziemke et al. 2007). Furthermore, embodiment has a twofold effect on the way in which we experience the world: it filters out anything that is necessarily outside the range of our sense perception (Dretske, 1995: 331), but it also influences our meaningful perception (Dretske, 1995: 331) - our conception of a thing is necessarily connected to our perception and the ways in which we use it (cf. e.g. Lakoff and Johnson, 1999; Zwaan 2004). Finally, embodiment should be seen as a factor which extends from the body, encompasses the more-or-less immediate (physical, cultural and social) environment, and eventually merges with a widely set cultural background, which has a clear influence on our (embodied) experience (cf. e.g. Sinha and López, 2000).

From this perspective, it is clear that the blind's extraordinary experience of the world and unique reliance on other sensory modalities are bound to determine specific aspects of their domains of knowledge.

Now, if language is an experiential phenomenon, and meaning construal depends on a variety of cognitive processes that communicate with our experience, how does the process of constructing meaning differ in those individuals whose experience is extraordinary? And more specifically, is the language of the blind different from the language of the sighted, and how can we investigate possible differences?

This talk describes and discusses issues pertaining to investigating meaning construal in the language of the blind. It introduces key problems in this largely unexplored area and proposes possible avenues of research by outlining several studies conducted over a period of eight years (Geld and Starčević, 2006; Geld and Stanojević, 2006; Geld and Čutić, 2014; Geld, work in progress). The talk focuses on the role of salience (or attention) and demonstrates how it is coded in the language of the blind. Finally, the author offers a model that suggests key factors affecting the process of meaning construal in this extraordinary population.

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**Evgeniya Hristova and Maurice Grinberg**  
**New Bulgarian University – Sofia**

## **COOPERATION IN PRISONER’S DILEMMA GAME: INFLUENCE OF SOCIAL RELATIONS**

The talk will present the findings of two studies exploring the impact of social relations on the cooperation in the Prisoner’s dilemma game. The relations between players are operationalized according to Fiske’s relational models theory (Fiske, 1991): communal sharing (unity), authority ranking (hierarchy), equality matching (equality), and market pricing (proportionality). In the first study, this is achieved by using various ways of distributing the total payoff gained by a dyad of players in a series of games. Depending on the relation, each player receives the total payoff (unity), one of the players receives more than the other (hierarchy), each player receives half of the total payoff (equality), each player receives a portion of the total payoff proportional to his/hers individual payoffs (proportionality). In the second study, the relations between the players are manipulated by assigning them to different roles according to Fiske’s theory. Accordingly, the players were assigned to the roles of team mates (unity), chief and subordinate (hierarchy), partners (equality), and opponents (proportionality). The results show that in the proportionality condition in both studies, there is less cooperation, less mutual cooperation, more mutual defection, and less total payoff than in the other three conditions.



**Evgeniya Hristova, Veselina Kadreva, and Maurice Grinberg  
New Bulgarian University, Sofia**

## **EMOTIONS AND MORAL JUDGMENT: A MULTIMODAL ANALYSIS**

Recent findings in the field of moral psychology suggest that moral judgment results both from emotional processing and deliberative reasoning. Physical directness of harm, instrumentality of harm and inevitability of death factors are varied in order to explore potential differences in emotional processing and their effects on judgment. Multimodal data is collected and analyzed. Skin conductance response data (SCR) is measured as a somatic index of affective state during consideration of moral dilemmas. Response time and SCR data are provided in support of emotional engagement in moral judgment using strictly controlled stimulus material. The factors explored are reported to be influential in moral judgment. Evidence for emotional engagement in the judgment process is provided. Less direct impersonal killing is judged as more morally permissible compared to personal killing; harm is also appraised as more permissible in the inevitable and incidental conditions relative to respectively avoidable and instrumental ones. Impersonal and incidental dilemmas demand more time for judgment and deliberation of these dilemmas is accompanied by higher arousal compared to personal and instrumental dilemmas respectively. Overall, responses permissible are given more slowly compared to responses not permissible and are accompanied by higher arousal.

Milkica Nešić, University of Niš  
Svetlana Čičević, University of Belgrade  
Joviša Obrenović, University of Niš  
Vladimir Nešić, University of Niš

## RELATION BETWEEN GRAPHOMOTORIC AND VOCAL EXPRESSION IN THE SERIAL SUBTRACTION SEVEN TASK

The aim of this investigation was to explore the relations between the graphomotoric and vocal parameters. One hundred students of medicine (equal number of males and females) participated in this study. The subjects had to pronounce aloud and simultaneously write the results of subtracting serial seven arithmetic tasks, beginning from one thousand, in five minutes. Voice characteristics, such as loudness, duration of pronunciation, and pauses, as paralinguistic indicators of mental arithmetic task solving, and the magnitude and distance of the written numbers, the length of a written page and the number of rows during the graphomotoric part of the task, as indicators of cognitive, spatial and movement control, were analyzed. Results showed that the parameters of graphomotoric expression correlated with speech parameters. These results showed that the oral and written speech correlated, which indicates that they share the same neurophysiological mechanisms.

Vladan Pavlović  
University of Niš

## THE *N1 V (N2) (TO-)*INFINITIVE CONSTRUCTION IN ENGLISH IN VIEW OF THE CLOSENESS IS STRENGTH OF EFFECT METAPHOR

The paper analyses the examples such as *I helped them to carry the load / I helped them carry the load, I knew it to be untrue / I've not known anything like this happen in the College before, I saw him to be*

*obnoxious / I saw him cross the street*, etc., namely those in which one and the same main lexical verb (as well as, in some cases, the N2 element) are followed by either a full or a bare infinitive, with a consequent change in meaning (cf. *I helped them to carry the load by having my secretary get them a cart* and *\*I helped them carry the load by having my secretary get them a cart*). While this change in meaning has been very aptly analyzed in sources such as Wierzbicka 1988, Dixon 1991 [2005] or Duffley 1992, the paper puts forward the view that those analyses, all of which employ a meaning-based approach to syntax (just as this paper does), may also be felicitously and insightfully approached via the CLOSENESS IS STRENGTH OF EFFECT metaphor posited in Lakoff / Johnson 1980, i.e. in terms of a metaphor that attempts to make a link between the form of a sentence as it is conceived of spatially, on the one hand, and its meaning, on the other hand.

Ivana Pedović  
University of Niš

## CONVERGENT VALIDITY OF TWO MODELS OF THE ASSESSMENT OF CROSS-MODAL INTERACTION WITHIN AN EVALUATIVE MODEL

Cross-modal interaction is an occurrence when the data that comes from one sensory modality is connected, or is influenced by the data available to some other sensory modality. Theoretical framework used in this study is an evaluative model which explains cross-modal interaction as a consequence of evaluation processes. The goal of this study was to examine convergent validity of two methods of assessment of cross-modal interaction within the evaluative model, to check if there is an assessment concurrence of stimuli which were given in text form and in their sensory form. The sample consisted of 96 volunteers aged between 18 and 35 years (average age 21, 20 years). Out of that 29 (30,2%) subjects were male and 67 (69,8%) subjects were female. Every examinee had a task to assert sensory qualities represented in textual form and sensory stimulus form on a connotative differentiation scale, and to decide on

stimuli similarities on a scale ranging from 1 to 7. Results obtained in this study show that there is a high concurrence between assessments of stimuli given in text form and the ones given in their sensory form on the connotative differential in general ( $W=0.898$ ), and in the individual modals examined ( $W$  is ranging from 0.843-0.971).

Results show that there is a relatively high concordance between the assessments of connotative meaning and the similarity in stimuli which were given in their sensory form ( $W=0.761$ ), however, when it comes to the stimuli given in the form of written words, matching was significantly lower ( $W=0.499$ ).

We can conclude that presenting the stimuli in text form is appropriate for the assessment of connotative meanings of sensory qualities, however, when it comes to studies of cross-modal interaction within the evaluation model, this approach is not advisable.

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## **CONVENTIONALITY AND CREATIVITY IN THE CONCEPTUALIZATION OF TIME IN GREEK: A CONCEPTUAL INTEGRATION APPROACH**

Research on time conceptualization has long been devoted to the spatialization (“Christmas is approaching”) and the commodification (“Thank you for your valuable time”) of time and the conceptual metaphors underlying their emergence (Lakoff & Johnson 1980, Lakoff & Johnson 1999, Lakoff 1993). At the same time, poetic metaphors of time have also been discussed in the light of conceptual metaphors and in terms of their imagistic structure (Lakoff & Turner 1989). However, no unified account of time has been addressed in the relevant literature looking at conventional and creative metaphors of time alike.

The present study aims to shed some light on time conceptualization as manifested in everyday and poetic linguistic expressions of time in Modern Greek, and thus trace the continuities and the discontinuities between them. The analysis is based on corpus data

drawn from the Hellenic National Corpus (HNC) and a small, specialized corpus of Modern Greek poetry that enable investigating conventional and non-conventional expressions of time respectively. As expected, the findings of the research point to a continuum of varying degrees of conventionality. However, unlike the widely held assumption in cognitive linguistics that time is entirely understood in metaphorical terms, the empirical evidence under examination suggests that non-metaphorical patterns are also used to conceptualize time in the context of poetry, thus constituting the most creative cases of the continuum. In theoretical terms, the proposed analysis uses the analytical tools of Conceptual Integration, or Blending, Theory (Fauconnier & Turner 2002, 2008), which can adequately explain emergent meaning that arises in both metaphorical and non-metaphorical expressions of time.

On the whole, the present study points to an interdisciplinary line of research that integrates insights from cognitive linguistics, cognitive poetics, and corpus research. In doing so, it aims to deepen our understanding of time conceptualization, at the same time sharpening our theoretical tools for explaining conceptual mappings and meaning construction.

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## **CONCEPTUAL METAPHOR: ITS GLOBAL AND LOCAL ASPECTS**

One of the crucial claims about conceptual metaphor has been its capacity to organize conceptual structure. In one of their first studies into emotion concepts, Lakoff and Kövecses (1983) propose a central metaphor, ANGER IS A HOT FLUID IN A CONTAINER, as one of the organizational principles of the anger scenario. Still, later work on emotions (e.g. Kövecses 2000) showed that conceptual metaphor has a limited organizational role. In this paper we present the difference between comparable "globalist" and "localist" evidence, and show that it is a result of a different level of schematicity. This realization is a step towards integrating all the evidence into a single framework.

"Globalist" evidence shows the centrality of metaphor in the organization of conceptual structure, discourse and grammar. In addition to the studies on emotions, other "globalist" evidence includes metaphor as the basis of cultural models in fiction and in everyday life (Turner 1996), politics (Lakoff 2002), etc. Metaphors have been put forward as a background mechanism regulating the production of metonymic expressions in newspaper texts (Brdar and Brdar-Szabó 2011). Schematic metaphors may be involved in grammar, e.g. in extensions towards epistemic meanings (e.g. Sweetser 1990) as well as in more recent views about the caused-motion construction of non-motion verbs (Baicchi 2011). In all these examples metaphor serves as the overall structural principle within a particular sphere.

"Localist" evidence suggests that metaphors cannot play the role of an overall structural mechanism within a sphere or that there are other more basic mechanisms at play. For instance, Stanojević, Tralić and Ljubičić (2014) show that a number of diachronic, ecological and conceptual factors work alongside metaphor to determine the structure of the English concept of anger. Some authors claim that metaphors are metonymic in nature (e.g. Radden 2003), while others assert that the relation of conceptual autonomy and dependence may be used as a factor

to determine metaphoricity of all grammatical constructions (Sullivan 2013). In more discursively-minded studies the deliberateness of metaphor (Steen 2008; Steen 2011) is claimed to play the decisive structural role.

Overall, the "globalist" – "localist" distinction is based on varying levels of schematicity in defining metaphor and examining data. It implies (at least) a three-tiered view of metaphor as conceptual, linguistic and discursive (Steen 2007), which might be the way to integrate the diverse evidence into a single (more or less coherent) framework.

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### **ON THE TRACTABILITY OF CONCEPTUAL BLENDING**

It is only natural to state that *not all* conceptual blendings are tractable. However, it remains to be seen which (types of) conceptual blendings are not tractable and why. May be such are "God" or "death"? Perhaps because *God*, if s/he exists, is *both* the generic and the emergent blending space with a myriad of individual, speculative and, ultimately, subjective inputs, whilst *death* is intractable due to there being only one basic, default space, as the other is ineffable since all possible inputs *lack* accountable consensus that might turn out to be sharable.

With words being only cues or points of access to the vast repository of human knowledge, they need to be encyclopedic in nature. However, apart from the formal, factual and medical description of someone's terminal state we do not appear to have any additional idea about the subjective experience of death, or any epistemologically privileged account of it. Thus there is no readily or plausibly tractable mental space on offer for a novel conceptual blend apart from some kind of cognitive illusion.