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FACULTY OF PHILOSOPHY

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SEMANTIC FRAME ACTIVATION AND CONTEXTUAL APTNESS OF METAPHORICAL EXPRESSIONS

DOCTORAL DISSERTATION

Niš, 2021

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АКТИВАЦИЈА СЕМАНТИЧКИХ ОКВИРА И ПРИЛАГОЂЕНОСТ МЕТАФОРИЧКИХ ИЗРАЗА КОНТЕКСТУ

ДОКТОРСКА ДИСЕРТАЦИЈА

Ниш, 2021.

Data on Doctoral Dissertation

Doctoral Supervisor:	Associate Professor, Dušan Stamenković, Ph.D., University of Niš, Faculty of Philosophy, English Department

Title:	Semantic Frame Activation and Contextual Aptness of Metaphorical Expressions

Abstract:	The study aims to explore the possibility of semantic frame activation and interaction in metaphorical expressions, and the conditions of contextual aptness of metaphorical expressions. To ensure the appropriate level of ecological validity, experimental stimuli have been selected from a corpus of newspaper articles, and included in the norming procedures. The theoretical framework includes the investigations into context and semantic frames, semantic priming, discourse processing, conceptual metaphor theory, and psycholinguistic approaches to metaphor. The first four experiments were designed to test the activation and interaction of the organizing frames of source and target inputs in metaphorical expressions from the conceptual keys of CONFLICT and MOTION. This included an online priming paradigm with a categorization task, and the main dependent variable of interest was response time (RT). Stimuli were presented in (1) congruent metaphorical (metaphorical sentences), (2) congruent literal (literal sentences), and (3) incongruent conditions (unrelated sentences). Targets were individual words from the relevant frames. The results showed higher degrees of activation of the organizing frames of target inputs for both metaphor groups. There were no significant differences between the two congruent conditions, while RTs in the incongruent condition were significantly longer. The data seem to offer support for the interaction view of metaphor processing. The final two experiments tested the level of contextual aptness of target metaphorical expressions from the same two conceptual keys, in (1) congruent metaphorical (metaphor clusters), (2) congruent literal (literal paragraphs), and (3) incongruent priming conditions (unrelated paragraphs). Targets were metaphorical sentences from the two conceptual keys. The obtained results did not reveal any differences between the two congruent conditions, while the recorded RTs were significantly shorter in the incongruent condition. Overall, the study provides empirical insight into the phenomena of (metaphorical) framing, frame activation and interaction, and contextualization, and their import in online meaning construction.

Scientific Field:	Philology

Scientific Discipline:	Linguistics, Cognitive Linguistics

Key Words:	Semantic frames, categorization, context, conceptual metaphor, semantic priming, reaction times

Подаци о докторској дисертацији

Ментор:	Ванредни професор, Душан Стаменковић, Универзитет у Нишу, Филозофски факултет, Департман за англистику

Наслов:	Активација семантичких оквира и прилагођеност метафоричких израза контексту

Резиме:	Циљ истраживања јесте да провери могућност активације семантичких оквира и њихову интеракцију у метафоричким изразима, као и услове прилагођености метафоричких израза контексту. Како би се обезбедио задовољавајући ниво еколошке валидности, све дражи коришћене у експериментима одабране су из корпуса дневних новина и нормиране су. Теоријски оквир обухвата истраживања контекста и семантичких оквира, семантичког примовања, обраде дискурса, теорије појмовне метафоре, и психолингвистичких приступа изучавању метафоре. У прва четири експеримента испитивали смо активацију и интеракцију организационих оквира изворних и циљних простора метафоричких израза из појмовних кључева (енгл. *conceptual keys*) СУКОБА и КРЕТАЊА. Коришћено је семантичко примовање и задатак категоризације, а главна зависна варијабла било је време реакције. Примовање је реализовано у (1) конгруентном метафоричком (метафоричким реченицама), (2) конгруентном дословном (реченицама у дословном смислу), и (3) неконгруентном услову (семантички невезаним реченицама). Мете су биле појединачне речи из циљних семантичких оквира. Резултати су показали виши степен активације организационих оквира циљних простора. Између два конгруентна услова није било значајних разлика, док је просечно измерено време реакције у неконгруентном услову било значајно дуже. Резултати донекле дају потврду интеракционог модела обраде метафора. У последња два експеримента тестирали смо степен прилагођености контексту циљних метафоричких реченица из појмовних кључева СУКОБА и КРЕТАЊА. Примовање је реализовано у следећа три услова: (1) конгруентан метафорички (гроздовима метафора), (2) конгруентан дословни (параграфима у дословном смислу), и (3) неконгруентан (семантички невезаним параграфима). Резултати су показали да између конгруентних услова није било разлике, док је просечно време реакције у неконгрунетном услову било значајно краће. Резултати студије пружају емпиријски увид у метафоричко уоквиравање, активацију и интеракцију семантичких оквира, и контекстуализацију, као и њихов значај за процес изградње значења.

Научна област:	Филолошке науке
Научна дисциплина:	Лингвистика, Когнитивна лингвистика

Кључне речи:	Семантички оквири, категоризација, контекст, појмовна метафора, семантичко примовање, време реакције

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1. INTRODUCTION

Semantic frames pose as schematic background knowledge structures that contain networks of interrelated lexical items, and individual items found in ongoing discourse should serve as proxies that license access to the entire frame structure (Fillmore 1982). As one of the key concepts in cognitive semantics, semantic frames also reflect the idea of the encyclopedic view of meaning (Fillmore 1982; Langacker 1987; Croft and Cruse 2004; Saeed 2003; Evans and Green 2006), where word meanings are not stored as individual dictionary entries, but rather constitute interrelated schematic structures stored in long-term memory. The notion of semantic frames is closely tied to the notion of categorization (Fillmore 1976, 1982) which is based on our ability to identify and classify objects, events, or even abstract concepts in terms of goodness-of-membership of a given category (Rosch et al. 1976; Rosch, Simpson, and Miller 1976). The key concept that affects the process of meaning construction in general, and, in effect, the processes of framing and categorization is context (Fillmore 1982; Barsalou 1983; Roth and Shoben 1983; Smith and Samuelson 1997; Croft and Cruse 2004; Ungerer and Schmid 2006; Chaigneau, Barsalou, and Zamani 2009; Kövecses 2015). Context has been the subject of investigation of many disciplines, including semantics (e.g., Firth 1962; Palmer 1976; Lyons 1977, 1995), pragmatics (e.g., Gumperz 1982; Goodwin and Duranti 1992; Sperber and Wilson 1995; Mey 2001; Auer 1991, 1996, 2009; Fetzer 2017), cognitive linguistics (e.g., Saeed 2003; Croft and Cruse 2004; Evans and Green 2006; Ungerer and Schmid 2006; van Dijk 2006, 2008), and cognitive psychology (e.g., Gernsbacher, Varner, and Faust 1990; Graesser, Singer, and Trabasso 1994; Zwaan, Langston, and Graesser 1995; Gernsbacher 1997; Zwaan and Radvansky 1998). As such, it poses as a complex, dynamic, multi-layered construct. Cognitive psychology is one of the rare fields that has adopted an experimental approach to the study of context, and the present study will utilize the treatment of context as a mental model (e.g., van Dijk 2008; Zwaan and Radvansky 1998).

Context also affects the processing of metaphorical language (e.g., Ortony et al. 1978; Gildea and Glucksberg 1983; McCabe 1983; Keysar 1994; Glucksberg, Brown and McGlone 1993; Thibodeau and Durgin 2008; Holyoak and Stamenković 20180), where metaphor appears as another cornerstone construct in cognitive linguistics and cognitive semantics. Namely, Lakoff and Johnson's seminal work *Metaphors We Live By* is typically recognized as the beginning of investigation into conceptual metaphors in the domain of cognitive linguistics. Namely, metaphor was no longer seen as a mere literary ornament, but rather as a reflection of entrenched conceptual patterns that guide reasoning about the world, and can be identified in the plethora of metaphorical expressions found in everyday language (Lakoff and Johnson 1980a, 2003[1980b]; Lakoff 2006[1993]). However, the

interest in metaphor as a cognitive phenomenon can be traced to earlier works of Black (1962), Richards (1965[1936]), Embler (1966), and Petrović (1967[1933]). Prominent as it was, metaphor also sparked interest in the domain of psycholinguistics, and it gave way to three main views of metaphor processing – the analogy view, categorization view, and conceptual mapping view.

The present study is mostly directed at the investigation of the effects of contextualization and framing on incorporating metaphorical sentences into the ongoing discourse. This is investigated through assessments of contextual aptness of metaphorical sentences in conditions with congruent and incongruent priming. Additionally, the study also deals with the activation of semantic frames via lexical-semantic content of the ongoing discourse, and the possible interaction of semantic frames in cases of metaphorical framings, i.e., metaphorical contextualizations which should afford the construction of metaphorical schemas (in the sense of Allbritton 1995).

More to the point, the main aims of the present study are (i) to explore the activation of semantic frames in an online response-time paradigm including semantic priming and a categorization task, and (ii) to explore the levels of contextual aptness of metaphorical expressions in experimental conditions with congruent and incongruent priming. Specifically, the first two experiments were designed to test the activation and possible interaction of the organizing frames of source and target inputs in metaphorical expressions corresponding to the conceptual key POLITICS IS CONFLICT. Priming materials were metaphorical sentences extracted from a small specialized corpus of newspaper articles, while targets were lexical items from the frames of CONFLICT (Experiment 1) and POLITICS (Experiment 2). Comparison of response times for targets from the two frames after being primed with identical metaphorical sentences allowed the comparison of the levels of activation of the two frames, reflected in the recorded response times (RTs). Namely, RTs were understood as a correlate of the degree of activation, where shorter RTs were associated with a higher degree of activation. Experiments 3 and 4 used an identical setup, only they dealt with the conceptual key POLITICS IS MOTION, and targets belonged to the two corresponding frames. All four experiments included three experimental conditions – metaphorical congruent priming, literal congruent priming, and incongruent priming.

In order to ensure the ecological validity of the study, all experimental stimuli (i.e., metaphorical sentences) were selected from a corpus of newspaper articles, so as to reflect actual instances of language use. All metaphorical sentences were also included in norming studies, where they were rated along the six dimensions extracted from previous research in the domain of psycholinguistics. These included *(i) metaphoricity, (ii) aptness, (iii) contextual aptness, (iv) comprehensibility, (v) familiarity,* and *(vi) number of possible interpretations*. Additionally, all targets used in the first four experiments were also normed for prototypicality in a separate norming

study. Such an approach is also expected both to ensure the ecological validity of the study, and to increase the reliability of the obtained results.

The final two experiments also included an online response-time paradigm with semantic priming, and it also involved the three priming conditions used in the first set of experiments. In this case, congruent metaphorical primes were presented as homogenous metaphor clusters (also extracted from the corpus and constructed to reflect the overall clustering tendency in the corpus), while congruent literal primes were designed as their counterparts. Targets were metaphorical sentences whose contextual aptness was assessed in the main task. Incongruent primes contained lexical-semantic material designed to activate different semantic frames from those activated by the targets. All experimental stimuli were also selected based on the corpus analysis and subsequent norming procedures. Essentially, corpus analysis served as the source for the selection of metaphorical sentences and metaphor clusters, and it constituted *a control parameter* meant to ensure the ecological validity of the study.

The present research is organized as follows. After the introduction, the main tenets of the theoretical framework are introduced. These include sections dealing with categorization, context, semantic frames, semantic priming, conceptual metaphor, and metaphor processing in context. After that, the first part of the present study involves a combined quantitative and qualitative analysis of individual metaphorical expressions and metaphor clusters (section 3). The second part of the study involves Experiments 1–4 which explore the possibility of semantic frame activation and frame interaction. The experimental setup includes an online response time priming paradigm, with a categorization task. The following part of the study includes Experiments 5 and 6 where contextual aptness of target metaphorical expressions is tested. The experimental setup also includes a response time, online semantic priming paradigm. The final two sections include the general discussion of the obtained results, and conclusions and suggestions for future research.

2. THEORETICAL FRAMEWORK

Bearing in mind the main aims of the present study, the theoretical framework will include multiple sections, dealing with each of the relevant constructs that will be assessed in experimental setups. Namely, the overview of theoretical framework starts with categorization, as one of the primary cognitive mechanisms. Here, the notions of basic level categories, family resemblance, and fuzzy sets will be explored in detail. This will be followed by the overview of ad hoc categories, dynamic categorization, and the effects of context on categorization. Also, the construct of idealized cognitive models and their relationship with the process of categorization is explored. Apart from its theoretical significance for the enterprises of cognitive psychology and cognitive linguistics, categorization is a very important construct for the first four experiments in the present study. Namely, Experiments 1–4 (section 4) include a categorization task (i.e., the goodness-of-exemplar judgements), realized in a response time paradigm, with online semantic/associative priming. This will be used to (i) assess the possible activation of semantic frames, and (ii) to explore the impact of priming (i.e., contextualization or framing) on the goodness-of-exemplar judgements.

In the following section the notion of context is introduced. The section starts with the initial exclusion of context (dubbed *setting*), and it continues with the overview of different treatments of context in (i) semantics, (ii) pragmatics, (iii) cognitive linguistics, and (iv) cognitive psychology (through its relation to mental models). Namely, context is first analysed as situational context, where in addition to the linguistic content alone it also incorporates elements of the communicative situation and the social environment. The notions of contextualization of utterances, and the requirements for an utterance to be appropriate (i.e., apt) in the given context are also explored. In the domain of pragmatics, context is understood as a dynamic, complex, multi-layered structure that affords contextualization and also uses contextualization cues. From the perspective of cognitive linguistics, context is understood as a mental phenomenon with close links to the social environment. In effect, the initial idea of situational context is upgraded so as to include more elements with more precisely defined characteristics and components. Finally, in the domain of cognitive psychology, context is viewed as a mental model, and two frameworks relevant for the experimental setup in the present study are explored. The first one is the event indexing models, where the content introduced by the discourse licenses the construction of the current, integrated, and complete model. The second one is the structure building framework, where the mechanism of enhancement facilitates the integration and foregrounding of congruent content, while the mechanism of suppression pushes the effects of the irrelevant content into the background.

After context, we turn to semantic frames. Namely, semantic frames are the central theoretical construct of the present study. In Experiments 1–4 we test the activation of semantic frames in a categorization task, while in Experiments 5 and 6 we explore the effects of congruent/incongruent framings on judgements of contextual aptness of target metaphorical sentences. Semantic frames reflect the encyclopedic view of meaning, and are defined roughly as schematic background knowledge structures of interrelated elements, where the presence of one of the elements in ongoing discourse can be used to trigger the activation of the entire frame-level structure. We also compare the construct of frames as introduced by Charles Fillmore to Lawrence Barsalou's notion of frames. Also, we provide a comparison of semantic frames, domains, and idealized cognitive models.

The discussion on semantic frames is followed by semantic priming, and the main mechanisms and procedures involved in semantic priming. It is also stressed that owing to the effects of context, polysemy, and associations between individual lexical items, which are largely sanctioned by semantic frames, it is difficult to fully discern between semantic and associative priming. The construct of semantic priming is also central in the experimental setups in the present study (sections 4 and 5). Namely, all experiments involve online semantic/associative priming, the effects of which is explored in a categorization task and possibility to identify semantic frame activation (Experiments 1–4), and in assessments of contextual aptness of metaphorical sentences (Experiments 5 and 6). Also, the experimental setup largely relies on the interrelatedness between the construct of framing, contextualization, and priming, insofar as they are analogous and afford similar effects that can undergo experimental scrutiny.

The final part of the theoretical framework introduces the treatment of metaphor in the domains of cognitive linguistics and psycholinguistics. First, we discuss Ivor Armstrong Richard's and Max Black's interaction view of metaphor, and the approaches presented by Weller Embler and Mihailo Petrović. Then we move on to George Lakoff and Mark Johnson's conceptual metaphor theory (CMT). We discuss the main tenets and the most relevant criticism of the CMT framework. The construct of image schemata is also introduced, as they constitute the preconceptual base for higher cognitive processes, and are often involved in metaphorical projections. We also discuss the phenomenon of metaphor clusters – increased densities of topically related metaphorical expressions found in ongoing discourse. In addition to the overview of the theoretical positions, we also explore two methodologies of metaphor identification: MIP[1] introduced by the Pragglejaz Group, and MIPVU[2], introduced by Gerard Steen and associates. This will be of particular value for the corpus analysis in the present study. Namely, in order to avoid the common shortcoming of psycholinguistic

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[1] Metaphor identification procedure (Pragglejaz Group 2007).
[2] Metaphor identification procedure developed at *Vrije Universiteit*, Amsterdam (Steen et al. 2010).

studies where experimental stimuli are constructed artificially, are decontextualized, and do not reflect actual language use, the experimental stimuli in the present study have been selected from a corpus of newspaper articles (see section 3 for details). Such a procedure is expected to ensure the ecological validity of the study, and to increase the reliability of the obtained results.

This is followed by the treatment of metaphor in the domain of psycholinguistics, where we discuss the analogy view, the categorization view, and the conceptual mapping view. Results from Experiments 1–4 of the present study offer evidence in favor of the interaction view of metaphor processing (specifically, the domain-interaction view, proposed within the analogy view). Results from Experiments 5 and 6 cast doubt on the existence and plausibility of the construct of conceptual mappings. We also present an overview of the relevant studies that dealt with various dimensions relevant for metaphor comprehension, some of which were included in questionnaires used in our norming studies. Finally, the section closes with a comprehensive overview of studies dealing with the effects of context on metaphor processing. The methodologies and results described in those papers are relevant for the experimental setups in the present study.

Since the overview of the main tenets of the theoretical framework has been provided, in the following section we turn to the notion of categorization.

2.1 CATEGORIZATION

The theoretical framework starts with the overview of the study of one of the basic cognitive mechanisms – categorization. We begin the overview by stressing the main differences between the traditional approaches where category membership was of an either/or kind, with strictly defined category boundaries, and the later approaches where categories are understood as fuzzy sets without clear boundaries. We also present the results of some of the seminal studies in the field conducted by Eleanor Rosch and her colleagues, after which we introduce George Lakoff's notion of idealized cognitive models (ICMs) and their role in the study of categories and human cognition in general. This is followed by Lawrence Barsalou's concept of ad-hoc categories and the more recent notion of dynamic categorization which also reflects the effects of context. In the present study, the process of categorization will be relevant for Experiments 1–4 (section 4), where all experiments include a categorization task. Specifically, a categorization task involves participants' judgements of category membership for the presented target words after priming with metaphorical sentences. In that sense, the main task involves categorization judgements in context. Additionally, target stimuli used in the experiments will also undergo an initial norming procedure for the degree of prototypicality, i.e., goodness-of-exemplar.

2.1.1 FROM THE TRADITIONAL EITHER/OR CONSTRAINTS TO FUZZY SETS

The traditional, compositional, approach to the study of word meaning relies on the notions of features that can be turned *on* or *off*, and in order for an element to be a member of a given group it needs to meet a strict set of criteria that entail a rigid combination of these features (Rosch 2009: 4–42; Taylor 1995: 21–35; Aitchinson 1990[1987]: 39; Lyons 1995: 99). More accurately, *semantic features*, also referred to as *semantic components*, or *semes*[3] are defined as "a specific kind of meaning components" (Lipka 1992: 98), i.e., as "theoretical units of the metalanguage and as such may be used for analysis and description" (Lipka 1992: 109). Additionally, these features are organized hierarchically, with the *archiseme* as the highest member in the hierarchy representing the conceptual value of a given lexeme, and *lower-level semes* or *diferential semes* (Dragićević 2007: 70–71). Finally, another important notion within the traditional framework of *feature semantics* is *componential analysis*, an approach that views word meaning "on the basis of a restricted set of

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[3] The term *seme* refers to the semantic feature, while the term *sememe* is defined as "a complex of configurations of semes, which corresponds to a single sense of a lexeme" (Lipka 1992: 132).

conceptual building blocks – the semantic 'components' or 'features'" (Geerarerts 2010: 70), i.e., which "involves the analysis of the sense of a lexeme into its component parts" (Lyons 1995: 107).

Unlike the componential approach and check-list theories of meaning that entail clear-cut binary distinctions of an *either/or* kind, prototype theory is situated in a more probabilistic environment of a graded continuum, where in order to acquire membership of a particular category, a member simply needs to be a reasonable match (Lehrer 1990: 368; Taylor 1995: 38–46, 54; Aitchinson 1990[1987]: 39–62; Geeraerts 2010: 183–192). The basic premise on which prototype theory is grounded is the existence of a central member or a *prototype*, i.e., the most typical representative of a given category. The status of this central member is *statistically stable* owing to the fact that it contains a set of the most salient attributes pertaining to the category in question, rendering it in turn the best exemplar of the group (Geeraerts 2010: 185; Dirven and Verspoor 2004: 31). The status of other members of a category is more probabilistic, and as we move towards the borders of a given category, we find that the peripheral members become fuzzy, and are often shared with the neighboring categories. In other words, "the center of a lexical category is firmly established and clear, while its boundaries are fuzzy and tend to overlap with the boundaries of other lexical categories" (Dirven and Verspoor 2004: 17), and such gradience of membership has also been proven to be psychologically real (Taylor 1995: 43; Rosch 2009: 43; Geraerts 2010: 186). Furthermore, Aitchinson (1990[1987]: 62) stresses that "a prototype often calls up a whole scene, in which numerous other words are involved," suggesting that instead of analyzing words in isolation their mutual relationships need to be accounted for as well.

Two very important notions in the context of prototype theory include those of *basic levels* and *family resemblances*. The basic level is related to the vertical axis of categorization which distinguishes the level of inclusiveness of a particular category (e.g., mammal – dog – collie) (Evans and Green 2006: 256), while family resemblances are related to the horizontal axis which "represents contrasting categories which are included in the next highest category" (Taylor 1995: 46). Rosch et al. (1976) showed that there was an optimal level of inclusiveness situated between superordinate and subordinate categories, which also reflects the hierarchical organization of categories. This was labeled the basic level which represents "the most inclusive level at which there is a cluster of shared attributes" (Evans and Green 2006: 258), where attributes are understood as "the dimensions along which different entities are regarded as similar" (Taylor 1995: 63). Additionally, the main characteristic of basic level categories is that they "(a) maximize the number of attributes shared by members of the category; and (b) minimize the number of attributes shared with members of other categories" (Taylor 1995: 51). Elements on the horizontal categorization axis are understood to "share a number of attributes and thus exhibit a degree of family resemblance" (Evans and Green 2006:

267). This in turn reflects the idea of fuzziness when it comes to category boundaries, since elements are linked through various degrees of family resemblance rather than being rigidly defined by a set of necessary and sufficient features.

Smith and Medin (1981) also discussed the differences between the classical view of categorization, the three versions of the probabilistic view (the featural approach, dimensional approach, and holistic approach), and the exemplar view. As discussed above, the classical view is based on the notion of defining features that render a category a strictly defined entity with rigid boundaries. Smith and Medin (1981) saw the probabilistic view based on features, dimensions, and holistic properties as a more suitable approach for the description of category structure. Namely, the probabilistic approach is based on binary characteristics that are either present or absent (Antović 2007: 113), and "it is the combination of these characteristics that determines whether a specific item can be classified as a member of the category or not" (Stamenković 2017: 40). Specifically, with both the featural and dimensional approach, the concept is understood as "a summary representation [and the features or dimensions are] only probabilistically related to concept membership" (Smith and Medin 1981: 163). The holistic view, on the other hand, entails that the representation of a concept poses as a "template whose cell values are probabilistically related to concept membership" (Smith and Medin 1981: 164). Finally, the exemplar view entails that "the best exemplars represent patterns for categorization – the more similar an item that is being categorized is to the pattern, the greater the likelihood of it being considered the member of the category" (Stamenković 2013: 42).

Apart from the abundant support of the prototype paradigm, the approach has also received a certain amount of criticism. Namely, among others, Lehrer (1990: 369–370) stresses the fact that lexicographers have been long aware of the fuzzy nature of categories, and also expresses a certain degree of apprehension in relation to the comprehensiveness of prototype theory when applied to lexemes other than nouns (Lehrer 1990: 373). Furthermore, Aitchinson (1990[1987]: 60–62) stresses the problems of: (i) the diverse nature of attributes, (ii) the straightforward arrangement of those attributes in a hierarchy, and (iii) the decision on the sufficient number of attributes. However, what needs to be understood is that prototype theory is not a model of knowledge representation, but rather *a descriptive tool* of how categories and their attributes are perceived by informants (Evans and Green 2006: 269).

In summary, owing to its more flexible approach to category structure, prototype theory presents itself as a more suitable analytical tool compared to the more traditional componential analysis. Still, the typicality framework also inherits some problems from its predecessor – first of all, in terms of the arbitrariness of the list of attributes, as well as in relation to their complexity, as many attributes can themselves be decomposed into more basic structures. Consequently, what needs

to be stressed is the fact that an essential tool in the *typicality toolbox* still entails the development of a list of attributes which can be highly arbitrary in some cases. Therefore, the somewhat obsolete componential approach actually remains an important part of prototype semantics since some of the diagnostic tools from the former paradigm have been retained in the latter, at least at the methodological level. In turn, such a conclusion gives support to the fact outlined in Lipka (1992: 118), among others, who suggests that the two frameworks should be understood as complementary, where the probabilistic nature of typicality effects serves to *overhaul* the more radical *either/or* criteria of componential analysis.

2.1.2 NATURAL CATEGORIES, FAMILY RESEMBLANCE, AND BASIC LEVEL

Rosch (1973) explored the hypothesis that "the domains of color and form are structured into nonarbitrary, semantic categories which develop around perceptually salient natural prototypes" (Rosch 1973: 328). Namely, certain colors and forms appear to be more salient compared to elements from other domains, in that certain areas of the color space are better exemplars of basic color names, and salient forms can be linked to representative forms from Gestalt psychology. In effect, the process of learning natural categories is expected to differ from learning artificial categories (Rosch 1973: 330).

In experiment 1, Rosch explored the process of category learning. The first hypothesis was that focal colors and sets of elements in which focal colors appear as central "will be learned faster than nonfocal colors and than unnaturally structured sets" (Rosch 1973: 332). The second hypothesis tested in this experiment was that "focal colors would be learned faster than nonfocal even when the focal colors were peripheral members of categories" (Rosch 1973: 339). The obtained results provided support for the two hypotheses. Experiment 2 dealt with the learning of various geometric forms, and the rationale behind this experiment was to explore the role of prototypes in domains other than color, and to see whether a similar mechanism of categorization already identified in the category of colors works with geometric shapes as well (Rosch 1973: 341). The obtained results showed that geometric shapes "were influenced by natural prototypes in much the same way as color categories" (Rosch 1973: 349). Based on these findings Rosch also offered an extrapolation of these relations to other categories. The results from these two experiments suggest that domains other than geometric shapes and colors may also reflect the overall organization typical of natural categories, and the learning of category members in other domains may also be a function of central prototypes. In fact, "semantic categories are learned and processed in a manner more similar to that of color and form than to that of artificial categories" (Rosch 1973: 349).

Building on the notion of family resemblances, Rosch and Mervis (1975) tested the hypothesis that "prototypicality is a function of the total cue validity of the attributes of items" (Rosch and Mervis 1975: 573). In mathematical terms, cue validity is understood as "conditional probability – specifically, the frequency of a cue being associated with the category in question divided by the total frequency of that cue over all relevant categories" (Rosch and Mervis 1975: 575). Although at odds with earlier interpretations of prototypes, where the notion of a prototype was understood as a function of attributes, the principle of family resemblance offers a different perspective. Namely, "the attributes most distributed among members of a category and least distributed among members of contrasting categories are [...] the most valid cues to membership" (Rosch and Mervis 1975: 575–576) of a category in question. The idea of family resemblances stems from Wittgenstein (1958: 32) who defined them as "a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail." In effect, prototypes of one category are those members that have family resemblance with other elements of the category, i.e., "with most attributes in common with other members of that category" (Rosch and Mervis 1975: 576), and the "least family resemblance to or membership in other categories" (Rosch and Mervis 1975: 575).

Experiment 1 dealt with superordinate category members and it tested the main hypothesis that the degree of family resemblance between a target item and other category members would correlate significantly with the ratings of prototypicality. The obtained results supported this hypothesis. The authors also tested the prediction that the co-dependence between family resemblance and prototypicality would be related to the structure of the semantic space in which elements of the category are situated. The obtained results also showed that the level of family resemblance yielded predictions of "the centrality of items in the semantic space generated by multidimensional scaling of similarity ratings between items in the category" (Rosch and Mervis 1975: 584). Experiment 2 tested the hypothesis that the most prototypical members of superordinate categories would have less family resemblances to members of other categories, i.e., "prototypicality should be correlated with a measure of the dominance of a category over its members" (Rosch and Mervis 1975: 585). The obtained results that showed strong positive correlations between dominance of category membership and prototypicality levels supported the hypothesis. The following two experiments dealt with basic level categories.

In the case of basic level categories cue validity is maximized. With subordinate categories it is lower due to the fact that "they share attributes with contrasting subordinate categories" (Rosch and Mervis 1975: 586–587), while with superordinate categories cue validity is again lower compared to basic level categories. This is licensed by the fact that superordinate categories have "fever common attributes within the category" (Rosch and Mervis 19775: 586). Experiment 3 tested the

hypothesis that prototypicality ratings positively correlated with the degree of family resemblance (Rosch and Mervis 1975: 587). Experiment 4 tested the hypothesis that prototypicality ratings correlated negatively with "the degree to which an item possessed attributes which were also possessed by members of contrasting categories" (Rosch and Mervis 1975: 587). The obtained results again supported the initial predictions. The final part of the study dealt with artificial categories. In experiment 5, the authors manipulated the degree of family resemblance of elements within a category. The stimuli used were constructed out of strings of letters (and digits when needed), and "three types of family resemblance structures were used" (Rosch and Mervis 1975: 592). The results revealed faster learning, faster identification, and higher ratings of prototypicality for elements in the case of category members with higher levels of family resemblance with members from their own group. In experiment 6, the authors tested the prediction that more prototypical elements would not overlap with contrasting categories. Namely, categories which the subjects had learned in the previous experiment were now taught along with category members the attributes of which manifested overlaps in some cases. The results showed that the "extent of overlap with a contrast category serves to structure categories in which items did not previously differ in degree of family resemblance and to influence the structure of categories in which items did previously differ in degree of family resemblance" (Rosch and Mervis 1975: 598).

Overall, the results obtained in the previous set of experiments showed that prototypicality was "a function of the cue validity of the attributes of items" (Rosch and Mervis 1975: 599). Additionally, the results supported the hypothesis according to which the most prototypical members have the greatest degree of family resemblance to members belonging to their own category, and the lowest degree of resemblance to elements from overlapping categories. This was confirmed for superordinate (experiments 1 and 2), basic level (experiments 3 and 4), and artificial categories (experiments 5 and 6). The obtained results also have the following implications:

i.   the construct of family resemblance appears as a structural basis for prototype formation; however, it needs to be emphasized that "the principle of family resemblance […] is a descriptive, not a processing principle" (Rosch and Mervis 1975: 600);

ii. the construct of family resemblance offers support for the compatibility of cue validity and prototype models (Rosch and Mervis 1975: 601). Namely, "empirically defined prototypes of natural categories are just those items with highest cue validity" (Rosch and Mervis 1975: 601);

iii. the construct of family resemblance is used as a basis for proximity scaling. The results from the first experiment showed that family resemblance can be used to predict "the centrality of items in the derived similarity space" (Rosch and Mervis 1975: 601). In other words, the

greater the number of similarities between the target element and the remaining elements from the same set, the more central the target will be "in a space derived from proximity measures" (Rosch and Mervis 1975: 602);

iv.   the construct of family resemblance constitutes a part of the more general process of category formation. As it has been shown in subsequent research (see Rosch et al. 1976), this is most representative with basic level category members that are learned first;

v.   the construct of family resemblance provides a link with the way children perform classifications. Namely, the obtained results offer support for the idea that more attention should be paid to "the development of the integration of complexive taxonomic categories" (Rosch and Mervis 1975: 603);

vi.   the construct of family resemblance is more suitable than criterial attributes. Unlike the traditional approach to the study of category structure which assumes that categories are exclusively sanctioned by shared sets of attributes, the present framework offers empirical support for Wittgenstein's claims related to the construct of family resemblance.

Rosch et al. (1976) highlight the fact that the human categorization system is supported by two main principles: (i) the principle of cognitive economy and (ii) the principle of perceived real-world correlational structure (Rosch et al. 1976: 384; Evans and Green 2006: 255). The former entails that humans are capable of identifying common traits based on which they can group elements into categories, and it affects the level of inclusiveness. The latter, on the other hand, states that category structure is constrained by the correlational structure of the world, which in turn reflects the representativeness of a category. In effect, we can distinguish between the horizontal dimension of categorization which has to do with "category distinctions at the same level of inclusiveness" (Evans and Green 2006: 256), and the vertical dimension that refers to "the level of inclusiveness of a particular category: the higher up the vertical axis a particular category is, the more inclusive it is" (Evans and Green 2006: 256).

The basic level of categorization is defined as "the level at which categories carry the most information, possess the highest cue validity, and are, thus, the most differentiated from one another" (Rosch et al. 1976: 383). Moreover, basic level is the most inclusive, and it reflects the correlational structure of the world (e.g., feathers will correlate with birds). Another important construct that Rosch et al. (1976: 384–385) introduce is cue validity, where *cue* refers to specific attributes ascribed to individual category members. Namely, this is a probabilistic concept where "the validity of a given cue x as a predictor of a given category y […] increases as the frequency with which cue x is associated with category y increases and decreases as the frequency with which cue x is associated with categories other than y increases" (Rosch et al. 1976: 384). In effect, the higher the cue validity,

the higher the level of differentiation of the given category from other categories, and vice versa. Apart from basic level categories, Rosch et al. (1976) also introduce superordinate categories which contain fewer shared attributes compared to basic level elements, and subordinate categories which "contain many attributes which overlap with other categories" (Rosch et al. 1976: 385). Consequently, both superordinate and subordinate categories have lower cue validity compared to the basic level. In those terms, basic level can also be understood as the "level of abstraction that maximizes cue validity" (Rosch et al. 1976: 385).

In the first part of their study, through a series of four experiments Rosch et al. (1976) aimed to provide additional experimental support for the construct of the basic level of categorization. The first experiment was designed to test the hypothesis that "the basic level would be the most inclusive level in a taxonomy at which a cluster of attributes, believed to be common to the class named, would be listed" (Rosch et al. 1976: 390). Initially, participants were asked to provide a list of attributes for specific representatives of nine common categories (musical instruments, fruit, tool, clothing, furniture, vehicle, tree, fish, and bird); then another group of participants rated the most common attributes obtained in the initial stage; and finally, a group of participants was instructed to provide a list of attributes for objects listed in the first part of the experiment, only this time they were presented as images. The results obtained from all three conditions supported the initial hypothesis.

The second experiment tested whether basic level members "require highly similar patterns [and whether] these motor patterns serve as common attributes in the construction of categories" (Rosch et al. 1976: 386). The experimenters first collected participants' descriptions of "the body and muscle movements which they made in interaction with objects" (Rosch et al. 1976: 393); then the obtained descriptions of muscle movements were coded; and, finally, a score of motor movements that can be understood as shared attributes at different levels of abstraction was calculated. The results showed that there were only few motor movements shared between superordinate category members, whereas there was a high number of motor movement descriptions collected from participants that were common to basic level elements. Moreover, elements from the subordinate level differed neither "in specificity of descriptions, [nor] in the number of common movements made to the object" (Rosch et al. 1976: 398) compared to basic level members.

In experiment 3, the authors tested whether "the basic level of categorization [was] the most inclusive level at which the objects of a class begin to look very much alike" (Rosch et al. 1976: 387). Finally, the fourth experiment explored whether it was the basic level at which participants can "form a mental image of some "average" member of a category" (Rosch et al. 1976: 387). In other words, the final two experiments were designed to ascertain that the results obtained for the basic level elements were invariant to the modality of experimental materials and stimuli; i.e., to ascertain that

linguistic descriptions, lists of attributes, and object names did not bias participants in any way. In effect, these two experiments tested whether "shapes of objects show the same correlational structure as do attributes and motor movements" (Rosch et al. 1976: 399). For each basic level category presented in the table approximately 100 pictures were collected. After extensive norming in order to avoid bias and ensure the validity of the study (for details see Rosch et al. 1976: 400–401), the researchers prepared a set of experimental stimuli in the form of traced "outlines of 64 normalized pictured objects" (Rosch et al. 1976: 401). The results of experiment 3 showed a significant increase in similarity of basic level elements compared to superordinate elements. Subordinate elements showed a significantly smaller increase in similarity compared to the basic level. Results obtained in experiment 4 showed that "basic level objects were the most inclusive categories at which objects were readily identified" (Rosch et al. 1976: 405).

Table 2.1. Classifications of stimuli used in Experiments 3 and 4 (Rosch et al. 1976: 399)

SUPERORDINATE	BASIC LEVEL
Clothing	Pants, shirt, shoes, socks
Vehicle	Car, truck, airplane, motorcycle
Animals	Cat, dog, fish, butterfly
Furniture	Chair, table, sofa, bed

In the second part of the study Rosch et al. (1976) investigated the implications of the existence of basic level categories in a series of 8 additional experiments. Experiments 5 and 6 dealt with cognitive representations, i.e., the authors tested the hypothesis that basic level objects could be represented by an image. More specifically, these two experiments were designed to "bring together two lines of research: analysis of the properties of categories at different levels of abstraction and analysis of the nature of the cognitive representation generated by the category name" (Rosch et al. 1976: 412). In experiment 5, the participants first heard a word corresponding to a basic level category member, after which they were required to identify a picture of an object from that category. The initial cue to which they were exposed was expected to facilitate their performance in the task. The obtained results showed that basic level categories indeed facilitate picture detection, superordinate category members do not, while the contribution of subordinate level members was the same as with basic level elements (Rosch et al. 1976: 409).

The same hypothesis was tested in experiment 6, using a priming paradigm in a matching task with congruent/incongruent conditions. Participants were asked "whether the stimuli are same or different [where] same can be defined to mean physical identity or category identity" (Rosch 1976: 409). The authors used two types of stimuli: (i) line drawings, where each drawing represented a

typical or atypical member of a given superordinate category (e.g., vehicle (car, sled)). Moreover, these drawings were "such general representations of the basic category that they could not be further categorized at the subordinate level" (Rosch et al. 1976: 410); and (ii) color photographs, where the authors used three images from the superordinate categories used in the previous experiment. The dependent variable of interest was RT (reaction time), measured from the onset of the stimulus, and participants were instructed to respond 'same' when the pair of drawings/photographs was physically identical, and 'different' for all other combinations. In the case of line drawings, RTs were facilitated by priming with basic level members, while priming with superordinate category names did not afford such facilitation. Similar results were recorded in the case of color photographs. Moreover, the difference in priming between basic level and subordinate category members was not significant.

Experiment 7 tested the hypothesis that "objects could be identified more rapidly as members of their basic level category than as members either of their superordinate or subordinate category" (Rosch et al. 1976: 414), and the obtained results offer support for this hypothesis. Namely, in experiment 7 subjects first heard an audio recording of the object name, after which a picture appeared on the screen in congruent and incongruent conditions. The participants' task was to decide whether "the picture was an object of the type named" (Rosch et al. 1976: 413) or not, and the relevant dependent variable was reaction time. For true pairs, the obtained results showed that RTs were shortest for basic level category names compared to both superordinate and subordinate category names. Also, RTs for superordinate category names were shorter compared to subordinate category names. With false pairs, a similar trend was identified for basic level category names, while the difference between subordinate and superordinate names did not reach significance.

Previous research has revealed differences in categorization strategies between young children and adults. Namely, while "adults tend to put things together taxonomically […] young children are likely to sort on the basis of complexive groupings – associations, stories chains, and other nontaxonomic criteria" (Rosch et al. 1976: 414). Unlike previous studies where sorting was performed only at the superordinate level, experiments 8 and 9 were designed to deal with classifications at the basic level. The rationale was that the authors expected that "basic level sorting would occur at the earliest ages and would be independent of superordinate sorting or of a child's ability to explain the categories" (Rosch et al. 1976: 415).

Experiment 8 dealt with children younger than 6-years-old, and it used an oddity problem format. Namely, children were presented with triads of pictures and their task was to put together the two pictures that were alike. The stimuli used included four categories of animals and four categories of vehicles. The results showed that young children, including 3-year-olds, preformed similarly to adults when it came to the sorting of images that could be classified into basic level category

members. Sorting at the superordinate level, on the other hand, showed improvement with age (Rosch et al. 1976: 419). In experiment 9, a standard sorting task was used. The stimuli were chosen from four categories: clothing, pants, furniture, and vehicles. There was also an additional category of people's faces "added because of its intrinsic interest and attention attracting qualities to children" (Rosch et al. 1976: 420). Similar to experiment 8, the results once again showed identical results for all age groups when it came to basic level categories, while developmental changes were identifiable only for stimuli that could be sorted only at the superordinate level. In all, the results obtained from these two experiments show that the categorization of elements at the basic level is not conditioned in any way by classifications at the superordinate level, and, furthermore, classification of elements at the superordinate level appears to be a function of age. Additionally, children "are probably engaged in learning the co-occurrence contingencies of their environment and probably categorize on the basis of their knowledge of those contingencies" (Rosch et al. 1976: 422). In plain terms, children perform constant statistical analyses of the elements in their environment (e.g., co-occurrence of elements, causal relations, salience, etc.), and based on the available data which accumulate and afford both more elaborate and more accurate judgements in the course of development, are able to sort the items from their environment first at the basic level, and, later on, at the superordinate level as well.

The final three experiments tested the implications of categorization theory for language. In the first part of experiment 10, the participants were asked to name the object in the picture, while in the second part the researchers tested whether the participants actually knew subordinate and superordinate category names (Rosch et al. 1976: 423). The obtained results showed "total agreement in the use of basic level names for 54 objects from nine taxonomies" (Rosch et al. 1976: 424), and these findings were not constrained by either lack of knowledge about categories nor word frequency. In experiment 11, the authors tested the hypothesis that in the course of language development, children first acquire names of concrete nouns corresponding to the basic level. First of all, the hypothesis was supported by a case study of language acquisition which showed that "all of the child's first utterances of concrete nouns in the nine most frequent categories in English were at the basic level of abstraction" (Rosch et al. 1976: 426). Additionally, similar to the results obtained for adults in experiment 10, children also used basic level names to name objects in the pictures. Experiment 12 was designed to test the hypothesis that "basic categories are the most necessary in language" (Rosch et al. 1976: 426). The study was conducted with speakers of ASL (American Sign Language), and the results showed that the percentage of signs at the basic level was significantly higher compared to both those at the subordinate and superordinate levels.

Rosch et al. (1976) explored whether the results of typicality effects obtained in previous research for natural categories could be replicated in the case of artificial categories, "purely as a function of structural principles, when the frequency and nature of experience were controlled" (Rosch et al. 1976: 492). In other words, the basic hypothesis was that typicality effects can be isolated as a function of category structure, and would be invariant in relation to frequency and presentation of stimuli in the learning process. Namely, previous research offers converging evidence for typicality effects, and this has been obtained in studies dealing with (i) typicality ratings of items (via questionnaires), (ii) order of learning, (iii) RTs in a category membership task, (iv) probability that participants would list particular category member when asked to produce a list of members, and (v) expectancies generated by presenting the category name. A conventional explanation of the obtained effects was attributed to the frequency of items, and the frequency of occurrence together with the name of the category. On the contrary, a recent study (Mervis et al. 1976) has shown that neither individual item frequency nor cooccurrence frequencies have a significant effect. Namely, Mervis et al. (1976) explored the relationship between goodness-of-example, item dominance, and word frequency. While the first two elements showed significant correlations throughout, "none of the correlations between word frequency and goodness-of-example were significant" (Mervis et al. 1976: 283); additionally, only two of eight correlations between word item dominance and word frequency showed significance, which means that "word frequency is not correlated with typicality ratings" (Rosch et al. 1976: 501).

In effect, Rosch et al. (1976) offered an alternative account based on category structure, and they included the following types of structures discussed in previous research: (i) gestalt configurations, (ii) mean values of attributes, and (iii) family resemblances. They used three types of artificial categories: (i) dot patterns, stick figures, and (iii) letter strings. In experiment 1, all items in a category appeared with identical frequency; in experiment 2, the degree of learning was the same for all items; in experiment 2, they used priming to test expectancies generated from the presentation of the name of a category. The obtained results showed that typicality effects identified in natural semantic categories can be attributed to "category structure alone, without implementation from frequency" (Rosch et al. 1976: 501). In other words, "structural relations of items in a category, even when frequency differences are absent or contrary to structure, can generate the typicality effects that characterize natural semantic categories" (Rosch et al. 1976: 502).

2.1.3 CATEGORIZATION AND IDEALIZED COGNITIVE MODELS (ICMS)

Cognitive models play an important role in category formation and reasoning, and the embodied nature of cognitive models facilitates the understanding of concepts (Lakoff 1987: 13). Additionally, in the context of idealized cognitive models (ICMs), graded membership in categories is licensed by ICMs containing a scale, centrality gradience appears as the outcome of interaction between cognitive models, while family resemblance is based on the resemblance between ICMs (Lakoff 1987: 13). One of the general aims of the theory of cognitive models was to bring the work in the domain of categorization into a coherent paradigm (Lakoff 1987: 15).

The problem of strictly defined category boundaries proposed by the classical view of category structure was first identified by Wittgenstein (1958: 31–32) who investigated the category of games. Namely, members of this category need not have any properties in common, and yet they can be attributed to the same category (e.g., poker vs. polo). When analyzing these categories, we can identify an entire network of similarities at different levels (Wittgenstein 1958: 32). In order to capture these similarities, Wittgenstein (1958: 32) introduced the notion of family resemblances which highlight the fact that "there need be no single collection of properties shared by everyone in a family" (Lakoff 1987: 16). Moreover, Wittgenstein (1958: 33–45) also stressed the fuzzy nature of category boundaries, as categories are open to the introduction of novel members. The idea of fuzzy boundaries has been elaborated in more detail in Zadeh (1965) and, more relevant for the study of cognitive linguistics, in Lakoff (1973). Namely, working in the domain of set theory, Zadeh (1965: 338) also suggested that "the classes of objects encountered in the real physical world do not have precisely defined criteria of membership," and, in effect, he introduced the notion of a fuzzy set that implies "a continuum of grades of membership" (Zadeh 1965: 339).

Appealing as prototype theory may seem at first, one very important constraint that needs to be taken into account is that prototypicality effects identified in various experimental studies (e.g., Rosch et al. 1976; Mervis et al. 1976) do not actually reflect the representation of categories in the human mind (Lakoff 1987: 43–44). Namely, the results obtained from, for example, questionnaires used to rate prototypicality levels of various category members offer nothing more but participants' assessments, i.e., their attitudes in relation to the goodness-of-exemplar of particular instances of a category. These results can in no way be extrapolated so as to reflect interpretations of category representation.

Specifically, when it comes to basic-level categories, Lakoff (1987: 47) argues that they are basic in terms of perception, function, communication, and knowledge organization. Additionally, basic level categories are "our earliest and most natural form of categorization" (Lakoff 1987: 49),

while classical taxonomic categories develop later. This is supported by Rosch's work on category acquisition with young children (e.g., Rosch et al. 1976). Namely, at the age of three, children were not very successful with superordinate sorting of experimental stimuli, while they performed extremely well on basic level sorting. Additionally, at the age of two, children also form categories that are governed by the same principles that guide the construction of basic level categories with adults (Lakoff 1987: 49; Mervis 1984), and the process is constrained by three factors: (i) children are unaware of cultural conventions that affect word meaning, (ii) children may perceive different properties of category members as having different salience compared to the perception of adults, and (iii) children may include false properties in their classifications (Lakoff 1987: 50). In other words, apart from obvious contextual influences that can affect the process of categorization, participants' age also appears as a salient confound that needs to be taken into account.

Another important caveat is that basic level structure is constrained by correlation, in that "the overall perceived part-whole structure of an object correlates with our motor interaction with that object and with the functions of the parts (and our knowledge of those functions)" (Lakoff 1987: 50). However, these functions are actively constructed through interaction, rather than being objectively predetermined in some abstract manner. In plain terms, the attributes obtained from participants, and those used in other studies are in no way inherent to category members, but rather represent a snapshot, or a current cross-section taken at a certain point in time on a gradable, probabilistic continuum of potential values. These interactional properties (i.e., attributes) "form clusters in our experience, and prototype and basic-level structure can reflect such clusterings" (Lakoff 1987: 51). Consequently, superordinate and basic level categories will demonstrate different properties (Lakoff 1987: 51).

In relation to basic level categories, in his review of Rosch's work Lakoff (1987: 52–54) also discusses the notion of cue validity, discussed above. To reiterate, categories are typically embedded in systems and the process of categorization is conditioned by such systems. Since basic-level category members are the most distinct in relation to other category members, they should "maximize perceived similarity among category members and minimize perceived similarities across contrasting categories" (Lakoff 1987: 52). As a result, the notion of cue validity was introduced, and it was meant to capture the probability of an element being a member of a given category as a function of a certain feature, dubbed a cue. In that sense, category cue validity was defined "as the sum of all the individual cue validities of the features associated with a category" (Lakoff 1987: 53). Still, Lakoff (1987: 53) also stresses the fact that other researchers suggested that if the notion of cue validity is based on objective attributes, then it cannot be used to identify basic-level elements. To circumvent this problem, we would require an approach that would include a psychologically defined notion of

attributes, rather than the assumption that a set of objective attributes exist in the world. Still, such attributes (i.e., cues) would not suffice for the identification of basic level elements (Lakoff 1987: 54). In effect, Lakoff (1987: 54) concludes that basic-level categories "are most differentiated because of their other properties [and not only objective attributes], especially because most knowledge is organized at that level."

2.1.4 IDEALIZED COGNITIVE MODELS (ICMS)

Lakoff (1987: 68) defines ICMs as complex gestalts, structured by the following principles: (i) propositional structure, similar to semantic frames, (ii) image-schematic structure, (iii) metaphoric mappings, and (iv) metonymic mappings. The main idea behind the construct of ICMs is that they are used to organize knowledge and that "category structures and prototype effects are by-products of that organization" (Lakoff 1987: 68). Additionally, "any element of a cognitive model can correspond to a conceptual category" (Lakoff 1987: 69). As an example of an ICM, Lakoff makes use of Fillmore's (1982) example bachelor. Namely, Lakoff (1987: 70) argues that bachelor can be defined in relation to an ICM that includes a society with a monogamous marriage, and a certain age of an individual. However, the ICM "does not fit the world very precisely [because] it is oversimplified in its background assumptions" (Lakoff 1987: 70). Potential candidates for the label bachelor, such as pope, Tarzan, or similar, do not constitute representative members of the category.

According to Lakoff (1987: 70), the degree to which an ICM fits our understanding of the world can be graded from very well, to not at all. Moreover, if an ICM "in which *bachelor* is defined fits a situation perfectly […], then he qualifies as a member of the category" (Lakoff 1987: 70). One potential problem stemming from the fact that such an account of ICMs characterizes only representative members of a category is gradience. Namely, with such interpretation, the category of bachelor does not appear to be gradable. Lakoff (1987: 71) proposes that one type of gradience is licensed by the "degree to which the ungraded ICM fits our knowledge […] about the world" (Lakoff 1987: 71). For instance, in the case of pope, we need to be able to compare the ICMs of bachelor and pope and identify the differences and similarities between them. In other words, we need "the concept of "fitting" one's ICMs to one's understanding of a given situation and keeping track of the respects in which the fit is imperfect" (Lakoff 1987: 71). Consequently, the difference in the degree to which our knowledge fits the ICM gives rise to gradience.

Another way in which ICMs can affect prototypicality is through cluster models. Namely, ICMs can often combine "to form a complex cluster that is psychologically more basic than the models taken individually" (Lakoff 1987: 74). One of the examples that Lakoff uses is the cluster

model for the concept mother, which includes the following clusters: the birth model; the genetic model; the nurturance model; the marital model; and the genealogical model. In general, these models can sometimes compete with each other, and some might be omitted from the characterization of the concept. Moreover, despite the interaction between multiple models, we still tend to identify one of them as the most dominant. Additionally, Lakoff (1987: 76) discusses cases of compound expressions (e.g., stepmother, foster mother, surrogate mother, etc.) which reflect the "lack of convergence of the various models" (Lakoff 1987: 76). There are also sense extensions of the concept mother through metaphor, which also implies the recruitment of multiple possible models.

Another special type of ICMs that Lakoff discusses includes metonymic models. These are governed by the following generalized principles: if there is an ICM "with some background condition (e.g., institutions are located in places), there is a "stands for" relation that may hold between two elements A and B, such that one element of the ICM, B, may stand for another element, A" (Lakoff 1987: 78). In more general terms, metonymic relations are based on contiguity between elements (e.g., *The ham sandwich just spilled beer all over himself*, where the ham sandwich stands for the customer). In the context of prototype theory, metonymy can be understood as a salient source of prototypicality effects, insofar as a sub-category or a sub-model can be used to "comprehend the category as a whole" (Lakoff 1987: 79), and the whole process is also licensed by metonymic ICMs.

One additional level of prototypicality in the category mother is facilitated by social stereotypes – specifically the housewife stereotype. Namely, "social stereotypes are cases of metonymy – where a subcategory has a socially recognized status as standing for the category as a whole, usually for the purpose of making quick judgments about people" (Lakoff 1987: 79). Namely, the housewife stereotype is often understood as a prototypical instance of the category mother, and is typically contrasted with the concept working mother.

2.1.5 AD HOC CATEGORIES

Barsalou (1983: 211) introduced the notion of *ad hoc categories*, "created spontaneously for use in specialized contexts." Similar to common categories, ad hoc categories also have graded structure, although they are not as well established in memory as common categories are. The notion of graded structure has three main aspects which include the following: (i) some members are better examples of a category than others, and this has been identified in all common categories addressed in previous research (e.g., Rosch 1973; 1975; Rosch and Mervis 1975; Tversky 1977); (ii) there are cases that are fuzzy, and participants find it difficult to make category-membership decisions; and (iii) there are variations in the levels of similarity between elements that are not members of a

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category, and the concept of the category. Common categories also have "well established category representations [and, in effect] retrieval is facilitated during testing because these structures provide a network for locating presented information" (Barsalou 1983: 212). In plain terms, familiar, entrenched structures of common categories, with marked hierarchical organization, will facilitate both recognition and retrieval in various experimental settings.

Barsalou (1983: 212–213) introduces the comparison network model that includes a similarity comparison process and the spreading activation network. The former "computes the similarity of two concepts in working memory," while the latter "represents concepts and properties as nodes and represents associations between concepts and properties as pathways that carry spreading activation" (Barsalou 1983: 212). Similarity, in this case, is understood as a function of concept's properties, and, in line with Tversky (1977), the similarity between two concepts is higher when the number of their shared properties increases, while the number of idiosyncratic properties decreases. In effect, graded structure of a category is a result of "computing how similar the concepts for instances, unclear cases, and noninstances are to the concept for the category" (Barsalou 1983: 212). Furthermore, this conclusion is in line with the results from previous research that stresses high correlations between typicality and family resemblances (e.g., Rosch and Mervis 1975).

In the spreading activation network concepts are associated to properties that are typical of referents in the environment, and, also, association can exist both between properties and between concepts. The strength of association is understood as a "function of how frequently and recently an association has been active in working memory" (Barsalou 1983: 212). Network nodes become active once the overall activation at a given node crosses the threshold. Barsalou (1983: 213) argues that the presented network model supports the standard view of category representation, inasmuch as common categories have both well determined *concept-to-instance*, and *instance-to-concept* associations, as well as clearly determined category concepts (Barsalou 1983: 213). This is afforded by frequent and recent activations in working memory. Moreover, in line with Barsalou (1982), not all properties of a concept are always active, as there is a distinction between context-independent properties that are always active, and context-dependent properties that are activated exclusively by specific contexts (Barsalou 1982: 82).

In addition to accounting for characteristics of common categories, the comparison-network model can also be used to account for ad hoc categories. One of the most marked differences between common categories and ad hoc categories resides in the fact that, while common categories reflect the correlational structure of the environment, ad hoc categories violate this structure. However, the increased frequency of use of ad hoc categories can yield much stronger representations in memory, akin to that of common categories. Barsalou (1983: 214) also stresses the fact that the presence of

graded structure in ad hoc categories, and the varying degrees to which they might be established in memory, indicates that the current theories need to be reexamined in order to include the mechanisms that will account for these processes as well.

In order to test all the above predictions, Barsalou (1983) performed a series of four experiments: (i) the first experiment explored the presence of graded structure in ad hoc categories; (ii) in experiments 2a and 2b the author compared typicality and production frequency for common and ad hoc categories; (iii) in the third experiment Barsalou explored whether "retrieving instances from ad hoc categories should be more difficult than retrieving instances from common categories [and] whether the category concept of ad hoc categories should not be as accessible as those of common categories" (Barsalou 1983: 213–214); and (iv) in the final experiment, the idea that it should be easier to categorize elements into common categories that into ad hoc categories.

The first experiment showed high average agreement between participants across categories, which shows that "ad hoc categories possess salient graded structure" (Barsalou 1983: 216). Moreover, this experiment also revealed the presence of internal and external graded structure, and "unclear cases led to less agreement for category membership but not for typicality" (Barsalou 1983: 216). But when unclear cases were excluded, the subjects' agreement about category membership was very high. Experiments 2a and 2b showed that identical similarity comparisons that facilitate the construction of graded structures were used for both common and ad hoc categories, and that this is not confined by how entrenched in memory a category is (Barsalou 1983: 218). Additionally, as predicted by the comparison-network model, bearing in mind that the participants had had more experience with common categories compared to ad hoc categories, they were able to "establish stronger associations to these exemplars" (Barsalou 1983: 218). In other words, the two category types "differ in the extent to which their concept-to-instance associations are established in memory" (Barsalou 1983: 218). Consequently, stronger links between concepts and instances present in common compared to ad hoc categories afforded faster access to instances of common categories. However, even with frequent common categories certain individual instances may exhibit lower degrees of category membership.

Results obtained in experiment 3 also reinforced the claim that concept-to-instance associations for common categories are better established in memory compared to those of ad hoc categories (Barsalou 1983: 221). Additionally, while ad hoc categories were "able to provide organizational schemes for presented information […] the concepts for these categories […] were no more accessible than the representations of random groups of words" (Barsalou 1983: 221). Experiment 4 showed that instance-to-concept associations in memory are weaker for ad hoc, compared to common categories. Namely, participants' responses in relation to ad hoc categories

were dependent on exposure to relevant contexts that activated (i.e., primed) the relevant ad hoc concepts. In other words, "without context, the ad hoc categories were difficult to identify, and subjects were highly variable in the categories they discovered" (Barsalou 1983: 223). With common categories, on the other hand, context did not have any significant influence. Based on these results, and the results discussed in Barsalou (1982), in a categorization task, "categories with strong instance-to-category associations may be automatically activated, [whereas] categories weakly associated to an instance […] may be activated only in contexts that require use of the category" (Barsalou 1983: 223–224). Moreover, context-dependent categories are activated "only by the conjunction of the instance and a particular context" (Barsalou 1983: 224), rather than only by the instance.

In all, the study showed that ad hoc categories also have graded structure, just like common categories. Moreover, "the same similarity-comparison process appears to construct graded structure in both common and ad hoc categories" (Barsalou 1983: 224), and this process is not conditioned by the degree of category entrenchment in memory. However, differences in representations of the two respective category types were identified, insofar as (i) concept-to-instance associations of ad hoc categories were much weaker compared to common categories, which led to "slower instance retrieval during exemplar production" (Barsalou 1983: 224), (ii) instance-to-concept associations were also weaker for ad hoc categories, which also slowed down the categorization process, and (iii) category concepts for ad hoc categories were not well-established, which made them far less accessible compared to common categories. Barsalou (1983: 224) also suggests that with the increase in the frequency of use, both instance-to-concept, and concept-to-instance associations may become stronger even for ad hoc categories.

In the case of common categories, it is family resemblance (i.e., how similar a given category member is to all other category members) that establishes the typicality level of a given category member. In terms of the comparison-network model this means that with common categories "a category concept is the average of all category instances and that an instance's typicality increases as it becomes more similar to the category concept" (Barsalou 1983: 225). Since ad hoc categories do not conform to correlational structure, family resemblance did not have any effect, as ad hoc categories "are structured by dimensions relevant to the goals the categories serve" (Barsalou 1983: 225). In other words, "people often derive categories while constructing plans to achieve goals" (Barsalou 1991: 1), and "the nature of the category is principally determined by goals and […] such goal structure is a function of one's cognitive models" (Lakoff 1987: 46). Additionally

2.1.6 DYNAMIC CATEGORIZATION

Smith and Samuelson (1997) highlight the dynamic nature of categorization, where they claim that "what is "known" in a real moment of knowing depends on the context" (Smith and Samuelson 1997: 162); furthermore, "different tasks and contexts seem to create different categories[4]" (Smith and Samuelson 1997: 167). In other words, as opposed to the traditional theory of categorization that postulates the existence of stable mental representations in long term memory that are accessed when specific elements are encountered in real life situations, Smith and Samuelson (1997) argue that the process is far more dynamic and it actually takes place online. Namely, the *external* factors that influence category formation include "past history, present history [and] current input" (Croft and Cruse 2004: 93). The crucial element in this framework "is a construal of immediate context, including linguistic, perceptual, social, psychological aspects, including current goals and plans, inferences and expected outcomes perceived causal relations, and so on" (Croft and Cruse 2004: 93). The import of context is also supported by developmental studies where it was found that children's category judgments were similar to adults', insofar as they were influenced by context and the nature of the task (Smith and Samuelson 1997: 169). In other words, children's categories were also contextually variable, just like it was the case with adults (Smith and Samuelson 1997: 170).

The authors also highlight the import of immediate context in perception[5], where they argue that "the psychological object […] is not itself a fixed entity [but it depends crucially] on the surrounds" (Smith and Samuelson 1997: 172–173). Another evidence of the importance of context comes from studies with memory tasks where it was found that different contexts of use of polysemous words (e.g., jam) lead to different memories depending on the original context in which the word appeared (e.g., jam in 'traffic jam', and jam in 'strawberry jam'). Also, they report studies where scuba divers learned lists of words while underwater, and were more successful in remembering those words while performing the task underwater, i.e., in the immediate context in which the initial learning had taken place[6]. In all, the authors conclude that "what we remember depends broadly on the moment of learning and the moment of retrieval [and that] mental events are naturally adapted to context" (Smith and Samuelson 1997: 173).

Smith and Samuelson (1997: 173) also stress the fact that "mental activity at any point in time will be a mixed result of immediate input and just-past activity." In plain terms, the initially

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[4] This idea is supported by Barsalu's work on ad hoc categories (Barsalou 1983).
[5] For instance, they list research on the influence of types of fonts on letter perception (Sanocki 1991), perceived similarity of objects (Goldstone et al. 1991; Palmer 1989), and variability in the perception of wavelengths depending on the light source (Halff et al. 1976).
[6] For details see Godden and Baddeley (1980).

encountered element, or percept, can influence our processing of the subsequent element. This is reflected in the phenomenon of priming, where "the pattern of activity of the first item overlaps in kind with the pattern underlying the perception of the second item and thus puts the second in a state of partial activation and readiness" (Smith and Samuelson 1997: 174). Similar adaptation effects have also been reported in different perception studies[7]. In summary, Smith and Samuelson understand categories to be products of mental activity, and that they are conditioned by previous knowledge, immediate previous activity and the input. In effect, categories created in this manner "will be dynamically stable, adaptive and, given the idiosyncratic mix of past and present, inventive" (Smith and Samuelson 1997: 181).

In line with Smith and Samuelson (1997), Croft and Cruse (2004: 93–95) also argue that category boundaries are subject to individual, contextualized construal, and that, in effect, "the notion of fuzzy boundaries [also] needs reexamining," since "all the evidence for fuzziness involves reactions to isolated lexical items, rather than construals in specific contexts" (Croft and Cruse 2004: 95). Namely, the dynamic construal framework proposes that the category boundary can indeed remain sharp, while we can still "have various degrees of knowledge about a boundary [which is licensed by the fact that] contextualized occurrences [of categories] involve a specific construed reference point on a relevant scale" (Croft and Cruse 2004: 95). Moreover, the authors also argue that even the construal of basic level category members is subject to individual construal (Croft and Cruse 2004: 96–97).

A now standard approach to the study of meaning assumes the integration of the determined properties of the lexicon with the "apparently infinite flexibility of meaning in context" (Croft and Cruse 2004: 97). However, Croft and Cruse propose a somewhat different approach according to which both meanings and structural relations are constructed actively online, in specific contexts. In that sense, Croft and Cruse (2004: 98) discuss the notion of interpretation, i.e., "contextually construed meanings," where the process is constrained by "the properties of linguistic expressions […], non-linguistic knowledge, information available from context, knowledge and conjectures regarding the state of mind of hearers, and so on." Furthermore, they list the following basic constructs relevant for their approach to the study of meaning: contextualized interpretation, purport, constraints, and construal.

While words in isolation have a certain *semantic potential* which will affect interpretations, this semantic potential should be differentiated from the interpretations (Croft and Cruse 2004: 98–99). As Croft and Cruse (2004: 99) put it, there is a vital difference between "the 'deadness' of the

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[7] For instance, straight lines appear as curved after the experimental subject has spent a certain amount of time staring at curved lines (Gibson 1933); the quality of a sound can be manipulated so as the boundary between a vowel and a buzz is shifted by repeatedly presenting the sound /a/ (Remez 1979).

individual signs, in contrast to the vividness of the interpretations we construct," and which are necessarily constrained by the relevant background knowledge. When we are engaged in communication, we immediately perceive the content of the message. What Croft and Cruse mean by the interpretation is "what constitutes the focus of our attention at the moment of speaking" (Croft and Cruse 2004: 100). Moreover, interpretations are viewed as Gestalts that are not deconstructable into semantic features or any type of smaller building blocks, and any potential features that may exist are also a matter of construal. Finally, the model is understood to have "an indeterminate starting point (a purport) and a determinate end point" (Croft and Cruse 2004: 100). Purport is defined as "the body of conceptual content" (Croft and Cruse 2004: 100) with which every lexical item is associated, and it is affected by the previous encounters with the given lexical item in various contexts. Consequently, purport is subject to constant updates, as "every experience of the use of a word modifies the word's purport to some degree" (Croft and Cruse 2004: 101).

Among the elements that can constrain the process of construal, Croft and Cruse (2004: 101–103) list the following:

i.   human cognitive capacities, which are defined by the nature of our cognitive system (e.g., attention, memory, figure-ground structures, etc.);

ii. nature of reality (e.g., some aspects of experience are easier to construe than others, such as the presence/absence of certain attributes when describing items in the environment);

iii. convention is manifested via two aspects. First, "the mapping between word forms and regions of conceptual content" (Croft and Cruse 2004: 102), where differences in semantic potentials between words are licensed by differences in their purports, respectively. Second, purport constrains the number of possible construals, inasmuch as conventional constraints are highly sensitive to context, and, in effect, they "may favor certain construals over others" (Croft and Cruse 2004: 102);

iv. context includes linguistic context, physical context, social context, and stored knowledge. With linguistic context, Croft and Cruse (2004: 102) distinguish between the previous discourse, immediate linguistic environment, and type of discourse. Physical context refers to elements in the immediate surroundings. Social context refers to the type of a situation and social relations between participants. Stored knowledge refers to the vast body of previous experience that participants *bring* into the communicative situation.

The notion of construal is used in Langacker's sense, and "it is by means of a series of processes of construal that an essentially non-semantic purport is transformed into fully contextualized meanings" (Croft and Cruse 2004: 103). In effect, construal obviously involves multiple stages during which pre-meanings are constructed. Some of these stages take place parallel

to each other, while others are realized in series. The process itself is subject to conventional constraints that vary in strength. Namely, we can distinguish between weak constraints that give way to most likely construals and "can easily be overridden by contextual constraints" (Croft and Cruse 2004: 104), and strong constraints which cannot be overridden that easily. Intermediate products of the constraints can be understood as pre-meanings. Moreover, conventional constraints can be influenced by the context, they can "operate at different levels of specificity" (Croft and Cruse 2004: 104), while some can be subject to revision, "but will govern some aspect of construal if there is insufficient or no indication from the context as to required construal" (Croft and Cruse 2004: 104). These are understood as default construals.

2.1.7 CATEGORIZATION AND CONTEXT

Further reinforcing the import of context outlined in ad hoc categories and dynamic categorization, Ungerer and Schmid (2006) also argue that category structure is conditioned by the context, and by the shared background knowledge that can be culture-specific and organized by cognitive models. In other words, *positions* of prototypes in a category are not fixed, but are susceptible to the effects of contextual variables. Ungerer and Schmid (2006: 45–46) offer the following set of examples to illustrate how context (in this case minimal, i.e., sentence-level context) affects the selection of the best exemplar from the category dogs:

   i.   *The hunter took his gun, left the lodge and called his dog.*
  ii.   *Right from the start of the race the dogs began chasing the rabbit.*
 iii.   *She took her dog to the salon to have its curls reset.*
  iv.   *The policemen lined up with the dogs to face the rioters*

(Ungerer and Schmid 2006: 45–46).

In the first example, the reader is most likely to evoke an image of a hunting dog (e.g., a retriever), in the second an image of a greyhound, in the third an image of a poodle or Pekingese, while the third example would most likely evoke an image of a German shepherd. So, while the most prototypical image of a dog (without context) would probably be a retriever or a German shepherd, given a specific context, the status of the central prototype is likely to alter. Moreover, even peripheral members whose attributes are rendered very salient by the context can appear in more central positions. In other words, "it seems that the context not only determines the choice of the category

prototype, but that it also leads to an adjustment of the position of other category members" (Ungerer and Schmid 2006: 46).

Croft and Cruse (2004: 93–95) also stress the fact that context can affect judgments of category membership and category boundaries. For instance, when asked to decide whether a cyberpet is a pet, most participants would not include it in the category. When the question is phrased differently, and they are asked to decide whether a cyberpet is a *real* pet, the number of 'no' responses will be even higher. However, suppose a psychologist is advising parents that getting a pet would help their child, by saying: "I advise you to get her some kind of pet – even an electronic one might be beneficial" Croft and Cruse (2004: 94). In this case, the explicit modifiers 'some kind' and 'even' actually serve to broaden the category boundaries, and participants have no difficulties in accepting a cyberpet as a kind of a pet.

Roth and Shoben (1983) conducted a series of experiments in which they tested how context would affect category structure. The first experiment was designed to determine whether "context can alter the relation between an exemplar and a category term" (Roth and Shoben 1983: 350). First, they showed that different contexts in which a category term can be presented influence the identification of anaphoric reference between the category term and its exemplar. Then they explored in what way "context alters the degree of representativeness of exemplars of a category" (Roth and Shoben 1983: 351). Specifically, three types of context were used: (i) context in which the exemplar introduced in the critical sentence could be identified as a suitable referent of the category term, (ii) context that eliminates the exemplar as a suitable referent of the category terms, and (iii) a non-biasing, i.e., neutral context which was expected to demonstrate a similar effect to no-context conditions. Each critical sentence appeared in all three experimental conditions. The dependent variable of interest was reading time for critical sentences. The obtained results showed that the first type of context, i.e., the positive biasing context, yielded shorter reading times for targets compared to the neutral context; on the other hand, the second condition, i.e., the negative biasing context, led to increased reading times. The effect was recorded for typical, as well as for atypical exemplars. Overall, it was concluded that "context affects the representation of a category term" (Roth and Shoben 19836: 356).

Experiment 2 was designed to test "how context alters the representativeness distribution of exemplars of a category" (Roth and Shoben 1983: 357). The results showed that the presentation of category members in context revealed a graded distribution of the goodness-of-example (Roth and Shoben 1983: 362). Roth and Shoben (1983: 363) also argued that contextualized representations most likely entail "that the entire GOE distribution is restructured based on the constraints imposed by the context." In experiment 3, participants were engaged in a verification task. Namely, category

exemplars were presented in different contexts, and participants' task was to decide whether these exemplars were good representatives of category terms (Roth and Shoben 1983: 363). The dependent variable of interest was response time. The results showed that relatedness to the representation of the category conditioned by the context had an effect of the recoded response times, insofar as there was facilitation for true items, and inhibition for false items (Roth and Shoben 1983: 369). Additionally, the introduction of context overrides typicality effects identified for items in isolation.

Chaigneau, Barsalou, and Zamani (2009) conducted a series of three experiments that showed that categorization decisions become more accurate when target items appear in the context that includes the information concerning both the event and setting. The first experiment was designed to determine whether the familiar categories stored in long-term memory are accessed more easily when the participants are presented with the context and information about the event. The results showed a pronounced effect of event information and context, insofar as participants who were not provided with this information performed poorly in the main task. On the contrary, participants provided with the relevant information "organized clusters around the a priori categories, and often described these clusters correctly" (Chaigneau, Barsalou, and Zamani 2009: 86). Moreover, the authors concluded that the familiar, i.e., a priori categories, were stored in long-term memory along with context of use and event information. In experiment 2, the authors tested the importance of situational information for the categorization task. The results showed that the more relevant situation information was available "the likelihood of accessing the a priori categories increased" (Chaigneau, Barsalou, and Zamani 2009: 89). In the third experiment, the authors addressed the relationship between situational information and inference. The experiment included three conditions: (i) manipulation of the object, where participants were given the five elements from a catapult system (also used in the previous two experiments) organized randomly, (ii) manipulation of the context, where the participants were presented with the assembled catapult system, but were not shown how the system worked, and (iii) manipulation of the event, where the participants could see how the assembled catapult system worked (Chaigneau, Barsalou, and Zamani 2009: 89–90). The results suggested that appropriate "situational information for one system was sufficient to access the a priori categories, such that the information produced for them was near optimal" (Chaigneau, Barsalou, and Zamani 2009: 89). Additionally, the introduction of "relevant events from static assembled systems appears to benefit from viewing multiple systems, rather than only viewing one" (Chaigneau, Barsalou, and Zamani 2009: 89).

2.1.8 SECTION SUMMARY

In summary, in the present section we highlighted the main differences between the traditional understanding of categories, in terms of rigid structures with strictly defined boundaries, and the more recent probabilistic view, where category membership is a matter of a graded continuum, and fuzzy sets. Eleanor Rosch and her associates (e.g., Rosch et al. 1976) introduced the notions of family resemblances (referring to the horizontal axis of categorizations) and basic level (referring to the vertical categorization axis), which were tested in experimental setups. George Lakoff (1987) introduced the construct of idealized cognitive models (ICMs) in order to shed more light on the nature of categorization. ICMS are understood as gestalt structures that organize category structures and our knowledge.

Lawrence Barsalou (1983) introduced the notion of ad hoc categories that are constructed spontaneously and show a high degree of contextual dependency. Barsalou also showed that ad hoc categories do not reflect correlational structure, i.e., they do not conform to the notion of family resemblances. Rather, their construction is driven by the communicative goals. Smith and Samuelson (1997), and Croft and Cruse (2004) discuss the notion of dynamic categorization, and the importance of context for categorization. Namely, category formation, and judgments regarding category membership can be influenced by a range of contextual variables. Ungerer and Schmid (2006), Roth and Shoben (1983), and Chaigneau, Barsalou, and Zamani (2009) further explore and highlight the influence of context on categorization.

2.2 CONTEXT

In the present section we review some of the more relevant approaches to the study of context in the domain of (cognitive) semantics, pragmatics, and psychology. Seeing that this is a very complex, multi-faceted, and multi-dimensional phenomenon, we approach it accordingly, from an interdisciplinary perspective. Namely, we begin the discussion with the overview of Katz and Fodor's work on the structure of a semantic theory and emphasize the methodological importance of their early work. Then we move on to Frank Palmer's overview of the relevant approaches to the study of context, after which we proceed to the more thorough elaboration of the notion of context of situation as introduced by J. R. Firth. After this, we continue with the overview of the notion of context from the perspective of John Lyons, which is followed by the treatment of context in the domain of pragmatics. In this section we start with an overview of the study of context from *The Oxford Handbook of Pragmatics*, written by Anita Fetzer, after which we discuss the treatment of context in the work of Jacob Mey, Stephen Levinson, John Gumperz, Peter Auer, and Goodwin and Duranti.

After the overview of some the more important work in pragmatics, we turn to Ungerer and Schmid who view context as a mental phenomenon in cognitive linguistics, and van Dijk who approaches context from a socio-cognitive perspective. Although hardly a novel idea, as the importance of analyzing meaning construction against the background of a social situation has been present at least since the work of J. R. Firth, van Dijk does indeed stress the dynamic and multifaceted nature of the phenomenon and even takes it a little further. Namely, relying on psycholinguistic approaches to discourse processing, van Dijk moves to the constructs of mental models, and, more specifically, situation models, and proposes that context be treated as a mental model. Consequently, we continue this section with an overview of two relevant frameworks in the domain of discourse processing – *the event indexing model* as proposed by Rolf Zwaan, Mark Langston and Arthur Graesser, and *the structure building framework* of Morton Ann Gernsbacher. With this overview, we will conclude the present section.

The role of contextualization, stages of the event indexing model, and mechanisms of enhancement and suppression will be explored in more detail in the main experimental part of the present study (sections 4 and 5). Namely, the role of contextualization will be explored in a semantic priming paradigm, the possible roles of the mechanisms of enhancement and suppression in experimental setups comparing the influence of congruent and incongruent contextualizations (i.e., congruent and incongruent primes), and the stages of the event indexing model will be addressed in Experiments 5 and 6, where contextualization will be afforded by metaphorically structured paragraphs containing homogenous metaphor clusters.

2.2.1 EXCLUSION OF CONTEXT AND BOUNDARIES OF A SEMANTIC THEORY

Building on the methodological guidelines outlined in Chomsky's *Syntactic Structures* (2002[1957]), Katz and Fodor (1963) undertook a unique enterprise of defining the methodological framework for the development and evaluation of a semantic theory. Although largely couched in the generativist framework with remnants of ideas stemming from *componential analysis*[8], their paper *The Structure of a Semantic Theory* poses as an important landmark in the development of semantics as a discipline (Geeraerts 2010).

At the outset of the paper, they define the *projection problem* that requires a set of rules that "project the infinite set of sentences in a way which mirrors the way speakers understand novel sentences" (Katz and Fodor 1963: 171). Furthermore, they maintain that a language user is able to understand novel sentences based on the compositional nature of meaning, and in turn argue that the solution to the projection problem needs to rely on such compositional nature of the speakers' linguistic knowledge (Katz and Fodor 1963). Consequently, the solution to this problem is presented in the form of an equation, where "synchronic linguistic description minus grammar equals semantics" (Katz and Fodor 1967: 172).

Katz and Fodor (1963: 175–176) further argue that a proper semantic theory needs to account for the following facets of speaker's ability: (i) the speaker "can detect nonsyntactic ambiguities and characterize the content of each reading of a sentence;" (ii) the speaker is capable of determining the number of readings of a sentence by relying on semantic relations in the sentence, which in turn enables him to eliminate potential ambiguities; (iii) the speaker is capable of detecting semantic anomalies; and (iv) the speaker can paraphrase sentences. Their understanding of a semantic theory entails that it needs to be (at least) able to describe and explain the interpretative ability of speakers by accounting for their performance in relation to the previously listed facets. This, in turn, constitutes *the lower bound* of a semantic theory. As a result, their approach can be understood as a formal, interpretative account of semantic structure that still remains largely conditioned by the syntactic content.

A further point that Katz and Fodor (1963) pursued is the effect of setting on speakers' understanding of sentences, and they used this problem to set *the upper bound* of a semantic theory. They formulated two kinds of theories, depending on how the concept of *setting* is understood. The first kind of a theory of setting selection sees the setting as the nonlinguistic context in which the

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[8] *Componential analysis* is an approach that views word meaning "on the basis of a restricted set of conceptual building blocks – the semantic 'components' or 'features'" (Geerarerts 2010: 70).

utterance occurs, whereas the second kind of a theory views the setting as the linguistic context in which the utterance occurs (Katz and Fodor 1963: 178–181). However, both theories present certain difficulties.

Namely, with the former, it is impossible to represent the entire extralinguistic, i.e., socio-cultural context that would encompass all the knowledge that speakers have about the world. In the case of the latter, it is expected that it can "disambiguate sentences and sequences of sentences which form their setting in a discourse" (Katz and Fodor 1963: 180); however, bearing in mind that discourse can be also understood as a single sentence in isolation, such a theory of setting selection can hardly offer greater explanatory power than the theory of semantic interpretation. Consequently, *the upper bound* of the semantic theory is placed "at the point where the requirements upon a theory of semantic interpretation are satisfied" (Katz and Fodor 1963: 181).

Owing to the complexity of the concept of setting Katz and Fodor's framework eventually remained at the level of semantic interpretation. Also, it needs to be stressed that the notion of setting does not place meaning out in the environment like it was the case with some *contextualist approaches*[9] where it was confined to the interpersonal space and understood as a mere social construction. Quite the contrary, Katz and Fodor's model still preserves a *mentalist* conception of meaning, inasmuch as it is interested in the processes that take place in the speaker's mind.

2.2.2 NON-LINGUISTIC AND LINGUISTIC CONTEXT

Palmer (1976) begins his discussion about the non-linguistic context by emphasizing the difference between sense and reference. Namely, sense has to do with relationships within language (e.g., synonymy, homonymy, antonymy, etc.), while reference entails the relationship between language and the extralinguistic world. Moreover, he stresses the fact that the term *context of situation* (i.e., *situational context*) is typically used (Palmer 1976: 43).

There had been initial attempts to approach the problem of meaning by excluding context altogether; namely, one of the arguments was that language users should be aware of all the possible meanings of a sentence in isolation, before they are able to use it in specific contexts. In effect, meaning was understood as invariant to contextual constraints. However, as discussed in Palmer (1976: 44), this position is very problematic, as a decontextualized approach to the study of meaning would afford but the ability to paraphrase one sentence as a function of another. Even if we were to accept such a position, the problem of meaning would remain unresolved; in fact, "it might well be

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[9] For a brief overview of contextualist approaches to meaning see Jackendoff (2002).

argued that knowing that two sentences are similar in meaning is knowing they can be used in similar contexts" (Palmer 1976: 44).

Another argument for the exclusion of context has to do with world knowledge. This is a position promoted by Katz and Fodor (1963), where they stressed the fact that "the world of experience must of necessity include the sum of human knowledge" (Palmer 1976: 44), and, consequently, they opted for the exclusion of context (i.e., setting, in their terminology). However, even if we were to limit the study of meaning to the study of sense relations alone, the same problem arises, as "any kind of information can be the basis of a sense relation, and that sense, no less than reference, ultimately involves the whole of human knowledge" (Palmer 1976: 46). Palmer also discusses Bierwisch's example of an ambiguous sentence: *"John was looking for the glasses,"* and the anomalous sentence: *"My typewriter has bad intentions."* Either the ability to understand multiple readings of a sentence, or the ability to categorize it as anomalous necessitates the knowledge of the world, since all instances of language use are contextualized, and cannot be accounted for by sense relations alone. In other words, "there is no such thing in semantics as linguistic ability that is unrelated to knowledge of the world" (Palmer 1976: 46).

The notion of *context of situation* involves two important names – Bronisław Malinowski, and John Rupert Firth. Although largely criticized for their behavioral approach to the study of language, their contribution to the study of context was very important. For Malinowski, language was "a mode of action not a countersign of thought" (Palmer 1976: 47). He based his conclusion on the study he conducted in the Trobriand Islands. Namely, he noted that the polysemous nature of certain lexical items used by the islanders could only be deciphered in concert with a specific context of use (i.e., a situation in which a word occurs). Malinowski also discussed the notion of the pragmatic efficiency of words (Malinowski 1946: 297) by which he referred to the specific situations in which "vocal interchange is just a part of a job of work in hand, such as fishing, hunting" (Firth 1957[1935]: 30), or similar. However, one reason why we cannot fully accept his account is that he claimed that the context of situation was more important when dealing with primitive languages. Obviously, making a comparison between more or less primitive languages has no basis. The second reason is that he did not manage to provide a systematic account of context that could be incorporated into a more comprehensive semantic theory.

Unlike Malinowski, to whom context was more akin to a social process than to an actual level of linguistic analysis, Firth saw context of situation "as part of the linguist's apparatus in the same way as are the grammatical categories" (Palmer 1976: 49). In other words, for Firth, context of situation constituted a separate level of linguistic analysis, contributing to the overall construction of

meaning. In effect, he offered a schematized structure of context of situation applicable to all language events:

A. The relevant features if the participants: persons, personalities

    (i)   The verbal action of the participants.

    (ii)   The non-verbal action of the participants.

B. The relevant objects.

C. The effects of the verbal action (Firth 1962: 9; Palmer 1976: 49).

This offers a generalized pattern for the structure of contexts of situations in different circumstances, rendering them comparable. Moreover, note that Firth also included the non-verbal action of participants, their personalities (which can be understood as a rough counterpart of individual differences), the relevant objects (that constitute the setting of the event), as well as the effects of communication (which reflects the intention that underlies all communicative acts).

While highly plausible, Firth's framework has suffered a lot of criticism, and Palmer (1976: 50–51) highlighted some of the main arguments. Firstly, the position whereby context, as well as grammar and phonology, offers equal contributions to meaning appears to be problematic at first, since he was "using meaning in two different senses, one legitimate, the other his own idiosyncratic usage" (Palmer 1976: 50). However, this criticism is not warranted, insofar as it is very difficult to make a clear distinction between world knowledge and linguistic knowledge. In addition, the study of meaning based on sense relations also "does not differ greatly in kind from grammar" (Palmer 1976: 50). Also, Firth did not believe it was possible to create a comprehensive theoretical model that would provide a complete description of language; instead, he believed that all we could make were "partial statements of meaning" (Palmer 1976: 51).

Unlike Malinowski and Firth, who saw context of situation as an important element in the comprehensive account of meaning, for behaviorists, mainly Bloomfield, meaning could be completely captured through the context of situation. Basing his definition on the stimulus-response paradigm, Bloomfield defined meaning as the situation in which an utterance is made and the response that the speaker was able to provoke with the hearer (Palmer 1976: 52). There is the well-known example of Jack and Jill. Namely, Jill is hungry and asks Jack to bring her an apple. The initial stimulus (hunger) motivates Jill to create a linguistic stimulus, which in turn causes Jack to react and complete a non-linguistic action (presumably, he brings her the apple). Couched in the more mechanistic, and perhaps even more tangible scientific environment, behaviorism still suffers from the same shortcomings of the circularity of arguments that can be identified in conceptual approaches to the study of meaning. Namely, the predisposing factors proposed in the context of behavioral studies are just as elusive and escape proper empirical characterization just like conceptual structure.

In addition to non-linguistic context, Palmer (1976: 92–101) also introduces the notion of linguistic context, and states that it is possible to argue that "meaning, or at least part of the meaning of some elements, notably words, is stateable in terms of their linguistic context" (Palmer 1976: 92). Again, the extreme view proposes that the meaning of the word can be accounted for by the context in which it appeared. This is based on the structuralist notion of word distribution and the mutual dependence of elements within a lexical/semantic field. Also, a distinction is made between syntagmatic relations (the horizontal axis, represented by collocations, idioms, etc.), where we "can recognize the place and the order of categories" (Firth 1962: 5), and paradigmatic relations (the vertical axis where elements can be substituted by synonyms etc.), "set up to give values to the elements of structure" (Firth 1962: 5). A more moderate view is offered by Firth, for whom "meaning was also to be found in the context of situation and all other levels of analysis as well [and who was interested in] the mutual expectancy of words" (Palmer 1976: 94) rather than their total distribution. In other words, Firth paid attention only to the relevant characteristics of linguistic and non-linguistic contexts, rather than to those contexts in their entirety.

2.2.3 CONTEXT OF SITUATION

Firth's framework incorporates the contextual theory of meaning, and prosodic phonology (Oyelaran 1967: 434). Also, Firth departs from the structuralist paradigm and its dichotomies, and proposes his own approach dubbed *structural*, rather than structuralist, which, in effect, combines the theoretical and empirical approaches (Oyelaran 1967: 434–436). For him, "structural linguistics, therefore, deals with meaning throughout the whole range of discipline, but it only does so within its own circumscribed fields and exclusively in its own terms" (Oyelaran 1967: 436). More to the point,

> "in the most general terms we study language as part of the social process what we may call the systematics of phonetics and phonology, of grammatical categories and of semantics are ordered schematic constructs, frames of reference, a sort of scaffolding for the handling of events. [Moreover,] by means of linguistics we hope to state facts systematically, and especially to make statements of meaning" Firth (1950: 6).

In other words, Firth's theory consists of multiple levels of analysis, neither of which is ascribed any hierarchical advantage. Consequently, this affords a polysystemic approach in which "any unit, i.e., phonological, grammatical, word, syllable, or sentence may be set up as the starting point" (Bursill-Hall 1960: 127). In turn, any issue can be approached from multiple perspectives,

without violating any prescribed abstract systems. Put differently, all levels of analysis are "equivalent members in a hierarchy" (Bursill-Hall 1961: 165). Additionally, Firth's work was largely influenced by Malinowski. However, while for Malinowski "the context of situation [was] an ordered series of events considered as *in rebus,*" Firth understood it "as a suitable schematic construct to apply to language events, and that it is a group of related categories at a different level from grammatical categories but rather of the same abstract nature" (Firth 1950: 43). Based on this, Bursill-Hall (1960: 130) suggests that the context of situation can be seen as *"the means of assuring the renewal of connection between the text, which is in itself an abstraction, and observable events in experience.[10]"*

Firth (1962; 1957[1948]: 144) does not deal with structuralist dichotomies (e.g., mind/body, thought/word, langue/parole, etc.), but instead stresses the import of the social component of communication instead. He also does not "follow Ogden and Richards in regarding meaning as relations in a hidden mental process, but chiefly as situational relations in a context of situation" (Firth 1962: 2). In effect, such a contextual technique is focused on the relationship of items "set up as constituents of the situation itself" (Firth 1962: 3). Firth (1962: 3–4) makes reference to previous work where a similar position had been advocated: "this study of what people say and what they hear and in what contexts of situation and experience they do these things is properly the province of linguistics" (Speech, p. 15, cited in Firth 1962: 4).

In line with such a contextualized approach to the study of language, there are two important relations concerning text: (i) interior relations linked to the text that include syntagmatic and paradigmatic relations discussed above, and (ii) situational relations that include "the interior relations within the context of situation [where] the text is seen in relation to the non-verbal constituents and the total effective or creative result noted" (Firth 1962: 5), and the analytic relations that hold between "parts of the text […] and special constituents, items, objects, persons or events within the situation" (Firth 1962: 5). In plain terms, there are various relations established between the text and various elements (i.e., constituents) deemed relevant. In effect, Firth proposes that meaning be split into multiple component functions, where each component is understood as contextualized use of elements. In other words, meaning is understood as "a complex of contextual relations, and phonetics, grammar, lexicography, and semantics each handles its own components of the complex in its appropriate context" (Firth 1962: 6; Firth 1957[1935]: 19).

It is important to note that context of situation in Firth's framework represents an abstract construct and it includes both verbal and non-verbal categories that are mutually related. Moreover, the context of situation "is not merely a setting, background, or 'back-drop' for the 'words'" (Firth 1962: 7). The text is also an integral part of this context, "and is observed in relation to the other parts

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[10] Original emphasis.

regarded as relevant in the statement of the context" (Firth 1962: 7). In plain terms, context of situation is seen as "a schematic construct for application essentially to typical 'repetitive events' in the social process" (Firth 1962: 8). The relations between constituents in a particular context of situation are determined by the following generalized schema:

A. The relevant features if the participants: persons, personalities

    (iii)   The verbal action of the participants.

    (iv)   The non-verbal action of the participants.

B. The relevant objects.

C. The effects of the verbal action (Firth 1950: 43; Firth 1962: 9).

Bursill-Hall (1960: 128) stresses the fact that the above schema encompasses interior relations, in addition to which there are also exterior relations that include the following elements:

A. Economic, religious, social structures to which participants belong.

B. Types of discourse — monologue, narrative.

C. Personal interchanges — age, sex of participants.

D. Types of speech — social flattery, cursing (Bursill-Hall 1960: 128).

Firth (1962: 10–11) also stresses the importance of the contextualization of narratives, as different types of narratives have specific characteristics. Moreover, identifying text "as a constituent in a context of situation contributes to the statement of meaning since situations are set up to recognize use" (Firth 1962: 11). Also, it is important to note that collocational restrictions do not constitute context, but only represent the most frequent linguistic environment within which some words are found in the sense of their mutual expectancy, which in turn reflects the above-described syntagmatic relations. In plain terms, collocations of specific words "are statements of the habitual or customary places of that word in collocational order but not in any other contextual order and emphatically not in the grammatical order" (Firth 1962: 12). Moreover, meaning stated in terms of collocation is completely different from contextual meaning "which is the functional relation of the sentence and the processes of a context of situation in the context of culture" (Firth 1957[1951]: 195). In short, Firth's aim was to develop "*a general linguistic theory* applicable to *particular linguistic descriptions,* not *a theory of universals* for *general linguistic description[11]*" (Firth 1962: 21).

Firth (1957[1935]) begins his discussion of the study of meaning by discussing the Society's Dictionary and the three main principles that directly affect the study of semantics. Namely, these include the following: (i) morphological classification of words; (ii) the import of context, where it is stated that "the complete meaning of a word is always contextual, and no study of meaning apart from a complete context can be taken seriously" (Firth 1957[1935]: 7); and (iii) the historical principle

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[11] Original emphasis.

where meaning is understood as a function of diachronic changes. In the overview of previous studies of the concept of meaning Firth mentions classifications that include "the true, original, and essential meaning of a word, and […] the many meanings it comes to have in application or use" (Firth 1957[1935]: 10). Moreover, some authors also distinguish between the following types of meaning: (i) essential or central meaning, which is commonly understood as denotation, (ii) contextual (applied) meaning, and (iii) the feeling (tone), which would be a rough equivalent of evaluative meaning.

Further, he notes that even Ogden and Richards (1946) also divided the notion of meaning into components that include intention, value, referent and emotion (Firth 1957[1935]: 10). He also stresses that Richards introduced a multiple definition, where the meaning of pivotal words is presented through systematic schematization, i.e., in "association with one another in a common background of a fairly homogenous cultural context" (Firth 1957[1935]: 11). In the study of meaning in the domain of historical change an important contribution was offered by Stöcklein (1989, cited in Firth 1957[1935]: 13) who distinguished between (i) "the particular influential context for the special meaning, (ii) common quotation of the fixed context, [and] (iii) the use of the interesting word in free combination." Overall, taking into account other treatments of meaning in terms of historical change, Firth (1957[1935]: 14) stresses that the emphasis had been made on "actual context, particular stereotyped contexts, and social background."

Firth also criticizes Bloomfield's definition of semantics that incorporates both grammar and the lexicon. Namely, Firth (1957[1935]: 16) proposes that semantics should be separated from the formal grammatical description, and that it should be approached in terms of a "thorough contextual study of meaning on sociological lines, unobscured by categories serving any other purpose." Following Bréal's initial steps, it was De Saussure who was the first to make a clear technical distinction between the diachronic and synchronic approach to the study of language. Namely, Bréal's *Sémantique* referred to historical changes in meaning, but he also introduced the notion of *Sémiologie* that was supposed to "study the use and function of signs and words in the heart of our everyday life in society" (Firth 1957[1935]: 17).

In addition to not following the historical, comparative approach to the study of meaning, Firth (1957[1935]) also notes that his approach will not adopt a mentalistic position similar to that outlined in Ogden and Richards (1946) who see meaning as a mental process contained in the relationship between the referent and the symbol. Instead, his framework will be dealing with "the interrelations of the terms of the actual observable context itself" (Firth 1957[1935]: 19). In turn, he also suggests that "memory contexts or causal contexts" (Firth 1957[1935]: 19) can also be understood in the context of the ongoing situation. Finally, he proposes that meaning be split up "into

a series of component functions [where] each function will be defined as the use of some language form or element in relation to some context" (Firth 1957[1935]: 19). Finally, meaning is understood as "a complex of contextual relations, and phonetics, grammar, lexicography, and semantics each handles its own components of the complex in its appropriate context" (Firth 1957[1935]: 19).

As a result, Firth also discusses *phonetic contexts* which can be viewed apart from the "complete verbal, grammatical, or situational context" (Firth 1957[1935]: 20), since phonetic elements constitute the first "bit of meaning we have dealt with […] at the level of phonetic understanding" (Firth 1957[1935]: 20). The framework also reveals additional influence of the structuralist paradigm. Namely, Firth (1957[1935]: 20) explicitly states that the phonetic function of a given element is reflected in "its use in contradistinction from other 'sounds'; the phonetic value of any sound is determined by its place in the whole system." Also, Firth's concern obviously lies within the domain of the utterance, rather than the abstract, idealized notion of the sentence, thereby focusing entirely on the concept of performance rather than competence (in the Chomskian sense, e.g., Chomsky 2002[1957]). A similar line of reasoning is outlined in Firth (1957[1948]: 144) where he proposes that we should not approach the study of language from a predetermined perspective, but should rather "look for systems in speech activity" and based on the obtained data formulate descriptions and conclusions. Additionally, Firth (1957[1948]: 142) also mentions the well-known nature/nurture opposition, and suggests that "you weave nurture into nature, and language and personality partake of both and the expression of both." In a similar fashion, morphological and syntactic functions will constitute additional components of meaning in their respective contexts (Firth 1957[1948]: 24).

The result of such an approach is reflected in the following five main functions:

(i)   phonetic function, where sounds are situated "in the context and in the system of […] the phonetic structure of language" (Firth 1957[1948]: 26);

(ii)   lexical function, which describes why a specific word is used instead of its possible substitutes. Moreover, "articulations and correlations and complexes of these have a lexical function" (Firth 1957[1948]: 27);

(iii)   morphological function, where, for example, the past tense of a verb would yield "the complex of articulation and voice correlation" (Firth 1957[1948]: 27) with a morphological function;

(iv)   syntactical function, where based on the pronunciation of a given word we would be able to "assess the syntactical function of intonation and place the forms in syntactical categories […] apart from any actual situation" (Firth 1957[1948]: 27); and

(v)   semantic function entails that once a word has been contextualized in a certain manner (e.g., if it appears with a rising intonation) that can serve as an aid in identifying its meaning.

Finally, the central construct of the framework is *the context of situation*, which incorporates the participants, their utterances, and circumstances of the situation. Moreover, it can also include individual cultural backgrounds of participants, i.e., "contexts of experience of the participants" (Firth 1957[1948]: 27). In effect, what Firth understands as semantics is the situational and experiential enterprise described so far (Firth 1957[1948]: 27). Further elaborations of the process of contextualization will fall into the domain of sociolinguistics, and the two main difficulties in this domain include (i) how to classify and describe typical situational contexts within the more encompassing cultural context, and (ii) how to classify and describe specific (afore mentioned) linguistic functions in those situational contexts[12].

Starting with the idea of phatic communion, Firth discusses the force dynamic effects that certain words (or utterances) can have on the interlocutor in a communicative situation. For example, he proposes that the language used by the government and administration can be understood as "the language of public guidance" (Firth 1957[1935]: 30). Also, in a judicial context, certain words can appear as binding since they require that a specific course of action be taken. Another important context where words afford a real-time force-dynamic impact is the language of evaluation. When it comes to common narratives, or everyday conversation, what has been introduced at the onset will necessarily build expectancies, i.e., anticipation, of the possible forthcoming content. Firth (1957[1935]: 32) uses the concept "contextual elimination" which is roughly analogous to the notion of *suppression* (in the sense of Gernsbacher 1989; 1997). Namely, situational context can aid in the filtering of possible outcomes, i.e., it can constrain the range of possible expectancies. Finally, Firth notes that the proposed framework is "an empirical, rather than a theoretical analysis of meaning. It can be described as a serial contextualization of our facts, context within context, each one being a function […] of the bigger context and the contexts" (Firth 1957[1935]: 32) situated in the wider cultural context.

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[12] For more details about the possible overall structure of a sociolinguistic theory see Firth (1957[1935]: 27–30).

2.2.4 CONTEXTUALIZATION OF UTTERANCES AND KNOWLEDGE REQUIRED TO ACHIEVE CONTEXTUAL APTNESS

Lyons (1977: 570–571) stresses the fact that any utterance is contextualized and, thereby, influenced by a host of conditions that include, but are not limited to, the spatiotemporal component, appearance and attitudes of various participants, preceding, ongoing and subsequent conditions, and related events. Moreover, not all of these conditions are relevant in linguistic terms, as many situations are constrained by cultural and social norms that are typical of, and restricted only to specific communities. To be able to comprehend the "entirety" of meaning that an utterance contains one needs to be aware of these extralinguistic norms as well. In effect, Lyons discusses the context-of-utterance as a theoretical notion, where he claims that:

> "context, it must be emphasized, is a theoretical construct, in the postulation of which the linguist abstracts from the actual situation and establishes as contextual all the factors which, by virtue of their influence upon the participants in the language-event, systematically determine the form, the appropriateness or the meaning of utterances" (Lyons 1977: 572).

But the main problem in formulating such a systematic framework is how to formulate the "pre-theoretical, intuitive notion of context in a theoretically satisfying way" (Lyons 1977: 572). As we review the relevant literature, we see that the positions concerning context have changed from completely removing it from semantics into the domain of pragmatics, through complete exclusion of context and the idea that any utterance inherently contains all possible readings in isolation (Katz and Fodor 1963), to the position advocated by Firth, where context is understood as a separate level of linguistics analysis, and his entire semantic theory revolves around the notion of context.

In relation to the type of knowledge a speaker needs to possess in order to produce and decipher "contextually appropriate and comprehensible utterances" (Lyons 1977: 573), Lyons refers to Hymes (1971) and the notion of communicative competence that includes "a person's knowledge and ability to use all the semiotic systems available to him as a member of a given socio-cultural community" (Lyons 1977: 573). Lyons (1977: 573–591) pays special attention to the question raised in Hymes (1971: 285–286) that has to do with whether and to what degree something is appropriate (i.e., apt) in a given context. Accordingly, Lyons' (1977: 574) model of language-competence deals with the knowledge of "an ideal omnicompetent speaker." The concept of omnicompetence in this model includes both the Chomskian idea of the perfect mastery of a language in terms of well-formed sentences, and the ability to make them contextually apt as a function of all relevant contextual variables. This in turn involves a body of additional knowledge necessary to accomplish this feat.

Lyons (1977: 574–585) discussed six types of knowledge or competence pertinent to the contextual aptness of utterances, which include the following:

i. Each participant needs to be aware of his role and status, where in terms of role we distinguish between deictic and social roles, where social roles appear as culturally determined (Lyons 1977: 574–575).

ii. Each participant needs to be aware of his location in space and time (Lyons 1977: 578).

iii. Each participant needs to be able to categorize the level of formality of a situation (Lyons 1977: 580).

iv. Each participant needs to be able to recognize the appropriate medium for communication (Lyons 1977: 581).

v. Each participant needs to be able to adapt his contribution to the communicative exchange in terms of relevance (e.g., using an appropriate dialect) (Lyons 1977: 581).

vi. Each participant needs to be able to make his utterance appropriate to the social situation (Lyons 1977: 584).

The above list again clearly suggests that the scope of relevant elements goes well beyond linguistic knowledge and interferes with the domain of sociolinguistics. Moreover, the grammatical and semantic coherence of "text-sentences and text-fragments within a text" (Lyons 1977: 590) is only one part of the solution to the problem of contextual appropriateness, and various situational factors along with the co-text of utterances also need to be taken into consideration (Lyons 1977: 590). In effect, "a comprehensive theory of linguistic semantics will need to be based upon, or include, a theory of contextual appropriateness" (Lyons 1977: 590), which in turn affords invaluable insight into the social, expressive, descriptive, and interpersonal dimensions of meaning.

Lyons (1977: 607–613) goes on to discuss the contextual theory of meaning developed by J. R. Firth that highlights the functionalist approach to the problem of meaning by stressing the social function of language (Lyons 1977: 607; Firth 1957[1935]: 27). Namely, for Firth, every utterance takes place "in a culturally determined context of situation" (Lyons 1977: 607). Additionally, in this framework meaning is not constrained at the level of semantic analysis, but is rather *distributed* across all levels of linguistic analysis, where "the meaning of each component […] is described in terms of its function as an element in the structure of units of the level above" (Lyons 1977: 608). In broader terms, meaning is understood as "a complex of contextual relations, and phonetics, grammar, lexicology, and semantics each handles its own components of the complex in its appropriate context" (Firth 1957[1935]: 19). In effect, such a position reflects the componential approach to the study of meaning evident in his framework.

As Lyons (1995: 290–291) points out, based on the discussion of Grice's framework of conversational implicature, context has a dual role. Firstly, every utterance takes place within a situational context, and, secondly, interlocutors need to rely on the contextual information in order to be able to decipher the complete meaning, i.e., the meaning contained "over and above the information contained in what has been said" (Lyons 1995: 291). Additionally, context is understood as non-propositional (Lyons 1995: 292; Lyons 1977: 611), which is supported by the idea that the bulk of knowledge activated in a communicative situation is practical, and stems from prior practical experiences and interactions. Finally, Lyons stresses the fact that "in the construction of a satisfactory theory of context, the linguist's account of the interpretation of utterances must of necessity draw upon, and will in turn contribute to, the theories and findings of the social sciences in general" (Lyons 1995: 292).

2.2.5 TREATMENT OF CONTEXT IN PRAGMATICS

2.2.5.1 MULTIPLE LAYERS AND TYPES OF CONTEXT

The study of context has drawn interest from many fields and disciplines, ranging from computer science, to arts and humanities; however, the complex nature of the phenomenon has left it largely underspecified, and typically only a specific, minute aspect of context is addressed in research (e.g., Fetzer 2017: 261; Goodwin and Duranti 1992: 2). Fetzer (2017: 260) stresses the fact that context is not only "a social construct but rather a dynamic sociocognitive construal feeding on the contextualization of communicative action in general, and on the contextualization of communicative acts in particular." In effect, her overview of the study of context encompasses (i) a social and sociocultural perspective, (ii) a text-anchored perspective, (iii) a cognitive perspective, and (iv) a relational perspective. Bearing in mind that all these perspectives view context as a multilayered construct, they include the notions referring to the nature of the communicative situation which include the following: (i) intentionality, (ii) cooperation, and (iii) contextualization and indexicality (Fetzer 2017: 261). Another important factor that needs to be taken into account is the fact that context can be viewed both from the perspective of participants, and from the perspective of the analyst; moreover, a static classification of types of contexts is insufficient to capture the dynamic complexity, insofar as we also need to account for the novel information that appears online and which can affect the structure of the current context (Fetzer 2017: 261).

From the perspective of participants, "construal of context is reflected in negotiation-of-meaning sequences" (Fetzer 2017: 262), which entails a dynamic process constrained by participants' perspectives. Additionally, communication is anchored to discourse, insofar as they activate background contexts (or elements of background contexts) necessary for communication. This can be achieved via deictic expressions, quotations, contextualization cues[13], or conversational implicatures (Fetzer 2017: 263). Fetzer (2017) also distinguishes between production- and perception-based construal. Namely, it is important to note that participants "construe local context against the background of prior conversational contributions, and they co-construct local context for upcoming contributions" (Fetzer 2017: 264). Also, in relation to the production-based construal, an important distinction is made between the notions of subjective context and individual context. Namely, individual context can be idiosyncratic, inasmuch as it includes a single participant, while the subjective context typically involves a set of beliefs shared within a community and it "is negotiated by the participants in and through the process of communication" (Fetzer 2017: 264). With respect to reception-based construal, it is important to understand that "speakers intend hearers to construe certain contexts" (Fetzer 2017: 265). The invocation of such contexts can be achieved through social deixis, style, or register. It is important to note that invocation, or activation of contexts is sanctioned by the fact that language appears in the social environment and the choice of linguistic content is not arbitrary, but rather meant to convey the communicative intent of the speaker. Finally, context is also understood as an interactional construct. Namely, "context is negotiated in so far as the interactants refer to context, import it, and invoke it through their contributions" (Fetzer 2017: 267), where they can either agree or disagree with the content that has already been activated, and choose whether they will be aligned or not with a particular construal of context. Moreover, this interactional approach affords the possibility of multiple construals (e.g., by the speaker, hearer and the audience, depending on the situation and the number of participants).

From the perspective of the analyst, Fetzer (2017) distinguishes between linguistic context, cognitive context, and social and sociocultural context. Namely, linguistic context entails an actual instance of language use "delimited by a clause, sentence, turn, or text" (Fetzer 2017: 268). Additionally, viewed from a parts-whole perspective, linguistic context (i.e., co-text) represents "a relational construct composed of local and not-so-local adjacency relations" (Fetzer 2017: 268). The realizations of specific grammatical constructions in a given context represent an utterance act, while in turn, the utterance act "counts as a move within the game of producing and interpreting speech acts in context" (Fetzer 2017: 268). Interpretation and production of utterance acts is rooted in all levels of linguistic analysis, ranging from phonology and morphology, through syntax and semantics,

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[13] See Auer (1991; 1996; 2009) and Gumperz (1991), this section for details.

ending with pragmatics. The relational nature of linguistic context can be identified in all levels of analysis.

In the discussion of cognitive context, Fetzer starts by presenting the main ideas outlined in Bateson (1972), where context is understood as "the gestalt-psychological distinction between figure and ground and the related concepts of frame and framing" (Fetzer 2017: 270). Moreover, Bateson (1972: 186) insists that both *frame* and *context* constitute psychological concepts. For Bateson (1972: 187) psychological frames can be both inclusive an exclusive; namely, "by including certain messages (or meaningful actions) within a frame, certain other messages are excluded" (Bateson 1972: 187), and, consequently, "by excluding certain messages certain others are included" (Bateson 1972: 187). Based on the notion that figure and ground are asymmetrical, "perception of the ground must be positively inhibited and perception of the figure (in this case the picture) must be positively enhanced" (Bateson 1972: 187). In effect, the apparent opposition between the notions of concomitant inclusiveness and exclusiveness is resolved (Fetzer 2017: 270–271). Moreover, "a frame is metacommunicative [inasmuch as] any message, which either explicitly or implicitly defines a frame, *ipso facto*[14] gives the receiver instructions or aids in his attempt to understand the messages included within the frame" (Bateson 1972: 188). The notion of frames and framing will be of great import for the present research and will be discussed in more detail in the forthcoming sections.

In the framework of Relevance Theory (Sperber and Wilson 1995), context is also understood as a multi-layered construct (Fetzer 2017: 271). Namely, in their mutual knowledge hypothesis (Sperber and Wilson 1995: 15), context is defined as "a psychological construct, a subset of the hearer's assumptions about the world. It is these assumptions, of course, rather than the actual state of the world, that affect the interpretation of an utterance." Defined in this manner, context is not restricted to the immediate physical setting nor the immediate linguistic information that has already been introduced into the discourse; instead, speakers' beliefs, expectations, or even predictions can be incorporated as integral elements of the context. With the aim of providing a more specific definition of the concepts of *shared information* and *mutual knowledge*, Sperber and Wilson (1995) also introduced the notion of *cognitive environment*. Namely, the basic premise is that our representations of the physical environment will differ as a direct function of perceptual and cognitive abilities. In effect, despite the fact that the objective physical reality is the same, individuals' cognitive environments will show differences. As a result, "an individual's total cognitive environment is a function of his physical environment and his cognitive abilities" (Sperber and Wilson 1995: 39). Finally, based on the discussed data relating to cognitive context that is understood as multilayered,

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[14] Original emphasis.

Fetzer (2017: 272) concludes that it "is indispensable for language production, language processing, and inferencing."

Social context typically includes a communicative situation and it "is defined by deducting linguistic context and cognitive context from a holistic conception of context" (Fetzer 2017: 272). Sociocultural context is understood as "a particularization of social context […and …] the categories of speaker, hearer, and audience […] denote interactional categories" (Fetzer 2017: 272–273). This is conditioned by participants' roles and hierarchical positions in the social network, and in different communicative settings. As a result, the concept of *common context* is very important as it allows the participants to establish a common ground, thereby facilitating communication.

2.2.5.2 CONTEXT AS A DYNAMIC CONSTRUCT

In his treatment of context as a dynamic construct, Mey (2001: 39) defines it as "the continually changing surroundings in the widest sense, that enable the participants in the communication process to interact, and in which the linguistic expressions of their interaction become intelligible." He also stresses the import of the user's viewpoint and the social context in which interaction is taking place (Mey 2001: 6), as opposed to decontextualized, grammatical (i.e., syntactic) descriptions in isolation, thereby recognizing the vital role of context. Consequently, anchoring context to individual users will necessarily yield a plethora of different contexts, as a function of not only individual differences, but also larger-scale cultural differences. Context is also far more than a simple aid in disambiguating reference – it also entails action and "understanding what things are for" (Mey 2001: 41). Another important element is register which entails "the linguistic resources that speakers have at their disposal to mark their attitude towards their interlocutors" (Mey 2001: 41). In that sense, formal and informal registers, for example, can facilitate the construction of different contexts owing to different manners in which speakers can express themselves.

Language and, in effect, linguistic meaning also, is conventional in the sense that it is hedged by syntactic conventions and the social context that is also subject to various societal norms. The entire linguistic content activated in a communicative situation (e.g., deictic expressions, personal names, causal relations, etc.) do not constitute simple objective facts, but rather represent elements "forming part of a context they pragmatically determine and presuppose, and which reflect our ability to compute out of utterances in sequence the contextual assumptions they imply" (Mey 2001: 44). In purely pragmatic terms, the greatest import of context resides in the fact "that it allows us to use our

linguistic resources to the utmost, without having to spell out all the tedious details every time we use a particular construction" (Mey 2001: 45).

When it comes to reference, there is a difference between proper nouns (e.g., personal names) and regular nouns (e.g., child, dog, cow). Namely, to be able to refer to a specific representative labeled by a regular noun (e.g., dog), we need an indexical expression which represents "a particular kind of referential expression which [in addition to its sense], includes a reference to the particular context in which that sense is put to work" (Mey 2001: 54). Prototypical indexing devices in language are deictic expressions, and they aid in defining "the contextual 'coordinates' of the utterance" (Mey 2001: 54) and, in effect, render the communicative exchange sensical. For instance, with adverbials of time like *'I saw her last week'*, the exact temporal reference is defined in relation to the time of the utterance (Mey 2001: 55)[15].

In the domain of macropragmatics, Mey (1993) introduces the notion of co-text, as a step towards the introduction of the notion of discourse and wider context. First of all, for a comprehensive study of pragmatics to take place we need to move from micropragmatic contexts into the domain of the more elaborate macropragmatics (Mey 1993: 181). This means that "rather than examining isolated sentences or utterances, we consider those same sentences and utterances placed in the contexts in which they belong, and from which they originally were culled" (Mey 1993: 181). Co-text is understood as the section of a text that surrounds a particular sentence (or sentences) (Mey 1993: 184). To be able to fully grasp the meaning in a communicative exchange, "we must extend our vision of co-text to context: the entirety of circumstances (not only linguistic) that surround the production of language" (Mey 1993: 184).

Goodwin and Duranti (1992: 3) understand context as a juxtaposition of the focal event and the "field of action within which that event is embedded," where the focal event is the event that is being contextualized. In other words, the context is "a frame that surrounds the event being examined and provides resources for its appropriate interpretation" (Goodwin and Duranti 1992: 3). Also, relying on Bateson (1972) the authors stress the fact that the analysis should be approached from participants' perspective – i.e., what should be of primary concern is the way the participants perceive the ongoing situation or event. Additionally, context is understood as a dynamic construct which is reflected in "the ability of participants to rapidly invoke within the talk of the moment alternative contextual frames" (Goodwin and Duranti 1992: 5). Another way to describe context is through the figure-ground distinction that can be recognized between the focal event and context. Namely, the focal event is understood to be in the focus of attention, while the elements of context are pushed into

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[15] Similar conclusions can be made for the case of anaphoric expressions. For details see Mey (2001: 56–60).

the background (Goodwin and Duranti 1992: 9). This also involves the activation of background information (i.e., background knowledge), as well as its organization and understanding.

Concerning the structure of context, Goodwin and Duranti (1992: 6) refer to Ochs (1979) and her four dimensions as follows: (i) setting (the social and spatial environment), (ii) behavioral environment (body language and behavior used as framing devices), (iii) language context (context prompted by the linguistic material), and (iv) extrasituational context (the activated background knowledge). The analysis of context is also related to human interaction, most of all in relation to face-to-face interaction (Goodwin and Duranti 1992: 22). Additionally, such an approach strengthens the relationship between language and its social setting within which it takes place, and it highlights the import of agreement that the participants are assumed to reach. The dynamic nature of face-to-face interaction reinforces the dynamic nature of context. The authors again refer to Bateson's (1972) work and the importance of framing which is understood to provide "a prototypical example of context" (Goodwin and Duranti 1992: 24).

2.2.5.3 STRUCTURE, CONTENT, AND DIMENSIONS OF CONTEXT

Auer (2009: 86) argues that context appears as the centerpiece of pragmatic investigation, insofar as "linguistic utterances become meaningful through their relation to context(s)." Moreover, the author aims to develop a set of criteria that would facilitate the evaluation and classification of theories of context. Also, he stresses the fact that

> "enumerating types of contexts is more of an illustrative or heuristic endeavor than a theoretically rewarding or satisfying one. This is so because there is some justification in the claim that basically everything can become a 'context' for a linguistic 'focal event'. The more interesting question surely is how this 'becoming-a-context-for-something' is accomplished" (Auer 2009: 95; Auer 1996: 20).

Namely, most theoretical treatments of context did not deal with either its structure or content, but instead rather analyzed the relationship between text and context (Auer 2009: 87). These theoretical approaches can be classified according to three dimensions: (i) aspects of context presumably relevant for pragmatic analysis (i.e., indexed features that can include the time and place and interlocutors), (ii) indexicals (e.g., deictic expressions), and (iii) the type of relationship identified between the indexed features and indexicals, where the meaning of an utterance is conditioned by the context (Auer 2009: 87; Auer 1996: 12).

It also needs to be stressed that "the relevance of contextual factors for the understanding of linguistic structures is not restricted to the case of deixis" (Auer 2009: 90). For instance, what is indexed with social deixis is not an actual referent that exists in the physical world, but "a perceived social relationship between the speaker and the addressee, or the referent, or all three" (Auer 2009: 88). Also, the idea of the semantization of pragmatics is also inadequate, in that the meaning of an utterance actually represents "the joint achievement of both the speaker and his or her recipients to make an utterance meaningful in its context of occurrence" (Auer 2009: 90).

Seeing that context needs to be approached as a wide notion, Auer (2009: 91; 1996: 16) proposes the following five dimensions: (i) linguistic context (i.e., co-text), (ii) non-linguistic elements (i.e., the situation in the physical sense), (iii) features of the social situation, (iv) elements of interlocutors' shared background knowledge (which go beyond the previous three dimensions), and (v) the modality of communication. Linguistic context, or co-text has been identified as a cohesive device, with the pronounced role of anaphoric and cataphoric expressions (Auer 2009: 91; Auer 1996: 16). Moreover, cohesion can also be realized through syntax and prosody. Auer (2009: 91; 1996: 16) also notes the import of "intra-textual links between focal events and their co-texts" that appear both with cohesion achieved through grammar, and with sequencing and linking of conversational activities[16]. In relation to the latter, adjacent pairs of activities appear as very important, since "conversational activities ('moves') prestructure (to different degrees) the following conversational slot with respect to speaker as well as activity selection" (Auer 2009: 91). Additionally, focal events are connected to their linguistic context through "a relationship of (immediate or mediate) adjacency on the same hierarchical level of text structure" (Auer 2009: 91). The corresponding linguistic context for the given sign may also appear at the superordinate level, which is the case when a larger sequence of activities provides the background (i.e., context) for the focal event. The final component of linguistic context includes "the intertextual relationship between texts produced on different occasions" (Auer 2009: 92). One possible realization of intertextuality includes references (or quotes) from previous texts.

The second dimension, non-linguistic context, includes the physical surroundings and all elements available to participants' senses. The third dimension includes the social situation, i.e., participants along with their social roles and activities within which those roles are realized, and which are in turn conditioned by those roles in the first place. Namely, basing his discussion largely on Goffman (1986), Auer (2009: 93; 1996: 18) notes that a participant's role "provides a context for how this person is permitted to act." Other important elements include the type of speech event and

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[16] The term *focal event* is also present in Goodwin and Duranti (1992: 3), where it is defined as "the phenomenon being contextualized." Moreover, for these authors, context entails the juxtaposition of the focal event and the action in which the focal event is embedded.

interactional roles, where the latter can be determined by the speech event. The fourth dimension refers to participants' common background knowledge which obviously overlaps to a great degree with the previous three dimensions (Auer 2009: 94; Auer 1996: 18). For instance, background knowledge in some cases may condition appropriate interpretation of utterances; also, contextualization facilitated through social roles is dependent on participants' shared background knowledge. Auer (2009: 94) also notes that there have been attempts "to formalize restricted components of this knowledge, using notions of schema, script, or frame."

2.2.5.4 CONTEXTUALIZATION AND CONTEXTUALIZATION CUES

The position advocated by the theories of contextualization (as opposed to the structuralist approaches) suggests that both the focal event and the indexicals that trigger the appropriate frames obtain their interpretation as a function the corresponding context (Auer 2009: 96). Auer (2009: 96) also stresses the fact that "coparticipants […] not only engage in fitting their utterances into contexts existing prior to and independent from their verbal and non-verbal activities" (Auer 2009: 96); consequently, we need contextualization cues (in the sense of Gumperz 1982) which afford joint availability of contexts to participants.

Gumperz (1982: 130) maintains that interlocutors approach the communicative situation relying on their background knowledge, based on which they categorize the ongoing events, and which in turn also build expectancies. Gumperz (1982: 130) argues that any utterance can be subject to multiple interpretations, and what determines a specific interpretation is participants' "definition of what is happening at the time of the interaction." The type of activity participants may be involved in does not define the meaning of utterances, but rather constrains the set of possible interpretations "by channeling inferences so as to *foreground* or make relevant certain aspects of background knowledge and to underplay others" (Gumperz 1982: 131). Contextualization cues constitute "constellations of surface features of message form […] by which speakers signal and listeners interpret" (Gumperz 1982: 131) the activity, semantic content, and the relationships between the adjacent sentences. In other words, contextualization cues may refer to "any feature of linguistic form that contributes to the signaling of contextual presuppositions" (Gumperz 1982: 131). Moreover, contextualization cues acquire their meaning in context, and this is also often governed by social conventions.

Auer (2009: 96) also introduces the notion of "the vagueness of contextualization." Namely, indexicals are understood to "underspecify the contexts they point to" (Auer 2009: 96), which also stands for contextualization cues and common spatial (e.g., here) or temporal (e.g., then) deictic

expressions. In effect, the link between the deictic expression (i.e., indexical) and the corresponding entity is rendered ambiguous. An additional issue that has been identified is that multiple contexts can be active at the same time, owing to the fact that participants can also switch from one available context to another. Still, these contexts are claimed to be grounded in interactions as "co-participants in an interaction are constantly engaged in making sure that they orient to the same (yet changing) context(s), in which their acting will become meaningful" (Auer 2009: 97). In all, contextualization, decontextualization and recontextualization appear as common phenomena. These processes suggest that "participants may be engaged in processes of contextual transformation in which 'focal events' are separated from their original locus of occurrence and their indexicals thereby cut off from the elements they had originally indexed" (Auer 2009: 98). Even a genre or a type of text can serve as a contextualization device.

Auer (1991: 4) explains that for Gumperz contextualization entails "all activities by participants which make relevant, maintain, revise, cancel… any aspect of context which, in turn, is responsible for the interpretation of an utterance in its particular locus of occurrence." In interaction, linguistic cues afford the activation of various types of schemata corresponding to the type of interaction (e.g., jokes, formal gatherings and addresses, quarrels, etc.), based on which participants build expectancies. Another important element includes participant roles, which, for instance, can be marked by code switching in multilingual environments, gender, hierarchical roles, etc. Interaction between participants manifested through eye contact (or lack of it) or gaze direction can also play an important role in contextualization. For instance, Auer (1991: 11) highlights the fact that previous research on the role of gaze has shown that "speakers have to secure recipient's gaze in order to engage in the activity they are about to engage in, and that absence of recipient's gaze can result in recycled turn-beginnings." Apart from the basic meaning contained in the linguistic material, another important way of contextualizing information is afforded by prosodic features that provide "a good deal of this additional semiotic material" (Auer 1991: 8). Additional extralinguistic features such as gestures, mimics, and posture (Auer 1991: 13) also present possible cues for contextualization. Typically, gestures and posture should be synchronized with gaze and prosodic features (Auer 1991: 17). All of the afore mentioned elements can also be used to signal transitions between different contexts.

Unlike the structuralist and post-structuralist approaches to the study of context that mostly failed at capturing its multidimensional, dynamic nature, by introducing the notion of contextualization Gumperz reshaped it into a flexible construct that changes through time; moreover, it is also understood as reflexive[17], inasmuch as "language is not determined by context, but

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[17] The reflexive view of context can also be found in Goffman (1986), in his work concerning frames.

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contributes itself in essential ways to the construction of context" (Auer 1991: 21; Auer 1996: 20). In terms of its reflexive function, the purpose of context is to facilitate communication. In other words, context is a dynamic product which is actively constructed by participants during their interaction. This also includes the recruitment of the relevant schemas (or models) prompted by the immediate cues. In other words, "language is not only a semiotic system the actual usage of which is determined by the context; this semiotic system […] is in itself also responsible for the availability of the very context which is necessary in order to interpret the structures encoded in it" (Auer 1991: 22). Apart from the already coded schemas available from long-term memory (i.e., background knowledge), there are also potential emergent parameters of context (Auer 1991: 22) that may include completely novel elements that had not been available before the interaction, or elements that had been concealed, or not relevant.

What distinguishes Gumperz's approach to the study of contextualization from previous endeavors in the field is (i) focus on particular classes of contextualization cues, and (ii) naturally occurring interaction as data. In relation to the former, researches have restricted the class of contextualization cues to: "prosody, gesture/posture, gaze, backchannels, and linguistic variation (including "speech styles")" Auer (1991: 24). This constitutes the narrow approach to contextualization cues and, in effect, it includes only non-referential and non-lexical contextualization cues, excluding, for example, loudness, gaze, code-switching, and deictic expressions. Namely, while deictic expressions "locate language in time and place, and therefore construe the environment […] in which interaction takes place […] they do this by establishing points of reference [and are understood as] referential means" (Auer 1991: 25). In relation to the latter, it is imperative that research be conducted with naturally occurring data. This, consequently, increases the ecological validity of the framework, and goes beyond the issue of competence, but rather involves the study of contextualized, actual utterances.

To summarize once again, the narrow approach to contextualization entails a relationship between the speaker, context (understood as a cognitive construct), utterance, and a specific contextualization cue, and the process can be characterized by the form of the cue, temporal relationship between the cue and the utterance, and the activated schema (Auer 1991: 25). One important distinction has to do with the *extent* of context that is *imported* from prior experience, as opposed to the context constructed during interaction which constitutes the emergent character of context. As a result, Auer (1991) introduces the following three types of context schemata:

(i)   those schemata "exclusively determined by participants' intra-episode contextualization work" (Auer 1991: 26), which in turn yield emergent contexts with sequences of interaction, schemata

that describe the relationship between participants, and speakers' relationship to the *active* information;

(ii)   schemata that constitute default assignment. This involves institutionalized interactions where participants' roles have been predetermined by default; however, these can alter, and "the maintenance of any "brought along" role constellation needs to be affirmed continuously, which is done by contextualization cues" (Auer 1991: 27). In cases with no default assignment, social roles can also acquire emergent properties;

(iii)   the third group of context parameters includes the physical setting, time, and visible features of participants. Moreover, deictic expressions and gestures also exhibit contextualizing effects. While contextualization cues can foreground some elements, they cannot "substitute one physical context for another" (Auer 1991: 27).

Additionally, contextualization cues can be categorized based on how they "are placed with respect to the utterance to be contextualized" (Auer 1991: 28), and in that sense a distinction can be made between external and internal cues. With external cues, we can distinguish between anticipatory cues (positioned before the target utterance) and retrospective cues (positioned after the utterance). On the other hand, internal cues appear as peripheral or non-peripheral. The former "occur at the (initial or final) margin of but inside the contextualized unit" (Auer 1991: 28), and these are, for instance, manifested via prosodic markers. The latter can be singular, recurrent, or permanent contextualization cues. Singular non-peripheral cues can be manifested through a gesture concomitant with the utterance; recurrent cues re-invoke the target context; while permanent cues can be manifested through posture or body language.

Auer (1991: 29–35) also lists the following five properties of contextualization cues:

1)   *Redundancy of coding and co-occurrence of cues.* Namely, multiple cues can be activated during interaction and all these cues at various level facilitate inferencing processes. Such cooccurrences of cues are also synchronized; on the other hand, there is the case of the cumulative use of cues, where they appear in sequences and each cue points "into a specific direction of interpretation for the utterance in question" (Auer 1991: 30).

2)   *Non-referential character.* Contextualization cues do not have a decontextualized, i.e., referential meaning; as a result, "contextualization cues and interpretation of the activity are related by a process of inferencing, which is itself dependent on the context of its occurrence" (Auer 1991: 30–31).

3)   *Contrastive vs. inherent meaning potential of cues.* On the one hand, contextualization cues "establish contrasts and influence interpretation by punctuating the interaction by these contrasts" (Auer 1991: 31), where the information active in the local context is essential for

successful inferencing to take place. On the other, Auer (1991: 32) states that most cues have "an inherent meaning base or meaning potential." This inherent meaning potential "gives the direction of an inferential process" (Auer 1996: 23).

4) *Non-arbitrariness vs. conventionalization.* Most contextualization cues have a twofold function, insofar as they establish contrasts, thereby signaling the onset of new information, and they also restrict the range of possible inferences. This inherent meaning potential can be realized based on conventions[18] (e.g., code switching between languages, prosodic conventions, etc.), naturally (e.g., certain auditory and articulatory mechanisms, gaze, etc.), or as a mixture of the two.

5) *Double-indexing of context using a single cue.* In certain cases, cues afford the activation of two hierarchically organized context schemata. One of the schemata typically has to do with turn taking or activity, whereas the other schema defines social roles. In effect, we are dealing with "a double indexing of contexts at the two levels, which is done simultaneously with the same cues" (Auer 1991: 35).

Gumperz (1991) discusses the notion of situated understanding and foregrounds the fact that "social knowledge is part of the input that determines what we perceive as linguistic reality" (Gumperz 1991: 50). In other words, he stresses the import of understanding how the interaction between linguistic and social knowledge influences human action, where framing, i.e., the process in which interlocutors categorize the ongoing events and information and classify them according to the identified characteristics, plays a vital role. Namely, "inasmuch as frames constitute the ground against which communication takes place, they significantly affect how communication is interpreted" (Gumperz 1991: 42). Moreover, frames are highly dynamic constructs and they undergo constant adjustments (Gumperz 1991: 42), and the way a situation is framed (i.e., a specific viewpoint) "can have a significant effect on the interpretation of constituent messages" (Gumperz 1991: 43).

In addition to frames, Gumperz (1991: 42) also emphasizes the importance of contextualization cues, insofar as

"conversational interpretation is cued by empirically detectable signs, contextualization cues, and that the recognition of what these signs are, how they relate to grammatical signs, how they draw on socio-cultural knowledge and how they affect

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[18] For instance, Gumperz (1991: 51) discusses the case of immigrants who tend to adopt the basic grammar of the new language, while preserving contextualization conventions from their mother tongue; as a result, this can lead to miscommunication, as such uses of contextualization cues will violate the entrenched expectancies with native speakers.

understanding, is essential for creating and sustaining conversational involvement and therefore to communication as such."

In other words, apart from the semantic content of the message, extralinguistic features are just as important for the construction of context, and the meaning of utterances in context. Contextualization cues also affect inferential processes that are first identified at the level of grammar and prosody, and then in turn yield the relevant implicatures (Gumperz 1991: 48). In that sense, it is important to note that contextualization cues do not appear in isolation, but rather "cooccur with, are mapped onto or are paradigmatically tied to, lexical signs" (Gumperz 1991: 51). Namely, contextualization cues are indexical signs without explicit lexical form, which makes them "potentially […] more flexible with respect to the function they can serve" (Gumperz 1991: 50). Also, participants' interpretation of the ongoing events is conditioned by the available cues. This is also conditioned by the already available cultural schemas, so, in effect, language and culture no longer have a unidirectional relationship, but rather influence and shape each other. Finally, it needs to be reiterated that contextualization as an overall process entails the conceptualization of the link that is established between the text and context that views context "as an emerging, interactionally grounded achievement" (Auer 1996: 25).

In his reflections on contextualization cues Levinson (2003: 33) defines context as "a set of propositions taken for granted by the participants." Referring to the onset of Gumperz's work, Levinson highlights the import of prosodic markers that can serve as acoustic cues, and the idea that utterances can actually have *built-in* instructions about the relevant contexts in which they are to be interpreted. It is these two sides combined that afforded the notion of contextualization cues which typically present "a prosodic trigger that in conjunction with lexical material will invoke frames and scenarios within which the current utterance is to be interpreted as an interactional move" (Levinson 2003: 33). Some conventional elements that can be used to *import* the relevant context include, for instance, presupposition triggers, honorifics, and contrastive stress. These devices are understood to interact with the truth-conditional content of the utterance, thereby providing additional propositions that constitute the background for interpretation.

2.2.6 CONTEXT AS A MENTAL PHENOMENON IN COGNITIVE LINGUISTICS

Ungerer and Schmid (2006: 47–48) discuss the various treatments of context in previous research, which include the following: (i) the linguistic material that precedes the critical word or sentence (in linguistics); (ii) a collection of background assumptions that make the utterance intelligible (in pragmatics); (iii) the situation in which the utterance takes place (in discourse-based approaches); and (iv) context of culture (in anthropological investigations). In cognitive linguistics,

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however, context is seen as a mental phenomenon (Ungerer and Schmid 2006: 47), and it needs to be distinguished from the concept of *situation* (Ungerer and Schmid 2006: 48). Namely, Ungerer and Schmid (2006: 48) treat "the 'context' as belonging to the field of mental phenomena, while the 'situation' refers to some state of affairs in the 'real world'." Individual words and phrases are understood to activate the related cognitive categories (i.e., mental concepts), and the constructed cognitive representation of the situation is what is understood as context. As Ungerer and Schmid (2006: 49) stipulate, their treatment of context is not focused on the speech event within which an utterance is taking place, but rather on the cognitive *representation* of that situation.

Such understanding of context involves (i) the retrieval of context-specific knowledge related to specific categories, and (ii) the recruitment of related contexts stored in long-term memory (i.e., background knowledge). In effect, "cognitive categories are not just dependent on the immediate context in which they are embedded, but also on this whole bundle of contexts that are associated with it" (Ungerer and Schmid 2006: 49). These cognitive representations stored in long-term memory are understood as cognitive models, and they refer to "cognitive, basically psychological, view of the stored knowledge about a certain field" (Ungerer and Schmid 2006: 50). Ungerer and Schmid (2006: 50–51) list three main characteristics of cognitive models: (i) they are open-ended, insofar as they are not exhaustive and can be elaborated further; (ii) they are interrelated and they can create networks of mental models; and (iii) they are always active, to the extent that they are always recruited in the process of meaning construction. Additionally, there is an active interplay between cultural models and cognitive models. Cognitive models are confounded by culture-specific factors, while cultural models constitute a special type of cognitive models. Just like cognitive models in general, cultural models are also very dynamic and susceptible to changes. However, what needs to be stressed, cultural models comprise a large body of shared background knowledge among members of a specific community, and they can even have "an enormous influence on the conceptual structures of categories" (Ungerer and Schmid 2006: 55). Such intercultural differences can also be understood as the effects of context on a macro-scale.

2.2.7 SOCIOCOGNITIVE THEORY OF CONTEXT

Van Dijk (2008) aims "to provide a multidisciplinary account of the notion of context within a broader theory of discourse" (van Dijk 2008: 26). When we approach a piece of text, what is required for us to properly construct its meaning includes at least knowledge about grammar (i.e., linguistic knowledge), world knowledge, participants and their roles, use of deictic expressions to identify place and time, and the wider context in which an utterance or a piece of text occurs (e.g.,

participants in a political debate). In other words, this involves contextualizing the message and deriving appropriate inferences based on the available information. In effect "understanding discourse involves understanding text/talk-in-context" (van Dijk 2008: 3). "Contexts come in different sizes or scopes, may be more or less micro or more or less macro, and metaphorically speaking seem to be concentric circles of influence or effect of some state of affairs, event or discourse" (van Dijk 2008: 4), and context and events also demonstrate dynamic interaction. In plain terms, text and talk are both constitutive of, and constituents of the contexts (van Dijk 2008: 4). In the domain of linguistics context was initially only of marginal interest, especially with theoretical approaches focused primarily on syntax (van Dijk 2008).

Van Dijk (2008) proposes a new multidisciplinary theory of context, with emphasis on the role of context in language, society, culture, and cognition. The theory is based on the following main tenets:

(i)   Context is understood as subjective participant constructs, insofar as participants resort to their "subjective definitions of interactional or communicative situations" (van Dijk 2008: 16) and their interpretations of the ongoing situations.

(ii)   Contexts as unique experiences, owing to the unique individual construals by participants; still, for successful communication to take place these individual construals need to be aligned during interaction.

(iii)   Contexts as mental models, i.e., a special type labeled context models which "represent the relevant properties of the communicative environment in episodic (autobiographical) memory, and ongoingly control the processes of discourse production and comprehension" (van Dijk 2008: 16).

(iv)   Contexts as a specific type of experience model. Namely, experience models are dynamic models which guide perception and interaction and include the setting, participants, events, actions, and goals (van Dijk 2008: 16).

(v)   Context models are schematic. Namely, they include schemas of conventional, shared elements (e.g., time, place, participants' identities and roles, action, goals, or knowledge) that facilitate interpretation. Depending on the input, these schemas can have various configurations.

(vi)   Contexts constrain the production and comprehension of discourse. Understood as mental models, contexts "control the processes of discourse production and comprehension, and hence their resulting discourse structures and discourse interpretations" (van Dijk 2008: 17).

(vii)　Contexts have a social basis. Contexts are understood as not only personal but also social, insofar as that they have "an important intersubjective dimension that allows social interaction and communication in the first place" (van Dijk 2008: 17).

(viii)　Contexts are dynamic. This means that contexts are constructed online, and they undergo regular updating and adaptations based on the available information.

(ix)　Contexts are typically planned. Shared sociocultural scripts and schemata afford not only planning but also anticipation of events in a communicative situation.

(x)　Context models have a pragmatic function, in that text and talk need to be adapted to the type of situation and interaction.

(xi)　Contexts and texts. Contexts understood as mental models are mainly implicit, and are typically signaled or indexed instead of being fully expressed. Also, they can be discursive and previous text can become a part of the relevant context.

(xii)　Contexts and relevance. Namely, "a context model theory is at the same time a theory of the personal and of the interactional relevance of the situation interpretations of participants" (van Dijk 2008: 19).

(xiii)　Macro and micro contexts. Contexts can vary from one section of the communicative situation to the next in that they can represent either micro- or macro-level situations.

(xiv)　Contexts as egocentric constructs. The egocentric perspective that we tend to impose on the world dictates, for example, the use of deictic expressions that govern the construction of contexts.

(xv)　Opposition between the semantics and pragmatics of context. While semantics has to do with determining reference, pragmatics, on the other hand, deals with the appropriateness of utterances in the given contexts. Still, interaction between the two cannot be neglected.

(xvi)　Appropriateness. Participants' contributions should be appropriate in terms of interactional roles, type of discourse, level of formality, etc.

(xvii)　Types of contexts and genres. Different types of contexts are related to different genres; in effect, we can apply various classifications (e.g., in terms of institutions, roles, goals, etc.).

(xviii)　Contexts are culturally variable, as we can identify "different appropriateness conditions for discourse in different societies" (van Dijk 2008: 22).

(xix)　Social and cognitive approaches to context. Van Dijk (2008: 22) understands context as "subjective participant representations of communicative situations," i.e., as a mental model rather than the situation itself. Consequently, sociolinguistic approaches to the analysis of text and talk require an additional component in the form of a *cognitive interface*, an idea also outlined in Chilton (2005) and van Dijk (2005). Such an approach would license "an

integrated theory of discourse and language use in general, and of context in particular" (van Dijk 2008: 24).

(xx)   A theory of social situations should pose as a more comprehensive framework which would also include a theory of context as an integral part.

To reiterate, context is understood as a mental model, as opposed to the social (i.e., communicative) situation. Another important distinction is that between text and context, where van Dijk (2008: 25) introduces the notion of a "communicative or interactional episode [to mark] situated communicative events."

In terms of the relationship between context and cognition, van Dijk stresses the fact that "language users are not just involved in processing discourse; at the same time they are also engaged in dynamically constructing their subjective analysis and interpretation of the communicative situation online" (van Dijk 2008: 56). An important theoretical construct that affords the interpretation of context as a cognitive construct is that of mental models. "The crucial thesis of mental model theory is that besides a representation of the meaning of a text, language users also construct mental models of the events texts are about," (van Dijk 2008: 58) and these models were initially introduced and understood as "situation models" (van Dijk and Kintsch 1983: 11). Specifically, situation models involve "the cognitive representation of the events, actions, persons, and in general the situation, a text is about" (van Dijk and Kintsch 1983: 11–12). Additionally, situation models also entail the recruitment of background knowledge related either to similar situations or to more general knowledge from long-term memory (van Dijk and Kintsch 1983: 12).

Van Dijk (2008: 59) understands mental models as "starting points for the production of discourse," rather than simple interpretative tools alone, insofar as mental models are used to both represent the ongoing events and serve as the starting points for the construction of "the semantic representation of discourses about such events" (van Dijk 2008: 59). Moreover, mental models are unique to each discourse participant, and comprehension is guided by both *local* contextual variables and relevant knowledge structures available for recruitment. Also, "we [tend to] form more global "macro" models from sequences of "micro" models of everyday experiences" (van Dijk 2008: 62), and these generalized structures are created based on their relevance in everyday communication and interaction. In that sense, another important element that licenses the construction of generalized mental models resides in the fact that there are repetitive schemata that underlie the structure of discourse; in effect, owing to the statistical distributions of such schemata, more generalized (almost algorithmic) models can be derived. As a result, albeit the models appear unique to every individual, these generalized, abstract schematizations on which they are based afford a required degree of

overlap necessary for successful communication. In addition to the purely schematic and semantic elements of context that license meaning construction, another vital component of context also includes affective and emotional content (van Dijk 2008: 61; Figar 2013a, 2014a), rendering context a multi-layered structure.

Building on the dimensions of time, space, causation, intentionality, and protagonist, outlined as relevant dimensions of situation models in Zwaan and Radvansky (1998), van Dijk (2008) argues that a more elaborate construct of model schemas also offers a blueprint against which the ongoing situations are cross-referenced, so that the appropriate mental model from long-term memory can be activated and adapted to the current situation or ongoing discourse. Van Dijk (2008: 66) also stipulates that such model schemas facilitate the search and retrieval of individuals' "personal memories." From model schemas, van Dijk (2008: 66) moves on to experience models, where he argues that everyday life is also navigated through a series of mental models which include the following relevant components: time, locations, participants, causal relations, level (in terms of micro or macro events), salience, relevance, goals or purposes, and intentions (van Dijk 2008: 66–67). Namely, van Dijk (2008: 67) claims that mental models are suitable theoretical constructs for *cutting* the continuous experience into discrete, analyzable components.

2.2.8 EVENT-INDEXING MODEL

Unlike schemata that are understood as "mental representations of stereotypical situations" (Zwaan and Radvansky 1998: 162), mental models are linked to specific situations. In effect, the difference between these two constructs can be understood as a type (schema) / token (situation model) relationship (Zwaan and Radvansky 1998: 162). In plain terms, mental models, or situation models are "mental representations of verbally described situations" (Zwaan and Radvansky 1998: 162), and in addition to constructing the representation of a text, readers also construct a corresponding situation model (Zwaan, Langston, and Graesser 1995: 292). Moreover, the construction of a coherent situation model is vital for text comprehension, and, in addition, it is necessary to address the construct of situation models as multidimensional in order to afford more comprehensive understanding of language comprehension in general (Zwaan and Radvansky 1998: 163). Graesser, Singer, and Trabasso (1994: 372) emphasize that when reading a text, "readers attempt to construct a meaningful referential situation model that addresses the readers' goals, that is coherent, and that explains why actions, events, and states are mentioned." Relying on the previous work by van Dijk and Kintsch (1983), Zwaan and Radvansky (1998) also discuss a number of reasons why situation models are necessary for text comprehension.

Namely, the process of situation model construction is facilitated by the interplay of linguistic and world knowledge, where anaphoric and/or deictic expressions, for example, may facilitate the integration of sentences across larger sections of discourse, on the one hand, while, on the other, the recruited background knowledge structures (or world knowledge) may yield the relevant context against which the ongoing events are cross-referenced. Moreover, the understanding of texts is conditioned by the situationally congruent content of sentences (i.e., all sentences need to describe the same, or at least contextually related situations), insofar as the sequential order of sentences alone does not warrant the construction of coherent situation models, since each sentence may introduce a novel situation.

The import of successful integration of information across sentences has also been identified in translation. Also, another factor that has been recognized to facilitate the construction of situation models is domain expertise, insofar as individuals with higher domain-expertise have "fewer problems constructing a situation model because they could assemble the model by retrieving relevant knowledge structures from their long-term memory, whereas low-knowledge readers [have] to construct the model essentially from scratch" (Zwaan and Radvansky 1998: 165). Additionally, Zwaan and Radvansky (1998: 165) also note the importance of situation models in learning when integrating information from multiple documents.

Finally, the fact that people are able to construct similar meanings of events that are invariant in relation to the modalities in which they are presented (e.g., a written article vs. a TV report) suggests that "readers construct a mental representation of the event itself rather than of the medium that described the event" (Zwaan and Radvansky 1998: 164). Moreover, it is assumed that "we use modality-independent cognitive procedures to construct these models" (Zwaan and Radvansky 1998: 164). For instance, Gernsbacher, Varner, and Faust (1990) conducted a study in which they explored the relationship between language comprehension and general comprehension skills, as well as individual differences that might be evident in this process. The results of one of the experiments showed that "skill at comprehending linguistic media (written and auditory stories) is highly related to skill at comprehending nonlinguistic media (picture stories)" (Gernsbacher, Varner, and Faust 1990: 440). Namely, they identified high correlations between experimental conditions in which stimuli were presented in written, auditory, and picture modes.

In terms of situation model construction, Zwaan and Radvansky (1998: 165) distinguish between the following three stages: (i) the current model that is under construction, (ii) the integrated model (i.e., the 'intermediary' model), and (iii) the complete model. Namely, if we encounter a written paragraph that contains a number of (coherent) sentences, the lexical and semantic content of the first sentence prompts the construction of the current model containing the elements based on the

first sentence. In the next stage, the content obtained from the second sentence is integrated with the model that has already been constructed and is currently active in short-term working memory (STWM). This process is repeated for each new sentence, until we encounter the final sentences in the given chunk of discourse. Once the final sentence has been integrated, we are left with the complete model. The complete model is also susceptible to further modifications, insofar as "situation models [can be] updated by forming connections between the current model and relevant aspects of the integrated model in LTWM[19] on five different situational dimensions" (Zwaan and Radvansky 1998: 167). Zwaan and Radvansky go on to discuss the nature of situation models in relation to the event-indexing model.

Namely, Zwaan, Langston, and Graesser (1995: 292) introduced the event-indexing model according to which the main elements of situations are events[20] which can be *indexed* along the five main situational dimensions: time, space, protagonist, causality, and intentionality. In effect, "the ease with which an event can be integrated depends on how many indexes it shares with the integrated model" (Zwaan and Radvansky 1998: 167). Consequently, "different pieces of text can require updating of different features of the event index" (Traxler 2012: 204). In more technical terms, "the event-indexing model makes the general prediction that the processing load during comprehension varies as a function of the number of situational indexes shared between the currently processed event and the current state of the situation model" (Zwaan and Radvansky 1998: 179). Zwaan and Radvansky (1998) stress the fact that the number of indexes is not fixed and novel indexes can be introduced if needed. Once new information is introduced, it is foregrounded, in that it maintains "retrieval cues in STWM buffers to parts of the integrated model in LTWM" (Zwaan and Radvansky 1998: 180), and such foregrounding can be licensed either by linguistic or world knowledge. Moreover, the model is intended to deal with not only online meaning construction, but also representations in LTWM. Additionally, the relevance of some of these dimensions is also supported by research on discourse processing. For instance, Briner, Virtue, and Kurby (2012) found that temporal and causal relations in a narrative are related, to the extent that "readers activate causal inferences for both forward and backward causal relations," (Briner, Virtue, and Kurby 2012: 71) and that "backward causal relations are processed more slowly than forward causal relations" (Briner, Virtue, and Kurby 2012: 74). Chan, Magliano, and O'Brien (2018) explored the influence of explicit goals and situational context that influence the processing of outcomes in narratives. Their results showed that "the presence of a goal facilitated the processing of outcomes independent of the situational constraints" (Chan, Magliano, and O'Brien 2018: 504). In other words, links between

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[19] Long-term working memory.
[20] The concept encompasses both events and actions (Zwaan and Radvansky 1998: 179).

actions and intentions on the one hand, and situational context on the other, are processed separately, in parallel.

Based on the overview of previous research that has dealt with "(i) the foregrounding of situational information, (ii) the updating of the integrated model, or (iii) the retrieval of the integrated model" (Zwaan and Radvansky 1998: 167), the authors go on to discuss the import of linguistic and world knowledge and the difficulty in making a clear distinction between the two. For instance, Cook and Guéraud (2007) also stress how important it is to understand how linguistic and world knowledge interact in order to fully understand how readers construct the meaning of texts. Zwaan and Radvansky (1998) reiterate the importance of the multidimensional nature of situation models, and the need to address multiple dimensions simultaneously in order to obtain more comprehensive understanding of meaning construction in general. What they outline as potentially the most relevant dimensions are motivational, causal, and temporal dimensions (Zwaan and Radvansky 1998: 178; Zwaan, Magliano, and Graesser 1995: 386). Previous research has shown that readers "build an internal representation of the space that the events in stories take place in" (Traxler 2012: 206), and *navigate* the story-world according to those spatial representations. Additionally, readers also rely both on explicit linguistic cues and world knowledge to construct temporal relations in texts (Traxler 2012: 207), and they also tend to adopt the perspective of the protagonists, as well as their emotional states (Traxler 2012: 208). Finally, another important dimension that indexes (i.e., guides) the construction of situation models includes protagonists' goals and motivation (Traxler 2012: 209).

2.2.9 STRUCTURE BUILDING FRAMEWORK

The Structure Building Framework is based on the idea that language comprehension is facilitated by the more general cognitive processes and mechanisms, rather than on unique, specialized modules (Gernsbacher 1997: 266). Further, in the context of this model, "the goal of comprehension is to build coherent mental representations or structures" (Gernsbacher 1997: 266; Gernsbacher, Varner, and Faust 1990: 431). According to this framework, (i) language users first prepare the foundation for the mental structure; (ii) in the next stage, mental structure is further developed by adding new information that is introduced in the discourse which is, presumably, coherent. In other words, this entails the process of mapping the novel information onto the initially constructed foundation; (iii) in cases where the novel information is incoherent and violates the expectancies generated by the already constructed mental structure, language users are required to shift, and build new mental substructure that branches out from the main structure (Gernsbacher 1997: 267; Gernsbacher, Varner, and Faust 1990: 431; Traxler 2012: 199–200). Essentially, the entire

process is based on the connectivist framework, where the initial information activates a set of memory nodes, thereby forming the foundation. Associated information then activates the associated nodes, while the incoherent information leads to the activation of additional nodes, i.e., new substructures. Once the network of memory nodes has been activated, it is further guided by the mechanisms of *enhancement* and *suppression* (e.g., Gernsbacher 1989; 1997).

According to Gernsbacher (1997: 271), "enhancement increases the activation of memory nodes when the information they represent is relevant to the structure being built." In other words, enhancement is understood as an automatic process (Traxler 2012: 201), where the discourse context prompts the (unconscious) activation of the relevant background knowledge structure (i.e., the relevant frame-level structure), which is then followed by suppression. Suppression, in that sense, "decreases or dampens the activation of memory nodes when the information they represent is no longer necessary for the structure being built" (Gernsbacher 1997: 271). Namely, the suppression mechanism leads to a more coherent text structure, to the extent that the irrelevant information in discourse representation has been filtered out (Traxler 2012: 202). Put differently, the lexical-semantic content of the ongoing discourse affords access to the relevant information (presumably organized in semantic frames), where the individual lexical items serve as access points (e.g., Langacker 1987; Fillmore 1982; Evans and Green 2003). However, not all of the initially activated information is necessary for comprehension and successful online meaning construction. In that sense, the mechanism of suppression serves as a *contextual filter* that eliminates the irrelevant information, in effect allowing readers to keep track only of the relevant, partial frame structures. Owing to the presumably greater cognitive load that it imposes, the mechanism of suppression is less automatic compared to the process of enhancement. Moreover, "it is more variable across individuals [… and …] differences in suppression ability may underlie differences in people's ability to understand texts" (Traxler 2012: 202). The idea of individual differences in the suppression mechanism has also received empirical validation. Moreover, these studies also offer support for the existence of enhancement and suppression mechanisms in the first place.

For instance, Gernsbacher and Faust (1991) found that suppression plays an important role in filtering out the irrelevant meanings of ambiguous words, and that less skilled comprehenders were less efficient in this task both in the case of linguistic and non-linguistic stimuli. On the other hand, less skilled comprehenders did not exhibit any differences in relation to the mechanism of enhancement (Gernsbacher and Faust 1991: 260). Gernsbacher (1993: 297) found that less skilled readers were "less efficient at rejecting inappropriate meanings of ambiguous words, incorrect forms of homophones, typical-but-absent members of scenes, and ignored pictures and words." Consequently, she concluded that such disadvantage was due to a lower efficiency of the mechanism

of suppression. Long, Seely, and Oppy (1999) explored the role of cognitive inhibition in the process of meaning construction. They manipulated between the naming task and the lexical decision task, since "performance on both lexical decision and meaning judgement is thought to reflect strategic mental processes" (Traxler 2012: 203). Their results showed that "less skilled readers experienced interference when the task required context checking (meaning-fit judgment) or was susceptible to it (lexical decision)" (Long, Seely, and Oppy 1999: 297). Additionally, the results of this study further reinforce the main assumptions of the structure building framework. Gernsbacher, Varner, and Faust (1990: 441) found that less skilled language users create too many unnecessary substructures, which suggested that they were "less able to suppress the irrelevant information." Additionally, they were also able to identify a high correlation between the comprehension of written and spoken language, and in turn the correlation of the two with the comprehension of non-verbal materials, which also attests to the importance of suppression in the general comprehension skills.

2.2.9.1 THE POSSIBLE ROLE OF SUPPRESSION IN METAPHOR COMPREHENSION

Gernsbacher and Robertson (1999) discussed the role of suppression in metaphor interpretation by addressing some of the previous studies in the field. They started with the study by Gernsbacher, Keysar, and Robertson (1995)[21], later elaborated in Gernsbacher et al. (2001), where the authors tested the hypothesis that metaphor interpretation involves both the enhancement of attributes pertaining to the source input of a metaphor, on the one hand, and the suppression of "the attributes of the metaphor's [target input] that are not appropriate to (or concordant with) a metaphorical interpretation" (Gernsbacher and Robertson 1999: 1624). Experimental subjects were asked to read the initial sentence that was either metaphorical (*Lawyers are sharks*) or literal (*Hammerheads are sharks*). After that, subjects were asked to verify subsequent statements (e.g., *Sharks are tenacious*). When it followed a metaphorical sentence, subjects were faster to verify the statement *Sharks are tenacious*, than in the condition when it followed a literal sentence. The results support the idea that the attributes associated with the metaphorical reading are enhanced. Moreover, when the target sentence *Sharks are good swimmers* appeared after the initial metaphorical/literal pair of sentences outlined above, subjects demonstrated significantly faster responses in the literal condition, while the metaphorical condition showed a delay. This suggests that attributes that are not

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[21] This paper was presented at the 36th annual meeting of the Psychonomic Society, Los Angeles, CA, in 1995. The published version of the paper appeared in 2001 in the *Journal of Memory and Language*, *45*(3), 433–450, under the title "The Role of Suppression and Enhancement in Understanding Metaphors."

relevant for metaphor interpretation were suppressed. Based on these data, the researchers concluded that metaphor interpretation "involves both enhancing the attributes that are relevant to the metaphorical interpretation and more intriguingly, suppressing the attributes that are not relevant to the metaphorical interpretation" (Gernsbacher and Robertson 1999: 1624).

Gernsbacher and Robertson (1999: 1625–1627) also discuss Keysar (1994) who stressed the import of the process of elimination that appears to be analogous to suppression, insofar as language users use context in order to suppress the incongruent (i.e., inappropriate) information (Keysar 1994: 250). Specifically, "a literal interpretation may be selected because of the contextual preclusion of a metaphorical interpretation" (Keysar 1994: 49). Based on the obtained results, Keysar (1994: 265) identified "a similar pattern of contextual effects for literal and metaphorical interpretations in discourse." Namely, depending on the context (which requires a unique interpretation of an utterance), certain interpretations (metaphorical or literal) are rendered more plausible (Gernsbacher and Robertson 1999: 1625). If a context favors a metaphorical interpretation, the literal alternative will be suppressed, and vice versa (Gernsbacher and Robertson 1999: 1626–1627).

2.2.10 SECTION SUMMARY

The overview of context in the domain of semantics, cognitive linguistics, pragmatics, and (cognitive) psychology, started with Katz and Fodor's (1963) effort to offer a methodology for the construction of a semantic theory, where they excluded the notion of setting (i.e., context) from their model. Palmer (1976) offers an overview of the development of the notion of context in semantics, where he makes a distinction between the linguistic and non-linguistic context, and then goes on to discuss the notion of context of situation, and the work of Malinowski and Firth. Firth (e.g., 1962, 1957[1935]) introduced situational context, and acknowledged the fact that all processes of meaning construction take place within some sort of context, never in isolation. In his understanding, situational context includes not only verbal, but also non-verbal components. Lyons (1977) discusses the contextualization of utterances and the conditions included in the process, while Lyons (1995) addresses the issues of the type of knowledge required for utterances to be contextually apt.

In the domain of pragmatics, the investigation of context includes multiple layers and types of context (Fetzer 2017). For instance, a distinction is made between the context constructed from the perspective of the analyst and from the perspective of the participants. Also, context is seen as a multi-layered, cognitive construct (Sperber and Wilson 1995; Fetzer 2017). Mey (1993) and Goodwin and Duranti (1992) represent context as a dynamic construct. Namely, contextual variables are subject to constant changes, and the main event that is under scrutiny is contextualized against the background

frame. Another important notion includes contextualization cues (Auer 2009; Gumperz 1982; Levinson 2003) which can refer to any segment of the linguistic message that afford the highlighting of the relevant components of the message. This process also involves the recruitment of the relevant background knowledge, and a distinction is made between internal and external contextualization cues.

In the domain of cognitive linguistics, Ungerer and Schmid (2006) understand context as a mental phenomenon; namely, context is seen as a cognitive representation of the given situation. Van Dijk (2008) approaches context from a socio-cognitive perspective, and represents it as a mental model. This is closely linked to the research in the domain of cognitive psychology, where we introduced the event indexing model (Zwaan, Langston, and Graesser 1995) and the structure building framework (Gernsbacher 1997). The former deals with the construction of situation models (i.e., the mental representations of the event) based on the linguistic cues available in the ongoing discourses. The three stages involved in the construction of a situation model include the current model, the integrated model, and the complete model (Zwaan and Radvansky 1998). These stages of the event indexing model will be applied to the analysis of the experimental conditions in Experiments 5 and 6 in the present study. Namely, these experiments will include contextualizations (i.e., primes) provided by three-sentence-long paragraphs containing homogenous metaphor clusters. These are then followed by the target metaphorical sentences. The event indexing model is expected to afford a more comprehensive insight into the stages of the construction of the corresponding situation model, and the possible differences between the congruent and incongruent experimental conditions. The structure building framework, on the other hand, is focused on the construction of coherent mental representations, and it highlights the mechanisms of enhancement and suppression, whose role will be explored further in the main experiments in the present study (sections 4 and 5). Namely, we will address the potential role these two mechanisms may play when targets in the experiments are processed after the congruent as opposed to incongruent primes.

2.3 SEMANTIC FRAMES AND DOMAINS

The present section introduces the central theoretical construct in this thesis – semantic frames. In broadest terms, a semantic frame entails a related system of concepts, where the activation of any single unit from the system affords access to the entire frame-structure. We begin with the overview of the development of this idea in the work of Charles Fillmore, starting from his early work in the late 1960s and the investigations in verb valence that gave way to the fully-fledged enterprise of frame semantics. This is followed by Lawrence Barsalou's treatment of frames within a connectivist paradigm, and Ronald Langacker's notion of domains. After that, the following section will be dealing with the notion of semantic priming, which brings together the ideas of contextualization, framing and psycholinguistic research on meaning construction in general.

2.3.1 FILLMORE'S FRAMES

2.3.1.1 SCENE-AND-FRAME MODEL

Fillmore (1969: 91–96) begins his discussion by criticizing the compositional approach to the study of meaning that typically involves a set of felicity conditions, and emphasizes the fact that a new revised, approach to the study of meaning is needed in order to gain a more comprehensive insight. To that end, he proposes that a schematization of events be introduced, which would involve all the relevant participants, along with not only syntactic, but also lexical descriptions of particular verbs (Fillmore 1969: 98–99). Building his arguments on a small group of verbs of judging, he presents various contexts in which these verbs appear and stresses the various senses that emanate from "various kinds of lexically specific information" (Fillmore 1969: 101). Also, there are obvious differences in propositional and illocutionary aspects of those verbs. For instance, with the verb *criticize*, there is a presupposition that something unfavorable has been done, whereas with *accuse*, there is no such presupposition (examples 1a and 1b); moreover, the verb accuse involves an illocutionary act that cannot be recognized with the verb criticize (Fillmore 1969: 106).

1a I accused Harry of writing an obscene letter to my mother.
1b I criticized Harry for writing an obscene letter to my mother. (Fillmore 1969: 106)

Finally, he links his discussion to the structuralist notion of a semantic field (Fillmore 1969: 111); however, it remains apparent that the dynamic nature of the semantic description of verbs that he advocates will need a more dynamic construct compared to that of the field.

Fillmore (1975) introduces a scene-and-frame model where a scene is roughly understood as a culturally-defined scenario or a familiar structure, while a frame entails "any system of linguistic choices […] that can get associated with prototypical instances of scenes" (Fillmore 1975: 124). He also stresses the fact that the notion of frame has already been introduced in various other theoretical frameworks (e.g., Minsky 1975; Goffman 1986, etc.). Additionally, in his earlier work Fillmore (1968) introduced the notion of a case-frame, where he argued that a sentence structure consists of "a frame and a substitution list (a syntagmatic frame and a paradigmatic set of mutually substitutable items)" (Fillmore 1975: 130). Another important element of this paper is that Fillmore brings together the constructs of prototype and frame. Namely, unlike the traditional truth-conditional models of meaning construction, prototype theory introduces the notions of graded centrality based on a prototype, where a category is not a clearly delineated structure, but rather appears with fuzzy boundaries. An important link between frames and prototypes in his view is the fact that "in some cases the area of experience on which a linguistic frame imposes order is a prototype" (Fillmore 1975: 123).

2.3.1.2 FRAMING AND CATEGORIZATION

Following the initial critical outline of previous approaches to the study of meaning, Fillmore (1976) also stresses the import of the notions of context, prototype, and frame. In contrast to the generative, decontextualized approaches to the study of linguistic structure (e.g., Chomsky 2002[1957]; Katz and Fodor 1963), Fillmore (1976: 22–24) stresses context as one of the main elements that need to be taken into consideration. Namely, in addition to the *context of an utterance* and *context of experience*, there is pragmatic knowledge that needs to be accounted for, and which in turn introduces another level of complexity (Fillmore 1976: 23–24). In effect, "meanings of words may […] depend on contexted experiences," and, moreover, "the process of interpreting an utterance may depend […] on our perception in which the utterance is produced and our memories for contexts for earlier experiences" (Fillmore 1976: 24).

Fillmore's (1976: 24–25) understanding of the term prototype stems from the works of Wittgenstein, Erdman, and Rosch. Namely, the key idea behind this notion is our ability to cross-reference the ongoing experience against a set of prototypes that are available from long-term

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memory, i.e., from our background knowledge. For Fillmore, the construct of frame is, crucially, independent of language. Namely,

"particular words or speech formulas, or particular grammatical choices, are associated in memory with particular frames, in such a way that exposure to the linguistic form in an appropriate context activates in the perceiver's mind the particular frame – activation of the frame, by turn, enhancing access to the other linguistic material that is associated with the same frame" (Fillmore 1976: 25).

Also, a distinction is made between *interactional* and *cognitive* frames. The former entail "a categorization of distinguishable contexts of interaction in which speakers of a language can expect to find themselves, together with information about the appropriate linguistic choices relevant to these interactions" (Fillmore 1976: 25); the latter appear in the form of elaborate scenarios with roles, values, and various subevents, where "any of the many words in our language that relate to [a particular frame] is capable of accessing [that] entire frame" (Fillmore 1976: 25). Also, in addition to affording access to entire frame structures, individual words and linguistic expressions license the recruitment of background knowledge structures essential for the process of meaning construction.

2.3.1.3 TOWARDS FRAME SEMANTICS

Fillmore (1982: 111) brings together the main ideas outlined in his previous work to introduce a novel paradigm that will combine "a research program in empirical semantics and a descriptive framework for presenting the results of such research," and which will later come to be recognized as *frame semantics*. He introduces the most precise definition of the term *frame* up to that point, where the notion of a *frame* refers to

"any system of concepts related in such a way that to understand any one of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or into a conversation, all of the others are automatically made available" (Fillmore 1982: 111).

Again, he stresses the import of categorization and context that encompasses both the current situation and background knowledge related to it.

The enterprise itself was borne out of Fillmore's investigation into the semantic behavior of verbs, where he realized that the semantic valence, i.e., the semantic description of verbs' arguments was essential for a complete picture. Namely, he introduced *case frames* and *rule features*, where each case frame was involved in "characterizing a small abstract 'scene' or 'situation', so that to

understand the semantic structure of the verb it was necessary to understand the properties of such schematized scenes" (Fillmore 1982: 115). Case frame features, on the other hand, were "representations of the class of 'case frames' into which particular verbs could be inserted" (Fillmore 1982: 114). However, in addition to these two components, Fillmore also believed that there were larger cognitive structures responsible not only for the semantic and syntactic behavior of verbs alone, but also for the semantic characterization of larger domains of vocabulary (Fillmore 1982: 115).

To illustrate the role of specific vocabulary items in scene construal one of the examples he gives is the COMMERCIAL EVENT frame (Fillmore 1982: 116–117). Namely, elements of this frame are highly schematized, and depending on the specific verb we can place the focus on the buyer (using the verb BUY or PAY), seller (verb SELL), etc. In effect, certain elements can be either pushed into the background, or appear in focus. In other words, "we can say that the frame structures the word-meanings, and that the word 'evokes' the frame" (Fillmore 1982: 117). This is a position similar to the one presented in Langacker (1987: 173) where words are understood as access points to larger knowledge structures. Apart from structures referring to situations independent from the conversational context, Fillmore (1982: 117) also stresses the import of "the framing of the actual communication situation." In that sense, he introduces the notions of cognitive and interactional frames (Fillmore 1982: 117). The former pertain to our ability to cross-reference the ongoing situation against our previous experience by relying on the linguistic prompts, whereas the latter have to do with how we understand the interaction between "the speaker and the hearer, or between the author and the reader" (Fillmore 1982: 117). Moreover, specific "instructions" for the construal of a given communicative situation are contained in linguistic expressions such as deictic categories, tenses, and demonstratives, while the understanding of interactions between interlocutors is facilitated by illocutionary force, cooperative principles, and speech acts in general (Fillmore 1982: 117). In line with the specific structure and overall purpose of texts, various text genres can also be understood as different framings that can generate different expectations (i.e., expectancies) with the audience, a claim that has also received experimental support in later research (e.g., Zwaan 1991; 1994).

Fillmore (1982) also establishes a clear link between prototypes and frames, where frames themselves, as more complex structures, can be categorized according to the level of prototypicality, just like individual words. Additionally, a frame provides a background against which categorization is performed, or, in other words, categorization is normally context-dependent, and such dependence is best captured through the notion of frames. Again, context also typically drives the recruitment of more entrenched, i.e., more prototypical frames. In plain terms, "the word gives us a category which can be used in many different contexts, this range of contexts determined by the multiple aspects of prototypic use – the use it has when the conditions of the background situation more or less exactly

match the defining prototype" (Fillmore 1982: 119). Moreover, in the descriptive framework that Fillmore (1982) proposes, "the categories, the contexts, and the backgrounds themselves [are] all understood in terms of prototypes" (Fillmore 1982: 119).

One of the examples that Fillmore provides is the word *breakfast*, where he claims that our understanding of the word is conditioned by the cultural knowledge of the practice of having three meals a day at particular times, and one of these meals comes first during the day, presumably after a period of sleep (Fillmore 1982: 118). However, this would only instantiate the prototypical use of the word, while not all of these conditions need to be met in order for a meal to be conceptualized as breakfast, since none of the afore-mentioned factors can be taken as criterial. Again, the word provides access to a category, while the actual process of meaning construction remains highly fluid and susceptible to contextual factors. In effect, a frame can also be understood as a "system of categories structured in accordance with some motivating context" (Fillmore 1982: 119), where those motivating contexts entail the existence of conventionalized background knowledge structures that can be either general or more specific. In either case, "the background context is absolutely essential to understanding the category" (Fillmore 1982: 120).

Another important theoretical construct used in this framework is the notion of viewpoint, where a speaker can use certain lexical items to "apply a frame to a situation" (Fillmore 1982: 120). For example, by using the words *land* or *ground*, the speaker can profile the situation as either viewing it from sea (by using the former), or from the air (by using the latter) (Fillmore 1982: 121). There is a similar example of the words *shore* and *coast*, where "shore is the boundary between land and water from the water's point of view, the coast is the boundary between land and water from the land's point of view" (Fillmore 1982: 121). Additionally, there are some lexical items that appear only in highly specific contexts (e.g., *flip strength, decedent, mufti, nurui*)[22]; however, regardless of the specificity of the context, "the process of understanding a text involves retrieving or perceiving the frames evoked by the text's lexical content and assembling this kind of schematic knowledge" (Fillmore 1982: 122) into a meaningful and coherent representation of the given situation that is necessarily conditioned by the perspective evoked by the lexical content.

In that sense, Fillmore (1982: 124) also introduces an important distinction between *evoked* and *invoked* frames. Namely, with the former, lexical items and grammatical categories appear as "indices of […] frames" (Fillmore 1982: 124), as their presence in the text (or ongoing discourse) evokes the relevant frames. With the latter, on the other hand, "the interpreter assigns coherence to a text by 'invoking' a particular interpretive frame" (Fillmore 1982: 124). In other words, interpreters can either accept the intended perspective and approach the process of meaning construction as

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[22] For details see Fillmore 1982: 121−122.

intended by the author of the text, or they can assume a different vantage point from which they will interpret the content. As a result, invoked frames can offer a critical perspective, and they can stem from background knowledge or from content of the text (Fillmore 1982: 124; 129). Moreover, this is afforded by the idea that "a general concept of 'framing' involves contextualizing or situating events in the broadest sense possible" (Fillmore 1982: 130).

2.3.1.4 SEMANTICS OF UNDERSTANDING AND SEMANTICS OF TRUTH

Fillmore (1985) discusses the main differences between the semantics of understanding (U-semantics) and the semantics of truth (T-semantics). Namely, the former represents a contextualized approach to the study of meaning that combines linguistic and extralinguistic dimensions of meaning construction. The latter, on the other hand, explores specific truth-conditions under which utterances are understood as either true or false. Fillmore advocates the relatively novel construct of U-semantics which is based on the notion of an interpretative frame that can be used not only in the domain of lexical semantics, but also in the broader context of meaning construction in general, as it brings together the small- and large-scale structures ranging from individual words and their relations to discourse-level phenomena and the background knowledge that speakers necessarily need to rely on in order to interpret utterances in various contexts. As Fillmore (1985: 224) points out, "the assumed background of knowledge and practices […] stands as a common ground to the figure representable by any of the individual words." In other words, the background knowledge itself is organized by specific frames, and, as already discussed above, individual words are understood as access points to those more complex conceptual structures. Moreover, "we can know the meanings of the individual words only by first understanding the factual basis for the relationship they identify" (Fillmore 1985: 224).

For Fillmore (1985: 230), any comprehensive theory of semantic structure needs to take into account the following elements: "(1) the set of attested and possible linguistic forms, (2) the contexts or settings in which linguistic forms are or could be instanced, and (3) a set of intuitive judgements about those forms in those contexts." In general terms, T-semantics entails a formal approach which deals with individual sentences and "the contexts are thought as providing […] a pragmatic index […] and the intuitive judgments" have to do only with ambiguity, synonymy and implication (Fillmore 985: 230). U-semantics encompasses words and text, and the contexts include "backgrounds, perspectives, orientations, [and] ongoing activities, [while] the intuitive judgements are the data of understanding" (Fillmore 1985: 230). In effect, U-semantics provides a compositional account of meaning construction, and it utilizes interpretive frames (Fillmore 1985: 231), and lexical

items perform a "discriminating, situating, classifying, or naming functions, or perhaps merely a category-acknowledging function" (Fillmore 1985: 231–232) against the background provided by the given frame.

Frame semantics assumes an encyclopedic perspective on meaning construction, and the main function of units and categories of language is to facilitate communication and understanding (Fillmore 1985: 233). In that sense, it does not assume the existence of formal semantic content, i.e., a predetermined interpretation of a sentence, but rather offers a schema consisting of lexical, grammatical and semantic content of a sentence. This schema, enriched with the large body of background knowledge triggered by the evoked interpretive frames and the context in which an individual sentence is found, affords the interpretation of the entire text (Fillmore 1985: 233). Fillmore (1985: 233) also stresses that U-semantics maintains the distinction between the conventional meaning of a sentence and the possible meanings of its utterances in different contexts. Additionally, these context-dependent meanings are constructed through the integration of the conventional meaning with the linguistic and extra-linguistic context. In effect, the final interpretation should "draw everything from the text that it can" (Fillmore 1985: 234). Finally, in relation to meaning construction and text interpretation, frame semantics can be understood as "the effort to understand the process by which frames are introduced into a text to create and develop the growing textual context" (Fillmore 1985: 234).

2.3.1.5 THE LEGACY OF LEXICAL AND SEMANTIC FIELDS

Fillmore (1985: 225–230) also revisits the notion of lexical fields and once again discusses in more detail the relationship between fields and frames. Namely, the initial form of the lexical field theory as introduced by Trier had a very rigid form of a closed, structured totality in which elements defined each other mutually, with the pronounced notion of sharply defined categorical boundaries between elements in the field, and without even the potential presence of lexical gaps (Nerlich and Clarke 2000: 134–135). In other words, "to understand the meaning of a word was to understand the structure within which the word played its role" (Fillmore 1985: 227), which was in turn determined by the remaining elements in a field. However, this picture of a *static mosaic* changed somewhat over time, and despite the fact that Trier continued stressing the "mutual semantic interdependence of all the members of a semantic field" (Nerlich and Clarke 2000: 136), he also accepted that the relationship of a word with other elements in the field did not originate solely in the word meaning, but that it was "also grounded in a conceptual field" (Nerlich and Clarke 2000: 136). Therefore, he still preserved the link between linguistic and conceptual knowledge, at least to a certain extent.

Moreover, subsequent studies in the domain of lexical fields soon revealed both the dynamic nature of fields, and the fact that linguistic and encyclopedic knowledge simply need to interact for successful communication to take place (e.g., Gipper 1959, cited in Nerlich and Clarke 2000: 139–140).

Although the terms *lexical* and *semantic field* are often used interchangeably, *lexical fields* can be viewed as concrete realizations of the more abstract *semantic fields*, where it is not uncommon for a single lexeme, i.e., one of its sememes, to appear in multiple fields, reflecting the diffuse nature of the lexicon as a whole (Prćić 1997: 108). In addition, it is now understood that "the field is not a neatly circumscribed area, but instead it consists of a semantic continuum from one core area to the other" (Geerarerts 2010: 68), where some senses "belong to two fields at the same time, or rather, fall between two fields" (Geerarerts 2010: 69).

Unlike Trier's field theory where word meaning was constructed within the confines of linguistic knowledge alone, Fillmore's frame semantics maintains that for meaning construction to be completed successfully, one needs to take into account both the word's lexical neighbors, and its conceptual content that entails numerous links with (at least) the encyclopedic, pragmatic and contextual knowledge, all of which are contained in background frames (Fillmore and Atkins 1992: 76–77; Nerlich and Clarke 2000: 143–144). Moreover, in frame semantics words are linked to the relevant background frames, i.e., to the more general conceptual structures, the understanding of which is required in order to be able to understand the lexical item in the first place. Additionally, to be able to construct a meaning of an individual lexical item the interpreter does not need to know any other elements from a given frame – "frame semantics sees the set of interpretative frames provided by language as offering alternative ways of seeing things and hence has no requirement that they are interlinked" (Fillmore 1985: 229–230). In other words, unlike field theory predicated on the structuralist notion of words being defined as a function of their relationship to the remaining words in a given field, they are "defined directly with respect to the frame" (Croft and Cruse 2004: 10).

2.3.2 BARSALOU'S FRAMES

Barsalou (1992: 21) sees frames as "the fundamental representation of knowledge in human cognition," and emphasizes that frames are context-dependent and pose as "dynamic relational structures" (Barsalou 1992: 21). Moreover, owing to the various uses of the concept of frame in various fields of research, he uses frames "to highlight the well-specified structural properties common to formal analyses of frames and schemata" (Barsalou 1992: 29). Finally, frames also play

an important role in the construction of ad hoc categories (Barsalou 1983; 1991) and in contextual variability of conceptual representations (e.g., Barsalou 1987).

Barsalou (1992) outlines the shortcomings of feature list representation of categories that characterized earlier research on categories (e.g., Rosch and Mervis 1975) and offers a more dynamic, frame-based approach. Namely, unlike traditional models that entail the activation of the entire category structure in every context, "connectionist models represent a category dynamically with different feature subsets in different contexts" (Barsalou 1992: 22). Namely, in connectionist models, features are not independent, but rather intercorrelated; in effect, features with high degrees of cooccurrence yield excitatory relations, whereas those with low degree of cooccurrence give way to inhibitory relations. Specific contexts trigger the relevant excitatory relations, thereby licensing the activation of the relevant part of category structure, instead of the entire category.

Highlighting the fact that little attention in previous research has been paid to the psychological status of frames, as well as their empirical relevance, Barsalou (1993: 23–25) argues that *attribute-value sets* and *relations* are a better alternative than feature list representations, and that, in effect, the construct of frames remedies the shortcomings of feature lists (Barsalou 1992: 28). "Attribute-value sets are [defined as] interrelated sets of representational components at two levels of analysis (at least)" (Barsalou 1992: 25). Also, attribute-value sets seem to be very important for story understanding (e.g., Stein 1982), inasmuch as a coherent representation of attribute values facilitates both understanding and recollection. On the other hand, when the representation is incoherent, or when some values are missing, there are difficulties in understanding and recollection. Moreover, rather than storing individual representational components independently, people keep track about the relations that hold between them (Barsalou 1992: 27). For instance, events identified in a story are not analyzed as individual units, but are rather integrated with the causal relations that hold between them (e.g., Trabasso and Sperry 1985; Trabasso and van den Broek 1985). Also, research has shown that when identifying diseases, people do not learn only individual symptoms, but correlations of symptoms through which a specific disease category is defined (Medin et al. 1982).

Barsalou's notion of frames involves three basic components: "attribute-value sets, structural invariants, and constraints" (Barsalou 1992: 29). Attributes are defined as "a concept that describes an aspect of at least some category members [and] a concept is only an attribute when viewed as describing some aspect of a category's member" (Barsalou 1992: 30). Furthermore, concept is understood as "the descriptive information that people represent cognitively for a category, including definitional information, prototypical information, functionally important information, and probably other types of information as well" (Barsalou 1992: 31). Values, on the other hand, are defined as "subordinate concepts of an attribute, [and they] inherit information from their respective attribute

concepts" (Barsalou 1992: 31). Moreover, the fact that values carry information that cannot be identified in their superordinate attributes renders them more specific concepts. Barsalou (1992: 31) lists examples of engine types, where, for instance, the value six-cylinder carries more specific information than engine alone.

Moreover, this increased specificity that values demonstrate, coupled with the fact that values are also concepts, can give way to attribute taxonomies which have properties similar to object taxonomies, including typicality effects (Barsalou 1992: 32). For example, the frame ANIMAL can include an attribute *means of locomotion*, with legs as one of the values; on the other hand, in the frame LAND MAMMAL, legs appear as an attribute (Barsalou 1992: 32), as shown in Figure 2.1.
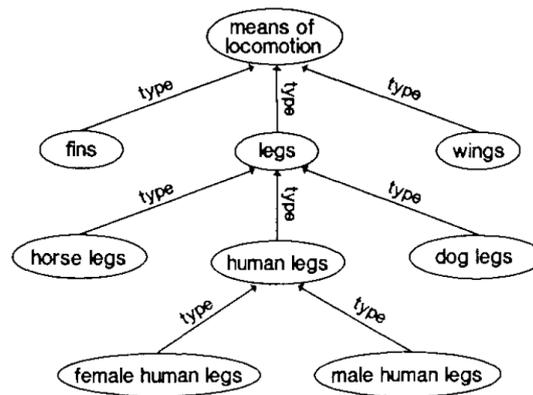
Figure 2.1. ANIMAL frame (adopted from Barsalou 1992: 32)

Apart from reflecting the structure of taxonomies, attributes also reflect the frames they are a part of, insofar as "each attribute may be associated with its own frame of more specific attributes" (Barsalou 1992: 33). In that sense, attributes can exhibit multiple dimensions in the form of embedded frames. For instance, the frame HOUSE has an attribute *location* which constitutes an embedded frame with additional attributes for location, like zoning and security (Barsalou 1992: 33).

Like people tend to construct novel ad hoc categories (Barsalou 1983), they also construct novel attributes. This is also a goal-driven, intentional process conditioned by the relevant context. Depending on the context, specific goals, and particular viewpoints, different individuals can construct different attributes; in effect, category exemplars will also be encoded differently (Barsalou 1992: 34). These novel attributes are not deleted from memory after use, but remain available for recruitment when prompted by relevant contexts. Also, while the list of potential attributes available for construction is practically infinite, the number of attributes produced by individuals is finite.

Frames typically contain a set of attributes with a high degree of cooccurrence, which constitutes core attributes. Normally, when a frame is active, core attributes are active "for most if not all exemplars" (Barsalou 1992: 35). In addition to frequency of occurrence, another important

factor that influences core attributes is conceptual necessity, in that a concept cannot be understood without specific attributes. Barsalou (1992: 35) also maintains that "the presence of attributes is probabilistic," and that, owing to the fact that the systematicity of attributes can vary, "frames are not rigid structures," but rather dynamic and susceptible to contextual appropriations.

Another component in this framework includes structural invariants which "produce systematic variability in attribute values" (Barsalou 1992: 37). This is licensed by the assumption that "values of frame attributes are not independent of one another" (Barsalou 1992: 37), but can actually constrain each other. Barsalou (1992: 37–43) distinguishes between *attribute constraints, value constraints, contextual constraints,* and *optimizations*.

Attribute constraints constrain the values of attributes globally (Barsalou 1992: 37). These constraints "represent statistical patterns or personal preferences, which may be contradicted" (Barsalou 1992: 37). An example of a negative attribute constraint can be identified between speed and duration in the frame of TRANSPORTATION, where increased speed shortens duration, while an example of a positive constraint can be identified between form of transportation and cost (Barsalou 1992: 37). Value constraints pose as "specific rules that relate particular sets of values locally" (Barsalou 1992: 37–39). For instance, the value of the attribute location in the frame of VACATION constrains specific values of the attribute *activity*. For example, a mountain can facilitate hiking or skiing, but not surfing, while ocean will facilitate surfing or water skiing (Barsalou 1992: 39).

Contextual constraints are reflected in attribute or value constraints (Barsalou 1992: 39), and they occur "when one aspect of a situation constrains another" (Barsalou 1992: 39), or they can be conditioned by cultural conventions. For instance, in the frame of TRANSPORTATION, *speed* constrains *duration*. Also, some cultures may require particular types of clothing for some activities. In that sense, "physical and cultural mechanisms place constraints on combinations of compatible attribute values" (Barsalou 1992: 39).

Optimizations "reflect agent's goals" (Barsalou 1992: 39). For instance, in the frame of TRANSPORTATION, the goals of low costs and short travel constrain the values of attributes cost and duration to low and short, respectively (Barsalou 1992: 39). Additionally, "optimizations typically require that one value *excel* beyond all others" (Barsalou 1992: 39). In other words, while in the case of contextual constraints individuals choose values that satisfy the constraints, with optimizations they "seek values that excel when optimizing goals" (Barsalou 1992: 39), and individuals typically tend to optimize more than one goal at a time which is reflected on multiple attributes. In the case of transportation, one might wish to optimize cost, duration, and comfort; in effect, "the optimal value may not be optimal for any one goal in isolation" (Barsalou: 39–40), but needs to satisfy all attributes simultaneously. Moreover, this renders frame optimization a highly dynamic process.

Constraints can also spread through more complex frames, which typically takes place in parallel. In addition to that, constraints can appear as whole frames. For instance, the sentence *'Jumping out of a plane requires a parachute'* contains the relation *requires* that constitutes a separate frame with attributes like conditions and likelihood. Conditions would refer to the specific conditions (i.e., context) under which a parachute is required, while likelihood refers to the probability that the constraint will be applicable in a specific situation. Consequently, the requirement of a parachute would encompass all relevant contexts that involve jumping out of an airplane.

Another important issue that Barsalou (1992) tackles is the idea of representational primitives. Namely, in the framework described above frames seem to occupy the central position when it comes to the study of categories and concepts; moreover, we've already identified cases of imbedded frames which can further lead to recursive frame patterns. So, although previous research has extensively addressed the notions of conceptual primitives, building on the idea that concepts need to be somehow grounded in perception and sensory-motor activities, Barsalou (1992: 40–43) argues against such an approach. Namely, even if we were to introduce a certain attribute as an initial primitive, through increased frequency of use, and owing to various construal strategies marked by individual differences, those initial primitives would very soon acquire more complex, frame-like structures, with attribute-value sets, structural invariants, and constraints that would be hierarchically subordinated in relation to them. In other words, the primitive would become susceptible to further analysis and elaboration. More precisely, in Barsalou's terms (1992: 41),

> "for any representational component – whether it be an attribute, structural invariant, constraint, or something else—people can always note a new source of variability across instances, and add further frame structure to capture it. Through the continuing process of analysis and elaboration, people transform what were once holistic, unanalyzed primitives into complex frames."

So, since the initial notion of primitives is not psychologically real, Barsalou (1992: 42) understands primitives as "a general, abstract, unanalyzed concept that typically appears initially at some point during early development." Furthermore, primitives defined as such could include the following elements: "ontological categories such as *location, object, event, person,* and *mental state;* semantic roles such as *agent, instrument,* and *source;* activities such as *see, move,* and *get;* qualities such as *color, intensity, shape,* and *size;* and relations such as *is, part, in, before, cause,* and *intend*" (Barsalou 1992: 42). In effect, these primitive structures are in fact complex wholes that appear to be at the top, rather than at the bottom of representation (Barsalou 1992: 42).

The components that constitute frames that appear to be the most relevant so far include "perceptual salience, goal-relevance, intuitive theories, and memory entrenchment" (Barsalou 1992:

42). This again reflects the highly dynamic nature of frames, starting from the proposed primitives, to more complex frames and frame systems, all of which is conditioned by, at least, context, individual differences in construal strategies, goals, and intentions. Frames as such remain unconstrained in terms of content, which is psychologically valid, but constrained in terms of form via attribute-value sets, structural invariants, and constraints (Barsalou 1992: 44).

Finally, it is worth noting the distinction between Fillmore's (1982) and Barsalou's (1992) use of the concept *frame*. Namely, Barsalou's (1992) notion of frames is focused on the structural properties that appear in the formal analysis of frames and schemas. Additionally, his framework is situated within the connectionist paradigm, which, in effect, requires a certain degree of formalization. In such models, features are interrelated and are characterized by the degree of cooccurrence. Barsalou (1992) presents relations and attribute-value sets as a better alternative compared to the feature lists. Also, Barsalou's frames are made up of attribute-value sets, constraints, and structural invariants. While Barsalou (1992) sees frames as highly dynamic structures that can be updated and further elaborated, his notion of frames seems to be more rigid and more formal compared to Fillmore's frames. Namely, Fillmore (1982) views frames as elaborate, schematic knowledge structures, closely linked to the categorization and typicality effects. Also, a connection is established between framing and contextualization. While Barsalou (1992) also recognizes the import of context, his framework is still based on a set of specific constraints, a connectionist network with the possibility of spreading activation, and, most importantly, a set of discrete elements that guide the construction and activation of frames.

2.3.3 LANGACKER'S DOMAINS

Cognitive domains pose as constructs relative to which semantic structure[23] is characterized, and they "can be any sort of conceptualization: a perceptual experience, a concept, a conceptual complex, an elaborate knowledge system" (Langacker 1986: 4; Langacker 1991: 3). In somewhat different terminology, Langacker (1987: 147) understands the domain as "a context for the characterization of a semantic unit [and they] are necessarily cognitive entities: mental experiences, representational spaces, concepts, or conceptual complexes." Also, Langacker (1987: 147) discusses the three main properties related to domains, which include: (i) "whether a domain can be reduced to more fundamental conceptual structures," (ii) dimensionality, and (iii) locational and configurational domains.

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[23] Langacker (1986: 4; 1991: 3) calls these semantic structures 'predications'.

Firstly, most concepts are defined as a function of other, more basic concepts, hence the distinction between basic and abstract domains. The former are defined as "cognitively irreducible representational spaces or fields of conceptual potential" (Langacker 1986: 5; Langacker 1991: 4), while the latter are defined as "any concept or conceptual complex that functions as a domain for the definition of a higher-order concept" (Langacker 1987: 150). For instance, the concept *knuckle* necessitates the concept *finger* as the necessary context for understanding, i.e., as the domain in relation to which *knuckle* is understood. Moreover, if we take a look at the remaining higher-order configurations, *finger* is understood in relation to *hand*, *hand* in relation to *arm*, and *arm* in relation to *the human body*. In other words, domains seldom appear in isolation, but rather function as parts of larger structures, dubbed domain matrices, within which they are organized hierarchically. Namely, "the combination of domains simultaneously presupposed by a concept […] is called a domain matrix" (Croft and Cruse 2004: 25). In such hierarchies, basic domains appear at the lowest levels, insofar as they "furnish the primitive representational space necessary for the emergence of any specific conception" (Langacker 1987: 149). Namely, basic domains possess what Langacker (1986: 5; 1987: 149; 1991: 4) calls "conceptual potential" which licenses the creation of more complex concepts and domains. Basic domains also serve as grounding for conceptualization, which involves interaction between multiple concepts, and when grounded in a basic domain a concept can yield a set of concepts higher in the hierarchy which also have the potential to give way to novel conceptualizations (Langacker 1987: 149–150). The process could potentially continue iteratively ad infinitum. Some basic domains could include time, space (with a marked interaction between the two), and domains related to human sensory capacities (e.g., color, sound, taste, smell, touch).

Secondly, another important trait of domains is dimensionality. Namely, although basic domains cannot be reduced to more fundamental structures, concepts that they structure "can be ordered and grouped in various ways and be determined to lie at different distances from one another" (Langacker 1987: 150). Bearing in mind that order and distance between concepts in a domain can be often accounted for in a systematic and coherent fashion, we can argue that the domain has one or multiple dimensions. For example, time and temperature are one-dimensional domains, space is a three-dimensional domain, and color is also a three-dimensional domain (Langacker 1987: 150–151). In relation to any dimension, domains can be bounded or unbounded (Langacker 1987: 151). This is evidenced in the domains of time and space which are unbounded, on the one hand, as opposed to temperature and hue, on the other, which are bounded. Moreover, values associated to any of the dimensions are continuous or discrete (Langacker 1987: 151–152). Discrete values are typically associated with abstract domains (e.g., a kinship network where only specific values are available), whereas continuous values are typically related to abstract domains (e.g., hue in the color system).

Finally, a distinction is made between locational and configurational domains, in the sense that "a predicate specifies a location or a configuration in some domain (or in each domain of a complex matrix)" (Langacker 1987: 152). In other words, "distinction relates to whether a particular domain is calibrated with respect to a given dimension" (Evans and Green 2006: 236). A prototypical example of a configurational domain would be the domain of space which accommodates two- and three-dimensional configurations, while temperature can be understood as a locational domain since temperature values occupy specific locations on the scale. Moreover, locational domains can be extended into configurational domains (Langacker 1987: 154).

The entire domain-approach to the study of meaning is situated in a broader paradigm of the encyclopedic view of meaning, where semantics and pragmatics bear only an artificial distinction (Langacker 1987: 154), owing to the fact that the study of meaning is first and foremost contextualized. Specific concepts that we encounter in communication are always contextualized in some way (either by the local context or by background knowledge structures available for recruitment), and they afford access to wider knowledge structures contained in frames, domains, or ICMs. In other words, "the entity designated by a symbolic unit can […] be thought of as a point of access to a network" (Langacker 1987: 163). Finally,

> "from the encyclopedic nature of contextual meaning, that of conventional meaning follows fairly directly. The latter is simply contextual meaning that is schematized to some degree and established as conventional through repeated occurrence. Whatever systems of knowledge are invoked for the contextual understanding of an expression must be imputed as well to its conventionalized meaning, provided that they are constant in the series of usage events leading to its conventionalization" (Langacker 1987: 158).

Another important relation in this framework includes profile-base distinctions. Langacker (1986: 6) defines "the base of a predication [as] simply its domain (or each domain in a complex matrix)," while the profile represents "a substructure elevated to a special level of prominence within the base, namely that substructure which the expression designates." In other words, "the profile is the entity or relation designated by the word, [while] the base is the essential part of the domain matrix necessary for understanding the profile" (Evans and Green 2006: 237). Moreover, what is relevant is the combination of profile and base, inasmuch as the semantic value of a given expression "does not reside in either the base or the profile individually, but rather in the relationship between the two" (Langacker 1991: 6). For example, the hypothenuse of a right-angled triangle represents a profile, against the base constituted by the triangle. In other words, "the meaning of *hypotenuse* […] is given only by the selection of a particular substructure within the base for the distinctive prominence

characteristic of a profile" (Langacker 1991: 5). Moreover, in the broader context of the encyclopedic view of meaning, hypothenuse provides an access point to a wider domain matrix that could include triangles, right-angled triangles, and space, where the vital part of such a domain matrix constitutes the scope of a concept (Evans and Green 2006: 237).

One base can also give way to multiple profiles; for example, in the case of a right-angled triangle we can profile the base either in terms of the hypotenuse or in terms of one of the two kathettes. Also, context typically activates only part of the profile that is relevant and this is dubbed an active zone (Langacker 1987: 271). Active zones represent "those facets of an entity capable of interacting with a given domain or relation […] with respect to the domain or relation in question" (Langacker 1987: 272–273), and this is licensed by the fact that only certain characteristics of an entity are compatible with certain relationships or domains. As an illustration of this phenomenon, Langacker offers examples in which the "highly prominent substructure within the profile […] does not precisely coincide with the entity that participates most directly and crucially in the designated relation" (Langacker 1987: 271):

(a) *We all heard the trumpet.*
(b) *I finally blinked.*
(c) *Bring me a red pencil.* (Langacker 1987: 271).

In example (a) the active zone includes the sound that the trumpet produces rather than the physical object that is profiled; in example (b) blinking defines the eyelid as the active zone, while the entire body of the speaker is being profiled; and in example (c) red can designate either the color of the pencil as an object, or the color the pencil produces when used for writing as an active zone, while the entire pencil is being profiled (Langacker 1987: 271–272). In effect, we can conclude that the profiled substructure need not match the active zone, and it is open to variations as a direct function of the relevant context.

2.3.4 COMPARING FRAMES, ICMS, AND DOMAINS

At this point, we will attempt to briefly compare the notions of frames, ICMs, and domains. Namely, as outlined in Cienki (2007: 183), all three constructs "can serve as a background for interpreting the meaning of linguistics forms, [so] there is sometimes overlap in how they are used by different researchers." Moreover, Kövecses (2006: 64) also argued that frames and ICMs are

similar in that "they all designate a coherent organization of human experience." However, there are certain nuances between the concepts that need to be clarified.

All three constructs emphasize the notion of the encyclopedic view of meaning. In that sense, Fillmore (1982) argues that frames represent related systems of concepts, where the computation of meaning entails the understanding of the wider structure (i.e., frame) in which a concept is situated. Lakoff (1987) presents ICMs as gestalts which serve to organize broader knowledge structures, and he also highlights their connection to categorization, and levels of prototypicality. Additionally, an ICM can also be graded for prototypicality, and ICMs can give way to cluster models that also affect categorization. Similarly, Fillmore (1982) argues that we can make categorization judgments at the level of a frame. Fillmore (1976) also stresses the import of the conceptual link between framing and categorization, and the role of context in meaning construction. However, the link between ICMs and natural categories appears to be more pronounced compared to the connection between frames and categories. Namely, stemming from the initial effort to provide a semantic description of verb behavior, frames build on the more primary schematic representations. On the other hand, Lakoff (1987) developed the construct of ICMs with the primary goal of providing a more comprehensive account of the nature of categorization. Additionally, although schematic to a certain degree, ICMs are more akin to idealized schematic representations of events, whereas frames seem to offer a slightly higher degree of *fluidity*. In other words, frames appear to be a more flexible construct compared to ICMs.

Langacker (1987) sees individual words as access points to wider structures of background knowledge, and argues that a domain can refer to individual concepts, systems of concepts, or even more elaborate structures. Also, a distinction can be made between basic and complex domains, and Langacker (1987) also stresses the fact that domains can have multiple dimensions. Moreover, the import of the relationship between the profile and the base is also highlighted, where the meaning of the given lexical unit is contained in their relationship between the profile and base. He also stresses the difference between contextual meaning and conventionalized (i.e., entrenched) meaning. Fillmore (1982), on the other hand, makes a distinction between the evoked and invoked frames; the former are activated by the discourse content, whereas the latter are activated by the speaker (and the two need not match). In broader terms, Fillmore's framework is based on the schematizations of events, stemming from his initial scenes-and-frames model.

Overall, domains appear to be far less connected to prototypicality effects compared to both frames and ICMs. Further, domains also appear to be slightly more rigid structures, in that they are less schematic compared to frames and ICMs. Instead, domains include a somewhat stricter distinction between the basic and complex domains, selection of dimensions, and the pronounced

distinction between the profile and the base. Finally, as outlined in Cienki (2007: 184), differences between the three constructs are also a reflection of the various theoretical frameworks and the corresponding aims of those frameworks in which they were initially developed.

2.3.5 SECTION SUMMARY

The primary purpose of the present section was to introduce the notion of semantic frames and the broader enterprise of frame semantics as developed by Charles Fillmore. We started the section with the description of the initial scene-and-frame model (Fillmore 1969), moving on to the discussion of the connection between framing and categorization (Fillmore 1976). The subsequent section provided an overview based on Fillmore's (1982) elaboration of the framework of frame semantics. Namely, Fillmore (1982) brings together the main ideas and concepts discussed in his earlier work, and provides a detailed account of the main tenets of the framework. In addition to that, we also discussed the difference between the semantics of understanding and semantics of truth (Fillmore 1985). In the closing section of the overview of Fillmore's work, we elaborate on the connection between sematic fields and frames, and how the latter was introduced as a more dynamic construct, more suitable for the description of linguistic phenomena.

In the following section we introduced Lawrence Barsalou's treatment of frames. Namely, while Barsalou (1992) acknowledges the import of contextual constraints, and also understands frames as highly dynamic constructs, his approach is couched in the connectivist paradigm (based on neural networks and spreading activation). In effect, his treatment of frames is somewhat formalized, which is reflected in a number of constraints and discrete elements. We also discussed Ronald Langacker's construct of domains presented as a cognitive structure that poses as a background context against which the process of meaning construction takes place. Langacker's work also relies on the notion of encyclopedic knowledge and he emphasized that words actually serve as proxies that afford access to larger knowledge structures.

In the closing section, we offered a comparison between the constructs of idealized cognitive models (ICMs), frames, and domains. While some authors tend to use these concepts interchangeably, without paying much attention to the finer nuances that exist between them, we argue that the construct of semantic frames is the most flexible of the three concepts. Namely, this is afforded by the fact that their schematic structure and contextual variation and structure are somewhat more flexible compared to ICMs and domains. ICMs were developed as an effort to provide a more comprehensive understanding of human categorization. Also, they present idealized situations and interaction that serve as a blueprint against which meaning construction takes place. Domains appear

to be the least flexible, inasmuch as they seem to bear weaker links to categorization compared to the other two constructs, and involve a stricter characterization of their structure.

Finally, the activation of semantic frames and possible interaction of the organizing frames of source and target inputs in conceptual metaphors will be explored in an experimental setup in section 4 of the present study. Also, sections 4 and 5 will be dealing with the effects of framing, and the activation of frame-level structures in the process of meaning construction.

2.4 SEMANTIC PRIMING

In this section we turn to the notion of semantic priming which will be included in the experiments that constitute the main part of the present study. We start by offering a theoretical and methodological link between contextualization, framing, and semantic priming. After that we discuss the main characteristics and differences between semantic and associative priming, which is then followed by the concepts of mediated and backward priming. Then we move on to the role of sentence context in semantic priming, and we conclude the section with the emphasis of the role of background knowledge and prediction in the process of online meaning construction.

The notion of semantic and/or associative priming will be of paramount importance in the main experiments in the present study (sections 4 and 5), as all experiments will involve priming by congruent and incongruent semantic content. In Experiments 1–4, priming is afforded by metaphorical sentences, while in Experiments 5 and 6, priming is realized through metaphorically structured paragraphs which contain homogenous metaphor clusters.

2.4.1 BASIC MECHANISMS AND TASKS IN SEMANTIC PRIMING

What is very important for the methodology and experimental procedures included in the present study is the fact that framing (i.e., contextualization) is closely related to the notion of semantic priming that entails "the improvement in speed or accuracy to respond to a stimulus, such as a word or a picture, when it is preceded by a semantically related stimulus (e.g., cat – dog) relative to when it is preceded by a semantically unrelated stimulus (e.g., *table – dog*)" (McNamara 2005: 3– 4). The experimental setup entails the prime, i.e., the stimulus (e.g., semantic content) that precedes the target stimulus for which responses are measured (McNamara 2005: 4). McNamara (2005) further introduces the lexical decision task, naming task, and categorization task.

In a lexical decision task, participants are typically presented with words and meaningless strings of letters. After the priming material has been introduced (usually a word that is either related or unrelated to the target), participants are presented with the target and asked to perform a lexical decision task (i.e., to decide whether the target is a word or non-word). Previous research (e.g., Moss et al. 1995) has shown that "responses are faster and more accurate when the target is semantically related to the prime" (McNamara 2005: 4), than when the two are not related. In a naming (or pronunciation) task, participants are asked to read the target word aloud, and previous studies have shown facilitation when the target is primed by a semantically related word. Finally, the

categorization task entails judgements of category membership, and, again, congruent priming facilitates participants' responses.

In a seminal study that largely influenced all subsequent research on semantic priming, Meyer and Schvaneveldt (1971) explored the effects of meaning on response times in a lexical decision task. The lexical decision task was elaborated, in that it involved a simultaneous presentation of two strings of letters as targets, and the specific target included pairs of words, nonwords, or a combination of a word and nonword (Meyer and Schvaneveldt 1971: 227). The main task in Experiment 1 required participants to respond *yes* if both strings contained in the target stimulus represented words, and *no* in all other cases. In the second experiment, the participants were instructed to respond *same* in conditions in which the target stimulus contained a combination of two words or two nonwords, and *different* in other cases. The dependent variable of interest was response time. Response times were seen "as a function of the associative relation between the two words [and the experiments were designed to explore] the nature and the invariance of underlying retrieval operations" (Meyer and Schvaneveldt 1971: 229).

The results obtained in the first experiment suggested that the degree of association between words represented a much more powerful effect compared to the effects of homography identified in previous studies (Meyer and Schvaneveldt 1971: 229). Comparisons of the recorded RTs for identical types of targets from the two experiments provided the following results: (i) *yes* responses for targets that contained pairs of words were significantly faster compared to *same* responses to the same type of targets in the second experiment; (ii) *no* responses for targets that contained pairs of words and nonwords in the first experiment were faster than *different* responses for the type of targets in the second experiment; (iii) for targets that contained pairs of words the difference in the effect of association between *yes* (Experiment 1) and *same* (Experiment 2) responses was not significant; and (iv) with targets that contained words and nonwords "the effect of the word's display position on RT interacted significantly with the task" (Meyer and Schvaneveldt 1971: 230). Finally, the authors assessed the possible impact of the obtained results on the dominant processing models – the spreading excitation, location shifting, comparison of meanings, and serial decision model. The results from the two experiments suggest that "the effects of associations appear limited neither to semantic nor to same-different judgements" (Meyer and Schvaneveldt 1971: 233).

McNamara's (1994) study included four experiments based on a lexical decision task. The main aim of the study was to test the effects of priming by (i) associatively related words, (ii) unrelated words, (iii) neutral primes, and (iv) nonwords. All four experiments showed the effect of semantic priming. Moreover, priming with unrelated words, neutral words, and nonwords yielded almost identical RTs and degrees of accuracy. The obtained results also did not reveal any "evidence

that between-trials semantic priming was larger in either the neutral or the nonword prime conditions than in the unrelated-word prime condition" (McNamara 1994: 514). Also, the nonwords priming condition did not demonstrate any inhibitory effects (McNamara and Diwadkar 1996: 878). This suggests that lexical decision is constrained by the association that exists between the prime and target.

The obtained results seem to offer support to the spreading activation models paradigm. Namely, according to the spreading activation models, "retrieving an item from memory amounts to activating its internal representation, this activation spreads to associated concepts, and residual activation accumulating at concepts facilitates their retrieval" (McNamara 1994: 507). On the other hand, the results contradicted the assumptions of the non-spreading activation models, which assume that "memory is searched with a cue that contains information about the target item and the context in which it occurs [and] the familiarity of a compound cue will be higher if it contains associated items […] than if it contains unassociated items (McNamara 1994: 507).

Meyer and Ellis (1970) conducted a study that included both a lexical decision task and a categorization task. Additionally, they considered the level of inclusiveness (i.e., category size). The smaller target category represented BUILDINGS, while the larger included STRUCTURES. The main targets in the experiment included congruent and incongruent words; additionally, there was a group of pseudowords, "based on existing English words in which at least one vowel was replaced with a different vowel, or a consonant with another consonant" (Figar 2020: 161). The dependent variables were reaction times "measured from the onset of the test stimulus" (Meyer and Ellis 1970: 4), and accuracy.

The obtained results showed shorter response times for *yes* responses compared to *no* responses. The recorded mean response times increased "with semantic category size for both responses, although the category-size effect was somewhat less for yes responses" (Meyer and Ellis 1970: 4). Mean response times from the lexical decision task "fell between those of yes answers to the semantic questions" (Meyer and Ellis 1970: 4). Overall, the obtained data suggest that the two main experimental tasks (i.e., the lexical decision and categorization task) do not involve the same underlying processes. Additionally, the increase in category size was associated with the increase in the number of search items.

Higgins, Bargh and Lombardi (1985) investigated how priming would affect participants' responses in a subsequent categorization task. The priming materials were classified as containing elements that were presented either most frequently, or most recently. The obtained results were analyzed in relation to the following three models: (i) the storage bin model, where it is proposed that the recent construct will be more active irrespective of the delay; (ii) the battery model, according to

which constructs more active after short delays will exhibit a similar tendency after longer delays (Higgins, Bargh, and Lombardi 1985: 64); and (iii) the synapse model, where "the recent construct will have the advantage after a brief delay, but the frequent construct will have the advantage after a long delay" (Higgins, Bargh, and Lombardi 1985: 64).

The obtained results showed that if the target is presented almost immediately after the prime, their categorization judgments are constrained by the most recent prime, whereas a delay between the prime and the subsequent target shows that participants' categorization decisions are guided by the frequently primed elements (Higgins, Bargh, and Lombardi 1985: 66). In effect, the results seem to go in favor of the synapse model, where it is proposed that "after a sufficient delay, the frequent construct will be at a higher level of action potential than the recent construct, given its slower rate of dissipation" (Higgins, Bargh and Lombardi 1985: 66). Additionally, even "momentary, and even accidental, contextual factors can have a considerable influence" (Higgins, Bargh, and Lombardi 1985: 68) on participants' categorization judgements.

Figar (2020) conducted a study in which he tested the activation of semantic frames in pre-task priming, using a lexical decision and categorization task. Namely, the study included two experiments based on a response time paradigm. Experiment 1 included two experimental groups: (i) the control group, that did not undergo any priming, and (ii) the experimental group. Participants in the experimental group were instructed to first read a paragraph describing a person on a journey, which contained vocabulary from the JOURNEY frame. Paragraph reading times were not limited. After that, the participants proceeded to the main part of the experiment that included a lexical decision task, and the relevant dependent variable was response time. The target stimuli were words from the category of JOURNEY, which had undergone an initial norming procedure. Namely, a list of potential stimuli was rated for prototypicality of 6-point Likert scales, and based on the obtained results, the top five 1-, 2-, 3-, and 4-sylable words were included as targets in the main task. The experiment also included distractor-items (words and non-words). The control group, on the other hand, proceeded directly to the main task. The comparison of the two experimental groups did not show any significant differences in the recorded RTs. In other words, the expected facilitation due to priming in the experimental group could not be revealed using the lexical decision task.

Experiment 2 used a similar setup. Namely, it also included a control group and an experimental group. However, the main part of the experiment included a categorization task. Also, the priming paragraph was designed to trigger the frame of CONFLICT, and targets used in the experiment were also from the frame of CONFLICT. These targets were also selected after an initial norming study of prototypicality ratings, using the same criteria described above. Comparison of RTs between the two experimental groups in this experiment showed a facilitation in the experimental

group. Put differently, pre-task priming produced a bias reflected in shorter RTs recorded in the experimental group, as revealed in the main categorization task. Furthermore, Figar (2020) also conducted additional comparisons of the recorded RTs between the experimental and control groups in each of the experiments. In both cases the comparisons showed significantly longer overall mean RTs in the second experiment. This in turn suggests that the categorization task involves a greater cognitive load compared to the lexical decision task. This finding is aligned with the conclusions presented in Meyer and Ellis (1970), who also highlighted the fact that the two tasks most likely involve different processes. Moreover, the categorization task appears to be more suitable for the detection of semantic frame activation compared to the lexical decision task, insofar as "the lexical decision task reduces the cognitive load, thereby overriding the priming condition" (Figar 2020: 176). Additionally, the efficacy of the categorization task might also be facilitated by the close conceptual links between categorization and framing outlined in Fillmore (1976).

Among other mechanisms, McNamara (2005) also discusses the differences between automatic and strategic priming. In general, automatic processes have "a quick onset, proceeding without intention or awareness, and producing benefits but not costs," whereas strategic processes "are slower acting, require attention, are conscious, and produce both benefits and costs" (McNamara 2005: 65). When it comes to semantic priming, it will most likely entail a combination of automatic and strategic processes. Moreover, previous research has dealt with two specific strategic processes that include expectancies and semantic matching (McNamara 2005: 66). The former involves "the active generation of candidates for the upcoming target, or at least the belief on the part of subjects that primes will be followed by semantically related targets" (McNamara 2005: 66). Consequently, if the prime and the corresponding target are congruent, i.e., if the expectancy created by the prime has been met, participants' responses will be facilitated; on the other hand, if the expectancy is violated, the mismatch will have an inhibitory effect (Balota, Yap, and Cortese 2006: 334). Matching, on the other hand, entails "the search for a relation from the target back to the prime" (Balota, Yap, and Cortese 2006: 334). In a lexical decision task, for example, identifying a relation between the target and its corresponding prime should facilitate responses to meaningful words, whereas not being able to identify such relations should have an inhibitory effect. Moreover, "it is commonly assumed that lexical decision is more prone to semantic matching than is naming" (McNamara 2005: 71). Based on the data available from previous research, McNamara (2005: 71) also concludes that expectancies are typically associated with facilitation, whereas matching is more likely to produce inhibitory effects. Additionally, one of the most important factors that seems to affect strategic processes in general is stimulus onset asynchrony (SOA), defined as the temporal difference between the presentation of prime and target.

2.4.2 SEMANTIC OR ASSOCIATIVE PRIMING?

Another important distinction is that between semantic and associative priming (e.g., McNamara 2005; Balota, Yap, and Cortese 2006). Associative priming is licensed by words that are associatively related, while semantic priming is afforded by *purely* semantic relations between words, which entails "any relation that might appear in a good-faith attempt to define a word (e.g., apples are red, a broom is used to sweep)" (McNamara 2005: 83). However, from a linguist's perspective, such distinctions are not entirely warranted. While we can discuss the issue of core meanings, as proposed in traditional semantics and componential analysis, we have already argued (see section 2.1 above) that only when the notion of context is introduced can we attempt to tackle the problem of meaning construction in a truly comprehensive manner. In other words, bearing in mind the individual differences and different meaning-construction strategies that speakers may employ, it is nearly impossible to discuss the relatedness of a pair of words (assuming that they are indeed related in the first place) only in terms of semantic relatedness, seeing that the associative relations that can also be triggered by the ongoing context are constructed and/or activated simultaneously. In other words, "teasing apart semantic influences from associative influences has been rather difficult because these relationships typically co-occur" (Balota, Yap, and Cortese 2006: 327)[24]. Similarly, McNamara (2005: 86) also argues that "the distinction between purely semantically related words and associatively (and semantically) related words is an artificial categorization of an underlying continuum." Moreover, bearing in mind that cognitive linguistics advocates the encyclopedic view of meaning, with semantic frames as possible storage systems that contain not only core meanings of lexical items, but also schemas in which they typically occur, the difficulty in distinguishing between purely semantic and associative links is even more evident. In effect, apart from being useful analytical tools, essentially the two go hand in hand.

Lucas (2000) performed a meta-analysis of the existing studies in order to explore the potential differences between semantic and associative priming effects. While the analysis did offer evidence in favor of the postulated difference between semantic and associative priming that fits into the modular approach of the organization of semantic knowledge (Lucas 2000: 618), we still emphasize the discussion from the previous paragraph. For example, in the concluding section of the analysis, Lucas (2000: 627–628) argues that one of the variables that needs to be inspected more closely, and that might be responsible for the smaller effect size in the case of semantic priming as opposed to associative priming is "the strength of semantic relationship." She discusses the study of

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[24] Also, Balota, Yap, and Cortese (2006: 328) discuss the nature of semantic priming, but they emphasize the fact that they "will use the term "semantic" priming effects [… even though …] many of these effects could be primarily "associative" in nature."

McRae, De Sa, and Seidenberg (1997) where participants were asked to rate similarities of prime-target pairs on a 9-point Likert scale. The results of that study showed a significant effect of priming for stimuli that were more similar, while those that were less similar did not yield significance. However, what we would like to point out is that the ratings of the degree of similarity between prime-target pairs that the participants were asked to perform cannot be controlled for potential confounding effects of associative links. Seeing that participants were not experts in linguistics, there is no way to guarantee whether they relied only on the direct semantic relatedness of word pairs, or perhaps also on the relevant background knowledge that may also include possible associative links between words. Still, Lucas (2000: 627) highlights the fact that "the results of the meta-analysis do, however, strongly support the interaction of lexical and semantic information." Also, the greater effect sizes recorded for associative priming can be accounted for by the associative boost, seeing that the already present semantic relatedness between words is amplified by the associative links Lucas (2000: 627).

Hutchinson (2003) performed a microanalytic review to assess the differences between semantic and associative priming reported in previous research, and obtained somewhat different results compared to those presented in Lucas (2000). Hutchinson (2003: 789) stresses the difficulty in selecting stimuli that bear no semantic relations, but are related in terms of associative relations alone. Also, he argues that research that has identified semantic priming suffers from the same shortcomings (Hutchinson 2003: 796). While the analysis has offered some new and different conclusions to those outlined in Lucas (2000), there are also certain points on which the studies agree. Namely, in line with Lucas (2000), Hutchinson (2003) also connects automatic priming to items that are functionally related. Also, the associative boost has been recognized, yet it is unclear whether it can be attributed to the combination of lexical and semantic properties, or perhaps "to a greater overlap in semantic features" (Hutchinson 2003: 805). However, there are three important issues on which the two studies depart: (i) automatic priming does not seem to occur with category coordinates as claimed before; (ii) the overall "pure semantic effect" could not be identified; and (iii) Hutchinson (2003) managed to identify purely associative priming, especially in cases of mediated priming which were not included in the analysis presented in Lucas (2000). In conclusion, the results presented in Hutchinson (2003) highlight the import and existence of purely associative priming which cannot be viewed in isolation from semantic priming, as the two bear intrinsic links.

2.4.3 MEDIATED PRIMING AND BACKWARD PRIMING

Another two important priming effects that may be interpreted in the context of both semantic and associative priming include mediated priming effects (e.g., Cramer 1969; McNamara and

Altarriba 1988; McNamara and Healy 1988; Chwilla, Kolk, and Mulder 2000) and backward priming (e.g., Jacobson 1973; Kiger and Glass 1983; Peterson and Simpson 1989; Kahan, Neely, and Forsythe 1999).

Mediated priming refers to cases where the prime and target are related via an intermediary concept. For instance, Balota, Yap, and Cortese (2006: 328–329) discuss the example of *lion* and *stripes* being related via *tiger* which belongs to the same category of WILD ANIMALS as *lion*. In general, experimental paradigms involving the lexical decision task typically fail to capture this effect; however, when the lexical decision involves both the prime and target, or when responses are made only to words (and not to non-words), the effect of mediated priming becomes evident (Balota, Yap, and Cortese 2006: 329). Moreover, "researchers have […] argued that checking processes tied to the lexical decision task can strongly control when mediated priming effects will be found in this task" (Balota, Yap, and Cortese 2006: 329). Namely, when participants typically search for relationships between primes and targets, this can cause a lag that suppresses the effects of mediated priming, since the link between stimuli in this setup is clearly indirect. In that sense, McNamara and Altarriba (1988: 545) argue that mediated priming can be identified in a lexical decision task only if "directly related words (e.g., "lion-tiger") are not included on test lists," or if the task does not prompt participants to check for relatedness between the prime-target pairs.

With backward priming, we can distinguish between cases when (i) semantic priming can still be identified even when the prime appears temporally after the target, and (ii) backward semantic priming (Balota, Yap, and Cortese 2006: 331). In the former case, results from previous research suggest "that early on in target processing, subsequent related prime information/activation can actually "catch-up" to influence response latencies to the target" (Balota, Yap, and Cortese 2006: 331). For instance, Jacobson (1973: 65) identified the facilitation in word recognition when the target was presented in the condition with backward masking by an associated word, compared to the condition with the unassociated word. Kiger and Glass (1983: 362) also found "that a prime presented after the lexical decision target can facilitate responses to that target," which also suggests that the participants were engaged in parallel processing.

In the latter case, evidence of backward semantic priming is mainly associated with the experiments involving a lexical decision task, while experiments involving a pronunciation task allow for the identification of backward semantic priming only with short SOAs (Balota, Yap, and Cortese 2006: 331). In backward semantic priming, primes and targets are related directionally, like in the case of compounds. For instance, Kahan, Neely, and Forsythe (1999) included an experimental condition in which compounds were formed in the target-prime direction (e.g., target – bell, prime – hop). Additionally, they also included a condition with non-compound stimuli (e.g., target – stork,

prime – baby). Their results showed "robust and equivalent [effects of backward priming] under all conditions in the lexical decision task, ranging from 24 to 30 msec in magnitude" (Kahan, Neely, and Forsythe 1999: 108), and it was the same for both compounds and non-compounds. In the pronunciation task the effect was smaller "and [it] was statistically significant only for the 150-msec SOA (a 13-msec effect) and not for the 500-msec SOA (a 4.5msec effect)" (Kahan, Neely, and Forsythe 1999: 108).

2.4.4 SENTENCE CONTEXT AND SEMANTIC PRIMING

Morris (2006: 386) stresses the fact that "context influences the status of the candidate meanings as they become available to the reader," and that congruent priming contexts facilitate RTs to target words, as opposed to both neutral and incongruent contexts. In other words, "one of the most robust findings in word recognition literature is that a word is processed faster when it is preceded by a congruent context than when it is preceded by a neutral, incongruent, or scrambled context" (Morris 1994: 92). One of the factors that might have to do with the influence of sentence context on word processing is predictability. Morris (2006: 387) defines predictability as "the extent readers might anticipate the identity of upcoming words based on the context in which they occur." Previous research suggests that congruent contexts can indeed facilitate the processing of words predictable from the context, and that words that are predictable are also more often skipped during reading. However, unlike the restricted experimental setups, sentences that occur in natural language rarely contain information that is restrictive enough to license accurate and reliable predictions of the upcoming words that are to appear in ongoing discourse (Morris 2006: 387). Additionally, previous research has also reported cases when there was no inhibition in the naming task when the target word was preceded by the incongruent context, compared to the neutral context, although the researchers hypothesized that the incongruent context would show stronger inhibitory effects compared to the neutral context (Stanovich and West 1983, reported in Morris 2006: 387). In effect, although it may appear as a confound in some cases, predictability cannot be understood as the only mechanism that facilitates the influence of (congruent) sentence context.

Another possible mechanism that might influence word processing in sentence context is intralexical priming, where it is assumed "that contextual facilitation arises from word-to-word associations, or intralexical priming" (Morris 2006: 388). Again, there is opposing evidence from different studies that suggest that the effect of intralexical priming appears to be very restricted, and

that the relatedness between lexical items alone is insufficient to facilitate word processing[25]. For instance, Sereno and Rayner (1992) did in fact manage to capture the facilitative effect of intralexical priming using the fast-priming paradigm in the eye tracking procedure. Namely, the goal of their study was to explore the time course of priming in a reading task (Sereno and Rayner 1992: 173), and they developed the new, fast-priming paradigm where "a prime word is presented foveally at the onset of an eye fixation while subjects are reading, [and] after a brief exposure, the prime is replaced by the target word" (Sereno and Rayner 1992: 173). They also argued that apart from priming via individual words, which was typically used in previous research, sentences, or even larger sections of discourse could also be used as primes (Sereno and Rayner 1992: 173). Specifically, they monitored participants' eye movements in a reading task and the stimuli were presented as individual sentences. The position of the target word was initially occupied by a random letter string, and once the participants reached the target position, first a prime that was related, unrelated, or the same as the target word appeared in the target position, in the duration of 60, 45, and 30 ms (Sereno and Rayner 1992: 175). Then the prime was replaced by the target in the same position, and there were no more changes until the participant finished reading the sentence. Overall, the obtained results showed facilitation in reading times for targets in conditions when targets were presented after semantically related priming words that appeared in the duration of 30 ms. However, other studies have shown such facilitation only within a single clause (e.g., Carool and Slowiaczek 1986, reported in Morris 2006: 388), suggesting that the effects of intralexical priming are very short and restricted.

Morris (2006: 389–391) also discusses the influence of interactive sentence context. Namely, interactive accounts of the influence of context suggest that "emergent properties of the discourse representation may influence the processing of individual words during reading" (Morris 2006: 389), since lexical relatedness, as discussed above, is not enough to account for the recorded effects of context. For instance, Morris (1994: 94) conducted a study using an eye tracker, which involved two experiments designed "to assess the effects of lexical and message-level sentence context on lexical access during reading." The first experiment aimed to explore the finding "that a congruent sentence context can facilitate access of a word even when that word is not explicitly predicted by the context," while the second experiment aimed "to provide a stronger test of the possible influence of higher order sentence representations on lexical access, beyond effects that could be accounted for by an intralexical priming mechanism" (Morris 1994: 94).

Results obtained from the first experiment showed that in the silent reading task the priming sentence context can "speed the processing of a word that is not explicitly predicted by that context" (Morris 1994: 97). Although this does not necessarily limit the identified effect only to intralexical

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[25] For a detailed overview of these studies see Morris (2006: 389).

priming (which has clearly been identified), it does not allow for any extrapolation of conclusions onto the influences of wider sentence context. The second experiment showed somewhat different results; namely, "fixation on the target word was shorter when that word followed a context in which the message-level representation was semantically related to the target word than when it […] was unrelated […], although the critical lexical contents of the sentence contexts did not differ" (Morris 1994: 100). Moreover, such results suggest that intralexical priming and sentence-context priming "need not be mutually exclusive" (Morris 2006: 390), and "that both intralexical and message-level priming may operate independently to influence lexical access as words are encountered in the context of a sentence" (Morris 1994: 101). Still, while the idea of an interactive model is appealing and perhaps to some extent even obvious, the nuances of such a complete model are yet to be elaborated.

Swinney (1979) conducted two experiments with a lexical decision task, in which he investigated the effects of semantic context on sentence comprehension. The main aim of the study was to investigate how congruent contexts, which occurred as priming materials, would facilitate participants' choices in selecting the relevant reading for ambiguous words that appeared as targets (Swinney 1979: 646). Swinney (1979: 646) also discusses two types of hypotheses that are typically used to explain the effects of context: (i) the interactive sentence processing view, which assumes that "that prior contextual information can act to direct lexical access so that only a single, relevant reading is ever accessed for an ambiguity" (Swinney 1979: 646), and (ii) the post-decision or multiple-meaning hypotheses according to which the priming context exerts its influence "only after all information is accessed for ambiguity" (Swinney 1979: 646). In other words, the former group of hypotheses assumes that lexical access is not restricted and conditioned by the priming context, whereas the second group assumes that lexical access is autonomous, and affected by context only once the lexical information has been accessed. For instance, Swinney and Hakes (1976) showed that, at least to a certain extent and under certain conditions, context interacts with lexical information in the pre-decision phase. In other words, "at least some types of prior disambiguating contexts can eliminate the processing load effect typically obtained following an ambiguity [and] it appears that there are situations in which contexts place selective constraints upon the information which is accessed for an ambiguous word" (Swinney and Hakes 1976: 688). Moreover, this does not involve the same processes as in the case when the biasing context appears after the ambiguous target.

The experimental materials used in the study included 36 sentence pairs, with factorial combinations of ambiguity and context, where both variables included two conditions. Namely, ambiguity included "either an ambiguous word or an unambiguous control word which was roughly synonymous with one reading of the ambiguity," while context included "either no disambiguating

context, or a prior, strongly predictive, disambiguating context" (Swinney 1979: 649). An example of experimental materials is given in Table 2.2. Priming materials were presented as auditory recordings, while targets were presented visually. Such cross-modal priming allows for the target to be presented at the same time as the prime, ensures that the prime is used during the comprehension phase, and also reduces the risk that other experimental variables might distract participants from the task (Swinney 1979: 648). Participants were instructed to listen to the sentences for comprehension, and that at certain points a target word would appear and that they would be asked to make a lexical decision task for the given targets. The second experiment included a replication of the first, and an extension in which the targets "appeared three syllables following the ambiguous (or control) word during the course of the sentence" (Swinney 1979: 654).

Table 2.2. Experimental materials (adopted from Swinney 1979: 650)

Context condition	Ambiguity condition	
	Ambiguous	**Unambiguous**
No context	Rumor had it that, for years, the government building had been plagued with problems, building had been plagued with problems, several bugs$_\Delta$ in the corner of his room.	Rumor had it that, for years, the government building had been plagued with problems. The man was not surprised when he found several insects$_\Delta$ in the corner of his room.
Biasing context	Rumor had it that, for years, the government building had been plagued with problems, The man was not surprised when he found several spiders, roaches, and other bugs$_\Delta$ in the corner of his room.	Rumor had it that, for years, the government building had been plagued with problems. The man was not surprised when he found several spiders, roaches, and other insects$_\Delta$ in the corner of his room.
Visual words Displayed at "Δ"	ANT	(contextually related)
	SPY	(contextually inappropriate)
	SEW	(unrelated)

Overall, the results obtained from both experiments suggest that "semantic contexts do not appear to direct lexical access" (Swinney 1979: 657), which, in effect, offers support for the post-decision hypothesis. However, while the data suggest that semantic context does not directly affect access, it might facilitate the choice of the relevant sense of the ambiguous target word, and it might also play a role in other post-access processes. Consequently, the study also did not manage to identify sentence comprehension as completely interactive, as different kinds of information do not seem to interact across all processing levels.

McNamara and Diwadkar (1996) conducted a study where participants were first instructed to read a set of short paragraphs, after which they proceeded to the recognition test with target words that appeared in the paragraphs. They used the following three priming conditions: (i) primes from

the same sentence as the target, (ii) primes from a different sentence and different paragraph compared to the target word, and (iii) unassociated words defined as "foil" primes. Based on previous research the authors expected that the primes from the same sentence would facilitate participants' reactions compared to primes from a different sentence, and they also wanted to compare foil primes and primes from different sentences (McNamara and Diwadkar 1996: 879). It is also worth noting that foil primes used in this study were "matched with the different-sentence primes on structural properties and […] lexical status" (McNamara and Diwadkar 1996: 879), as opposed to nonword primes used in previous research (e.g., McNamara 1994), where nonwords could be easily distinguished from actual words based, for example, on orthographic properties alone.

The first experiment was designed to test whether foil priming would cause an inhibition in word recognition decisions. The results revealed the presence of associative priming; however, there was no evidence of inhibition caused by foil primes. Additionally, "priming occurred between successive targets when they were from the same sentence" (McNamara and Diwadkar 1996: 881). The second experiment was a simplified version of the first one, inasmuch as the manipulation of between-trial relatedness was removed, and "all critical targets were unrelated to the targets on the preceding trial" (McNamara and Diwadkar 1996: 882). Again, foil primes did not cause the hypothesized inhibition. Finally, the design of the third experiment was similar to that of the second, the only difference being that the order of primes and targets was reversed, and items that served as targets in the previous two experiments were now used as primes, whereas foil primes appeared as targets. Such line of reasoning was supported by the idea that "foil primes would be expected to inhibit responses to targets only if their familiarity was lower than the familiarity of different-sentence primes" (McNamara and Diwadkar 1996: 883).

In all, there was no evidence of inhibition afforded by foil primes in any of the three experimental conditions. The authors also argued that such findings go hand in hand with "recent results in lexical priming, where it has been found that that nonword primes do not inhibit responses to word targets" (McNamara and Diwadkar 1996: 883). More generally, the obtained results suggest that "the retrieval of information from memory may be guided by the functional role that the information plays in the context in which it appears" (McNamara and Diwadkar 1996: 891).

2.4.5 Importance of background knowledge and prediction in online meaning construction

Language users are understood to be actively engaged in meaning construction, and this includes "using prior knowledge and experience to generate expectations about how a discourse will unfold in the near future" (Brothers, Swaab, and Traxler 1999: 135). Moreover, linguistic content can activate relevant background knowledge structures that can aid in comprehension and meaning construction. In that sense, "in more highly constraining contexts, comprehenders can also make predictions about specific lexical items that are likely to appear in the upcoming discourse" (Brothers, Swaab, and Traxler 1999: 136). Consequently, the already introduced discourse content builds expectancies, thereby facilitating the comprehension and even prediction of potentially congruent (i.e., expected) lexical items (i.e., targets). In more general terms, this can be related to a process analogous to pattern completion, where the activated background knowledge affords the construction of appropriate schemas that facilitate the anticipation of those targets that would fit well into the general schema. Depending on the theoretical framework you subscribe to, these schematic structures can be understood as schemas, scripts, frames, or even mental models. Regardless of the terminology, what is relevant is the converging evidence in favor of such background knowledge structures and their facilitative role in the general process of online meaning construction.

Moreover, during reading, highly predictable contexts will allow readers to skip words typically associated to those contexts (e.g., Rayner et al. 2011). Additionally, Schwanenflugel and Shoben (1985) have shown that incongruent lexical items that appear as sentence endings cause lags in participants' RTs. In order to remedy some of the shortcomings in methodologies present in the previous studies, insofar as they have not been able to clearly delineate the influences of individual lexical items and effects of broader context in prediction, Brothers, Swaab, and Traxler (1999: 136) "used a paradigm that isolates the effects of lexical prediction from other sources of contextual facilitation." The results showed differences in the contribution of lexical prediction and sentence context on lexical processing (Brothers, Swaab, and Traxler 1999: 144).

Namely, prediction modulated the recorded "ERPs approximately 200 ms after the appearance of the critical, sentence-final word" (Brothers, Swaab, and Traxler 1999: 144), whereas the effects of contextual facilitation influenced the recorder ERPs "approximately 100 ms after the onset of the prediction-rated negativity" (Brothers, Swaab, and Traxler 1999: 145). The identified temporal dissociation between the effects of lexical prediction and sentence context suggests that lexical prediction is indeed primary in this process, and "that there is no single point during lexical processing when all potential constraints affecting word processing simultaneously come to bear" (Brothers,

Swaab, and Traxler 1999: 145). While this study suggests that prediction takes place ahead of effects of context, we still need to bear in mind that context is a complex structure, and there are numerous variables (e.g., the identity of the speaker, relationships between interlocutors, level of formality, and similar) that could in fact "influence the selection and pre-activation of specific lexical candidates as a discourse unfolds" (Brothers, Swaab, and Traxler 1999: 146).

Put differently, apart from explicit priming used in experimental setups, in real-life communication various contextual cues can indeed prime language users, thereby preparing them for the incoming information. Owing to their previous experience and background knowledge structures available for recruitment, they can anticipate the upcoming information not only on a lexical-semantic level, but also on a more comprehensive meta-pragmatic level also.

2.4.6 SECTION SUMMARY

In summary, in the present section we discussed the main mechanisms and experimental setups used to explore the possible effects of semantic priming. Namely, the main premise of the procedure is that the presentation of the antecedent lexical-semantic material will affect participants' responses in the main experimental task. This typically involves lexical decision, naming, or categorization tasks. Additionally, the priming materials are understood to produce expectancies with participants, in the sense that they can be used to predict a range of possible and sensical targets congruent in relation to the prime. If the expectancies are violated, then the target is understood as incongruent in relation to the prime.

Viewed in the broader context of cognitive linguistics and the encyclopedic view of meaning (e.g., Fillmore 1982; Evans and Green 2003), it can be argued that framing, contextualization, and priming pose as analogous processes. Namely, as argued above, various framings can produce different expectations. In other words, bearing in mind that specific words that appear in the prime should serve as proxies for larger frame structures to which the given word belongs, the activation of such frame-level structures also produces expectancies that can facilitate the recognition and/or associated tasks for items related to the activated frame. In that sense, frame activation imposes a certain viewpoint for the participant, i.e., it provides the context against which all subsequent decisions are made. In effect, the three processes can be understood as equivalent. The prime affords the activation of the relevant frame-structure, which, on the one hand, helps trigger the relevant set of expectancies, and, on the other, constructs a context which provides the background for all subsequent decision-making processes. The possible effects of these three constructs will be addressed in more detail in the main experiments in the present study (sections 4 and 5).

2.5 CONCEPTUAL METAPHOR: ORIGINS AND DEVELOPMENT

In the present section we turn to the discussion and overview of the relevant theoretical frameworks and related research on conceptual metaphor. The section begins with the overview of the most prominent approaches to the study of conceptual metaphor in the domain of cognitive linguistics. We also introduce the notion of image schemata, as they frequently serve as the base for metaphorical projections, and the relevant methodologies for metaphor identification. We also explore the phenomenon of metaphor clustering, and the procedures for cluster identification. After that, in the next section we address the main approaches to the study of metaphor comprehension in the domain of psycholinguistics, and offer an overview of the selected studies. This is followed by a detailed review of the research dealing with the main dimensions involved in metaphor comprehension. Seeing that context plays an important role in meaning construction in general, as well as in metaphor comprehension, the role of context is explored in more detail in a separate section.

2.5.1 CONCEPTUAL METAPHOR IN COGNITIVE LINGUISTICS

Although cognitive linguists typically attribute the initial effort towards the analysis of conceptual metaphor and the acknowledgement of its import for human cognition to the work of Lakoff and Johnson (1980a; 2003[1980b]), the interest in conceptual metaphor can actually be traced back to much earlier investigations by Richards (1965[1936]), Black (1962), Embler (1966), and Petrović (1967[1933]). The present section starts with the overview of these earlier approaches, which is then followed by the presentation of Lakoff and Johnson's conceptual metaphor theory (CMT) and its critical assessment.

2.5.1.1 INTERACTION VIEW OF METAPHOR

Black (1962: 27) notes that while examples of metaphors typically involve entire sentences, usually the focus is placed on a single word that actually conveys metaphorical meaning. Further, these metaphorically used words work against the background of literal expressions. Specifically, the metaphorically used word is understood as "the *focus*[26] of the metaphor, and the remainder of the sentence in which the word occurs the *frame*" (Black 1962: 28). For instance, in the sentence *"The*

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[26] Original emphasis.

chairman plowed through the discussion" (Black 1962: 26), the word *plow* is the (metaphorical) focus while the remainder of the sentences constitutes the frame. Black (1962: 28) also emphasizes that it is the frame that can render the focus either metaphorical or non-metaphorical. Essentially, metaphoricity is intimately linked to meaning, i.e., metaphor is a matter of semantics. According to Black (1962: 29), metaphorical interpretations are also linked to specific contexts of use.

One way to understand metaphor use is through the substitution view (Black 1962: 31). Namely, under this view metaphorical use of the focus is understood as euphemistic, in the sense that the speaker does not express her/his attitude directly, but via improper use of the original literal expression. In other words, a metaphorical expression substitutes the appropriate literal expression that would explicitly convey the intended meaning. As Black (1962: 32) claims, "the focus of a metaphor, the word or expression having a distinctively metaphorical use within a literal frame, is used to communicate a meaning that might have been expressed literally." Another position is the comparison view of metaphor, where metaphors are thought to be based on similarity and analogy (Black 1962: 35). Black (1962: 35) sees the comparison view as "a special case of the substitution view [insofar as] the metaphorical statement might be replaced by an equivalent literal *comparison.*" The main difference is that the comparison view affords a richer paraphrase[27]. Bearing in mind that the comparison view has received criticism on the grounds that it is rather vague (and nearly vacuous), it needs to be stressed that metaphors actually create similarities, and are not based on the preexisting similarities.

Black (1962: 38) introduces his own view of metaphor – *the interaction view*, aimed at remedying the shortcomings of the two afore mentioned views. The interaction view stems from Richards (1965[1936]: 93) who also saw metaphor as a kind of interaction, to the extent that it entails "two thoughts of different things active together and supported by a single word, or phrase, whose meaning is a resultant of their interaction." The frame constituted by the sentence, i.e., the novel context it creates, "imposes extension of meaning upon the focal word" (Black 1962: 39). Black (1962: 39) discusses the example *"Man is a wolf,"* where wolf is the subsidiary subject, and man is the principal subject. These two subjects are understood as systems of elements (reminiscent of Fillmore's (1982) notion of semantic frames, Langacker's (1986) notion of domains, or Lakoff's (1987) construct of ICMs) which can evoke the commonalities that exist between them. Namely, the metaphor is understood to yield a new set of implications, so that "[t]he new implications must be determined by the pattern of implications associated with literal uses of the word wolf' (Black 1962: 41). Also, metaphor imposes a force-dynamic effect on the understanding of the concept man, insofar

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[27] Black (1962: 36) analyzes the example *'Richard is a lion'*. Under the substitution view this would be interpreted as *'Richard is brave'*, while under the comparison view it would be understood as a simile *'Richard is like a lion (in being brave)'*. The paraphrase afforded by the comparison view refers to both Richard and lions.

as it can highlight some traits while suppressing others. Consequently, a metaphor can also be understood as some sort of a filter (Black 1962: 39). Black (1962: 42–43) also claims that implications can afford the construction of subordinate metaphors, in addition to the primary metaphor. Such metaphor systems are related by the discourse context and can reinforce the activated system of implications. Another important concept that this framework involves is metaphor ground which comprises the common characteristics (Richards 1965[1936]: 117) between the subsidiary and principal subjects.

To summarize, the interaction view is based on the following seven assumptions (Black 1962: 46–47):

i. a metaphorical expression includes the principal subject and a subsidiary subject;

ii. these subjects need to be understood as systems of elements, and not as individual items;

iii. the principal subject undergoes the appropriation of traits selected from the subsidiary subject;

iv. the transferred implications can either involve commonalities between the two subjects, or can be constructed online by the speaker;

v. "[t]he metaphor selects, emphasizes, suppresses, and organizes features of the principal subject by implying statements about it that normally apply to the subsidiary subject" (Black 1962: 46–47);

vi. there is a shift in meaning that can be identified for words that are a part of the same system as the metaphorically used words;

vii. the ground for metaphorical shifts in meaning is not predetermined.

Overall, the interaction view assumes that the reader will "use a system of implications […] as a means for selecting, emphasizing, and organizing relations in a different field" (Black 1962: 46). In other words, metaphorical meaning involves the understanding of the principal subject through the prism of the subsidiary subject. This process is more complex than a simple comparison of the two concepts.

Even before Black (1962), Richards (1965[1936]) also introduced an interactive view of metaphor. Richards (1965[1936]: 92) acknowledges the omnipresence of metaphor in everyday language, as well as in politics, psychology, sociology, philosophy and other fields. Also, he notes that metaphors can be used to guide our thoughts. Richards' (1965[1936]: 93) understanding of metaphor entails that "when we use a metaphor we have two thoughts of different things active together and supported by a single word, or phrase, whose meaning is a resultant of their interaction." He criticizes the traditional view of metaphor (where metaphors were understood as anomalous uses of words) and stresses his view according to which metaphorical expressions stem from thoughts which are also essentially metaphorical (Richards 1965[1936]: 94). For Richards (1965[1936]: 94),

metaphor is manifested in the "borrowing between and intercourse of thoughts, a transaction between contexts."

The two concepts that interact in a metaphor are dubbed the tenor and vehicle (Richards 1965[1936]: 96). The tenor is understood as "the underlying idea or principal subject which the vehicle or figure means" (Richards 1965[1936]: 97). In effect, the description of the vehicle affords the description of the tenor, and the two give way to novel understanding through their interaction. Also, the contributions of the tenor and vehicle to the overall meaning will depend on the specific metaphor. Richards (1965[1936]: 102) also calls for the reexamination of the notions of living and dead metaphors, and argues that interactions between tenors and vehicles are not sanctioned by any preexisting similarities (Richards (1965[1936]: 108). Instead, the disparities between the tenor and vehicle appear to be just as important as similarities.

Overall, for Richards (1965[1936]) metaphor includes both cases when we are speaking of one thing in terms of another, and cases where "we perceive or think of or feel about one thing in terms of another" (Richards 1965[1936]: 116). What brings the tenor and vehicle together and comprises their common characteristics is understood as the metaphor ground. Richards (1965[1936]: 119) also offers a test for metaphorically used words, in terms of "whether [the word] presents both a tenor and a vehicle which co-operate in an inclusive meaning." If cooperation between the tenor and vehicle can be identified, the word is used metaphorically. If, on the other hand, such interaction cannot be identified, the word is presumed to be used literally.

2.5.1.2 EMBLER'S VIEW OF THE UBIQUITY OF METAPHOR

Embler (1966: v–ix) discusses the omnipresence of metaphors in philosophy, psychology, literature, and everyday life. He stresses how metaphors can affect our world view and, in effect, our behavior. Also, he distinguishes between novel and old metaphors, and claims that novel metaphors are understood literally, and serve to state facts (Embler 1966: vii). Adopting the Firthian notion of the relevance of the social setting, Embler (1966: iv) also recognizes that "language develops out of social conditions and in turn influences social behavior." Also, the wider cultural context plays an important role in the selection of useful and appropriate metaphorical conceptualizations.

In the remainder of his book Embler (1966) discusses various examples of metaphors in literature, design, architecture, everyday speech, art, and other fields, and the way these metaphors have been used to shape the conceptualizations of reality across different historical periods. For instance, design is (like language) understood as metaphorical and representational (Embler 1966: 14–15). It is seen as the reflection of inner thoughts and it represents both those thoughts and the

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social context within which the design has been created. In that sense, architecture also carries metaphorical meaning, as it "stands for tradition, continuity of human faith, the victory of man over intransigent forces and materials, the past with its wealth of thought and its wealth of feeling" (Embler 1966: 21).

Everyday speech is also understood as predominantly metaphorical. As an example, Embler (1966: 27) discusses the use of prepositions *up* and *down*, and highlights the fact that they can be used either literally or metaphorically. For instance, in the western culture it is preferable to occupy a position that is up than the position that is down. Consequently, there are expressions like "moving up to a higher position; misfortune of coming down in the world; diplomatic talks breaking down; to be looked down on; nervous breakdown; man's fall from grace; ladder of success; social climber; emotional heights; intellectual heights" (Embler 1966: 27–28). Embler (1966: 29) ascribes the ubiquitous nature of such metaphorical conceptualizations to the human experience, insofar as "our thinking and our speech, it would seem, are still very much bound by the Cartesian coordinates of height and depth, length and breadth." Another instance where the choice of metaphors is governed by our experience with the physical world is reflected in the distinction between soft and hard (Embler 1966: 35). Namely, hard is associated with something powerful and strong, whereas soft is typically associated with something weak and submissive.

There are also motion metaphors – "moving forward with one's work; moving on to another idea or thought; or getting ahead" (Embler 1966: 31). In many cases a completion of a certain activity can be conceptualized as reaching a destination, i.e., it can be conceptualized as motion (although no actual motion is involved). For instance, if we discuss "the advancement of education" (Embler 1966: 32), we are talking about an abstract concept in terms of motion. Such conceptualization (i.e., such framing) suggests development and change. Prepositions *in* and *out* signal locations in relation to an enclosed entity (i.e., a container). Although static, they are also often used metaphorically. Namely, *in* typically implies a favorable, protected position, while *out* can imply vulnerability. Embler (1966: 36) also argues that metaphorical uses of these prepositions stem from the human experience with the world and social relationships in general. Overall, Embler (1966: 40) argues that most words can have some sort of metaphorical meaning, and that these are often related to the most common everyday activities.

2.5.1.3 CONCEPTUAL METAPHOR IN THE CONTEXT OF MIHAILO PETROVIĆ'S MATHEMATICAL PHENOMENOLOGY

Petrović (1967[1933]) applies his mathematical phenomenology to the study of social, psychological, and moral categories. He sees metaphor as "an external manifestation of a spiritual need to map one group of facts onto the other that is, at least seemingly, easier to understand" (Petrović 1967[1933]: 22); i.e., more abstract facts are represented as a function of the more tangible ones. Additionally, metaphors and allegories involve mappings which are predominantly based on similarities and analogies between elements. The facts involved in the mappings need not bear any direct (obvious) similarities, but might resemble each other in their essence, which renders them interchangeable. Moreover, the "similarity changes into identity" (Petrović 1967[1933]: 23), owing to the corresponding features between facts.

According to Petrović (1967[1933]: 36), facts are constructed out of their *elements* and *essence*. *Elements* of a typical fact (where the fact is presented in the form of a sentence) could include "concepts, representations expressed through words, or other facts that act as elements of the fact under investigation" (Petrović 1967[1933]: 36). The *essence* of the fact is conveyed in terms of whether "a specific element (or a set of elements) is connected or not to a specific attribute or a set of attributes" (Petrović 1967[1933]: 37). Facts, presented as sentences, can share some commonalities; in that sense, we can assume the existence of "a set *S* which contains a number of facts whose essence can be associated with specific elements of these facts" (Petrović 1967[1933]: 37). In other words, this constitutes similarities between facts, and the construed similarities depend on the specific viewpoint. Petrović (1967[1933]: 37) maintains that there are multiple viewpoints available, and any given viewpoint affords the selection of a subset of similarities relevant to that viewpoint alone.

Petrović (1967[1933]: 42) also introduces the notion of the *core of similarity* which "reduces similarity […] to identity." Namely, if we have a set of sentences understood as similar from a particular viewpoint, we can also identify a set of the relevant common features. In turn, such a set of common features is understood as the core of similarity, and it contains only the abstract features common to all facts from the set. For instance, if *a fruitful idea* is compared to *a grain of wheat*, the core of similarity entails that a seed uses the fruitful soil to produce many new organisms (Petrović (1967[1933]: 42). Moreover, similarity can be identified between (i) concrete facts, (ii) between abstract facts, or (iii) between abstract and concrete facts (Petrović (1967[1933]: 44).

Petrović (1967[1933]: 45–48) also proposes a general mapping principle. Namely, if we have two sets (*E* and *E'*) containing either a finite or infinite number of elements (sentences or objects) we

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can establish mappings between the two sets, so that each element *e* from set *E* has its counterpart *e'* in *E'* (constituting an original and its image) (Petrović (1967[1933]: 45). In other words, every typical element *e* has its homologue *e'*. The notion of a typical element entails that the mappings are partial, insofar as only the parts of sets which are relevant from a specific viewpoint will be involved in the mappings. However, the facts involved in such similarity-based mappings need to perform homologous functions in their respective sets. In that sense, each original element and its role are mapped onto its homologue in *E'*. In effect, the mapping reflects the salient aspects of the original from the given viewpoint (Petrović (1967[1933]: 47). A distinction is also made between conventional mappings, and natural mappings. The former refer to mappings where the relationship between the original and its image is based on the established conventions (e.g., conventional meanings of words). The latter, on the other hand, refer to situations where there is a natural link between the original and the corresponding image (e.g., electric discharge from a capacitor maps onto the mechanical movement of the pendulum) (Petrović (1967[1933]: 47–48).

A specific type of these general mappings is also found in metaphors and allegories. Namely, metaphorical mappings are based on similarity, and these similarities also appear as a function of the viewpoint. Additionally, they also involve the core of similarity, and it is precisely the core of similarity what makes the mapping sensical. Petrović (1967[1933]: 51) argues that it is sufficient for the original and image to share even the most minute similarity for the mapping constructed from the relevant viewpoint to amplify its effect. Moreover, such metaphorical mappings can serve to make a concept more comprehensible, to clarify an issue, or to even provoke an emotional response (Petrović (1967[1933]: 51). Some examples of metaphorical mappings include the following: the concept of time can be mapped onto a river, a lie can be mapped onto a snowball, an economic crisis can be mapped onto an illness, or legislation can be mapped onto a cobweb (Petrović (1967[1933]: 49–50). In all of these cases a specific viewpoint is established; in turn, the image is used to highlight specific aspects of the original.

2.5.1.4 CONCEPTUAL METAPHOR THEORY (CMT)

In cognitive linguistic literature, Lakoff and Johnson (1980a; 2003[1980b]) are typically credited for laying the foundations of conceptual metaphor theory (CMT). Moreover, the interest in conceptual metaphor and its recognition as an important, ubiquitous cognitive mechanism that operates on a conceptual plain, rather than being a simple literary ornament, also marked the onset of cognitive linguistics as a discipline.

For Lakoff and Johnson (2003[1980b]: 5) "the essence of metaphor is understanding and experiencing one kind of thing in terms of another." In that sense, metaphor is not restricted to the lexical plain, but it rather operates on the conceptual level where it facilitates reasoning and everyday interaction. In other words, conceptual metaphor is seen as "a pattern of conceptual association" (Grady 2007: 188). In more technical terms, conceptual metaphors are based on systematic, partial, asymmetrical, unidirectional mappings from the source to the target domain (Lakoff and Johnson, 2003[1980b]; Lakoff 2006[1993]; Kövecses 2006, 2010). The source is typically more common, tangible, and easier to understand, while the target is normally more abstract and more difficult to grasp (Lakoff and Johnson 2003[1980b]; Kövecses 2006, 2010). In the context of CMT, the domain is understood as "a body of knowledge that organizes related concepts" (Evans and Green 2006: 190). Another important aspect afforded by cross-domain mappings is the ability of metaphor to highlight certain aspects of the target domain, while backgrounding others (Lakoff and Johnson 2003[1980b]; Kövecses 2010).

At this point, an important terminological distinction is in order. Namely, metaphor scholars from different disciplines, including semantics, cognitive linguistics, cognitive psychology, and psycholinguistics, have used different terminology to refer to the domains involved in metaphorical mappings. Specifically, these include vehicle-topic, vehicle-tenor, and source-target domain distinctions. The former label in each pair refers to the concept used as a function via which the other element in the pair is constructed metaphorically. However, the exact nature, structure, and the level of comprehensibility of these terms remains largely underspecified, inasmuch as the exact topology, possible relations between elements that constitute them, and the overall internal organizational structure of these entities typically remains subject to researchers' interpretation. For instance, we have already defined the notion of a domain (see section 2.3) in Langacker's terms (1986: 4) as "any sort of conceptualization: a perceptual experience, a concept, a conceptual complex, an elaborate knowledge system." Further, Langacker (1987: 147) sees the notion of domains as "a context for the characterization of […] semantic units [which] are necessarily cognitive entities: mental experiences, representational spaces, concepts, or conceptual complexes." Still, such definitions will not suffice for our experimental purposes.

Consequently, instead of domains, we will treat *the bodies of knowledge* involved in metaphorical mappings as *mental spaces*, understood as "constructs distinct from linguistic structure but built up in any discourse according to guidelines provided by the linguistic expressions [i.e., space builders]" (Fauconnier 1994: 16). The notion of a space builder refers to "a grammatical expression that either opens a new space or shifts focus to an existing space" (Fauconnier 1997: 40). In broader terms, mental spaces constitute "very partial assemblies constructed as we think and talk for purposes

of local understanding and action" (Fauconnier 2007: 351). Further, mental spaces are understood to be structured by frames or ICMs. This means that the more comprehensive frame-level structure undergoes some sort of *contextual filtering*, which gives way to its partial equivalent in the form of a mental space. The framework also allows bidirectional mappings between spaces, summed up as the *Access Principle*: "[i]f two elements a and b are linked by a connector F (b = F(a)), then element b can be identified by naming, describing, or pointing to its counterpart a" (Fauconnier 1997: 41). Elements *a* and *b* are understood to have a trigger (*a*) – target (*b*) relationship, and mappings constructed between spaces can be traced in either direction.

In our analyses, the source/vehicle domain will be labeled as *the source input space*, while the tenor/topic/target domain will be labeled as *the target input space*. This notation is adopted from the conceptual blending theory (Fauconnier and Turner 2002); however, we limit our discussion related to this theory to this terminological distinction alone, as the present research will not be dealing with any of its tenets. For more details, the reader should address some of the relevant research in this field (e.g., Fauconnier and Turner 1994, 2000, 2002, 2006[1998]; Coulson 2001; Coulson and Oakley 2000, 2005).

Lakoff and Johnson (1980a, 2003[1980b]) distinguish between the following three types of conceptual metaphors:

i. *structural metaphors*, where "one concept is metaphorically structured in terms of another" (Lakoff and Johnson 2003[1980b]: 14). For instance, ELECTION IS A SPORT RACE and ARGUMENT IS WAR would represent instances of structural metaphors;

ii. *orientational metaphors* include the following pairs of metaphors: HAPPY IS UP – SAD IS DOWN; CONSCIOUS IS UP – UNCONSCIOUS IS DOWN; MORE IS UP – LESS IS DOWN; GOOD IS UP – BAD IS DOWN; etc. (Lakoff and Johnson 2003[1980b]: 14–21). Essentially, these metaphors are based on spatial relations coupled with conventional (i.e., cultural) evaluations of favorable/unfavorable positions (e.g., UP is associated with positive evaluations, unlike DOWN which is typically attributed negative connotations). In other words, this group of metaphors "structure[s] concepts linearly, orienting them with respect to nonmetaphorical linear orientations" (Lakoff and Johnson 1980a: 195);

iii. *ontological metaphors* "involve the projection of entity or substance status on something that does not have that status inherently" (Lakoff and Johnson 1980a: 196). Some of the ontological metaphors discussed in Lakoff and Johnson (2003[1980]: 25–34) include the following: INFLATION IS AN ENTITY, THE MIND IS A MACHINE, THE MIND IS A BRITTLE OBJECT, THE MIND IS A CONTAINER, COUNTRY IS A CONTAINER, RACE IS A CONTAINER, THEORY IS A

LIVING ENTITY, and INFLATION IS A LIVING ENTITY. In all these cases, our embodied, physical experience with the world affords the conceptualization of abstract concepts.

However, in their afterword to the 2003 edition of *Metaphors We Live By*, Lakoff and Johnson (2003[1980b]: 264) recognize that "the division of metaphors into three types – orientational, ontological, and structural – was artificial." In fact, all metaphors possess certain characteristics that make the structural, ontological, and orientational, at the same time. Namely, all metaphors can be understood as structural to the extent that they involve mappings between various structures. They can also be viewed as orientational, insofar as "they map orientational image schemas" (Lakoff and Johnson (2003[1980b]: 264). Finally, since all metaphors "create target domain entities" Lakoff and Johnson (2003[1980b]: 264) they can also be seen as ontological.

As mentioned above, cross-domain mappings are partial and systematic. The partial nature of the mappings means that the mappings between the source and target domain involve only those elements that are relevant. The systematic nature means that "features of the source and target domain are joined so that the metaphor may be extended or have its internal logic" (Saeed 2003: 348). For instance, the conceptual metaphor ARGUMENT IS WAR (Lakoff and Johnson 2003[1980b]: 4–6) affords the conceptualization in which interlocutors can be injured by arguments, lose a war, or win an argument. Another important notion in the framework of CMT is that of metaphorical entailments. These refer to "rich additional knowledge about a source […] mapped onto a target" (Kövecses 2010: 122). For instance, with the conceptual metaphor ARGUMENT IS A JOURNEY, the entailment that we can stray from the main path is transferred into the domain of argument, to the extent that we can also make an unnecessary digression in an argument.

Another important trait of conceptual metaphors is that they can give way to more elaborate metaphor systems (Lakoff and Johnson 2003[1980b]; Lakoff 2006[1993]). Metaphor systems exhibit hierarchical organization, and "metaphors higher up in the hierarchy tend to be more widespread than those mappings at lower levels" (Lakoff 2006[1993]: 209–210). One important metaphor system discussed in the literature (e.g., Lakoff 2006[1993]; Kövecses 2010; Evans and Green 2006) is the EVENT STRUCTURE METAPHOR which includes the following mappings:

– STATES ARE LOCATIONS (bounded regions in space).
– CHANGES ARE MOVEMENTS (into or out of bounded regions).
– CAUSES ARE FORCES.
– ACTIONS ARE SELF-PROPELLED MOVEMENTS.
– PURPOSES ARE DESTINATIONS.
– MEANS ARE PATHS (to destinations).
– DIFFICULTIES ARE IMPEDIMENTS TO MOTION.

- EXPECTED PROGRESS IS A TRAVEL SCHEDULE; A SCHEDULE IS A VIRTUAL TRAVELER, WHO REACHES PREARRANGED DESTINATIONS AT PREARRANGED TIMES.

- EXTERNAL EVENTS ARE LARGE, MOVING OBJECTS.

- LONG TERM, PURPOSEFUL ACTIVITIES ARE JOURNEYS (Lakoff, 2006[1993]: 204).

Each mapping also maintains its entailments – for instance, CHANGES ARE MOVEMENTS entails that "lack of control over change is viewed as lack of control over movement [and] that accidental changes are conceptualized as accidental movements" (Kövecses 2010: 164).

Different source domains that can be used to characterize the same target domain reveal the notion of metaphor coherence. For example, the target domain ARGUMENT can be described by the source domains of JOURNEY and CONTAINER. Different source domains will necessarily highlight different aspects of the target. Metaphorical coherence is sanctioned by the overlap of purposes which "can be characterized in terms of shared metaphorical entailments" (Lakoff and Johnson 2003[1980b]: 97). Such overlap between entailments can also yield complex coherence across metaphors, like with conceptual metaphors ARGUMENT IS A JOURNEY, ARGUMENT IS A CONTAINER, and ARGUMENT IS A BUILDING (Lakoff and Johnson 2003[1980b]: 97–105). Namely, these three metaphors "are part of whole metaphorical systems that together serve the complex purpose of characterizing the concept of an argument in all of its aspects" (Lakoff and Johnson 2003[1980b]: 105).

In CMT, an important distinction is made between a *metaphorical expression* and *conceptual metaphor*. Namely, conceptual metaphor refers "to the conceptual mapping, and the term 'metaphorical expression' […] to an individual linguistic expression [...] that is sanctioned by a mapping" (Lakoff 2006[1993]: 192). Put differently, "metaphorical expressions are the linguistic manifestation of underlying conceptual knowledge" (Coulson 2006: 33). This, in turn, shows that "metaphor is not just a matter of language, but of thought and reason [while language is seen] as a reflection of the mapping" (Lakoff 1990: 49).

An important classification of conceptual metaphors includes the distinction between *novel* and *conventional* (i.e., *entrenched*) metaphors. Charteris-Black (2004: 17) argues that entrenched metaphors "reflect a diachronic process whereby use that was originally 'metaphorical' becomes established as 'literal' within a language." In that sense, the initially novel metaphor can actually become entrenched over longer periods of time and due to frequent use. Consequently, "a conventional metaphor can be understood as an entrenched trigger that fires out individual metaphorical expressions" (Figar 2013a: 19). Additionally, Charteris-Black (2004: 244) also proposed a hierarchical organization of conceptual levels for metaphor analysis that include the following: (i) conceptual key, at the highest point in the hierarchy (e.g., POLITICS IS CONFLICT), (ii)

conceptual metaphor, corresponding to the conceptual key (e.g., POLITICS IS WAR, ELECTION IS A BATTLE, etc.), and (iii) metaphorical expression (i.e., linguistic expression), which corresponds to the given conceptual metaphor, and, in turn, to the overarching conceptual key.

CMT also proposes a very important constraint that restricts the range of possible cross-domain mappings. With its roots established in Lakoff and Turner (1989), it was introduced as the Invariance Hypothesis (Lakoff 1990; Turner 1990), and later reformulated as the Invariance Principle (Lakoff 2006[1993]). Namely, according to this principle, "metaphorical mappings preserve the cognitive topology (this is, the image-schema structure) of the source domain, in a way consistent with the inherent structure of the target domain" (Lakoff 2006[1993]: 199). This constraint highlights both the import of the image schematic structure and the import of the topology of the target domain in metaphorical mappings. In other words, the "inherent target domain structure automatically limits what can be mapped" (Lakoff 2006[1993]: 200), which has been dubbed as the *target domain override*. In effect, this also "prevents entailments [from the source domain which are not compatible] from projecting to the target domain" (Evans and Green 2006: 303).

2.5.1.5 IMAGE SCHEMATA, THEIR METAPHORICAL PROJECTIONS, AND FORCE DYNAMICS

Building on the notion of embodied cognition, one of the cornerstone ideas in cognitive linguistics, Johnson (1987: 23–24) introduced the construct of image schemata (or embodied schemata), understood as non-propositional structures, different from rich mental imagery, which "organize our mental representations at a level more general and abstract than that at which we form particular mental images." Moreover, a schema is understood as "a recurrent pattern, shape, and regularity in, or of, [the] ongoing ordering activities" (Johnson 1987: 29) that enable us to construct meaning and make sense of our everyday activities, actions, comprehension, and experience. Oakley (2007: 215) defines image schemata as "a condensed redescription of perceptual experience for the purpose of mapping spatial structure onto conceptual structure." In the developmental context, Mandler (1992, 2012) defines schemata as conceptual primitives understood as "dynamic analog representations of spatial relations and movements in space [where] these new representations are the primitive meaning elements used to form accessible concepts" Mandler (2012: 591). In other words, the notion of image schemata as conceptual primitives entails that "they are topological" (Oakley 2009: 64). Moreover, according to Mandler (2012: 592), "image schemas provide the earliest meaning available to the infant for purposes of preverbal thought," thereby forming the scaffolding for language acquisition. In the context of psycholinguistics and cognitive psychology, Wagner et al.

(1981), Gibbs et al. (1994), and Gibbs and Colston (1995), among others, also offered evidence that support the idea of the psychological reality of image schemata.

One of the most salient traits of image schemata is their dynamic nature, and, in that sense, schemata are further understood as "a continuous structure of an organizing activity" (Johnson 1987: 29). The dynamic nature of schemata can also be connected to the fluid nature of meaning which always appears as a function of context. This dynamic nature of image schemata is twofold: (i) schemata afford the organization of experience and meaning construction in a structured, comprehensible manner, and (ii) they are not simple, rigid templates of fixed structure; instead, they are flexible and can be adapted to specific contexts so as "to fit many similar, but different, situations that manifest a recurring underlying structure" (Johnson 1987: 30).

Image schemata can also undergo certain transformations, licensed by "our ability to manipulate abstract structure in mental space" (Johnson 1987: 26). These transformations include the following (Johnson 1987: 26):

i. path-focus to end-focus – reflected in our ability to mentally trace the path of a moving object and focus on its end-point;

ii. multiplex to mass – we can alter our viewpoint so as to first picture a group of objects which becomes a single object as we move away from it;

iii. following a trajectory – we can mentally trace the trajectory of a moving object;

iv. superimposition – we can mentally superimpose objects onto each other; i.e., we can imagine objects of shifting sizes either become containers for other objects, or become situated within other objects.

In terms of their internal structure, image schemata are understood as gestalts, insofar as they are "coherent, meaningful, unified wholes within our experience and cognition" (Johnson 1987: 41), and as such they serve as the scaffolding for meaning construction. In broader terms, an experiential gestalt structure refers to "an organized, unified whole within our experience and understanding that manifests a repeatable pattern or structure" (Johnson 1987: 44). To further elaborate on the gestalt characteristics of schemata, Johnson (1987: 42–48) explores the force schema. As another ubiquitous schema, Johnson argues that it affects the construction of meaning and our reasoning, seeing that we are constantly engaged in, or witnesses of different kinds of forceful interactions. The gestalt structure of force schemas can be represented in the following manner (Johnson 1987: 43–44):

– force is typically manifested via interaction, or at least potential interaction;

– force typically involves the motion of objects in space; moreover, this motion is directional;

– force involves a path. In prototypical cases, a schema "would have the force vector moving along a path, or moving an object along a path" (Johnson 1987: 43). In less prototypical cases

(e.g., a bomb blast), there can be multiple paths with objects moving in various directions as the result of the force;

- in each case, we can identify a point of origin, direction, and target;
- "forces have degrees of power or intensity" (Johnson 1987: 43);
- since force entails interaction, it typically involves causality that can be 'reconstructed' into sequences.

While Jonson acknowledges that image schemata can indeed be decomposed into component parts, he also stresses the fact that his understanding entails "that all image schemata are characterizable as irreducible gestalts" (Johnson 1987: 44). In addition to the above-listed characteristics of the force schema (understood as a gestalt structure), Johnson (1987: 45–48) goes on to discuss additional seven instantiations of the force schema that include the following force gestalts:

i.   compulsion – which can basically be paraphrased as caused motion, insofar as it involves the change of position under the influences of an external force;

ii. blockage – which entails the existence of an obstacle, that can either halt further progress, or can be bypassed;

iii. counterforce – a prototypical instantiation of this gestalt would be a head-on collision;

iv. diversion – unlike the previous case, the objects involved in the interaction do not collide head-on, but their force vectors are deflected (i.e., their directions change and they are diverted from the original path);

v.   removal of restraint – entails the removal of an obstacle by another force;

vi. enablement – entails an individual's ability to exert force over an object (i.e., the individual has the potential to exert force);

vii. attraction – similar to the actual magnetic or gravitational force, attraction can be manifested on a more abstract, emotional level, and the force vectors in this case can be actually present, or they can have the potential to become activated.

Additionally, force schemata can also be identified in the construction of meaning with modal verbs and in speech acts where they reflect force dynamic patterns of interaction[28].

Another important trait of image schemata is that they can undergo metaphorical projections. Namely, Johnson (1987: 73) argues "that metaphorical elaborations of image schemata give rise to form and structure in our experience and understanding." In other words, image schemata "can be extended by a process of metaphorical extension into abstract domains" (Saeed 2003: 355), and "a

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[28] For more details on image schemata and force dynamic interaction see Jonson (1987: 57-61), Talmy (1988), and Oakley (2005).

great many, if not all abstract inferences are actually metaphorical versions of spatial inferences that are inherent in the topological structure of image schemas" (Lakoff 1990: 54). Johnson discusses the notion of metaphorical projections of image schemata using the example of the BALANCE schema, with balance as one of the most ubiquitous embodied experiences closely related to the notion of equilibrium. In effect, the meaning of balance stems from "the image-schematic structures that make [the embodied] experiences and activities coherent and significant for us" (Johnson 1987: 75). In other words, the construction of meaning in this context is afforded by the preconceptual structure of the experience of balance. In the prototypical balance schema, there are force vectors "and some point, axis or plane in relation to which those forces are distributed" (Johnson 1987: 85). Also, balance entails an equal distribution of forces. Another version of the balance schema is the equilibrium schema where symmetrical vectors map onto a single point of a curved surface (Johnson 1987: 86).

As examples of metaphorical projections Johnson (1987: 89) discusses the balance of arguments, as in *arguments carrying equal weight*, *the argument can tip in one's favor*, etc. Also, this balance (or equilibrium) is evident in the case of the conceptual metaphor ARGUMENT IS WAR, insofar as the shift in the weight of arguments can lead to victory or loss in an argument. There are also examples of legal balance, where attorneys can use arguments to make the jury lean in their favor (Johnson 1987: 90). Additionally, there are examples of mathematical equality (Johnson 1987: 90), based on mappings between the more abstract, mathematical concepts, and more concrete physical objects or entities. For example, when solving an equation, expressions on both sides of the equality sign need to have identical values. Overall, Johnson (1987: 98) concludes that metaphorical projections of image schemata give way to coherent and meaningful structuring of our experience.

Johnson (1987: 21; 30–40) also highlights the ubiquity of the containment schema which is based on our everyday bodily experience with bounded, or enclosed spaces or objects (e.g., vehicles, buildings, rooms, bags, boxes, etc.). Moreover, the notion of containment is present in both three- and two-dimensional representations. For example, verb combinations with the adverbial particle *out* often reflect the prototypical spatial sense of the particle. Johnson (1987: 32–33) discusses three basic schemata associated with the spatial use of *out*, based on the research conducted by Susan Lindner. These include the following (Johnson 1987: 32):

i. *John went out of the room.*
   Let out your anger.
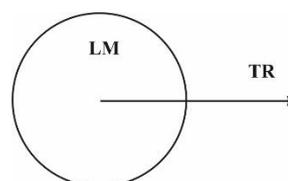
ii. *Pour out the beans.*
Send out the troops.
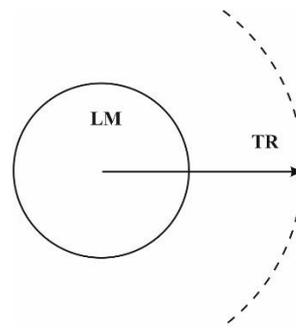
iii. *The train started out from Chicago.*

It is evident that all cases are coupled with some forms of motion. In the first case, the trajector is leaving some kind of a closed container; in the second case, a group of trajectors is leaving the container simultaneously; finally, in the third case, the initial starting point of a path schema is actually conceptualized as a container. Additionally, there are also instances of metaphorical extensions of the containment schema, where the basic schema "is figuratively elaborated and extended so as to allow the landmark and trajector roles to be filled by entities that are no longer strictly physical or spatial in the prototypical senses" (Johnson 1987: 34). Metaphorical projections of the containment schema are classified as ontological metaphors (Saeed 2003: 355). Some of the examples discussed in Johnson (1987: 34–36) include the following:

– "Tell me your story again, but leave out the minor details." (STORY IS A CONTAINER)

– "I give up, I'm getting out of the race." (SPORT RACE IS A CONTAINER)

– "Don't you dare back out of our agreement." (AGREEMENT IS A CONTAINER)

– "We kicked him out of the club." (SPORT CLUB IS A CONTAINER)

Another salient image schema that permeates our everyday embodied experience of the world is the path schema. It is based on the experience of physical motion, and it involves "(i) a starting point; (ii) and endpoint; and (iii) a sequence of contiguous locations connecting the source with the goal" (Johnson 1987: 113). In that sense, a path is typically directional, insofar as it involves motion from the starting-point to the end-point; consequently, the motion between the starting- and end-point implies that the trajector needs to pass through all the contiguous points along the path. As was the case with the previously discussed schemata, path schemata can also undergo metaphorical projections, where the experience of physical motion is mapped onto more abstract experiences or concepts. For instance, the sentence *"Tom has gone a long way toward changing his personality"* instantiates the conceptual metaphor PURPOSES ARE PHYSICAL GOALS (Johnson 1987: 115). Corpus-based studies of the use of metaphor in discourse have also revealed a range of JOURNEY metaphors based on the path schema (e.g., Charteris-Black 2004). The import of spatial schemata for human

cognition has also been recognized in the developmental context, where, for instance, Mandler (2012) offered an in-depth analysis of the reasons why the conceptual system is grounded in spatial experience. Namely, (i) motion through space is very salient, (ii) it is easy to understand, (ii) it can afford the construction of an operational conceptual system, (iii) it possesses a defined structure, and (iv) the schematic nature of motion affords easier recall (Mandler 2012).

2.5.1.6 CRITICISM OF CMT AND CONCEPTUAL MAPPINGS

As it developed, the CMT framework also received some serious criticism which predominantly concerned the cognitive status and psychological reality of conceptual mappings, the explanatory value of conceptual metaphors, and the validity of the Invariance Principle. Additionally, scholars advocating the CMT paradigm are yet to provide a corresponding computational model.

Among others, Murphy (1996: 174) discusses "metaphor representation as a theory of conceptual structure." Namely, CMT represents the relation between the topic and vehicle as indirect, which requires the presence of mappings. One of the issues with CMT is that Lakoff and Johnson did not provide a psychological model, nor a process model of metaphoric representation. In effect, Murphy (1996) offers a psychological model derived from the work in the domain of CMT. The model has a strong and a weak version. The former suggests that "some concepts are not understood via their own representations but instead by (metaphoric) reference to a different domain" (Murphy 1996: 176). Under the strong version of metaphoric representation, conceptual metaphors such as ARGUMENT IS WAR afford the construction of meaning through the mappings between the two domains – i.e., our general knowledge concerning WAR is used to facilitate the understanding of ARGUMENTS. Also, in line with Lakoff (2006[1993]), metaphorical expressions are secondary to the underlying conceptual structure. Moreover, the strong view suggests that "one does not really understand an argument – one only understands war, and the understanding of arguments is parasitic on this concept" (Murphy 1996: 178).

The weak version, on the other hand, stipulates that "metaphorical mappings influence the representation of the target (i.e., topic) domain only to a certain extent, and target concepts necessarily have their distinct representation (Murphy 1996: 178). In other words, "the representation [of the target concept] itself is not metaphoric" (Murphy 1996: 178). With the metaphor ARGUMENT IS WAR, the weak view suggests that the concept of ARGUMENT has a separate representation, and is not completely understood as a function of the domain of WAR. Consequently, it is obvious that "the critical difference between the strong and weak versions, then, has to do with independence of representation" (Murphy 1996: 179). Under the strong view, it is practically impossible to construct

the meaning of ARGUMENT without resorting to its (metaphorical) relation to the concept of WAR; with the weak view, on the other hand, the concept of ARGUMENT possesses a complete meaning, and may be only somewhat influenced by the concept of WAR.

Murphy (1996: 179) also proposes an alternative view, dubbed the structural similarity view, which excludes the strong version of metaphorical representation by suggesting that all concepts have only direct representations. What is more, conceptual metaphors "arise out of the [structural] similarity of pre-existing conceptual structures" (Murphy 1996: 179). In effect, conceptual mappings are made redundant by this view, insofar as "it does not claim a causal role for metaphors on mental representations" (Murphy 1996: 180). With the metaphor ARGUMENT IS WAR, the domains have separate representations, and the domain of WAR has no causal influence on the domain of ARGUMENT. Such a position also circumvents the issue of multiple metaphors used to structure the same topic domain, since "each metaphor type simply picks out different aspects of the concept's content" (Murphy 1996: 196). This is facilitated by the fact that the domain of ARGUMENT has its own independent representation.

What remains unclear is whether conceptual structure is influenced by metaphorical expressions (in accordance with the weak view), or whether metaphorical expressions are licensed by the entrenched conceptual patterns (in accordance with the structural similarity view) (Murphy 1996: 182). Murphy also argues that the weak version suffers from the circularity of evidence, since there is little psychological data to support the existence of metaphoric representation. For instance, Keysar and Bly (1995, 1999) downplay the psychological and affective effects of the metaphor ARGUMENT IS WAR, insofar as the metaphorical conceptualization "can be the result of an inference that is made after learning the meanings of conventional expressions instead of motivating those expressions in the first place" (Keysar et al. 2000: 578). In other words, conventional metaphorical expressions can be understood without the activation of the corresponding conceptual mappings.

Another problem with CMT is the presence of multiple metaphorical mappings used to structure a single topic domain. For example, Murphy (1996: 185) analyzes the following conceptual metaphors referring to the concept of ARGUMENT: "ARGUMENT IS A CONTAINER, ARGUMENT IS A BUILDING, ARGUMENT IS A JOURNEY, and ARGUMENT IS WAR." However, these mappings are not used to causally organize the domain of ARGUMENT and all its relevant aspects, "but are operating after the fact to describe or characterize the directly-represented domain" (Murphy 1996: 185). Additionally, Murphy (1996) also offers arguments against the Invariance Principle. Namely, according to this principle, each domain involved in a metaphorical mapping has inherent structure. With the metaphor ARGUMENT IS WAR, the structure of the concept of ARGUMENT involves a verbal exchange between interlocutors, which is underspecified, and the metaphorical mapping affords additional clarification.

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In the case of multiple metaphors, each of them would offer its contribution in relation to the inherent structure of the concept, with potentially different implications. However, the inherent structure of concepts involves direct representation, which is at odds with the idea of metaphorical representation. In that sense, "the Invariance Principle cannot simultaneously preserve metaphoric representation and solve the problem of multiple metaphors" (Murphy 1996: 187).

McGlone (2007) brings into question the explanatory value of conceptual metaphors. He stresses two roles that CMT theorists typically attribute to conceptual metaphors: (i) their representational role in understanding target domains, and (ii) their process role, according to which metaphorical mappings afford the comprehension of the corresponding metaphorical expressions. McGlone (2007) begins his argument by highlighting the lack of evidence in favor of metaphorical representation of concepts stipulated by CMT. He goes on to present Murphy's (1996) strong and weak versions of metaphoric representation discussed above. Again, he stresses the fact that the advocates of CMT are yet to overcome the issue of the circularity of arguments, insofar as the explanatory model of metaphorical representation must be based on "claims […] independent from the linguistic evidence" (McGlone 2007: 115). Additionally, he argues that it is typically assumed "that our intuitions about idioms' meanings directly reflect the way these meanings are represented in semantic memory [which reflects a] post-hoc rationalization process" (McGlone 2007: 115), which is erroneous.

In addition to the two versions presented in Murphy (1996), McGlone (2007) also discusses a third, even weaker version that includes the process role, outlined in previous work by Gibbs (1992, 1994). According to this third alternative, "conceptual metaphors underlie the cognitive process by which we interpret figurative language" (McGlone 2007: 116). Namely, Gibbs (1992: 576) argues that [conceptual] metaphor is a fundamental scheme in long-term memory by which people make sense of their experience." Moreover, such metaphorical mappings impose constraints on the comprehension of figurative language (Gibbs 1994: 424). In other words, a conceptual mapping instantiates an entrenched schema and its corresponding mappings which facilitate and direct the construction of meaning. While there has been some evidence in favor of this view (e.g., Nayak and Gibbs 1990), a number of studies have also reported evidence in favor of the potentially more appropriate *attributive categorization view* (e.g., Glucksberg et al. 1997). For instance, McGlone (1996) conducted a series of four experiments to explore whether metaphor comprehension involves the activation of entrenched conceptual mappings or the construction of attributive categories. The obtained results did not support the CMT view. Also, Glucksberg et al. (1993) presented evidence contradicting the findings outlined in an earlier study by Nayak and Gibbs (1990)[29].

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[29] For a detailed overview of these two studies see section 2.5 below.

McGlone (2007) argues that CMT suffers from the overgeneralization and oversimplification of the relationship between metaphorical expressions and metaphorical thought. In other words, CMT "trumpets the importance of metaphor in human cognition, yet its major flaw is a hyper-literal construal of the relationship between metaphoric language and thought" (McGlone 2007: 122). Moreover, the view also proposes that the comprehension of abstract domains is almost completely dependent on the knowledge about the more concrete and more tangible domains. Consequently, this does not allow the construction of "propositions about abstract concepts with figurative intent" (McGlone 2007: 122). Finally, McGlone (2007: 123) concludes that CMT blurs "the distinction between literal and metaphorical [thereby becoming] incoherent, both as a theory of conceptual structure and as a model of language understanding."

McGlone (2011: 564) identified four main issues with the CMT framework: (i) it "is attributionally ambiguous," (ii) it instantiates "the homunculus problem," (iii) it involves circular reasoning, and (iv) "it is not parsimonious." All of these arguments constitute a reply to Gibbs (2011) who attempted to offer a positive critical overview of CMT. In terms of attributional ambiguity, McGlone (2011) raises a question of whether each instantiation of a metaphorical expression necessitates the activation of all possible correspondences between the source and target domain, and also goes on to stress the difference between metaphor comprehension and metaphor appreciation. Additionally, he claims that there is virtually no empirical evidence to answer the questions of whether the presumed entrenched metaphorical mappings are activated before interpretation along with the relevant entailments, or whether the mappings are constructed online.

Similar to the homunculus problem, where theorists postulated the existence of little men in the mind who identify the images a person encounters, CMT tackles metaphor comprehension "by positing metaphors in our minds that tell us how to interpret metaphors we encounter in discourse, and also how to use them appropriately" (McGlone 2011: 566). The only potential explanatory elements in the framework are mappings between domains and the Invariance Principle. However, even Gibbs (2011) recognized the issue with the Invariance Principle, insofar as it does not "explain why certain image-schematic source attributes are routinely exploited in figurative language […] while other equally schematic attributes […] are ignored" (McGlone (2011: 566). One way out of this is the postulation of primary metaphors; however, this does not yield any explanatory validity. Instead, "it explains [the notion of metaphor] away" (McGlone 2011: 567).

The issue of circular reasoning is reflected in the fact that metaphorical expressions are treated as "both the predictor of conceptual metaphors' representational structure and as the predicted outcome of these structures" (McGlone 2011: 567). In other words, metaphorical expressions identified in corpus-based studies are understood to reflect, and used to identify, the presumed

conceptual mappings that license the construction of such metaphorical expressions in the first place. Consequently, objective evidence in favor of CMT should not appear as a direct function of our intuition. Finally, the issue of parsimony is summed up by the fact that many previous studies presented the obtained findings as support for the CMT framework, even though this was at odds with the Occam's Razor, i.e., the preference for a simpler, more parsimonious interpretation (McGlone 2007: 569). Overall, McGlone (2011: 572–573) concludes that, in order to increase the explanatory value of the framework, CMT should include "explanatory primitives that are conceptually simpler than the phenomena [they] presume to explain." Moreover, in order that their role in metaphor comprehension be confirmed, such primitives should undergo experimental scrutiny.

Jackendoff and Aron (1991) gave a critical review of Lakoff and Turner's *More Than Cool Reason*. Namely, Jackendoff and Aron (1991: 324) stress that Lakoff and Turner (1989) list *conventionalization* and *conceptual indispensability* (or *basicness*) as two important characteristics of metaphors. The former relates to the automatic access to entrenched conceptualizations, while the latter entails that without metaphors, our thoughts would most likely be structured in a completely different fashion. The most obvious problem with Lakoff and Turner's (1989) analysis rests in the improper choice of schemas that they use. Namely, they propose specific schematizations, "but do not show why that schema, rather than something more general or more specific, is the most appropriate" (Jackendoff and Aron 1991: 324). For instance, Jackendoff and Aron (1991: 324–325) question the proposed higher degree of suitability of the conceptualization LIFE IS FIRE, over LIFE IS A FLAME, or LIFE IS SOMETHING THAT GIVES OFF HEAT. In that sense, Lakoff and Turner (1989) seem to rely more on a heuristic intuition, rather than provide a comprehensive methodology that could be applied iteratively, in an algorithmic fashion by other researchers. Consequently, Jackendoff and Aron (1991) also bring into question the nature, choice, and validity of the presumed underlying conceptual mappings. Also, the overgeneralization of the use of the term *metaphor* was criticized by McCormack (1989) who "rejected the radical position according to which everything is a metaphor" (Antović 2007: 169).

2.5.1.7 METAPHOR IDENTIFICATION PROCEDURES

In the present section we review two of the more dominant methodologies for metaphor identification – the Metaphor Identification Procedure (MIP) as introduced by the Pragglejaz Group, and the subsequent, improved version, dubbed MIPVU, developed at *Vrije Universiteit*, Amsterdam by Gerard Steen and his colleagues.

2.5.1.7.1 MIP

The Pragglejaz Group (2007) developed a metaphor identification procedure (MIP), which represents "an explicit, reliable, and flexible method for identifying metaphorically used words in spoken and written language" (Pragglejaz Group 2007: 2). The aim of the procedure was not to explore the range of metaphorical expressions corresponding to the postulated conceptualizations (i.e., conceptual key and conceptual metaphors in the sense of Charteris-Black 2004), but rather to "establish, for each lexical unit in a stretch of discourse, whether its use in the particular context can be described as metaphorical" (Pragglejaz Group 2007: 2) or not. The MIP includes the following four basic steps:

   i.   first, the analyst is required to read the entire text in order to gain understanding of the topic and the overall meaning;

   ii.   the next step involves the identification of lexical units;

   iii.   relying on the immediate context (i.e., phrases appearing before and after the target lexical unit), the contextual meaning of the target lexical unit is identified. Then the analyst is required to determine whether the target item has a more basic meaning in other contexts of use compared to the given context. This more basic meaning need not be the most frequent meaning of the item, and it can be "more concrete […], related to bodily action, more precise (as opposed to vague), [or] historically older" (Pragglejaz Group 2007: 3). If a more basic meaning of the target item in other contexts can be identified (compared to the current context), the analyst must "decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it" (Pragglejaz Group 2007: 3). In other words, the Pragglejaz Group understands metaphorical meaning as the results of "a contrast between the contextual meaning of a lexical unit and its more basic meaning, the latter being absent from the actual context but observable in others" (Steen et al. 2010: 6);

iv.   finally, if the meaning of the target item contrasts with the more basic meaning and is understood as a comparison in relation to it, the target lexical unit is understood as metaphorical. It is also important to note that comparison here is not meant in the sense of the theories of metaphor comprehension based on comparison, but rather as "a way of roughly identifying metaphorically used words as distinct from those that express other kinds of meaning, including metonymy" (Pragglejaz Group 2007: 31). Namely, metonymy is based on contiguity (e.g., a part-whole relationship), which is different from comparison[30].

Another benefit of MIP is that the results are also reported in a systematic fashion rendering them comparable to results from other studies, which can in turn contribute to the overall level of convergent validity of the various studies from the field. To that end, the Pragglejaz Group (2007: 14) offer a template given in Table 2.3.

The identification of lexical units was done using the *Macmillan English Dictionary for Advanced Learners*, and all headwords from the dictionary were treated as lexical units (Pragglejaz Group 2007: 15). Collocations that appeared after the head word were understood as run-ons and were not treated as lexical units, and were analyzed as individual component words (Pragglejaz Group 2007: 15). In some cases, linguistic units include multiple words (multiword units), which poses as a potential difficulty for the application of the MIP. If a multiword unit can be decomposed into its constituents, each component is analyzed as a separate lexical unit. If it cannot be decomposed, a multiword unit should be treated as a single lexical unit. Polywords (e.g., of course, at least, etc.) are also treated as lexical units. Phrasal verbs are typically understood as undecomposable, so they were also treated as single lexical units (Pragglejaz Group 2007: 26). Bearing in mind that recent psycholinguistic research (e.g., Gibbs 1995; Titone and Connine 1999; Giora 2003; Caillies and Butcher 2007; Skoufaki 2009; Philip 2011) has shown that most idioms can actually be seen as decomposable (at least to a certain extent), the Pragglejaz Group (2007: 27) also treated "each component of an idiom as a separate lexical unit."

A possible problem for the MIP is dead metaphors. The Pragglejaz Group (2007: 30) labeled words as metaphorically used if there was "an active metaphorical basis in the sense of there being a widespread, knowable, comparison, and contrast between that word's contextual and basic meaning." Alternatively, for specific research needs, these criteria can also be applied diachronically. Also, similes identified in the corpus were not treated as metaphors. The Pragglejaz Group (2007)

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[30] The Pragglejaz Group (2007) remain aware of the import of metonymy and the possible interactions between metaphor and metonymy; still, "MIP does not presently provide a mechanism for […] suggesting whether the word may have metonymic meaning" (Pragglejaz Group 2007: 32). A simple way of distinguishing between metaphor and metonymy in some cases is the use of the "like" test (i.e., if a potential metaphorical expression can be sensically substituted by a corresponding simile).

conducted their analysis in two passes, with a period of at least one week between the passes. Each analyst made the final decision based on the results of the two passes. Finally, the analysts discussed all problematic cases and reached the final decision concerning them.

Table 2.3. Form for Reporting the Use of Metaphor Identification Procedure to Analyze a Text, and Decisions Taken (adopted from Pragglejaz Group (2007: 14))

(a) Text details:
Name
Source
Mode
Genre, register
Date of composition or production (or publishing or modification)
Length of text
Length of context read by the analysts (as apart from coded)
(b) Listener or readership assumed for the analysis:
Were contemporary meanings retained?
Were text external indications by the author used?
(c) Lexical unit decisions
Linguistic decisions: idioms, phrasal verbs, etc.
Transcription decision for oral (or dialectal) data
(d) Resources used
Which dictionary?
Which corpora?
(e) Coding decisions
Decisions about grammatical words: modals, auxiliaries, prepositions/particles, infinitive markers
Whether there is good reason to treat the whole text as metaphorical, as in allegory
(f) Analysis details
Number of analysts
Who the analysts were (at least in outline)
Precoding training received
How many "passes" (codings) were made
At what point discussion between coders took place
Reliability with respect to coders and individual words
(g) Additional/subsequent analyses
e.g., Whether an iterative procedure was adopted, coding higher level units after words
(h) Results of analyses
including statistical analyses on the agreement among metaphor analysts

Subsequent statistical analysis across cases which involved "the computation of observed and expected agreement for each pair of raters" (Pragglejaz Group 2007: 21) showed the values of Cohen's Kappa of .70 for news texts, and 0.56 for conversations. The method that included "the observation of agreement per case across all six raters" (Pragglejaz Group 2007: 21) showed the values of .72 for news texts, and 0.62 for conversations. These results are marginally reliable; however, different researchers have proposed different values of Cohen's Kappa as reliable (with values from 0.60 to 0.80 typically understood as marginally reliable). Reliability analysis across analysts was conducted based on Cohran's Q. For both news texts and conversation, the analysis showed a statistically significant difference ($p<.01$) in the number of words identified as metaphorical and non-metaphorical (Pragglejaz Group 2007: 22). However, there was significant disagreement

between the analysts for total scores for metaphorical and non-metaphorical words. Specifically, for the news texts, the analyst who scored the highest judged twice as many words as metaphorical compared to the analyst who scored the lowest; for conversations, the analyst who scored the highest rated "three times as many metaphorically used words more than the lowest scoring judge" (Pragglejaz Group 2007: 22). However, the Pragglejaz Group (2007: 22) note that these outliers are evened out after a discussion between the analysts. Additionally, one of the factors that can affect the perception of metaphoricity is the type of discourse which can be understood as a contextual variable. Apart from genre, style, or level of formality, this is also manifested in different modalities (i.e., written or spoken discourse).

2.5.1.7.2 From MIP to MIPVU

Steen et al. (2010) highlight the discrepancy between the interpretational nature of the humanities that lack the methodological rigor of natural sciences, and the pronounced tendency for explicit *measurements* typical of experimental psychology and cognitive sciences. However, the novel interdisciplinary approaches should serve to bridge this gap. Namely, increasing the level of explanatory validity of the existing theoretical models necessitates the introduction of quantitative methods and more precisely defined research methodologies. This, in turn, should yield a greater degree of convergent validity of the data, and in effect increase the explanatory validity of the models. One important area where a greater degree of scientific rigor should be introduced is metaphor identification. For instance, owing to the differences in methodologies between critical discourse studies and psycholinguistic studies dealing with the role of metaphorical framing in political discourse, Boeynaems et al. (2017) identified important differences in the results obtained in the two groups of studies. Namely, through a systematic overview of previous research, the authors found "diverging effects of metaphorical framing" (Boeynaems et al. 2017: 129) afforded by the two approaches.

Steen et al. (2010: 7) emphasize the fact that metaphor represents a relational term to the extent that it is "metaphorical to some language user." Moreover, the aim of the Pragglejaz Group was not to identify the specific underlying conceptualizations, but only to identify metaphorically used words (Steen et al. 2010: 8). Namely, "to determine which conceptual domains these words belong to is not needed, extremely difficult, and a research question of its own" (Steen 2007: 286). Introducing this stage into the MIP would also reduce the reliability of the model, inasmuch as it would introduce unnecessary *noise*, since "identifying conceptual metaphors is open to much greater disagreement between analysts" (Steen et al. 2010: 8). This methodological distinction between the

identification of metaphorical expressions and their corresponding conceptualizations has also been stressed in previous research (e.g., Charteris-Black 2004; Cameron 2003; Black 1962). Additionally, metaphor identification in the domain of linguistic studies is not restricted by the various models of metaphor processing proposed in psycholinguistics (see section 2.5 below). In effect, MIP was concerned only with the linguistic (rather than conceptual) realization of metaphors (Steen et al. 2010: 8). In that sense, the Pragglejaz Group did not stipulate that the identified metaphorically used words bear any cognitive reality or that they entail the activation of cross-domain mappings. Instead, the results offered by the MIP remain invariant in relation to the psycholinguistic models of metaphor processing. Any claims of that kind would require additional analyses.

Building on the MIP (Pragglejaz Group 2007), Steen et al. (2010) introduced an extended version dubbed MIPVU[31]. MIPVU stresses the fact that "indirect conceptualization by metaphor causes some form of referential and sometimes even topical discontinuity or incongruity in discourse, whether the indirect conceptualization is expressed in direct or indirect language. It introduces an alien conceptual domain into the dominant conceptual domain of the discourse (or discourse segment)" (Steen et al. 2010: 11). Specifically, MIPVU involves the following stages in the identification of metaphor-related words (Steen et al. 2010: 25–26):

   i.   the basic unit of analysis is a single lexical unit, which is "motivated by the functional relation between words, concepts and referents in discourse analysis" (Steen et al. 2010: 27). The first step involves the investigation of individual lexical units in the text for potential metaphor-related meaning (MRW). Similar to polywords, phrasal verbs are also treated as single lexical units. Compound nouns are also treated as single lexical units. Prepositional verbs and verbs followed by free adverbs, on the other hand, are not treated as single units[32];

   ii.   if a word is used indirectly, and its contextual meaning can be explicated as a type of mapping from its more basic meaning, the sense of the word is understood as metaphorical (MRW). This involves the following steps:

      a.   first, the contextual meaning of the lexical unit is identified. Contextual meaning is defined as the meaning a lexical unit has "in the situation in which it is used" (Steen et al. 2010: 35);

      b.   the analyst then assesses whether the lexical unit has a more basic meaning. The more basic meaning is understood "as a more concrete, specific, and human-oriented sense in contemporary language use" (Steen et al. 2010: 35);

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[31] VU stands for *Vrije Universiteit*, the university in the Netherlands where the model was developed.
[32] For details concerning the identification of different types of phrasal verbs see Steen et al. (2010: 28–30).

c. the basic meaning is compared to the identified contextual meaning. The two meanings need to differ sufficiently, as metaphorical meaning is understood to "depend on a contrast between a contextual meaning and a more basic meaning" (Steen et al. 2010: 37). Additionally, the difference between the two meanings also needs to be sufficient enough for the contextual meaning "to be seen as potentially participating in another semantic or conceptual domain" (Steen et al. 2010: 37). Additionally, Steen et al. (2010: 37) propose the following two guidelines: (i) if a lexical unit has multiple senses, these are considered sufficiently distinct, and (ii) if a lexical unit has only one sense it is understood as the basic sense, and as sufficiently distinct if it differs in any way from the contextual sense;

d. the analyst explores whether there is any form of similarity between the two meanings, which is understood as a requirement for the word to be seen as metaphorically related (MRW). Similarities normally entail "external or functional resemblances (attributes and relations) between the concepts they designate [and] it is immaterial whether these resemblances are highly schematic or fairly rich" (Steen et al. 2010: 37);

iii. if a word is identified as used directly and that sense "may potentially be explained by some form of cross-domain mapping to a more basic referent or topic in the text" (Steen et al. 2010: 26), the word should be marked as direct metaphor (MRW, direct). This includes the following steps:

a. the analyst is first required to identify the referent and the corresponding topic shifts;

b. it should be determined "whether the incongruous lexical units are to be integrated within the overall referential and/or topical framework by means of some form of comparison" (Steen et al. 2010: 38);

c. it should be determined "whether the comparison is nonliteral or cross-domain" (Steen et al. 2010: 38);

d. it should be determined whether the comparison constitutes some type of indirect discourse referring to the topic of the text or the referent.
Finally, if the target lexical item meets the conditions b–d, it should be labeled as MRW, direct (direct metaphor);

iv. when the third person pronouns or ellipsis are used as substitutions of indirect meaning, and if those pronouns or ellipsis "may potentially be explained by some form of cross-domain mapping from a more basic meaning, referent, or topic" (Steen et al. 2010: 26), these should be labeled as implicit metaphors (MRW, implicit). In that sense a distinction is made between implicit metaphor by substitution and implicit metaphor by ellipsis (Steen et al. 2010: 39). In

general terms, the implicit metaphor involves "one linguistic element of cohesion (… substitution or ellipsis …) that is not necessarily metaphorical by itself but refers back to a previous word and concept that was metaphorically used" (Steen et al. 2010: 40);

v. if a single word signals a potential cross-domain mapping (e.g., contrast or comparison), it should be coded as a metaphor flag (MFlag);

vi. with newly-coined words, their constituent elements should be investigated along the previous five steps.

Steen et al. (2010) go on to discuss the application of their procedure in news texts, conversation, fiction, academic discourse, and Dutch news and conversation. Although the reliability analysis of the English materials revealed a certain degree of analyst bias (as was the case with MIP), the issue was successfully resolved through discussions between the analysts, where all problematic cases were resolved. Additionally, when analyzed on a case-by-case basis, there was a higher level of agreement between analysts. Moreover, "it is important to note that all of these figures hold across four rather different registers" (Steen et al. 2010: 161). The results also showed a higher degree of reliability compared to MIP.

Overall, the two metaphor identification methodologies (MIP and MIPVU) should afford a greater level of convergent validity of findings in future studies, insofar as they afford a greater level of control in metaphor identification.

2.5.1.8 METAPHOR CLUSTERS AND CLUSTER IDENTIFICATION

In the present section we give an overview of the most relevant studies dealing with the phenomenon of metaphor clusters, and the methodologies used in the identification of clusters. These will be relevant for corpus analysis in the present study (section 3), and for the selection and construction of priming materials in section 5.

Corts and Pollio (1999: 84) investigated the cooccurrence of figurative language and gestures in spontaneous speech and they analyzed three college lectures in abnormal psychology which dealt with "the topics of aging, separation and loss, and substance abuse." Independent raters first identified instances of figurative speech, which was followed by the classification of gestures. Instances of figurative language were classified as either topical or structural, and as frozen or novel. Frequencies and distributions of figurative language and gestures were analyzed using the centered moving average procedure (CMA). CMA was applied to consecutive sets of five sentences (sentences 1–5, followed by sentences 2–6, 3–7, 4–8, etc.) until the corpus had been exhausted. Mean numbers of instances of figurative language were calculated for each individual sentence set. It is important to

note that "CMA values increase during output bursts and return to a lower value once the burst has run its course" (Corts and Pollio 1999: 86). The obtained data corresponded to the Poisson distribution which afforded the calculation of probabilities that "a specific value of CMA could arise by chance from such a distribution" (Corts and Pollio 1999: 86).

The data revealed significant bursts in all three lectures, and frozen figurative phrases were more frequent than the novel ones. The obtained results also showed that the identified bursts were not random. Namely, the increased frequency of figurative phrases corresponding to bursts also marked "a shift in the type of content presented or in the purpose of the speech within the lecture as measured by three qualities: coherence, novelty, and topicality" (Corts and Meyers 2002: 393). The results also showed cooccurring bursts of metaphorical expressions and gestures mostly in the topical mode where the main metaphor was often elaborated, which yielded a burst. This mode included all instances of novel metaphors. In the structural mode, figurative language was used to organize and direct the content of the lecture. Overall, metaphorical bursts typically involved a coherent metaphor that was further elaborated.

Corts (2006) conducted a study in which he attempted to extend and validate the findings presented in Corts and Pollio (1999). In order to ascertain that the previously obtained results had not been confounded by the idiosyncrasies of the single lecturer who provided the corpus, Corts (2006) included additional speakers from the fields of natural sciences and humanities[33]. Transcripts of the lectures were analyzed for instances of figurative language (which included metaphor, analogy, metonymy, personification, and other relevant categories), and classified based on novelty, coherence, and topicality (Corts 2006: 213). A similar procedure was conducted for gestures as well. The data were analyzed using the centered moving averages (CMA) similar to Corts and Pollio (1999). Based on the obtained results, cumulative frequency graphs were constructed. The analysis revealed a number of bursts across lectures, where bursts "contained approximately one third of all figurative output within the lecture despite the fact that they included only 6 percent of the total number of sentences" (Corts 2006: 216). In other words, the bulk of figurative expressions was condensed in the sections containing bursts. Additionally, the results correspond to those obtained in Corts and Pollio (1999), insofar as bursts mostly coincide with novel figures of speech and they are coherent with the root metaphor (LECTURE IS A JOURNEY). Moreover, there is a high degree of cooccurrence between bursts of figurative language and gestures, and in these cases the two complement each other. Bursts of figurative phrases are not random, and "they usually involve a change in the function and purpose of the language and concepts under consideration" (Corts 2006: 232). The regular nature of the identified bursts suggests that they are not discipline-specific, nor are

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[33] The two lecturers that he included in the study dealt with the Introduction to Geology, and Greek Mythology.

they idiosyncratic traits of individual speakers. Rather, bursts (i.e., metaphor clustering) appear to be an important mechanism for the construction of discourse that improves its coherence and facilitates comprehension.

Corts and Meyers (2002) conducted a study in which they explored the production of metaphor clusters in spoken discourse. The study included three sermons, which were understood as a type of speech that would involve a high frequency of metaphorical language. Transcriptions of the sermons were analyzed by two raters who then categorized the selected metaphorical expressions in terms of coherence, topicality, and novelty. Metaphorical expressions were treated as coherent if there were at least two other metaphorical expressions with the same source domain. In relation to topicality, a distinction was made between descriptive and conceptual metaphors. This was tested by examining whether a target expression could be replaced by a literal expression or another metaphorical expression without affecting meaning (Corts and Meyers 2002: 396). Target expressions that could be understood as idiomatic to most speakers of American English were treated as frozen metaphors, while the targets that did not fit this criterion were understood as novel.

Once individual metaphorical expressions were identified, the raters identified sections of sermons with bursts. Since sermons contained a high frequency of metaphorical expressions, clusters were identified visually (Corts and Meyers 2002: 397), rather than using the moving averages techniques introduced by Corts and Pollio (1999). Namely, the very high frequency of metaphors was expected to produce "a ceiling effect preventing statistically detectable increases in rates" (Corts and Meyers 2002: 403). Corts and Meyers (2002) also made an important terminological distinction between clusters, which refer to "portions of the discourse identified by a search only of the topical stream" Corts and Meyers (2002: 403), and bursts, which "refer to the statistically defined portions of lectures in earlier research" Corts and Meyers (2002: 397). The data were plotted on the cumulative frequency graphs which afforded the identification of sentences in which the increase in the number of metaphorical expressions occurred. Quantitative analysis revealed a high frequency of clusters in all three sermons. Namely, "the figure/sentence rates increased sevenfold from non-clusters to clusters in each cluster" (Corts and Meyers 2002: 398). In qualitative terms, the obtained results showed two types of clusters: (i) those without changes in novelty, topicality, or coherence in relation to the surrounding discourse, and (ii) those with a change in topic and type of language (or tone).

Kimmel (2010: 97) addresses the issue of metaphorical expressions in "close textual adjacency" which he dubs metaphor clusters. However, he distinguishes between (i) metaphor clusters, understood as textually adjacent groupings of conceptually coherent metaphorical expressions, and (ii) mixed metaphors which are textually adjacent, but do not share an obvious conceptual base. Specifically, two metaphorical expressions are understood as conceptually coherent

"if they either share some source domain ontology, some target domain ontology, or both" (Kimmel 2010: 101). If they do not meet any of these criteria they are understood as mixed metaphors. Quantitative corpus analysis revealed the dominance of mixed metaphors – 76% of all metaphors were identified in this condition (Kimmel 2010: 102). Also, the results showed a higher degree of coherence between target domains than between source domains, since "speakers tend to stick to a topic they talk about, even when using different (source-domain-related) kinds of metaphors" (Kimmel 2010: 102).

In qualitative terms, Kimmel (2010: 106) makes a distinction between the following three degrees of conceptual association between adjacent metaphors: *"(i) conceptual complementation and elaboration; (2) conceptual overlap; (3) no apparent conceptual coherence at the level of metaphor proper."*[34] In the first case, metaphorical expressions reinforce each other, and this is most evident in cases where the adjacent metaphorical expressions stem from the same conceptual key (in the sense of Charteris-Black 2004). In the second case, there is a smaller degree of conceptual overlap. Typically, source domains are different, but they are used to describe the same target domain. Conceptual overlap in this case can be based on the shared image-schematic structures, similarities between semantic fields, or converging inferences afforded by the specific source domains (Kimmel 2010: 107). Finally, in the third case, adjacent metaphorical expressions have different source and target domains, and are connected via "the same argumentative context" (Kimmel 2010: 108), rather than by underlying conceptual similarities.

Kimmel (2010: 110) argues that the processing of mixed metaphors is facilitated by the "relations of the clause units in which they occur." He argues that metaphorical expressions sometimes appear in a single clause, sometimes in connected clauses, while sometimes they are found in larger sections of discourse Kimmel (2010: 110). In other words, the processing of metaphor clusters and mixed metaphors is facilitated by the discourse context. We argue that it is discourse context that overrides the (apparent) conceptual incoherence between mixed metaphors (with different source and target domains). In other words, the overarching topic which relates sections of discourse at both phrase- and clause-level facilitates the integration of seemingly disparate metaphorical conceptualizations into (pragmatically) coherent clusters.

Koller (2003) explored the interpersonal, ideational and textual functions of metaphor clusters and metaphor chains in business media discourse, and the analysis was largely based on the framework of systemic-functional linguistics. The study included a combined quantitative-qualitative approach. The obtained results stressed the necessity that metaphors "should be seen as a

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[34] Original emphasis.

phenomenon with multiple functions at multiple levels" (Koller 2003: 128). The most frequent metaphors in the analysis of a sample article were those of WAR, SPORTS, and GAMES, respectively.

The analysis of *dispersion plots* obtained from *WordSmith Tools 3.0* Koller (2003) identified the presence of clusters of WAR metaphors at the beginning and towards the end of the sample article. Additionally, those clusters demonstrated "a defining and persuasive function" (Koller 2003: 122). Dispersion plots afford a visual overview of the distribution of (the tagged) target elements across the given corpus. Sections with increased frequencies of targets are easily discernible from the graphs. Clusters of SPORTS metaphors were the most frequent in the middle of the article, whereas clusters of GAME metaphors did not show a high degree of frequency. WAR and SPORTS metaphors cooccurred at the onset of the article, which afforded "a two-fold metaphoric structure right from the beginning of the text" (Koller 2003: 122). Additionally, the three groups of metaphors seem to reinforce each other's rhetorical function, to the extent that "they extend and elaborate on each other [and facilitate the construction of] a cohesive cognitive scenario" (Koller 2003: 125).

Koller (2008) investigated the differences in metaphorical conceptualizations between the (more traditional) transaction marketing, and the more recent construct of relationship marketing. The analysis involved (i) the quantitative analysis of the selected corpus of business media texts, (ii) a qualitative analysis of selected materials, and (iii) the analysis of advertisements. It is important to note that Koller (2008: 105) sees discourse as a socio-cognitive practice which is "inextricably linked to cognition, transporting the models and schemata by which its participants make sense of reality." Media texts from the corpus are seen as secondary discourse closely related to the primary discourse, insofar as it includes and recontextualizes primary voices (Koller 2008: 107). The quantitative analysis conducted via *WordSmith Tools 3.0* also revealed the presence of metaphor clusters. Clusters in the opening section revealed a defining role, those in mid-text served to elaborate the main ideas, while clusters in the concluding sections had a marked persuasive function. Based on the qualitative and quantitative analysis Koller (2008: 121) concludes that the RELATIONSHIP metaphor is still a novel, emergent conceptualization, while WAR metaphors are still far more frequent. Consequently, this gives way to two conflicting metaphorical models.

Cameron and Low (2004) compared the possible differences in the use of metaphors between the spoken and written discourse. They were able to identify the following three factors that affected metaphor variation: (i) the speaker's/writer's perception of the audience and their familiarity with the topic, (ii) the speaker's/writer's awareness of how challenging the topic is for the audience, and (iii) the expected mode, genre, and style of the text/talk (Cameron and Low 2004: 357). These factors sometimes work alone, but more often in concert. The data showed that clusters in speech most frequently occurred in sections dealing with complex explanations. In written texts, they were more

heterogeneously distributed, and they were linked with specific framings. Additionally, in written discourse contexts afforded by clusters, the clusters showed the ability of triggering the metaphorical sense of words typically understood as literal. Also, the base metaphor had the potential for attracting different metaphors that dealt with the same topic (i.e., the same target domain). Overall, Cameron and Low (2004: 373) concluded that the main sources of metaphor variation were the position in the text and possible clustering tendencies, and the specific source domains (i.e., vehicles). They also stress the affective role of metaphor, insofar as speakers/writers used metaphors in order to "mitigate feelings of inadequacy or overwhelming challenge that the [audience] might experience" (Cameron and Low 2004: 373). Another important difference between the spoken and written discourse was that speakers typically used metaphors to summarize the literal explanations, whereas writers used a metaphor throughout the explanation.

Cameron and Stelma (2004) highlight the import of a reliable procedure for the identification of metaphor clusters. Namely, we need to be able to identify sections of discourse where "the density of metaphor changes sufficiently to warrant being labeled a cluster or burst" (Cameron and Stelma 2004: 108). Cameron and Stelma (2004) introduce a novel identification procedure that involves a visual identification technique via the *VisDis* software designed specifically for their research. The software "creates a visualization of the dynamics of metaphor in discourse as it evolves over time" (Cameron and Stelma 2004: 121). Based on the analysis of previous research (e.g., Corts and Pollio 1999; Cameron 2003) they chose intonation units as the relevant time units. The decision was made based on the notion that an intonation unit "is both a unit in which the cognitive and the verbal overlap, and a good approximation to an absolute measure that will enable valid comparisons across different discourse contexts" (Cameron and Stelma 2004: 120). As they note, the research involved a novel type of discourse – "reconciliation between a perpetrator and a victim" (Cameron and Stelma 2004: 108).

Following Cameron (2003), Cameron and Stelma (2004) also understand the discourse of reconciliation as a dynamic, complex, non-linear, adaptive system. Moreover, the notion of a complex system sees "talking-and-thinking as a co-adaptation between the cognitive and linguistic resources of participants" (Cameron 2003: 110). In broader terms, discourse is also understood as a "complex dynamic language-using activity" (Larsen-Freeman and Cameron 2008: 162), and one of the most prominent traits of a dynamic system is change. Namely, "not only do the component elements and agents change with time […] but the ways in which components interact with each other also change with time" (Larsen-Freeman and Cameron 2008: 29). Furthermore, just as language is understood as an emergent property of complex systems (Larsen-Freeman and Cameron 2008), metaphor is understood in the same way (Cameron 2003; Cameron and Stelma 2004). Bearing in mind that

complex, dynamic systems stem towards some sort of an equilibrium, "metaphor clusters are likely to be sites of particular variability and flexibility in the interactional process" (Cameron and Stelma 2004: 110) between interlocutors.

Unlike the previous studies where the decisions concerning the quality of metaphor clusters were made at the onset of the individual metaphor identifications stage, Cameron and Stelma (2004: 116) argue that such decisions should be moved to a later stage. They adopt a broader definition of metaphor, where "metaphor includes various surface language forms such as similes, analogies and hyperbole, but only those instances which are metaphorical, in the sense of bringing two disjunctive domains together" (Cameron and Stelma 2004: 117). The obtained results showed that the occurrence of clusters coincides with points in which the interaction associated with the general purpose of the discourse is amplified (Cameron and Stelma 2004: 134). In the specific case of reconciliation discourse, metaphors are appropriated between interlocutors, and "the central discourse work of reducing alterity is pushed forward through metaphor clusters" (Cameron and Stelma 2004: 134). Additionally, clusters included a high percentage of all metaphors identified in their corpus (42%), and amounted to roughly 30% percent of the total discourse. Overall, the authors propose that their research represents a heuristic tool for future explorations of metaphor clusters in discourse, to the extent that the behavior and function of clusters can also afford a more comprehensive insight into the dynamics of discourse.

Cameron (2007a) compares the discourse of classroom talk and reconciliation talk, and emphasizes the affective dimension of metaphor clustering. Building on her previous work, she also stresses the import of the context in which metaphors occur (Cameron 1996), as well as the role of the dynamic nature of discourse (Cameron 2003). In line with the notion of complex, dynamic systems, Cameron (2007a: 42) argues "that metaphor is shaped by its use in the flow of talk between people, while simultaneously shaping that talk and the understandings people construct within." Moreover, for a more comprehensive understanding, we need to account for "linguistic, cognitive, affective, physical and cultural" (Cameron 2007a: 42) dimensions of metaphor use. Seeing that dynamic systems involve change at multiple levels, metaphor clusters are seen as a "way in which metaphor use at the 'local' level, in the moment of talk, connects dynamically to the longer timescale of a 'discourse event', be that a lesson or a conversation" (Cameron 2007a: 43).

In classroom discourse (Cameron 2003), there was a greater likelihood of metaphors appearing in pairs or larger groups than in isolation. The identified clusters in that study averaged 3.5 metaphors, "indicating that co-occurrence was not a gradual phenomenon but a distinct one" (Cameron 2007a: 47). In the case of the discourse of reconciliation, there were two unique contexts in which clusters appeared: (i) metaphor appropriation, and (ii) "exploration of alternative scenarios"

(Cameron 2007a: 54). In the context of reconciliation, metaphor appropriation can serve as a useful tool for steering interlocutors towards a common ground. With alternative scenarios, speakers compare the actual event with a hypothetical scenario that can also entail a different emotional response. Another important finding is that metaphor clusters appeared in the sections of discourse with an increased affective appeal. Clusters also connect "the local level of the linguistic metaphor in an utterance with groups of metaphors used in an episode of talk" (Cameron 2007a: 59).

Cameron (2007b) explores the specific patterns and functions of metaphor clusters in the discourse of reconciliation[35]. First, she analyzed the instances of individual metaphors, which was followed by the identification of clusters. The specific conceptualizations that the data revealed include JOURNEY, CONNECTION, CHANGING A DISTORTED IMAGE, and LISTENING TO OTHER'S STORY metaphors (Cameron 2007b: 197). Cameron (2007b) notes that the identified metaphor clusters performed cognitive and pragmatic functions. Namely, at the microlevel, "participants used the affordances of metaphor development to negotiate and shift perspective" (Cameron 2007b: 219). At the macrolevel, the build-up of metaphors as discourse unfolded enabled the interlocutors to alter their images of each other. An important factor in the dynamics of discourse was the use of contrasting metaphors – at the microlevel these metaphors were used to assess the possible alternatives, whereas at the (more global) macrolevel "they could describe the shift from dehumanized enemy to rehumanized individual" (Cameron 2007b: 220). Also, the senses of some metaphor keywords often shifted between their literal and figurative use. Cameron (2007b: 220) explains that "[i]ndeterminacy and metaphoric blurring may create a space around the meaning of the words that helps speakers feel more comfortable."

Figar and Antović (2015) explored the role of metaphor clusters in political discourse, relying on the framework of conceptual blending theory (Fauconnier and Turner 2002; Coulson and Oakley 2005). The analysis included a sample article from *The New York Times* describing a presidential debate between Barack Obama and Mitt Romney in October 2012. In the first step, the authors identified all instances of individual metaphorical expressions following the MIP (Pragglejaz Group 2007). Individual metaphorical expressions were then classified according to the corresponding conceptual metaphors and conceptual keys (in the sense of Charteris-Black 2004). In the next step, the authors first employed a similar methodology used in Koller (2003). Namely, they used the dispersion plots obtained from *WordSmith Tools 6.0* (Scott 2010, 2014; Tribble 2010) in order to identify sections of the article with increased density of individual metaphors. Potential cluster-candidates were then analyzed in qualitative terms to ensure that they were indeed topically related and could be, therefore, treated as clusters. Focus was placed on sentence- and paragraph-level

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[35] The corpus used in this study has already been introduced in Cameron and Stelma (2004) and Cameron (2007a).

clusters. Additionally, the researchers also constructed cumulative frequency graphs (for both sentence- and paragraph-level clusters) in order to check for the convergent validity of findings between the two procedures – the data obtained from dispersion plots and data obtained from graphs.

Quantitative analysis of the sample revealed the highest frequency of MOTION and CONFLICT (combined with FORCE) metaphors. The analysis of clusters revealed 20 sentence-level clusters, ranging from 3 to 7 metaphors. Additionally, every cluster contained at least one of the most frequent individual metaphors. Most of the identified sentence-level clusters were "markedly heterogeneous; however, such structure does not compromise their overall function, nor does it affect the text flow" (Figar and Antović 2015: 243). Namely, Figar and Antović (2015: 244) argue that such cluster structure actually enables individual metaphors to resonate each other's rhetorical force. The analysis further revealed 19 paragraph-level clusters, which included between 3 and 14 metaphors. The results showed "that the majority of paragraph-level clusters were extensions of sentence-level clusters" (Figar and Antović 2015: 244).

Figar (2019) explored the dynamics of a sample metaphor cluster extracted from a larger corpus of conceptual metaphors in the political discourse of daily newspapers. The target cluster contained 3 JOURNEY, 3 CONFLICT, and 3 CONTAINMENT metaphors (Table 2.4), and it reflected the overall tendency identified in the corpus. Additionally, metaphors included in the cluster also showed the highest frequency in the corpus. Such a procedure for the selection of targets was employed "[i]n order to remedy the common shortcoming of psycholinguistic studies that often use 'artificial' stimuli that are not ecologically valid" (Figar 2019: 238). Identification of individual metaphorically used words in the corpus was conducted in accordance with the MIP (Pragglejaz Group 2007). The identified metaphorical expressions were then classified according to the corresponding conceptual metaphors and conceptual keys. Clusters were identified using the dispersion plots from *WordSmith Tools 6.0* (Scott 2010, 2014; Tribble 2010). In the first step, dispersion plots were used to identify sections in the corpus with increased metaphor density, and these potential clusters "were then further analyzed to ensure that they were topically related" (Figar 2019: 239). The corpus included 27 articles, with the total of 26,025 words, and an average article length of 963.89 words (Figar 2019: 238). Articles were topically related in that they described the first presidential debate between Barack Obama and Mitt Romney in October 2012, and all articles were selected from *The New York Times*. Quantitative corpus analysis showed the density of 95.37 metaphorical expressions per 1,000 words, a total of 386 clusters, and 14.3 clusters per article. Additionally, 86.95% of individual metaphors were included in clusters.

The main part of the study included 81 participants, advanced EFL students from the University of Niš. Their task was "to rate the target items on 6-point Likert scales along the following

dimensions: (i) metaphoricity, (ii) familiarity, (iii) contextual aptness, and (iv) how important the target item was for text comprehension" (Figar 2019: 241). Metaphoricity ratings related to judgments of how metaphorical (as opposed to literal) each target expression from the cluster was. Familiarity ratings required the participants to assess how familiar each target expression was. The measurement of contextual aptness was included because the target metaphorical expressions appeared in a larger sentential context. Consequently, the participants were asked to assess how suitable each of the metaphorical expressions was in the given context. Finally, the participants were also asked to assess the importance of each of the target metaphorical expressions for the overall text comprehension.

Table 2.4. Target text (adopted from Figar 2019: 240)

The positions*<m-journey>* in*<m-containment>* the political ad wars*<m-conflict>* have led to*<m-journey>* worry among Republican strategists outside*<mcontainment>* the campaign that Mr. Romney's team has simply been outgunned*<mconflict>* by Mr. Obama's in*<m-containment>* its approach to advertising and the way it goes about*<m-journey>* buying ad time on television in*<m-containment>* most battleground states*<m-conflict>*.

Figar (2019) used one-way repeated measures ANOVA to explore the possible differences in ratings between target items. By-item analysis showed "a significant effect of metaphoricity between the three groups of metaphors" (Figar 2019: 241), and subsequent pairwise comparisons showed significant differences between all items. The main effect of familiarity was also significant, and pairwise comparisons again revealed a similar trend like in the case of metaphoricity. Contextual aptness also showed a significant effect, while pairwise comparisons showed a significant difference only between JOURNEY and CONTAINMENT metaphors, and CONFLICT and CONTAINMENT metaphors, with higher means attributed to CONTAINMENT metaphors in both cases. The difference in contextual aptness ratings between CONFLICT and JOURNEY metaphors did not reach significance. Ratings of importance for comprehension also reached significance, and pairwise comparisons again showed significant differences in all cases. In addition to by-item analyses, Figar (2019: 242) also "calculated a 'total coefficient' for each group of metaphors […] as a mean sum of ratings along all four dimensions for each of the three groups of metaphors, respectively." This was done in line with the methodology outlined in Stamenković, Milenković, and Dinčić (2019). Statistical analyses revealed a significant main effect of metaphor group, while subsequent pairwise comparisons also revealed significant differences between all groups.

Additionally, Figar (2019: 242) performed a multiple linear regression analysis for the model (metaphoricity, familiarity, importance for comprehension) in order to see how reliably these three dimensions could be used to predict the variance in contextual aptness ratings, for each metaphor group, respectively. For JOURNEY metaphors, the model reached significance and it explained 33.7% of variance ratings, with the strongest unique contribution afforded by familiarity ratings. Also, all items from the model were significant. The model also explained 39.5% of variance in contextual aptness ratings for CONFLICT metaphors, where it also reached significance. The strongest unique contribution was given by the importance for comprehension, while the other two items in the model did not prove significant. Finally, for CONTAINMENT metaphors the model was significant, and it accounted for 25% of variance in contextual aptness ratings. Metaphoricity ratings afforded the strongest unique contribution. Familiarity ratings reached significance, while the ratings of importance for comprehension did not appear to be significant.

Overall, Figar (2019: 243) concluded that the analyzed corpus showed a pronounced clustering tendency "with 86.95% of all metaphorical expressions identified in the corpus also appearing in clusters, and with an average of 14.30 clusters per article." Additionally, by-item analyses showed a significant effect for all four dimensions, which was almost consistently preserved in pairwise comparisons. Metaphor groups also showed a significant main effect which was also reflected in pairwise comparisons. The highest level of *activation* was identified for CONFLICT metaphors, followed by JOURNEY and CONTAINMENT metaphors. Figar (2019: 244) concluded that different levels of activation both attested to the dynamic nature of the cluster, and licensed "a threefold metaphorical structuring of the target text." Additionally, equal ratings of contextual aptness identified for CONFLICT and JOURNEY metaphors "suggest that these two [metaphor] groups serve as very suitable conduits for the structuring of discourse in the present cluster [and] the image-schematic nature of JOURNEY metaphors seems to complement the dynamic nature of CONFLICT metaphors" (Figar 2019: 244). CONFLICT metaphors also received the highest ratings of metaphoricity, while their familiarity ratings were the lowest. Finally, the multiple linear regression analysis showed "a certain degree of interdependence between the four dimensions" (Figar 2019: 245), which further supports the idea of the dynamic nature of metaphor clustering reflected in the dynamic interaction between the discussed dimensions.

2.5.1.9 METAPHOR IN POLITICAL DISCOURSE

Building predominantly on the conceptual metaphor theory (Lakoff and Johnson 2003[1980b]) and critical metaphor analysis (e.g., Charteris-Black 2004), corpus-based studies of

metaphor have identified a wide range of specific instantiations, and a wide range of rhetorical uses of metaphorical expressions in political discourse. Namely, conceptual metaphors are understood to exert their force-dynamic rhetorical effects via highlighting or hiding the desired aspects of the issues at hand, by provoking emotional responses with the audience, or by adopting biasing (metaphorical) framings of the relevant issues (or situations). Such effects are achieved through the use of some common metaphorical conceptualizations that involve SPORTS METAPHORS, WAR METAPHORS, CONTAINMENT METAPHORS, and JOURNEY METAPHORS.

Mio (1997: 113) argues that "at the core of political communication is the ability of the politician to use metaphor and symbols that awaken latent tendencies among the masses." According to him, the main mechanisms that license the persuasive power of metaphor include (i) simplification; (ii) manipulation of underlying symbolic representations; and (iii) the emotional appeal. Mio (1996) conducted a study in which he obtained empirical support for the Metaphor extension hypothesis. Namely, this hypothesis suggests that "metaphors that extend someone else's metaphor are more effective persuasive devices than those that do not" (Mio 1996: 136). Mio et al. (2005) conducted two studies in which they showed a relationship between frequency of metaphor use and charisma. The results showed that presidents who used more metaphors in their inaugural addresses were judged as both more charismatic and more inspirational. Charteris-Black (2011: 32) also stresses the impact of the emotional appeal of conceptual metaphors in the sense that "metaphors change how we understand and think about politics by influencing our feelings and thoughts." Put differently, "the social role of metaphor in the construction of an ideology is motivated by a rhetorical purpose of arousing the emotions in order to persuade" (Charteris-Black 2004: 251).

Charteris-Black (2004: 65–109) stresses the role of CONFLICT and JOURNEY metaphors identified in British Party manifestos and in American Presidential Speeches. Steinert (2003) emphasizes the role of WAR metaphors in populist politics, in the sense that social values can be linked to the frame of WAR. Namely, "the war metaphor is ubiquitous, connected to strong emotions and social values and it is widely used in politics of mass appeal" (Steinert 2003: 268). Burnes (2011) analyzed a corpus that included French and British newspaper reports of the 2008 election in Pakistan and the US. The study showed that "in the US election reports, CONFLICT metaphors constituted almost a quarter of metaphors (24%) describing the election, and in the Pakistan reports, they comprised over a third" (Burnes 2011: 2166). In addition to CONFLICT metaphors, the analysis also revealed a high frequency of SPORT and JOURNEY metaphors.

Silaški and Đurović (2014) explored the role of JOURNEY metaphors in the conceptualization of Serbia's accession to the EU. Namely, they highlight the use of STEP and TRAFFIC LIGHT metaphors in the conceptualization of the political process in terms of motion. Silaški, Đurović, and Radić-

Bojanić (2009) provided a comprehensive overview of the use of conceptual metaphors in the Serbian political discourse in their critical metaphor analysis of the Serbian public discourse. Among other metaphor groups, Silaški, Đurović, and Radić-Bojanić (2009: 35–58) discuss the role of WAR metaphors in the Serbian political discourse. Based on the corpus analysis they were able to identify the following conceptual metaphors: POLITICAL SCENE IS A WAR GROUND, POLITICAL PARTIES ARE CONFLICTING SIDES, ELECTION IS A BATTLE, POLITICAL STATEMENTS/ACTIONS ARE WEAPONS, COOPERATION BETWEEN POLITICAL PARTIES IS TRUCE, and VOTERS ARE CASUALTIES OF WAR (Silaški, Đurović, and Radić-Bojanić 2009: 42–55).

Semino and Masci (1996) analyzed Berlusconi's use of the conceptual metaphor POLITICS IS FOOTBALL in Italy. They found that the frequent use of metaphorical expressions corresponding to this metaphor was used to direct the public's perception of the political process by constructing a positive view of himself. Moreover, the use of football metaphors enabled Berlusconi "to turn politics into a spectator sport" (Semino and Masci 1996: 251). Radić-Bojanić and Silaški (2008) explored the use of FOOTBALL metaphors in the Serbian political discourse. Based on the corpus analysis they identified the following overarching conceptualizations: POLITICAL PARTIES ARE FOOTBALL TEAMS, ELECTION IS A FOOTBALL GAME, and RULES OF DEMOCRATIC ELECTION IS FOOTBALL RULES (Radić-Bojanić and Silaški 2008: 145–152). The authors concluded that the identified FOOTBALL metaphors had a marked persuasive function, insofar as they were used "to hide some aspects of the political reality [and] trivialize the importance of political decisions" (Radić-Bojanić and Silaški 2008: 145–154). Silaški and Radić-Bojanić (2010) analyzed the use of SPORTS metaphors in the discourse of Zoran Đinđić. The authors argue that Đinđić used SPORTS metaphors to motivate the voters to endure the political reforms and transition. Unlike other politicians who tend to use SPORTS metaphors to emphasize the competitive (even aggressive) aspects of the political process, Đinđić used SPORTS metaphors to unify the democratic opposition as members of the same team, and to bring their supporters together on the path towards common goals. This, in turn, reflects the persuasive and idiosyncratic use of metaphors in Đinđić's discourse (Silaški and Radić-Bojanić 2010: 631). Silaški (2009) analyzed unconventional metaphors based on metonymy, found in the headlines of sports newspapers. The analysis showed that although mostly unconventional, the identified metaphors were still "based on several conventional conceptual metaphors, particularly those that refer to the ways VICTORY and DEFEAT in sports competition are conceptualized" (Silaški 2009: 65).

In addition to the dominant, WAR, JOURNEY, and SPORTS metaphors addressed in previous studies, Đurović and Silaški (2010) analyzed the use of MARRIAGE metaphors in the Serbian political discourse. In addition to the overarching metaphor THE POLITICAL COALITION IS A MARRIAGE, the authors were also able to identify the following, more specific mappings: POLITICAL NEGOTIATIONS

ARE COURTING, STIPULATING THE DIVISION OF POWER IN THE FUTURE COALITION IS A PRENUPTIAL AGREEMENT, THE PARTY'S ELECTORATE AND ITS IDEOLOGICAL VALUES ARE DOWRY, SIGNING THE COALITION CONTRACT IS A WEDDING CEREMONY, (FORMING) THE POLITICAL COALITION IS A MARRIAGE, THE POLITICAL COALITION IS A MARRIAGE OF CONVENIENCE, THE POLITICAL COALITION IS A FORCED MARRIAGE, A BAD COALITION IS A BAD MARRIAGE, A POLITICAL PARTY THAT IS NECESSARY SO AS TO FORM THE RULING COALITION IS A MARRIAGEABLE GIRL, THE STRONGEST POLITICAL PARTY TO FORM THE COALITION IS AN ELIGIBLE YOUNG MAN, HAVING CONTROL OF FORCE IS UP, THE POLITICAL COALITION IS AN OPEN MARRIAGE, STRIKING DEALS WITH NON-COALITION PARTIES IS MARITAL INFIDELITY, and A BREAK-UP IF THE COALITION IS A DIVORCE. Overall, the authors concluded "that the given political discourse rests on several dichotomies such as male versus female, strong versus weak, big versus small, underlying the traditional gender division" (Đurović and Silaški 2010: 257). Đurović and Silaški (2018) analyzed the use of the MARRIED PARTNERS metaphor in the discourse about Brexit. The study showed that the metaphorical scenario afforded by this metaphor served as a potent rhetorical tool, and that such metaphorical structuring was quite frequent.

Figar (2013a, 2014a) explored the structure, function, and the emotional appeal of conceptual metaphors in the political discourse of daily newspapers. The analysis revealed a high frequency of CONFLICT and JOURNEY metaphors. One of the more significant findings obtained from the analyses in the domain of conceptual blending includes recursive conceptual patterns of emergent structures (Figar 2013a: 86). Additionally, the questionnaire-based section of the studies revealed a certain degree of activation for both CONFLICT and JOURNEY metaphors, measured through affect (valence and arousal) and positive and negative emotion concepts. Figar (2014b) conducted a corpus-based study of the Serbian political discourse of daily newspapers, following a similar methodology used in Figar (2013a). The results showed a high frequency of CONFLICT and SPORT metaphors. Additionally, the analyses in the domain of conceptual blending revealed the importance of the mechanism of compression. Figar (2013b) compared the use of conceptual metaphors in the political discourse of Serbian and American daily newspapers. The analysis revealed a high frequency of WAR, JOURNEY, SPORT, and CONTAINMENT metaphors in both sections of the corpus. The author concluded that these conceptualizations are typically used to promote and establish specific points of view and systems of values.

2.5.2 METAPHOR IN PSYCHOLINGUISTICS

In their review of research dealing with the main approaches to metaphor comprehension, Holyoak and Stamenković (2018) distinguish between three main theoretical positions. These include theories in which metaphor comprehension is based on the following mechanisms, respectively: (i) analogy, (ii) categorization, and (iii) conceptual mapping (Holyoak and Stamenković 2018: 642). In the remainder of the present section, we address each of these positions in more detail. This is followed by the overview of the most relevant dimensions for metaphor comprehension identified in previous research in the domain of psycholinguistics. Questionnaires used for the norming of the stimuli included in the experiments in the present study (sections 4 and 5) included some of the relevant dimensions discussed in the latter overview. The next section (section 2.6) provides a comprehensive overview of studies dealing with the role of context in metaphor comprehension.

2.5.2.1 ANALOGY VIEW

Analogical reasoning is understood as "the ability to find and exploit similarities based on *relations*[36] among entities, rather than solely on the entities themselves (Holyoak and Stamenković 2018: 645). Additionally, analogy "conveys a system of connected knowledge, not a mere assortment of independent facts" (Gentner 1983: 162). The import of analogy is also reflected in its potential to "be used to guide reasoning, to generate conjectures about an unfamiliar domain, or to generalize several experiences into an abstract schema" (Falkenheiner, Forbus, and Gentner 1989: 1). The main positions advocating the role of analogy in metaphor processing include *the domain-interaction view* (Tourangeau and Sternberg 1981, 1982; Sternberg and Nigro 1983; Trick and Katz 1986; Kelly and Keil 1987), *the structure mapping view* (Gentner 1983), and *the career of metaphor hypothesis* (Bowdle and Gentner 1999, 2005). We will focus most of our attention on the domain-interaction view, as it will be the most relevant for the discussion of results obtained in Experiments 1–4 (section 4 below).

Tourangeau and Sternberg (1982) proposed a novel approach to metaphor interpretation, identified as the domain–interaction view. Building on the previous theories that include the comparison view, the anomaly view, and the interactive view, the authors introduced an approach that circumvents most of the difficulties present in the previous frameworks[37]. More specifically, the

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[36] Original emphasis.
[37] For a detailed overview of the previous approaches to metaphor interpretation see Tourangeau and Sternberg (1982: 205–214).

domains-interaction theory "is based on the notion that metaphors are implicit analogies, and that metaphor processing proceeds in a manner similar to that observed in processing analogies" (Trick and Katz 1986: 186). In short, the domain-interaction view proposes the following: (i) metaphor involves seeing an item from the tenor domain as a function of an item from the vehicle domain; (ii) features specific to one domain need to be transformed in order to facilitate the identification of correspondences between domains; (iii) as metaphor actually transforms the relevant features in a domain, an entire domain is involved in interaction; (iv) specific features or dimensions are foregrounded as relevant for metaphor interpretation either by the context within which the metaphor is situated, or by the structure of the domains; and (v) domains pose as a constraint regarding how features or dimensions from the vehicle can be transformed in order to be accommodated to the tenor (Tourangeau and Sternberg 1982: 217).

Tourangeau and Sternberg (1982: 215) acknowledge that most metaphors appear in either linguistic or situational context, and "this context can determine the relevant domains" that the tenor and vehicle concepts typically activate. Additionally, Tourangeau and Sternberg (1982) understand the domains as flexible constructs, sometimes referring to an entire category. They propose "that concepts – and the features, dimensions, and semantic relations that characterize them – cluster into domains" (Tourangeau and Sternberg 1982: 215), and domains can even include the entire category. In their framework, domains have a dual role: (i) firstly, they select the features or dimensions relevant for metaphor interpretation, and (ii) secondly, they "determine the nature and degree of the parallel that is constructed between tenor and vehicle" (Tourangeau and Sternberg 1982: 216). In plain terms, domains serve as a filter that allows us to identify only those characteristics of tenors and vehicles that are directly relevant for metaphor interpretation. The selection of relevant features can also be facilitated by the context in which the metaphor appears.

Firstly, the relevant features between two domains can be linked by analogy (which is in line with Black 1962). Additionally, Tourangeau and Sternberg (1982: 219) propose that one way to identify the analogical links between features is their mutual relatedness through an intermediary feature which is more abstract. What needs to be emphasized is the fact that the focus is placed on the abstract nature of specific features, not the entire domains activated be the metaphor. Another way for establishing analogies between features is the natural association. Namely, features or dimensions can be statistically related, and "this correlation in our experience may be the basis for seeing the two dimensions as corresponding" (Tourangeau and Sternberg 1982: 219). Tourangeau and Sternberg (1982: 219–221) also propose four additional mechanisms that can facilitate the identification of analogies between features or dimensions from the domains in a metaphor, and these include the following: (i) features or dimensions might "map onto a common absolute dimension"

(Tourangeau and Sternberg 1982: 219); (ii) features or dimension may be linked by a common label; (iii) they can be related by "a mediating dimension in a third domain" (Tourangeau and Sternberg 1982: 221); and (iv) structures of the concepts can be similar[38].

Metaphor interpretation in the domains-interaction view assumes a number of steps. Based on the example that involves the completion of a sentence *"A lion among beasts is a king among (a) rulers, (b) humans"* (Tourangeau and Sternberg 1982: 222), the authors propose the following steps: (i) encoding of the topic and vehicle concepts, which can also entail the activation of relevant attributes; (ii) inference (where a lion is seen as a beast); (iii) "mapping of the higher-order relation that links a lion in its domain to a king in his domain" (Tourangeau and Sternberg 1982: 222), where these relations are highly salient in each of the two respective domains; (iv) application of the activated inferences in order to create an ideal completion of the sentence in our example; (v) comparison of the ideal completion to the two offered alternatives in our example; (vi) justification; and (vii) response. These steps are based on Sternberg's (1977) theory of analogical reasoning; however, although Tourangeau and Sternberg (1982) argue that the processes are similar, one important difference refers to the interaction of domains that appears to be reserved for metaphors.

Another important point highlighted in Tourangeau and Sternberg (1982) has to do with metaphor aptness. Namely, the authors highlight two important sources of similarity between tenor and vehicle concepts. The first involves within-domains similarity, which entails "the extent to which tenor and vehicle occupy similar 'relative positions' within their respective domains" (Tourangeau and Sternberg 1982: 225). The second involves between-domains similarities, which refers to the degree of resemblance between the domains taken as wholes. Tourangeau and Sternberg (1982: 225) also argue that the two sources of similarity impose opposite effects on metaphor aptness. In their view, aptness is facilitated by more precise correspondences between tenors and vehicles, coupled with greater between-domains distance. However, if the between-domains distance is too great, both comprehensibility and aptness are reduced. In other words, Tourangeau and Sternberg (1982: 226) argue that "the extent of parallels created between tenor and vehicle is positively related to the aptness of the metaphor and that the similarity of the domains themselves is negatively related."

Sternberg and Nigro (1983) conducted two experiments in which they compared metaphorical and analogical processing, as well as the importance and relationship between metaphor comprehensibility and aptness. The first experiment showed a high level of similarity between the processing for metaphors and analogies. However, the stimuli included only proportional metaphors, in a cued recall paradigm, with response times as the dependent variable. Namely, participants were presented with incomplete statements, and their task was to choose a more suitable completion from

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[38] Tourangeau and Sternberg (1982: 219) assume that the structure of concepts is based on semantic networks.

the two offered alternatives (e.g., *The moon in the sky us galleon in the (a) sea, (b) bath*; Sternberg and Nigro 1983: 24). As the authors emphasize, such conditions did not reflect actual instances of language use.

In the second experiment, participants were asked to rate the target metaphorical expressions for aptness and comprehensibility on 9-point Likert-scales. The results showed that aptness and comprehensibility increase if "more terms of the underlying analogy are made explicit, and when the nature of tenor-vehicle interaction is more strongly asserted" (Sternberg and Nigro 1983: 34). Moreover, the results also suggested that the comprehension and appreciation of metaphors also included the appreciation of interaction between the tenor and vehicle, which is not typically found in the processing of analogies. Tenor-vehicle interaction occurs "when the semantic subspace containing the tenor of a metaphor is mentally superimposed upon the semantic subspace containing the vehicle" (Sternberg and Nigro 1983: 36). Consequently, such interaction between domains affords the understanding of the tenor as the function of the corresponding vehicle. Finally, the authors also stress the role of imagery, which they see as a necessary component of the theoretical framework.

The authors also managed to identify some of the possible factors that can affect metaphor comprehensibility and aptness. These include (but are not limited to) the following: (i) higher aptness is associated with a higher degree of comprehensibility; (ii) "the degree of correspondence between locations of words in their respective semantic subspaces" (Sternberg and Nigro 1983: 36); (iii) distances between the given subspaces; (iv) how much information is available regarding the analogy on which the metaphor is based; and (v) the quality of interaction between the tenor and vehicle (Sternberg and Nigro 1983: 36).

Tourangeau and Sternberg (1981) conducted two experiments in which they explored the relationship of metaphor aptness and comprehensibility, and the effects of within- and between-domains similarity. Namely, within-domain similarity pertains to "the degree to which terms occupy similar positions relative to other members of their class," whereas between-domain similarity refers to the "degree to which the classes resemble each other" (Tourangeau and Sternberg 1981: 31). In the first experiment, participants rated either metaphor aptness or metaphor comprehensibility. Experiment 1A involved the rating of metaphors along four scales: good – bad, apt – inapt, interesting – dull, and like – dislike. In Experiment 1B, ratings were performed on two scales: hard – easy (referring to how easy it was to understand a metaphor) and slow – fast (referring to how quickly a metaphor could be understood) (Tourangeau and Sternberg 1981: 39). Results obtained in Experiment 1A showed a high degree of interrelatedness between the four scales, and they were combined into a single scale dubbed quality. As predicted by the domains-interaction model, the quality of metaphors decreased with the increase of the distance between tenors and vehicles. The quality of metaphors

increased when the distance between domains increased (Tourangeau and Sternberg 1981: 40). Comprehensibility, on the other hand, did not seem to be affected by distance. After performing additional exploratory analyses, it was determined that comprehensibility could be related to the variability of the tenor. A relationship between the variability of the vehicle and comprehensibility could not be identified. Overall, metaphor comprehensibility, within-domains distance, and between-domains distance "predicted most of the reliable variation in the metaphor's quality" (Tourangeau and Sternberg 1981: 43).

In the second experiment, participants "ranked vehicles as ways to complete a metaphor" (Tourangeau and Sternberg 1981: 35). In Experiment 2A, all of the offered alternatives were taken from the same domain (e.g., *"A crab is a _____ among sea creatures; (a) tiger, (b) horse, (c) mongoose, (d) rat;"* Tourangeau and Sternberg 1981: 46). In Experiment 2B, the alternatives were taken from four randomly selected domains (e.g., *"A wolf is a _____ among animals; (a) birds, (b) ships, (c) sea creatures, (d) U.S. historical figures;"* Tourangeau and Sternberg 1981: 46). The results of qualitative analysis from both experiments showed that "the rank within-domain distance of a vehicle related significantly to its popularity and, where comparison is possible, it related more strongly to popularity than either between-domain or overall distance" (Tourangeau and Sternberg 1981: 47). Additionally, in Experiment 2B (where within-domains similarity was not confounded by the overall similarity) "the overall similarity of a vehicle did not relate to its chances of being picked as the best way to complete a metaphor" (Tourangeau and Sternberg 1981: 50).

Overall, the study offered conclusive support for the initial prediction that there would be a negative correlation between aptness and within-domains distance. This is supported by the negative correlations recorded in the first experiment, and also negative correlations in the second experiment "between the rank within-domain distance and the rank popularity of a vehicle" (Tourangeau and Sternberg 1981: 50). Additionally, the second experiment also showed that the within-domains distance between the tenor and vehicle was not the only predictor of aptness. The other prediction, according to which there should be a positive correlation between aptness and between-domains distance, was only partially supported. The first experiment did in fact show positive correlations, but none of them were strong. In Experiment 2B "rank between-domain distance did not correlate with rank popularity; nor did it afford more quantitative predictions of the ranking of the vehicles in a set" (Tourangeau and Sternberg 1981: 50).

Trick and Katz (1986) further explored the plausibility of the domains-interaction approach, and they also included the criterion of individual differences. In terms of interaction effects, Trick and Katz managed to replicate the results obtained in Tourangeau and Sternberg (1981). Namely, "greater within-domains distance was related to greater difficulty with metaphor interpretation"

(Trick and Katz 1986: 202), whereas smaller within-domains distance afforded greater appreciation than higher within-domains distance. The effect of greater between-domain distance was also in line with the predictions of the domains-interaction model to the extent that greater between-domains distance yielded higher ratings of aptness and likability. The study also revealed a discrepancy between the obtained results and the predictions outlined in Tourangeau and Sternberg (1981). Namely, while the domains-interaction model predicts a negative correlation between comprehensibility and between-domains distance (Trick and Katz 1986: 202), the results showed an opposite trend, i.e., positive correlations. In other words, greater comprehensibility was associated with greater distances between domains. The study also provided reliable results for the role of analogic reasoning in metaphor interpretation. Namely, participants who scored higher in the analogic reasoning tests were "more responsive to between-domain distance when making comprehension and aptness ratings" (Trick and Katz 1986: 203). On the other hand, with metaphors that had different within-domains factors, analogic reasoning ability did not prove to be as important.

Kelly and Keil (1987) conducted an experiment in which they tested whether metaphor comprehension would affect similarities between concepts that belong to the semantic domains related by a metaphor, but which were not explicitly mentioned in the metaphor. Experimental stimuli included metaphors of the form *"The (tenor) is the (vehicle) of the (tenor's domain)"* (Kelly and Keil 1987: 37). The results showed that concepts which would create appropriate metaphors had higher similarity. In other words, metaphor comprehension led to an increase in similarity between concepts which belonged to the same domains as the corresponding tenors and vehicles, i.e., "those that would have formed appropriate metaphors, but were never overtly related as such" (Kelly and Keil 1987: 46). On the other hand, with concepts that would form inappropriate metaphors similarity was lower "as a result of experiencing appropriate metaphors juxtaposing their domains" (Kelly and Keil 1987: 46). Finally, the experiment also showed an asymmetry between tenor and vehicle movement both for terms that were explicitly coded in metaphors, and for terms that were not explicitly coded. Specifically, terms belonging to the tenor domain demonstrated greater movement compared to those from the vehicle domain. Kelly and Keil (1987) argued that the obtained results offered support for the domains-interaction view.

Kelly and Keil (1987) also offer three main conclusions: (i) metaphor comprehension actually affords the activation of and access to broader domain structures based on the specific lexical items that appear in metaphorical expressions, and which belong to the corresponding domains. In relation to the section of the theoretical framework dealing with frames, ICMs, and domains discussed above (see section 2 for details), we argue that these findings also offer experimental support for the encyclopedic view of meaning. Under this view, individual lexical items are understood as access

points to broader knowledge structures (e.g., Langacker 1987; Fillmore 1982). In other words, individual words afford access to entire frame structures; (ii) metaphor comprehension affords the restructuring of conceptual domains that partake in the interaction; and (iii) the tenor domain undergoes greater restructuring compared to the vehicle, rendering the process asymmetrical. In relation to the final conclusion, we hypothesize that the higher level of activity proposed for the tenor domain should also afford a greater degree of activation of this domain. We test this hypothesis in Experiments 1–4 (see section 4).

Gentner (1983: 168) formulated the structure-mapping theory that "describes the implicit interpretation rules of analogy." The emphasis is placed on the mappings of relations between objects rather than between attributes, in the direction from base to target. The mappings are in line with the systematicity claim, where "a predicate that belongs to a mappable system of mutually interconnecting relationships is more likely to be imported into the target than is an isolated predicate" (Gentner 1983: 163). These predicates are organized hierarchically, and predicates higher in the hierarchy impose relationships for predicates lower in the hierarchy. The backbone of the theory resides in the notion that "an analogy is an assertion that a relational structure that normally applies in one domain can be applied in another domain" (Gentner 1983: 156). The most important aspect of this theory is that it affords the identification of differences between literal similarity statements and analogies. The main assumptions that the theory is based on include the following: (i) situations and domains are understood as systems of objects; (ii) "knowledge is represented here as propositional networks of nodes and predicates;" (iii) important distinctions are made between relationships and object attributes, and higher- and lower-order predicates; (iv) the representations "are intended to reflect the way people construe a situation, rather than what is logically possible" (Gentner 1983: 156-157).

More specifically, within this framework understanding a complex situation entails "both attributes of individual objects and relations between objects" (Holyoak and Stamenković 2018: 645). Namely, both base and target belong to more elaborate structures (organized hierarchically and schematically); i.e., they belong to specific semantic frames. The structure-mapping theory was tested in an algorithm dubbed the structure mapping engine (Falkenheiner, Forbus, and Gentner 1989), which affords the identification of both base and target even when the representation includes elements that are not relevant (Holyoak and Stamenković 2018: 645). The structure mapping engine takes into account the constraints proposed by Gentner (1983) and it "provides a "tool kit" for building matches that satisfy the structural consistency constraint" (Falkenheiner, Forbus, and Gentner 1989: 2) of the theory. Namely, based on the descriptions of the base and target, the structure mapping engine creates global mappings that include: (i) correspondences, (ii) candidate inferences,

and (iii) structural evaluations score (Falkenheiner, Forbus, and Gentner 1989: 12). Overall, the algorithm is based on the alignment between the base and target, which affords the identification of maximal consistent subgraphs with the source and target that yield a one-to-one isomorphic mapping between one another" (Holyoak and Stamenković 2018: 645). The algorithm provided empirical support for Gentner's theory.

Bowdle and Gentner (2005) developed the career of metaphor hypothesis that builds on the ideas of categorization models and the structure mapping theory. Similar to categorization models, the career of metaphor hypothesis suggests that metaphor comprehension entails the construction of metaphoric categories "in the form of abstract relational schemas" (Bowdle and Gentner 2005: 198). Yet, these metaphoric categories are not constructed based on the metaphor base alone, but on the common elements of both base and target, i.e., on the metaphor ground. Another distinction has to do with metaphor conventionality. Namely, the career of metaphor predicts differences in processing between novel and conventional (i.e., entrenched) metaphors. Namely, "*novel metaphors*[39] involve base terms that refer to a domain-specific concept but are not (yet) associated with a domain-general category" (Bowdle and Gentner 2005: 199). Consequently, novel metaphors should be processed via comparison and property matching. With entrenched metaphors, "conventional base terms are polysemous, with the literal and metaphoric meanings semantically linked because of their similarity" (Bowdle and Gentner 2005: 199). Moreover, with the increase in the degree of entrenchment, Bowdle and Gentner (2005) predict a shift in processing, to the extent that more entrenched metaphors will be processes via categorization models.

In Experiment 1, Bowdle and Gentner (2005) presented the participants with metaphors in the simile form, and metaphor form. The main task was to rate how natural each of the target statements was (using 10-pint Likert scales). The stimuli had undergone an initial norming concerning the level of conventionality. The results showed that metaphor forms received higher ratings for entrenched metaphors, whereas the simile forms were more preferable for novel metaphors. In Experiment 2 the researchers measured participants' comprehension times in different experimental conditions. The participants were instructed to read the target sentence, and signal once they had understood it completely; after that, they were asked to input their interpretation of the sentence. The results showed longer response times for novel metaphors compared to literal statements. On the other hand, response times recorded for conventional metaphors did not differ from response times recorded for literal statements. In Experiment 3, Bowdle and Gentner (2005) tried to simulate the conventionalization of metaphors by repeatedly exposing participants to novel similes. The obtained results were again in line with the initial predictions – "metaphoric categories are derived as a consequence of comparing

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[39] Original emphasis.

the target and base of a novel figurative statement, which in turn allows for a shift toward categorization processing as the base term is conventionalized" (Bowdle and Gentner 2005: 208). However, Glucksberg and Haught (2006a, 2006b) obtained evidence to the contrary. Namely, Glucksberg and Haught (2006a: 937) found that even novel metaphors that are highly apt, can be processed via categorization mechanisms. Glucksberg and Haught (2006b: 373) concluded that novelty (i.e., the degree of entrenchment) could not be understood as the only determinant of the manner in which a metaphor would be processed. Also, Jones and Estes (2006) explored the effects of aptness and conventionality and found that aptness served as a far better predictor for comprehension speed, topic's membership in the category, and metaphor-simile preference.

2.5.2.2 CATEGORIZATION VIEW

The categorization view sees metaphors as category statements, and it "assumes that metaphor comprehension operates on a comparison of the two individual concepts alone" (Holyoak and Stamenković 2018: 646). Under this view, metaphors involve dual reference to the extent that "the base term refers simultaneously to a specific literal concept and a general metaphoric category" (Bowdle and Gentner 2005: 195). The main idea is that the base affords the construction of an abstract category, and the target is then included within that category. What needs to be emphasized is that the central idea is that "the base concept of a metaphor elicits a metaphoric category without input from the target and that this abstraction provides the gist of the expression" (Bowdle and Gentner 2005: 195). The initial model was proposed by Glucksberg and Keysar (1990), while Glucksberg, McGlone, and Manfredi (1997) introduced the interactive property attribution model which accounts for the impact of the target domain as well. Namely, within this model base and target interact, and "metaphor targets provide information about what types of properties they can meaningfully inherit and therefore about what types of categories they can meaningfully belong to" (Bowdle and Gentner 2005: 195). In the remainder of this section, we review the most important findings presented in Glucksberg and Keysar (1990), Glucksberg, McGlone, and Manfredi (1997), and McGlone and Manfredi (2001).

Glucksberg and Keysar (1990) understand metaphors as irreversible class-inclusion statements. For instance, in a statement "My job is a jail," the vehicle *jail* is understood to activate a superordinate category that presumably refers to some unpleasant or confining spaces. Also, *jail* is the member of that superordinate category. If used metaphorically, the vehicle is understood to refer "to a type of thing, whereas used literally it refers to an actual token" (Glucksberg and Keysar 1990: 8). Vehicles are also susceptible to the effects of goals and contexts, licensed by the family

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resemblances between multiple versions of the vehicle. When instantiated in different situations, concepts in general "can generate goal- and context-specific similarity relations among members of a category" (Glucksberg and Keysar 1990: 9). However, the metaphor *topic* is not static in this process, insofar as "[w]hen a newly created category is used to attribute a set of properties to the topic of a metaphor, these properties will be partly contingent on the nature of the topic" (Glucksberg and Keysar 1990: 9). In plain terms, the topic should restrict the range of inferences applicable in the metaphorical class-inclusion statement.

What licenses the construction of resemblances between any two concepts is always dependent on the context. Metaphor topic and context work in concert to afford the selection of the relevant properties of the metaphorical category. As a result of categorization, both vehicle and topic are transformed to a certain extent – the vehicle refers to a metaphorical category of which it is also a member, while the topic adopts "the complex of properties entailed by membership in that category" (Glucksberg and Keysar 1990: 11). What also needs to be emphasized is that the similarity between category members is actually afforded by categorization, it does not license categorization (Glucksberg and Keysar 1990: 11).

One of the most important factors in this framework is the degree of prototypicality of the vehicle, insofar as the vehicle affords the construction of the category. Glucksberg and Keysar (1990: 14) see metaphorical categories as a special case of ad hoc categories, which also have graded structure. Also, aptness can be conditioned by the level of typicality of the vehicle. Overall, "prototypical members of ad hoc metaphorical categories should produce highly comprehensible and apt metaphors" (Glucksberg and Keysar 1990: 14). Glucksberg and Keysar (1990: 15) argue that the conceptual structure that provides the scaffolding for conceptual metaphors as proposed by Lakoff and Johnson (2003[1980b]) is not required when metaphors are viewed in a communicative context. Conceptual structure might come to bear in situations where it is contextually relevant, "yet this structure does not need to be metaphorical" (Glucksberg and Keysar 1990: 15).

Glucksberg, McGlone, and Manfredi (1997) also argued that the property attribution process is a more likely mechanism to facilitate metaphor comprehension than property matching proposed by other metaphor theorists (e.g., Ortony 1979). One of the main difficulties with the former approach is that it cannot account for the new properties that comprise the altered representation of the topic via the mechanism of property-matching. Glucksberg, McGlone, and Manfredi (1997) also argue that metaphors should be irreversible, and that "the topic and vehicle concepts make very different, albeit interactive, contributions to metaphor meaning" (Glucksberg, McGlone, and Manfredi 1997: 52). The topic is understood to constrain the selection of applicable properties offered by the vehicle; in effect,

this reveals the interactive role of topic and vehicle domains reminiscent of Black's (1962) interaction model.

Glucksberg, McGlone, and Manfredi (1997) conducted two experiments in which they tested the above listed predictions. In Experiment 1, they tested whether metaphors are indeed irreversible. The stimuli included metaphors, similes, literal similarity statements, and reversed order statements (e.g., *my marriage was an icebox* was reversed as *my icebox was a marriage*, and *an icebox was my marriage*; Glucksberg, McGlone, and Manfredi 1997: 54). Participants rated all stimuli for sensicality, on 8-point Likert scales (0–7). If a target item received a rating of 1 or more, participants were asked to provide a paraphrase. The paraphrases were subsequently classified according to acceptability, and then into one of the following categories: uninterpretable, less meaningful, re-reversals, or new ground (Glucksberg, McGlone, and Manfredi 1997: 55). The results showed that metaphorical statements were less meaningful "when reversed, while the literal comparisons remain relatively unaffected" (Glucksberg, McGlone, and Manfredi 1997: 56). The analysis of the collected paraphrases showed that metaphors were almost completely unacceptable when reversed, whereas a high percentage of literal statements was acceptable. Additionally, Glucksberg, McGlone, and Manfredi (1997: 56) concluded that "reversed metaphoric statements are not perceived as merely less meaningful, but instead as either not meaningful at all or meaningful in a completely different way."

In Experiment 2, the researchers tested the informativeness of topics and vehicles, i.e., the independent interactive contributions of topics and vehicles. After the initial norming procedures, Glucksberg, McGlone, and Manfredi (1997) compiled a list of target metaphorical sentences with high- and low-constraint topics, and ambiguous and unambiguous vehicles. They aimed to construct metaphors that could be easily comprehensible without context. Primes were constructed so that either topics (in topic constraints conditions) or vehicles (in vehicle ambiguity conditions) were replaced by asterisks (e.g., *Some jobs are ******, or *Some ***** are viruses*). The dependent variable of interest was reading comprehension time. After the main experiment, participants were asked to complete a list of ten metaphors (with missing topics of vehicles) used in the experiment. The results revealed the import of both topic constraints and vehicle ambiguity. Additionally, there was a more specific hypothesis according to which the "level of constraint is not an important characteristic of vehicles, and that ambiguity is not an important characteristic of metaphoric topics" (Glucksberg, McGlone, and Manfredi 1997: 62). Finally, they did not manage to replicate the facilitation afforded by metaphorical primes reported in Genter and Wolff (1997). In fact, Glucksberg, McGlone, and Manfredi (1997) managed to identify such facilitation only with unambiguous vehicles and high-constraint topics. They propose that high-constraint topics and unambiguous vehicles created fewer expectancies compared to low-constraint topics and ambiguous vehicles. Finally, Glucksberg,

McGlone, and Manfredi (1997: 63) argued that the obtained results reflect "the role-specific contributions that topics and vehicles made to metaphor meaning overall."

McGlone and Manfredi (2001) also see metaphor interpretation as a property–attribution process. McGlone and Manfredi (2001: 1210) propose that "metaphors assert the membership of the topic in a category that is exemplified and named by the vehicle," which suggests that the topic (i.e., source) and vehicle (i.e., target) influence the process of metaphor comprehension differently. Namely, the source domain affords a list of properties attributable to the target domain, while the target domain contains the relevant dimensions to which the relevant properties can be attributed. Additionally, the source typically refers "to a higher level of abstraction" (McGlone and Manfredi 2001: 1211) compared to the target, and the superordinate category that the vehicle activates can also include the topic as a member.

The experiment involved three priming conditions, and priming was conducted via sentences presented visually. Priming sentences were designed to represent (i) only the topic or vehicle concept, (ii) properties that were relevant to the ground of one concept, and (iii) properties that were irrelevant to the ground of one concept. Baseline primes were also included as a control condition. Priming sentences were constructed based on each target metaphor. For instance, for the metaphor *"Some lawyers are sharks,"* the first type of primes was presented as *"Some lawyers are ****"* (by replacing the vehicle concept), or *"Some **** are sharks"* (by replacing the topic concept). The second type of primes is instantiated by sentences *"Lawyers can be ruthless"* and *"Sharks can be ruthless."* Finally, the third type of primes included sentences like *"Lawyers can be married"* and *"Sharks can be blue,"* where irrelevant properties are ascribed to topic and vehicle concepts, respectively. In baseline primes, topic and vehicle concepts were replaced by asterisks (e.g., *Some **** are *****). The dependent variable of interest was reading time measured from the onset of the target metaphor, until participants acknowledged that they completely understood it by proceeding to the next prime-target pair.

The obtained results showed that the first two types of primes facilitated the comprehension of target metaphors. This also supports the idea that even though they contribute to metaphor comprehension in different ways, both topic and vehicle concepts offer equally important contributions to the process. With the third type of primes, the results showed facilitation only for ground-irrelevant properties of the topic. Facilitation for primes that attributed ground-irrelevant properties for vehicles could not be identified, and this is explained by the fact that these primes activated inappropriate literal meanings of vehicle concepts. Moreover, such findings suggest that the suppression mechanism proposed in the structure building framework (Gernsbacher 1997) seems to have facilitated the elimination of the irrelevant information. An important confound was also the

level of metaphor conventionality, insofar as the results from previous research showed that, with conventional conceptualizations, metaphorical meaning is retrieved, whereas with unconventional conceptualizations it appears to be constructed (Wolff and Gentner 2000). Similarly, McGlone and Manfredi (2001:1214–1215) found that primes containing only the vehicle concept or properties relevant to the ground showed greater facilitation for more conventional vehicles.

2.5.2.3 CONCEPTUAL MAPPING VIEW

The conceptual mapping view actually represents the psycholinguistic line of research related to conceptual metaphor theory (CMT). The main tenets of CMT have been outline above. In the present section we discuss some of the relevant psycholinguistic studies that offer support for the existence of cross-domain mappings. Some additional studies (e.g., Thibodeau and Durgin 2008; Nayak and Gibbs 1990; Gong and Ahrens 2007) in favor of this view are also discussed in section 2.6 dealing with metaphor and context.

Wilson and Gibbs (2007) conducted two experiments in which they showed that performing or imagining a bodily movement facilitated participants' comprehension of subsequently represented (congruent) metaphorical language. On the other hand, performing or imagining an incongruent bodily movement demonstrated inhibitory effects. Consequently, building on the assumption that metaphorical actions (e.g., chew on the idea) are based on the actual embodied experience with the world, Wilson and Gibbs (2007: 728) concluded "that performing an action, or merely imagining performing an action, facilitates comprehension of metaphorical phrases related to those actions."

Zwaan and Taylor (2006: 8) conducted a study in which they explored (i) whether visual information "would produce motor resonance during the comprehension of action sentences," and (ii) how motor resonance is modulated during online comprehension. In the first experiment the researchers explored the potential connection between manual and visual rotation. The obtained results showed that manual rotation was affected by visual rotation, and the results also supported "the hypothesis that observing visual rotation produces motor resonance" (Zwaan and Taylor 2006: 4). The third experiment showed "that a visual stimulus interacts with the comprehension of sentences describing manual actions" (Zwaan and Taylor 2006: 5). Namely, sentences describing manual rotation were more easily understood when the accompanying visual representation showed the rotation in the same direction as described in the sentence. In cases where the visual rotation and the rotation described in the corresponding sentence were incongruous, such facilitation could not be identified. In effect, this suggests that "language processing may recruit motor processes in the global sense" (Zwaan and Taylor 2006: 5). The remaining experiments revealed the modulation of motor

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resonance through linguistic input, which is "an immediate and local affair" (Zwaan and Taylor 2006: 8). These results have clear implications for theories of mental simulation and embodied cognition.

Gibbs and Ferreira (2011) offer empirical evidence that attest to the psychological reality of conceptual metaphors as understood under the conceptual mapping view. To reiterate once again, this view holds that the plethora of metaphorical expressions identified in various corpora are licensed by the underlying conceptual mappings – i.e., conceptual metaphors. Specifically, Gibbs and Ferreira (2011) explored participants' awareness of the entailments and implications activated by the presumed metaphorical mappings. For instance, the metaphorical expression *"I am starved for affection"* is sanctioned by the conceptual mapping LOVE IS NUTRIENT, and it entails that "the hungry person is the person who desires love" (Gibbs and Ferreira 2011: 229). Gibbs and Ferreira (2011) used such metaphorical expressions to explore whether participants could recognize the specific entailments arising from the conceptual metaphor associated to the given metaphorical expression. Results of their exploratory study showed that participants were able to identify potential entailments, and the underlying conceptualization could be used as a predictor of this (Gibbs and Ferreira 2011: 229–231). However, the researchers stress the fact that these results might be biased by the experimental setup where the participants' attention was directed to the possible entailments; in turn, the results need not reflect the actual processes involved in online meaning construction.

Gibbs et al. (1997) explored the relationship between idiomatic expressions and the underlying conceptual mappings on which idioms are presumably grounded. Specifically, online idiom comprehension was tested in a priming paradigm. In the first experiment, the participants were engaged in a self-paced reading task, followed by a lexical decision task. Namely, participants were presented with short stories, one line at a time, and the stories ended with (i) idiomatic expressions, (ii) paraphrases of the idiomatic expression, or (iii) control stimuli. This was followed by a lexical decision task. The rationale was that if an idiomatic expression triggers a conceptual mapping, then participants should be faster to respond to target words related to idioms (e.g., heat, corresponding to the idiom *blow your stick*, Gibbs et al. 1997: 143). The results obtained from this experiment showed the expected facilitation in congruent priming conditions; moreover, these effects "[were] not simply due to activation of the literal meanings of idioms, but [could] be best attributed to the access of conceptual metaphors" (Gibbs et al. 1997: 147) during online comprehension.

The second experiment contained a similar setup like the first, the only difference being that "the stories ended in one of two idiomatic phrases, both of which expressed roughly the same figurative meaning[40]" (Gibbs et al. 1997: 147). Targets used in the lexical decision task were either related or unrelated, where "the related target reflected a conceptual metaphor that motivated only

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[40] E.g., *blew his stack* or *jumped down his throat* (Gibbs et al. 1997: 147).

one of the idioms" (Gibbs et al. 1997: 148). The obtained results showed that, when reading idiomatic expressions that are based on different metaphorical mappings, "people do not quickly access the same metaphorical information" (Gibbs et al. 1997: 150), even if the meanings of the idiomatic expressions are similar. Overall, the authors concluded that conceptual mappings can be accessed during online idiom comprehension, but not in all cases. Moreover, idiom comprehension need not always depend on the activation of the underlying mappings (Gibbs et al. 1997: 149).

Thibodeau and Boroditsky (2011) also offer evidence supporting the conceptual mapping view. Namely, they conducted a series of five experiments in which they investigated the influence of metaphors on human reasoning about complex issues and solving social problems. All experiments were survey-based. The experimental setup included a paragraph with the description of a crime (where crime was framed metaphorically as either a virus or a beast), followed by target questions where participants were asked to decide how they would resolve the described issue. Results from all five experiments showed the influence of metaphorical framing on participants' reasoning. Such findings are justified by the fact that metaphorical framings offer structured contexts for understanding crime, which in turn "influenced the inferences the [the participants] made about the crime problem, and suggested different causal interventions for solving the problem" (Thibodeau and Boroditsky 2011: 9), which was aligned with the metaphor that was used to structure the initial paragraph.

However, Steen, Reijnierse, and Burgers (2013) conducted a follow-up study to Thibodeau and Boroditsky (2011). They included three important additions compared to the original study: (i) a control-literal condition, (ii) a measurement of political preference conducted before the main experiment, and (ii) texts in which the additional elaboration of the initial metaphor was not present (Steen, Reijnierse, and Burgers 2013: 5–6). The results of the follow-up study did not reveal "effects of metaphorical frames on policy preference" (Steen, Reijnierse, and Burgers 2013: 20). What is more, there were no significant differences between literal framing (control condition) and the two metaphorical framings. In fact, "all three frames worked in the same way, consistently guiding all participants to a preference for enforcement-oriented policies" (Steen, Reijnierse, and Burgers 2013: 20). These results suggest that the range of contexts in which metaphors can in fact impact reasoning might be quite narrow, and that the conclusions cannot be extrapolated without detailed investigation.

Casasanto and Boroditsky (2008) explored the possible link between the embodied experience and mental representations, basing their investigation on the domains of space and time. They conducted a series of six experiments that did not include any linguistic materials. Overall, the obtained results "showed that mental representations of duration and displacement are asymmetrically dependent on one another" (Casasanto and Boroditsky 2008: 591). Additionally, the

asymmetric tendency between the domains of space and time identified in metaphorical language (where it is far more common to talk about time in terms of space than vice versa) were also identified in this study. Namely, "judgments of temporal duration depended on information about spatial extent" (Casasanto and Boroditsky 2008: 591), but not vice versa. The obtained results also suggest that abstract concepts might be grounded in our embodied experience of perception and action. The metaphorical mappings between the domains of space and time also seem to be present "in our more basic representations of distance and duration" (Casasanto and Boroditsky 2008: 591).

2.5.3 RELEVANT DIMENSIONS IN METAPHOR COMPREHENSION AND THEIR RELATIONSHIP

In the present section we consider some of the main dimensions relevant for metaphor comprehension outlined in previous research, which include the following:

- *comprehensibility*
- *ease of interpretation*
- *degree of metaphoricity*
- *metaphor goodness*
- *aptness*
- *property aptness*
- *contextual aptness*
- *metaphor imagery*
- *subject imagery*
- *predicate imagery*
- *felt familiarity*
- *semantic relatedness*
- *number of interpretations*
- *within- and between-domain similarity*
- *within- and between-domain distance*
- *salience of tenor and vehicle*
- *distinctiveness of tenor and vehicle*
- *relationality*
- *relevance for metaphor interpretation*
- *degree of abstractness of the metaphorically used words*
- *conventionality (novel/conventional metaphors)*
- *word length*
- *frequency*
- *concreteness*
- *naturalness*
- *imageability*
- *figurativeness*
- *valence*
- *valence judgment reaction time*
- *metaphor type (nominal, predicative, locative, and attributive metaphors)*
- *grammatical class of the target word*
- *sensorimotor characteristics of the target word*
- *syntactic form (of the metaphorical expression)*
- *visual imagery*
- *motion imagery*
- *auditory imagery*
- *property connotativeness (emergent and literal properties)*

As already discussed above, Tourangeau and Sternberg (1981) explored the relationship between within- and between-domain similarity, and aptness. Based on the obtained results they reported metaphor aptness to be negatively linked to within-domain distance and positively linked to between-domain distance. There was no link between metaphor aptness and the overall distance.

Based on the previous research in the field, Tourangeau and Sternberg (1981) hypothesized that similarity and aptness could be related in four possible ways: (i) aptness can increase with the increase in similarity between the tenor and vehicle domain; (ii) aptness can also increase with the decrease in similarity between the tenor and vehicle; (iii) the tenor and vehicle domain need to be optimized for similarity (i.e., they can be neither too dissimilar nor similar); and (iv) based on their understanding of the interaction view, metaphor quality is better if the positions that tenors and vehicles occupy in their respective domains are more similar, while the corresponding systems of domains are less similar (Tourangeau and Sternberg 1981: 35). The results of their study revealed that "comprehensibility contributes to the aptness of a metaphor" (Tourangeau and Sternberg 1981: 53). Additionally, within- and between-domain distance could also be used as predictors of metaphor quality. Aptness showed negative correlations with within-domain distance. There was also partial support for the hypothesis that aptness and between-domain distance would show positive correlations.

Katz et al. (1988) performed one of the most comprehensive norming studies across ten relevant dimensions on a database of 204 literary metaphors and 260 nonliterary metaphors that they generated. The authors aimed to control the confounding effects of uncontrolled traits of theoretical variables. Consequently, the dimensions in question were selected based on their empirical relevance, "and their relevance to psychological models that have been proposed for metaphor processing" (Katz et al. 1988: 193). These dimensions include the following: (i) *comprehensibility*, which shows how easy it is to understand or interpret a metaphor (the targets in these conditions were labeled sentences); (ii) *ease of interpretation*, which referred to the assessment of how easy it was to understand the figurative target (the targets in this condition were labeled figurative expressions); (iii) *the degree of metaphoricity*, which assesses how figurative or literal a target expression (or sentence) is; (iv) *metaphor goodness*, which entails the rating of metaphor aptness; (v) the first imagery variable dubbed *the metaphor imagery scale* which refers to the "imageability of the complete metaphorical expression" (Katz et al. 1988: 194); (vi) the second imagery variable – *subject imagery* which corresponds to the topic domain; (vii) the third imagery variable – *predicate imagery* which corresponds to the vehicle domain; (viii) *the felt familiarity*, which entails the assessment of the familiarity of ideas conveyed by the metaphor. It was expected that "frozen metaphors should be rated as familiar, and novel comparisons should be rated as unfamiliar" (Katz et al. 1988: 195); (ix) *semantic relatedness*, which refers to the similarity in meaning between the vehicle and tenor concepts; and (x) *number of alternative interpretations*, which required an estimate of a possible number of interpretations that could be attributed to the metaphor. Overall, the first two dimension refer to comprehensibility, dimensions three and four refer to metaphoricity, dimensions 5–7 refer to

imagery, dimension nine to semantic relatedness, and the final dimension refers to the number of possible interpretations. The analysis showed that all ratings were reliable. Although the results did reveal some individual differences between participants, there were substantial correlations between all dimensions.

Tourangeau and Rips (1991) assessed the possible factors that could influence metaphor interpretation and evaluation. The first experiment involved ratings of goodness, aptness and comprehensibility. In the second experiment, participants performed ratings of selected features for the salience of tenors and vehicles, distinctiveness for tenors and vehicles, relationality, and relevance for metaphor interpretation (Tourangeau and Rips 1991: 460). Ratings of salience involved three specific criteria: (i) applicability of a feature to the specific object, (ii) feature's "centrality to the object," and (iii) "the degree that it was characteristic of the object" (Tourangeau and Rips 1991: 460). In the final experiment a new set of metaphors was designed, and two interpretations were offered for each of the metaphors. One interpretation consisted of shared features (between the vehicle and tenor), which were more pronounced for the tenor domain. The other interpretation included emergent features. The main task in this experiment involved ratings of the salience of features that the interpretations included, as well as the goodness of interpretations. The first experiment showed that the emergent features that are not directly associated to either vehicle or tenor appear to be more relevant for metaphor interpretation, instead of the shared features (Tourangeau and Rips 1991: 466). Such results were reinforced in the second experiment, to the extent that emergent features were rated as more important for interpretation. In the third experiment, interpretation constructed from emergent properties received higher ratings compared to interpretations constructed from shared features.

Blasko and Connine (1993) conducted a series of five experiments in which they explored the effects of subjective familiarity and aptness on metaphor comprehension. They "used a cross-modal priming paradigm […] to assess the availability of metaphorical and literal activation" (Blasko and Connine 1993: 297). Metaphorical priming sentences were presented as auditory recordings, while targets were presented visually – in written form. Targets in the first three experiments were (i) words associated with the figurative meaning, (ii) words associated to the literal meaning of the final word in a metaphorical expression, and (iii) unrelated words. The researchers used metaphors of comparable aptness and varying familiarity in the first two experiments. The first two experiments showed that highly familiar metaphors yielded metaphorical interpretations "immediately at the offset of the metaphor vehicle" (Blasko and Connine 1993: 303). Low-familiar metaphors afforded metaphorical interpretation only if they were highly apt; low-familiar/low-apt metaphors did not

exhibit the activation of metaphorical readings even after a 300 ms delay (Blasko and Connine 1993: 303).

In the third experiment, additional metaphors were introduced and the stimuli were classified as moderate and high-apt, but low-familiar. The results showed that only low-familiar/highly apt metaphors afforded the identification of figurative meanings. In the fourth experiment, "only the 12 low-familiar/moderate apt metaphors were used as experimental sentences" (Blasko and Connine 1993: 302). The researchers also collected comprehensibility ratings for the selected metaphors, due to the fact that "comprehensibility and aptness may reflect somewhat different processes" (Blasko and Connine 1993: 302). Namely, aptness is expected to be related to metaphor evaluation and appreciation, whereas comprehensibility should be linked to online meaning construction. The results showed that for low-familiar/moderate-apt metaphors metaphorical interpretation could be constructed "750 ms after the offset of the metaphor vehicle" (Blasko and Connine 1993: 303).

In the final experiment, primes included only topic and vehicle terms of metaphors from the previous experiments. The results obtained in this experiment showed that the facilitation of metaphorical targets (the first condition described above) was the result of "the juxtaposition of the topic and vehicle" (Blasko and Connine 1993: 304), rather than the result of lexical activation of individual words from the priming sentences. In other words, this shows that metaphor comprehension entails the construction of emergent features "that are not salient characteristics of neither metaphorical term" (Blasko and Connine 1993: 304). Such results are in line with Tourangeau and Rips (1991).

Torreano, Cacciari, and Glucksberg (2005) explored to what extent the level of abstractness of verbs would affect the corresponding assessments of metaphoricity. Participants were required to perform ratings of *ease of comprehension* (how difficult/easy it was to construct the meaning of a sentence), *degree of metaphoricity* (how figurative the sentence was), and *degree of aptness* (how well it expressed the meaning; these ratings, however, were not discussed in this study). The results showed that the degree of rated metaphoricity of verbs increased with the degree of abstraction (Torreano, Cacciari, and Glucksberg 2005: 267). In turn, such findings suggest that the degree of abstraction was as good a predictor of metaphoricity for predicative as for nominal metaphors.

Jones and Estes (2006) explored the roles of aptness and conventionality in metaphor comprehension. Specifically, they compared two models of metaphor processing: (i) the categorization model (Glucksberg et al. 1997) which highlights the import of metaphor aptness for comprehension, and (ii) the career of metaphor model (Bowdle and Gentner 2005) which stresses the role of conventionality. Aptness is defined as "the extent to which the vehicle's figurative meaning expresses an important feature of the topic," while conventionality entails "the strength of association

between a metaphor vehicle and its figurative meaning" (Jones and Estes 2006: 19). In Experiment 1, participants were asked to choose between metaphorical and simile forms of statements (e.g., Education is a lantern / Education is like a lantern; Jones and Estes 2006: 22). Stimuli were manipulated for aptness (low- and high-apt conditions), and conventionality (novel and conventional vehicle terms). In Experiment 2, participants were asked to rate the stimuli for ease-of-comprehension, and the main task involved the measurement of response times. Stimuli were also classified as novel/conventional and low-apt/high-apt. The remainder of the procedure was identical to that used in Experiment 2 in Bowdle and Gentner (2005)[41]. In the final experiment, participants were asked to assess "whether the metaphor topic [was] a member of the category named by the vehicle" (Jones and Estes 2006: 27). This was dubbed the metaphorical categorization task used in a previous study (Jones and Estes 2005) where the researches also explored the effects of vehicle conventionality and aptness.

Overall, the obtained results did not reveal a reliable effect of conventionality on metaphor processing in any of the three experiments. Aptness, however, showed constant effects on metaphor processing. Namely, unlike low-apt metaphors, "highly apt statements were more likely to be preferred in categorical form, were comprehended faster, were comprehended more easily, and were more likely to induce categorization" (Jones and Estes 2006: 28). Additionally, the obtained results offer support for the categorization model of metaphor processing. In an earlier study, Jones and Estes (2005) also showed that categorization in metaphor comprehension is facilitated by metaphor aptness (but conventionality was not tested nor controlled).

Pierce and Chiappe (2009) used a figurative statement production task to explore how property aptness, conventionality, and working memory affect the choices of vehicle domains for both metaphors and similes, and the preference between the metaphor/simile form. Property aptness refers to "whether the property being attributed applies to the topic" (Pierce and Chiappe 2009: 2). Conventionality is understood as the measurement of novelty, while working memory "is a mechanism for active information processing that consists of storage buffers and executive functions that control attention" (Pierce and Chiappe 2009: 2). Participants were required to construct a vehicle based on the topic domain and the associated properties; additionally, they were asked to choose between a metaphor and simile form in the completion task. The results showed that (i) metaphor conventionality could be used to predict vehicle quality and the time required to complete the task, (ii) property-aptness affected the time required to complete the task, and (ii) working memory predicted vehicle quality. The obtained results were also presented as support for the class-inclusion model of metaphor comprehension.

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[41] See section 2.5.2 above for details.

Cardillo and associates (2010) aimed to develop a reliable database of normed pairs of metaphorical and literal sentences that could be used in future research in the domain of cognitive neuroscience. This was done in order to circumvent the effects of potential confounds identified in previous research. The study involved three stages: (i) a norming study for single words, (ii) a norming study for sentences, and (iii) an online comprehension study. The norming was conducted along the following ten dimensions: *length, frequency, concreteness, familiarity, naturalness, imageability, figurativeness, interpretability, valence,* and *valence judgment reaction time* (Cardillo et al. 2010: 651). Specifically, length typically causes prolonged reaction times in behavioral studies. Frequency affects reading times, to the extent that "low-frequency words are read more slowly" (Cardillo et al. 2010: 652) compared to high-frequency words. Apart from differences in reaction times, abstract and concrete words activate both shared and unique brain regions. Cardillo et al. (2010: 652) note that the effect of length, frequency, and concreteness has been neglected in previous research. Naturalness entails "the likelihood that a speaker might spontaneously express an idea in a particular manner" (Cardillo et al. 2010: 652), while interpretability signals how easy it is to compute the meaning of a sentence. Familiarity indicates how novel or entrenched a given metaphorical expression is. Figurativeness indicates the difference between literal and metaphorical sentences; i.e., it shows whether a specific word has been used in its literal or metaphorical sense. Valence refers to the positive or negative emotional reaction that a given metaphorical expression might trigger, and Cardillo et al. (2010) also measured participants' reaction times in this task. Imageability ratings referred to "how quickly and easily each sentence brought a visual image to mind" (Cardillo et al. 2010: 656). Additionally, Cardillo et al. (2010: 652–653) also indicate that the syntactic complexity, semantic plausibility, and metaphor type (nominal, predicative, locative, and attributive metaphors) also present themselves as important confounds that need to be taken into consideration.

Cardillo, Watson, and Chatterjee (2017: 471) conducted another norming study which also included the following three dimensions that were neglected in previous research: (i) "the grammatical class of the base term," (ii) "the sensorimotor features of the base terms," and (iii) the syntactic form of the base. Overall, norming was conducted in three studies along fourteen dimensions, eleven of which referred to the sentence-level, and three to the base term. The sentence-level dimensions were the same as those used in Cardillo et al (2010) and they included: *length, frequency, concreteness, familiarity, naturalness, imageability, figurativeness, interpretability, ease of interpretation, valence,* and *valence judgment reaction time*. The base term dimensions, on the other hand, included *visual, motion*, and *auditory imagery*. The norming procedures were identical to those used in Cardillo et al. (2010), and the researchers also used metaphorical sentences and their literal counterparts.

The results showed that base terms with nouns referring to motion had more pronounced motion imagery compared to auditory imagery, while with base terms with auditory nouns the situation was the opposite. Bases with motion nouns yielded more visual imagery. Sentence-level analysis showed that literal sentences were more concrete, familiar, natural, easier to interpret, and more imageable compared to metaphorical sentences (Cardillo, Watson, and Chatterjee 2017: 478). The results also showed high interpretability for motion and auditory metaphors (Cardillo, Watson, and Chatterjee 2017: 479). The researchers also analyzed correlations for the following dimension: *familiarity, naturalness, imageability, figurativeness, interpretability, ease of interpretation,* and *valence response times* (Cardillo, Watson, and Chatterjee 2017: 479). Sentences that were highly familiar were also highly natural, evoked more visual imagery, were less metaphorical, and were easier to understand. Additionally, valence response times did not show significant correlations with interpretability, and the correlations between metaphoricity and ease of interpretation, and metaphoricity and interpretability also did not reach significance (Cardillo, Watson, and Chatterjee 2017: 479).

Thibodeau and Durgin (2011) explored the role of conventionality and metaphor aptness in metaphor processing. Specifically, they explored the underlying causes of high correlations between aptness and conventionality identified in previous research. Also, they tested the validity and reliability of the previous methods used to measure conventionality and aptness. Aptness is understood as the degree to which the prominent features of the metaphor topic domain are captured by the corresponding vehicle domain. Conventionality, on the other hand, is typically understood as the degree of familiarity. Thibodeau and Durgin (2011: 208) stipulate that ratings of conventionality and aptness might be contaminated by the perceived processing fluency of sentences (i.e., by how easy it is to process a sentence).

In the first experiment, Thibodeau and Durgin (2011) explored the conventionality of entire sentences containing a metaphor, and conventionality of vehicle terms. Next, they attempted to establish a connection between conventionality and frequency of target sentences in the corpus. Namely, "for either method of conventionality ratings to have construct validity, it should reflect the actual pervasiveness of the metaphor" (Thibodeau and Durgin 2010: 209). Also, previous research (Jones and Estes 2006) has shown that ratings of vehicle conventionality were not correlated with ratings of aptness. The results showed high correlations between conventionality and aptness at sentence-level, and conventionality and aptness also showed high correlations with corpus frequency. Although the conventionality ratings of metaphor vehicles alone did not correlate highly with aptness, this method did not show construct validity. Namely, the relevant senses of vehicle terms are

necessarily conditioned by the corresponding topic, so vehicle conventionality ratings cannot reliably predict the interpretability of target sentences (Thibodeau and Durgin 2010: 212).

In the second experiment, the authors employed in-vitro conventionalization, in order to test whether the manipulation of familiarity would affect reaction times. Specifically, they compared "the effects of familiarization when applied to the same sense or a different sense of a specific metaphor vehicle" (Thibodeau and Durgin 2010: 212). The results showed that priming with a metaphorical sentence can facilitate the processing of a subsequent sentence with the same vehicle term. Also, for such facilitation to take place, prime and target cannot only share the same vehicle, but they also need to convey similar meanings. The third experiment was similar to the second one, only the ratings of conventionality were replaced by ratings of aptness. The results showed that the same metaphoric sense in prime and target increased aptness ratings (compared to priming with the literal sense); on the other hand, "priming an alternative sense of a metaphor vehicle led to a reduction in rated aptness relative to the unprimed condition" (Thibodeau and Durgin 2010: 216).

In experiment four, participants were required to provide lists of salient properties of vehicle domains and to indicate which of those properties could be applied to the topic domain and which could not. The rationale was that if aptness ratings refer to the holistic level of sentences, the model with negative traits should pose as a better predictor. If, on the other hand, aptness includes only the shared positive features, models with both positive and negative features should be an equally good predictor like the model with positive features alone. The obtained results suggest that participants were adopting a more holistic approach and that their aptness ratings included multiple aspects of the vehicle domain.

Overall, Thibodeau and Durgin (2011: 219) concluded that metaphor conventionality "cannot be defined for vehicles independent of topics," to the extent that not all metaphors employing the same vehicle term will be understood as equally conventional. Moreover, the assessed degree of conventionality also appears to be context dependent. The authors also suggest that aptness ratings do not actually measure the theoretical notion of aptness they are meant to explain; instead, "aptness may often be a measure of processing fluency than a predictor of it" (Thibodeau and Durgin 2010: 221). Such results also undermine the explanatory validity of the theoretical construct of aptness, since in some cases aptness ratings can, in fact, represent the assessment of conventionality.

Roncero and de Almeida (2015) conducted a norming study of metaphors and their simile counterparts, and the study included: (i) *properties-listing task*, where "properties were first collected for "metaphors, similes, and their topics and vehicles in isolation" (Roncero and de Almeida 2015: 804); (ii) *aptness rating*, where aptness is defined as the activation of properties prominent for both vehicle and topic; (iii) *familiarity rating*, where "familiarity reflects how well-known a given

expression is" (Roncero and de Almeida 2015: 805), which differs from the judgments of conventionality; (iv) *conventionality rating*, where conventionality is understood "as the strength of association between a word (the vehicle) and a specific figurative meaning" (Roncero and de Almeida 2015: 805); and (v) *property connotativeness rating*, where connotative properties refer to emergent properties; denotative properties, on the other hand, refer to literal properties (Roncero and de Almeida 2015: 805).

For the properties-listing task, stimuli were presented either as metaphorical or simile sentences, or as individual vehicle and topic terms. In the aptness-rating task, stimuli were presented as vehicle-topic pairs as similes, or vehicle-topic pairs as metaphors. A similar procedure was used for familiarity ratings. For conventionality ratings, "vehicles were inserted in metaphor frames (e.g., *x is a drug*)" (Roncero and de Almeida 2015: 805). For the connotativeness rating task participants received "associated salient properties produced for the metaphor and simile vehicles" (Roncero and de Almeida 2015: 805). The obtained results showed a significant positive correlation between conventionality and familiarity, and conventionality and interpretive diversity. The correlation between conventionality and aptness, on the other hand, did not reach significance. Also, there was no correlation between aptness and interpretive diversity, while the correlation between familiarity and interpretive diversity did not yield significance. Finally, there was a positive correlation between aptness and familiarity. The authors also assessed the reliability of scales, and found that the values of Cronbach's alpha were consistently greater than .79, which shows a high degree of reliability (Roncero and de Almeida 2015: 808).

Stamenković, Milenković, and Dinčić (2019) conducted a norming study of literary and nonliterary metaphors in Serbian. The dimensions used in the study include: (i) metaphoricity, (ii) quality/goodness, (iii) aptness, (iv) familiarity, (v) comprehensibility, (vi) source-target similarity, and (vii) number of interpretations (Stamenković, Milenković, and Dinčić 2019: 94). The selection of literary metaphors followed a similar procedure outlined in Katz et al. (1988). The initially selected metaphors from poems were adapted to the form 'A is B'. As for nonliterary metaphors, Stamenković, Milenković, and Dinčić (2019: 93) "first translated the nonliterary metaphors from Katz et al. (1988) and added metaphorical manifestations of the more universal metaphors from the domain of cognitive linguistics […] and analogical pairs from Green et al. (2012)." The study included seven questionaries with target metaphors presented in random order. Participants were required to rate each target on 7-point Likert scales for each of the relevant dimensions. All scales proved to be reliable, with Cronbach's alpha ranging from 0.91 to 0.99. Overall, literary metaphors compared to nonliterary metaphors were more metaphorical, less apt, less familiar, more difficult to comprehend, source-target similarity was lower, they were lower in quality, while the number of interpretations was

similar (Stamenković, Milenković, and Dinčić 2019: 99). Correlation analysis showed significant positive correlations in almost all cases – the only exception was a low negative correlation between source-target similarity and the number of interpretations, and a low positive correlation between source-target similarity and metaphoricity. The study also provided a reliable set of normed stimuli that can be used in future psycholinguistic research.

Overall, the overview of studies dealing with the relevant dimensions for metaphor comprehension show a variety of dimensions that are attributed different degrees of import by various researchers. Also, the instruments and methodologies used in the studies described above also differ to a great degree, making a direct comparison of the obtained results rather difficult. In line with main aims and research questions addressed in the main experiments in the present study, which are outlined and discussed in detail in sections 4 and 5, the following six dimensions were included in our norming studies: *metaphoricity, aptness, contextual aptness, comprehensibility, familiarity,* and *number of possible interpretations*. These dimensions were recognized as prominent in the literature overview discussed above. Also, all targets and priming materials containing metaphorical expressions that are used in the experiments in the present study appeared in optimal contexts (i.e., sentence-level contexts). Additionally, priming materials in Experiments 5 and 6 contained extended contexts afforded by homogenous metaphor clusters. Consequently, the level of appropriateness of use of metaphorical targets in the given contexts, i.e., the degree of *contextual aptness* (in the sense of Lyons 1977; McCabe 1983; Figar 2019) also presented itself as an important parameter in our study. In effect, ratings of contextual aptness were also included in the norming studies (sections 4 and 5). In the following section we provide a detailed overview of studies dealing with the influence of context on metaphor comprehension.

2.5.4 SECTION SUMMARY

In the present section we attempted to trace the development of the notion of conceptual metaphor starting from (i) its position in the domain of cognitive linguistics, and moving on (ii) to the treatment of metaphor in psycholinguistic research. Starting from the interactional model of metaphor as presented by Black (1962) and Richards (1965[1936]), we moved on to Embler's (1966) model which closely resembles the latter model established as conceptual metaphor theory (Lakoff and Johnson 2003[1980b]). We also discussed the work of Mihailo Petrović (1967[1933]) whose model was largely based on the mathematical notions of set theory, and which also closely resembles the latter framework introduced by Lakoff and Johnson (2003[1980b]). Another important construct that often licenses and facilitates metaphorical extensions of meanings are image schemata (Johnson

1987), understood as preconceptual structures that give way to higher-order cognitive processes (Mandler 1992). Along with the main traits of the conceptual metaphor theory, we also outlined some of the main problems and criticisms. These mostly refer to the psychological status of conceptual mappings and the level of explanatory validity of the paradigm.

Bearing in mind the need to increase the level of convergent validity of findings between various studies dealing with conceptual metaphors, we also introduced two prominent metaphor identification methodologies – MIP (Pragglejaz Group 2007), and MIPVU (Steen et al. 2010). In addition to the analysis of individual metaphors, previous research has also shown interest in metaphor clusters. The present section also provided an overview of the relevant studies, and methodologies and procedures used for cluster identification.

The overview of the main psycholinguistic approaches to the study of metaphor included (i) the analogy view, (ii) categorization view, and (iii) conceptual mapping view (which represents a psycholinguistic line of research related to conceptual metaphor theory). After the overview of some of the most relevant studies in the field we also provided an overview of the most relevant dimensions in metaphor comprehension, also extracted from the previous research in the field. Based on the overview of the latter, we selected the following relevant dimensions that will be used in the norming procedures in the present study (sections 4 and 5). These include the following: *(i) metaphoricity, (ii) aptness, (iii) contextual aptness, (iv) comprehensibility, (v) familiarity,* and *(vi) number of possible interpretations*.

Bearing in mind the import of context in the process of meaning construction in general, and its relevance in the study of metaphor comprehension, we address this issue in the following section. Also, we reiterate that the role of context in metaphor processing will be relevant for the experiments conducted in the present study (sections 4 and 5).

2.6 CONTEXT AND METAPHOR COMPREHENSION

The indispensable role of context in meaning construction in general has been well-recognized in previous research (e.g., Firth 1962; Fillmore 1982; Evans and Green 2006; van Dijk 2008; Tasić and Stamenković 2012; Kövecses 2015). However, many studies dealing with metaphor comprehension failed to take this important variable into account, and target metaphors were typically presented in isolation (without any context) or in minimal (sentence-level) contexts. The present section provides an overview of some of the most relevant studies in the domain of psycholinguistics that included context as an important variable in metaphor comprehension.

Ortony and associates (1978) conducted a study in which they explored comprehension times for target sentences that followed the antecedent priming contexts. The research was based on the general idea that "a hearer or reader uses an already constructed representation of what has gone before (the context) as a conceptual framework for interpreting a target sentence, or any other linguistic unit" (Ortony et al. 1978: 467). The experimental setup was essentially the same like in Haviland and Clark (1974) who explored the hypothesis that sentence comprehension is facilitated by the analysis of the previous content (i.e., context), to which novel information is attached. Haviland and Clark's (1974) first experiment used direct and indirect antecedent primes, with targets containing definite noun phrases. The results showed significantly shorter comprehension-reading times for target sentences that appeared in the direct-antecedent condition compared to the indirect condition. Additional two experiments reinforced the conclusions obtained in the first experiment, insofar as the results could not be accounted for only by the repetition of the critical noun, and that a similar trend was identified for "presuppositions associated with the adverbs *still, either, again,* and *too*[42]" (Haviland and Clark 1974: 518).

In Ortony and associates (1978), each target in the first experiment appeared in two experimental conditions: (i) with a prior context aimed to activate a metaphorical interpretation, and (ii) with prior context meant to induce a literal reading of the target. Context-length was manipulated (short and long priming contexts), and the dependent variable of interest was target comprehension time. Short contexts contained only the initial sentences of their corresponding long contexts. The results obtained in the first experiment showed longer target comprehension times in the metaphorical compared to the literal priming condition for short contexts. Ortony and associates (1978: 473) argued that short context creates "insufficiently specific expectations [and as a consequence] metaphors suffer significantly more than literals." With long contexts, on the other hand, reading comprehension

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[42] Original emphasis.

times between the two priming conditions did not differ. In the second experiment, target sentences contained idioms that appeared in three conditions; (i) targets that were expected to be interpreted idiomatically, (ii) targets meant to be interpreted literally, and (iii) targets that represented paraphrases of idiomatic expressions. The results showed that literal interpretations took significantly longer compared to both idiomatic interpretations and paraphrases.

Ortony et al. (1978: 473–475) account for the expectancies generated by the context in terms of the schema theory. Namely, priming contexts are assumed to activate schematic representations. If the new information (in our case the target sentence) is congruent with the already active schematic structure, it is more easily integrated into it. Ortony et al. (1978: 474) argue that long contexts activate "sufficient appropriate schemata to enable an account of the target to be arrived at quite readily." With short contexts, on the other hand, "the expectations that can be generated […] are rather vague compared to those in the long context condition" (Ortony et al. 1978: 474). This is owing to the fact that schemata activated by short contexts are far less elaborate and require additional processing, similar to problem solving (which also led to longer processing times in this condition). Overall, Ortony et al. (1978: 475) argue that "what determines the difficulty of processing is not nonliteralness but relatedness to context," and that the processing of figurative and literal language is very similar.

Gildea and Glucksberg (1983: 577) conducted a study designed to identify "a minimal appropriate context" that would facilitate metaphor comprehension, as well as the effects of different types of contexts. In Experiment 1A Gildea and Glucksberg (1983) compared the effects of literal and metaphorical primes. Participants were presented with sentences of the form *"Some/All X are Y,"* and their task was to decide as quickly as possible whether a sentence was true or false (Gildea and Glucksberg 1983: 582). 'X' represented a concrete noun, while 'Y' was a property that could sensibly be attributed to the corresponding noun. In other words, "the predicate term Y always referred to a property of the target metaphor vehicle that was relevant to that metaphor's ground concept" (Gildea and Glucksberg 1983: 581). There were six types of sentences used as stimuli: "standard true, standard false, metaphors, scrambled metaphors, figurative pries, and literal primes" (Gildea and Glucksberg 1983: 581). Metaphor targets were taken from (Glucksberg, Gildea, and Bookin 1982) where they were identified as poor metaphors (see Table 2.5 for examples). The obtained results showed that both priming conditions (i.e., literal and metaphorical primes) afforded equal facilitation in the main task.

In Experiment 1B priming sentences were not paired with scrambled metaphors with a related predicate noun, but rather with scrambled metaphors with a related subject noun (Gildea and Glucksberg 1983: 585). Apart from the difference in stimuli combinations the methodology was identical to Experiment 1A. In the condition without priming, similar response times were recorded

for metaphors and scrambled metaphors. With metaphorical priming, response times for metaphors were longer compared to scrambled metaphors, and a similar trend was identified in the literal priming condition. Additionally, Gildea and Glucksberg (1983: 584) found that both literal and metaphorical priming produced higher response times to metaphors compared to scrambled metaphors. Still, "the interaction of prime and sentence type was not significant […] indicating that the effects of prime type (literal versus figurative) were not different from one another" (Gildea and Glucksberg 1983: 585).

Table 2.5. Types of stimulus sentences used in Experiments 1A, 1B, and 2
(adopted from Gildea and Glucksberg 1983: 581)

Sentence type	Examples
Filler sentences:	
Standard true	Some birds are eagles All trout are fish
Standard false	Some birds are trout All eagles are fish
Primes/Target metaphors	Some foods are unhealthy/ All criminals are germs Some songs are soothing/ All hands are medicine
Scrambled metaphors	All criminals are medicine All hands are germs

Based on these results, Gildea and Glucksberg (1983: 585) concluded that related immediate contexts which activate metaphor grounds facilitate metaphor comprehension, compared to the condition with unrelated immediate context. Additionally, both literal and figurative contexts that prompted the activation of the relevant metaphor ground proved to be equally efficient. Another more general conclusion suggests that context facilitates metaphor comprehension to the extent that it foregrounds and activates the relevant concept (presumably the metaphor ground). Consequently, Gildea and Glucksberg (1983) aimed to further explore the extent and specificity of context required in order for this facilitation effect to take place. One possible solution is that facilitation would occur in the minimal context – "one that provides nothing more than the relevant dimension of the implicit comparison" (Gildea and Glucksberg 1983: 585). Furthermore, this information is available to interlocutors as defined by the topic of the conversation.

In Experiment 2 the authors compared the effects of general and specific primes. General primes are understood as sentences that contain words belonging to the same semantic field as the

metaphor ground (Gildea and Glucksberg 1983: 585). The results showed that "activating the semantic field of a metaphor ground can effectively make available the relevant dimension of comparison that is implicit in a nominative metaphor" (Gildea and Glucksberg 1983: 586). In other words, activation of the relevant semantic field by the prime facilitates the processing of the subsequent (congruent) target metaphors.

Based on the results obtained in this study and the previous study they conducted (Glucksberg, Gildea, and Bookin 1982), the authors conclude that with conventional metaphors, additional context might not be necessary to facilitate comprehension. This facilitative role becomes more pronounced with unconventional topic-vehicle pairings. Additionally, Gildea and Glucksberg (1983: 588) also maintain that the role of minimal context they were able to identify suggests that the information afforded by those contexts is accessed automatically. Moreover, they propose that "nonliteral comprehension mechanisms share important functional properties with literal comprehension mechanisms" Gildea and Glucksberg 1983: 588). Finally, the type and length of context required for facilitation effects to be recorded will necessarily be a function of the specific target expressions (Gildea and Glucksberg 1983: 589).

McCabe (1983) conducted four experiments in which she explored the relationship between similarity and the quality of metaphors in formulaic sentences and extended contexts. She expected that similarity would show high positive correlation with quality in minimal context (i.e., formulaic sentence context), while there would be little or no correlation between the two items in extended contexts. In Experiment 1, McCabe (1983) first compiled a list of 28 word-pairs. 25 participants were asked to write a metaphorically structured paragraph for each pair of words. In the next step, one group of participants was instructed to rate metaphor quality of word-pairs in context, another group to rate metaphor quality without context, while the final group was instructed to rate the similarity of word-pairs without context. The obtained results showed high positive correlations between similarity and metaphor quality in the case of formulaic sentences. On the other hand, in the condition with extended context, no such correlations could be identified. Comparison of metaphor quality ratings between the conditions with formulaic sentences and extended context did not show any significant correlations either.

Experiment 2 was based on the same procedures used in the previous experiment, with the following main modifications: (i) a new set of word pairs was used, and (ii) participants were instructed to pay attention to contexts when rating word pairs in context. The results showed even higher positive correlations between ratings of similarity and metaphor quality in the condition without context compared to the first experiment. In extended contexts, on the other hand, such correlations could not be identified. In Experiment 3, McCabe (1983) used natural metaphors,

extracted from novels. Again, the experiment included three experimental groups similar to the previous two experiments. The results showed high positive correlations between the ratings of similarity and quality in the condition without context. The relationship between the two items was smaller in the condition with extended context. However, in this experiment the correlation between similarity and quality in the extended context condition also reached significance. McCabe (1983: 55–56) ascribed such findings to the fact that "similarity ratings were obtained of nouns plus local modifiers in this experiment whereas only isolated nouns were rated for similarity in the previous experiment." Consequently, metaphor quality cannot be understood as a simple function of similarity between the tenor and vehicle (McCabe 1983: 56).

In Experiment 4, target metaphors were selected from transcripts of spontaneous speech. This experiment included an additional experimental condition in which the original wording was preserved. The first experimental group listened to recordings and was instructed to assess metaphor goodness following their own criteria. The second group had the same task, only they received the metaphors in written form, with the original wording. The third group also had the same task, but they received metaphors in formulaic sentences. Finally, the fourth group had the task to rate the similarity of pairs of concepts extracted as vehicles and tenors of the metaphors used in the first three experimental groups. The results showed a stronger relationship between similarity and quality in the condition with formulaic sentences, compared to the condition with extended context where there were no significant correlations. Metaphor quality in the condition with formulaic sentences did not reveal a relationship with metaphor quality in extended contexts. Additionally, "the correlation between conceptual similarity and quality judged in isolated sentences in the original wording was not a significant one" (McCabe 1983: 59). Again, this warrants the conclusion that the similarity between the tenor and vehicle cannot be used to account for metaphor quality in extended contexts.

Finally, McCabe (1983: 62) stresses the import of methodology and how it can affect the experimental results, to the extent that both the choice of metaphors and manner of presentation can appear as confounds. Once again, all four experiments support the finding that similarity between a given tenor and vehicle can affect ratings of metaphor quality, but only in minimal context (i.e., in formulaic sentences). With extended context, contextually relevant information seems to override similarity, which directly affects metaphor quality. In other words, it seems that how appropriate a metaphor is in the given extended context (i.e., how contextually apt a metaphor is) is a more salient determinant of its quality than the similarity of its tenor and vehicle.

Inhoff, Lima, and Carroll (1984) explored how context would influence reading times for metaphorical target sentences. They used priming contexts of varying lengths (short and long contexts) and types (metaphorical and literal contexts). In the first experiment, the authors measured

reading times for target sentences in (i) literal, (ii) metaphorical, and (iii) unrelated priming conditions. Materials were "presented line-by-line, and in each case, context and target appeared in separate lines" (Inhoff, Lima, and Carroll 1984: 560). In the second experiment, participants first read the entire priming passages which then disappeared from the screen, and the target sentence appeared. The relevant dependent variables in both experiments were reading time for the target sentence, and total viewing times for critical words. Both experiments were conducted using an eye-tracking paradigm.

The first experiment involved short priming contexts, and the results showed that targets were read faster "when they were to be interpreted literally than when they were to be interpreted metaphorically […] or when they were unrelated to the prior context" (Inhoff, Lima, and Carroll 1984: 560). Also, viewing times for critical words were longer in the metaphorical and unrelated conditions compared to the literal condition. The second experiment included longer priming contexts. The results did not show any significant differences between literal and metaphorical sentences. Sentence reading times in the unrelated conditions, on the other hand, were significantly longer compared to the other two conditions. Overall, the results from the first two experiments suggest that when the priming context is elaborate enough, there are no differences in comprehension between literal and metaphorical sentences (Inhoff, Lima, and Carroll 1984: 561).

The first two experiments left the following issues unresolved: (i) whether context length is crucial for metaphor interpretation; (ii) "whether metaphoric and literal processes are structurally equivalent" (Inhoff, Lima, and Carroll 1984: 561), since the results from Experiment 2 may only mean that metaphorical and literal processing require equal amounts of time; and finally, (iii) whether metaphor prime-target pairs and literal prime-target pairs would facilitate comprehension. Inhoff, Lima, and Carroll (1984: 561) refer to this final case as *the process priming hypothesis*. In Experiment 3, participants were presented only with short context-primes (single sentences), while targets contained critical words that could be understood either as literal or as metaphorical. The authors reasoned that if the length of context was crucial, metaphorical targets would require longer processing times, while if both metaphorical and literal processing is equivalent, reading times should be the same. The results did not reveal longer reading times for metaphorical targets compared to literal targets. On the other hand, type of context-prime pairs showed a significant effect, in that target reading times were shorter in the metaphorical and literal condition compared to the associated-word condition. Inhoff, Lima, and Carroll (1984: 562) argued that "readers established a conceptual frame of reference during the reading of the context sentence within which the target information was interpreted." Most importantly, metaphor targets showed shorter reading times when presented after congruent metaphorical primes, compared to congruent literal primes. Additionally, literal targets

showed an identical trend, insofar as shorter reading times were recorded when they followed congruent literal, compared to congruent metaphorical contexts. This, in turn, offers support for the process priming hypothesis.

Shinjo and Myers (1987: 226) explored the influence of context on metaphor interpretation and whether "manipulations of context affect comprehension of metaphors and literal sentences in the same way." In their view, context can facilitate metaphor comprehension if it increases the salience of the ground (Shinjo and Myers 1987: 226). Another motivation for the study was to explore whether the results presented in Gildea and Glucksberg (1983) can be "generalized to other measures and contexts" (Shinjo and Myers 1987: 227). In the first experiment, target metaphors were primed by paragraphs, and it involved the manipulation of the final sentence of the prime. The main task involved the rating of target comprehensibility. In the second experiment, Shinjo and Myers (1987) measured target reading times after being exposed to the same primes used in the first experiment. Finally, in the third experiment a single word – metaphor ground – was used as the prime, after which target reading times were measured. The rationale behind these experiments was that if both metaphor and literal sentences are processed the same way, "any manipulation that increases the salience of the metaphoric ground may also clarify the predicate of a literal statement which conveys the same meaning" (Shinjo and Myers 1987: 228). In other words, if this was indeed the case, the primes should demonstrate similar effects for both literal and metaphorical sentences. Targets included metaphorical sentences and their corresponding literal paraphrases (Shinjo and Myers 1987: 228).

The first experiment showed that (i) literal targets were more easily processed compared to the corresponding metaphorical targets; however, context reduced this difference; (ii) literal primes did not facilitate metaphorical interpretation[43]. However, Shinjo and Myers (1987: 230) stress that ratings of comprehensibility need not be equated with the actual process of comprehension. Consequently, a more objective measure (reading times) was introduced in the second experiment. The second experiment showed equal contributions of context in understanding both literal and metaphorical sentences. Unlike Gildea and Glucksberg (1983), primes that were semantically related did not demonstrate additional facilitation for either literal or metaphorical targets (Shinjo and Myers 1987: 233). Shinjo and Myers (1987) argue that one possible reason for such results is sentential context which was not used by Gildea and Glucksberg (1983). Namely, "the context may have sufficiently supported comprehension of a following metaphor […] so that the semantic manipulation did not affect the target comprehension" (Shinjo and Myers 1987: 233). Additionally, the nature of the main tasks may have also served as a confound, since Gildea and Glucksberg (1983) used a judgment task, whereas Shinjo and Myers (1987) used a reading task. Finally, the third experiment

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[43] Guildea and Glucksberg's (1983) study showed an opposite trend.

revealed shorter reading times for literal paraphrases compared to their metaphorical counterparts in all experimental conditions. Moreover, reading times were shorter after specific primes compared to general primes.

Finally, Shinjo and Myers (1987: 237) discuss the four components they propose to be involved in comprehension: (i) encoding, which entails the "perceptual encoding of the target sentence;" (ii) retrieval, which acts post–lexically and involves the "foregrounding of the prime words;" (iii) selection, which involves the selection of features from the vehicle; and (iv) integration, where the prime, or its relevant features, should be attached to the topic. Interactions of the four components could account for different degrees of facilitation for some primes. For instance, differences in reading times between conditions with a general and specific prime recorded in the third experiment were most likely caused by difficulties in integration. Namely, participants in the experiment first encode the target, which is then followed by the retrieval of the prime. When the prime is general, integration is halted, as participants require extra processing to select the appropriate features. On the other hand, more specific primes facilitate the selection of features, thereby also facilitating the integration process.

Keysar (1994) suggests that both literal and metaphorical interpretations are facilitated by contextual constraints. He also proposes that context enforces such effects via plausibility and elimination. For instance, a sentence *"This place is a prison,"* can potentially have either a metaphorical or a literal interpretation. However, context directs the reader to construct the meaning that was probably intended. The first mechanism that facilitates the selection of the relevant reading of the sentence that Keysar (1994: 248) proposes is plausibility. Namely, if the previous example appears after a context that describes a restrictive and confining environment, metaphorical interpretation would be more plausible. On the other hand, the second mechanism that Keysar (1994: 248) proposes is elimination. In this case, a certain interpretation (either metaphorical or literal) is chosen because other readings are less plausible, and, in effect, eliminated. If the previous example is uttered by a teenager with reference to her/his home, the literal interpretation should be eliminated because the referent (the household instead of a jail) is explicitly defined. Obviously, these two mechanisms are analogous to enhancement and suppression mechanisms in the structure building framework (Gernsbacher 1997).

Keysar (1994) conducted three experiments with ambiguous sentences that could be understood as literal or metaphorical. Sentences contained counterfactuals (e.g., *If this place were not a prison then …*), and "to understand the sentence one must recover its presupposition" (Keysar 1994: 250). The rationale for using counterfactuals and not descriptive sentences was that with the former, "the interpretation of the antecedent of counterfactuals must rely on previous context" (Keysar 1994:

250). The first experiment revealed the effect of contextual elimination. Namely, interpretations of sentences shifted from mostly literal to mostly metaphorical when additional literary false information was added to original literal paragraphs. On the other hand, interpretations shifted from mostly metaphorical to mostly literal when metaphorically false information was added to contexts. The second experiment showed "that interpretation by elimination is harder regardless of whether the final interpretation is literal or metaphorical" (Keysar 1994: 262). Also, the interpretation that involved the mechanism of elimination was assessed as harder compared to the interpretation that was facilitated by plausibility. Finally, the third experiment showed that the participants took longer to construct both metaphorical and literal interpretations when the mechanism of elimination was employed. Such findings were identified only for conclusions, whereas antecedents did not show significant differences between experimental conditions. Additionally, the identified latency between conclusions and antecedents "suggests that subjects delayed interpretation until the end of the sentence" (Keysar 1994: 265). Finally, Keysar (1994: 265) concludes that there is "a similar pattern of contextual effects for literal and metaphorical interpretations in discourse" (Keysar 1994: 265).

Nayak and Gibbs (1990) performed a series of six experiments in which they investigated the role of conceptual knowledge in the interpretation of idioms in different discourse contexts. The idioms that were investigated referred to emotion concepts (anger, fear, success, and joy), and the authors adopted the idea that the comprehension of these idioms progressed along prototypical stages. In the present review, we focus our attention on experiments 3–6. In Experiment 3, participants were primed by story contexts "that depicted a particular temporal stage of a prototype for an emotion concept" (Nayak and Gibbs 1990: 320). These contexts reflected the same temporal stages of the specific concept, while "they instantiated that information in slightly different ways" (Nayak and Gibbs 1990: 321). Participants were instructed to judge how appropriate each target idiom was in the given context. The obtained results showed that the conceptual information activated in a given discourse context enabled the participants to make distinctions between idioms that had similar meanings. Nayak and Gibbs (1990: 321–322) argue that participants constructed mental models by mapping the information from the texts to the mental representations of concepts, which in turn facilitated their judgements of appropriateness. In other words, they propose that it was "the conceptual coherence between readers' discourse models and the meanings of specific idioms" (Nayak and Gibbs 1990: 322) that determined the suitability of certain idioms in specific contexts.

In Experiment 4, Nayak and Gibbs (1990: 322) investigated "whether the conceptual coherence of contexts and idioms influences the speed with which idioms are comprehended." Participants were primed with short paragraphs that ended with idiomatic phrases, and these phrases were either appropriate or inappropriate in relation to the context. The main task required that the

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participants make a judgement of whether the final phrase was acceptable in English, and the relevant dependent variable was response time. The results showed that "the conceptually coherent items […] were responded to more quickly than conceptually less coherent items […]" (Nayak and Gibbs 1990: 323). In other words, idioms aligned with the expectancies generated by the paragraphs afforded shorter response times compared to idioms that were not aligned with the expectancies.

Experiment 5 was designed to show that contextual appropriateness is also a function of metaphorical conceptualizations that underlie the idioms. Participants were given a list of idioms and were instructed to match each idiom with its corresponding conceptual metaphor. The results showed a high degree of agreement in the matching task, which was interpreted as the activation of the corresponding conceptual mappings. In Experiment 6, Nayak and Gibbs (1990) aimed to explore whether participants' judgements of contextual suitability of idioms was licensed by the metaphorical mappings. Participants read short paragraphs dealing with a specific emotion concept, which "were constructed to prime one of the metaphorical mappings inherent in its prototypical structure" (Nayak and Gibbs 1990: 326). The main task involved the rating of contextual appropriateness of the final idiom. Social context was also included as an independent variable in order "to test for the possibility of some interaction between the metaphoric priming in a particular discourse context with the social situation depicted" (Nayak and Gibbs 1990: 326). The results showed that participants' judgments of appropriateness were affected by "the coherence between the metaphoric information depicted in a discourse context and the [specific] conceptual metaphor" (Nayak and Gibbs 1990: 328) that underlined the given idiom.

Glucksberg, Brown and McGlone (1993) conducted three experiments in which they tested the findings presented in Nayak and Gibbs (1990). Experiment 1 included a forced choice task, and it was based on the idea that if contextual appropriateness of idioms is based on emotions of specific protagonists in the story-context, "analogically consistent idioms should be chosen as most appropriate only in the original-person referent condition" (Glucksberg, Brown and McGlone 1993: 713). On the other hand, if contextual appropriateness is assessed based on the most accessible emotion concepts in a specific context, the original- and other-person conditions should not reveal any differences. Such results would offer support to the existence of conceptual mappings. The results indeed showed preference for idioms consistent with the conceptual mapping activated by the prior context in cases when there is a person referent both in the context and in the idiom. On the other hand, when "the story context involves a non-person referent and the idiom itself refers to a person, idiom choice is not affected" (Glucksberg, Brown and McGlone 1993: 714).

Experiment 2 was designed to test whether conceptual mappings are accessed automatically during idiom comprehension. The relevant dependent variable in this experiment was reading time,

and it was expected that reading times would be shorter when the target idiom was congruent with the conceptual mappings activated by the story context. Based on the obtained results, Glucksberg, Brown, and McGlone (1993: 715) concluded that "analogical consistency had no discernible effect on reading times." In Experiment 3, the authors tested the effect of congruent conceptual mappings on reading times, coupled with "the non-person referent condition to control for lexical priming" (Glucksberg, Brown, and McGlone 1993: 716). The results did not reveal a significant effect of conceptual congruency on reading times; moreover, conceptual congruency did not show a significant interaction with referent conditions either. Overall, Experiments 2 and 3 show that when the story context activates specific conceptual mappings related to an emotion concept, such conceptual mappings are not accessed automatically in idiom comprehension (Glucksberg, Brown and McGlone 1993: 717). Finally, the authors recognize the fact that under specific circumstances conceptual metaphors can indeed be available in semantic memory and might facilitate language comprehension and production, but they are not accessed automatically (Glucksberg, Brown and McGlone 1993: 717).

Gong and Ahrens (2007) explored the processing of conceptual metaphors in discourse, and their research was based on the conceptual mapping view of metaphor processing. The study explored the differences in predictions offered by the attributive categorization view and conceptual mapping view. Specifically, the authors address the results presented in Nayak and Gibbs (1990), and Glucksberg, Brown, and McGlone (1993), and propose that different results can be attributed to both different types of tasks and different natures of tasks. Namely, the first study used a judgment task, and a paragraph presentation, while the second study used a reading task, and line-by-line presentation. The results obtained in Gong and Ahrens (2007) suggest that conceptual mappings are accessed when materials appear as complete paragraphs. Line-by-line presentation, on the other hand, hinders the activation of conceptual mappings, insofar as each individual sentence builds specific expectancies.

Gong and Ahrens (2007) conducted five experiments[44], where the first one included an off-line task, while the remaining experiments involved on-line tasks. Specifically, the researchers investigated the effects of the nature of the task and the presentation of stimuli on the activation of conceptual mappings. Also, they controlled for "word frequency of the target idioms and the level of semantic association between target idiomatic phrases and contextual lexical words" (Gong and Ahrens 2007: 315). In Experiment 1, participants read metaphorically structured texts, where the final metaphorical expression that appeared was either congruent or incongruent in relation to the text. Stimuli were presented as entire paragraphs and the main task was the same like in Nayak and Gibbs

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[44] The study was conducted in Mandarin Chinese.

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(1990) – a contextual appropriateness judgement. All metaphors were highly conventional, and "the target lexical words in the target sentences were placed in the middle of the sentences instead of at the end in order to avoid sentential wrap-up effects" (Gong and Ahrens 2007: 319). The results showed significantly higher ratings of targets in the congruent, compared to the incongruent condition.

Experiment 2 was designed to test whether "conceptual mappings are accessed on-line in on-going discourse" (Gong and Ahrens 2007: 320). In this experiment the initial text-prime appeared on the screen as a complete paragraph. Once participants had read the prime, it disappeared and the target metaphorical expression appeared. The participants were again asked to assess the contextual appropriateness of the target. All response times were included in the analysis (regardless of the type of response, i.e., appropriate/inappropriate). The data showed faster responses in the congruent condition, suggesting that the incongruent prime-target pairs took longer to understand.

In Experiment 3 the stimuli were presented as paragraphs, while the main task only involved the reading of the final sentence (without judging the contextual appropriateness). Reading times were measured "from the onset of the sentence to the button pressed by participants" (Gong and Ahrens 2007: 323). The results again showed faster reading times in the congruent condition. Gong and Ahrens (2007: 324) interpret the data as supporting the idea that conceptual mappings are activated when metaphors are processed in ongoing discourse. Moreover, they claim that the paragraph presentation of the prime is invariant to the nature of the main task, to the extent that it facilitates on-line access to conceptual mappings.

The final two experiments were designed to explore whether the activation of conceptual mappings can be identified in a judgement task, regardless of the way stimuli are presented. In Experiment 4, materials were presented line-by-line. After reading the final target sentence, participants were asked to judge whether it was appropriate in relation to the prior context or not. The relevant dependent variable was response time in the main task. Each target sentence was preceded by a cross "+", in order to signal that the final sentence of the paragraph was coming. The results did not show facilitation in the congruent condition. In fact, the difference in mean response times between the two conditions did not reach significance. Gong and Ahrens (2007) concluded that such findings were biased by the type of stimuli presentation (line-by-line).

In the final experiment, stimuli were again presented line-by-line, and the relevant dependent variable was reading time for the target sentence. Like in Experiment 4, the congruent condition did not afford any facilitation, and the difference in mean reading times between the two conditions did not yield significance. In effect, the authors again concluded that the failure to capture the activation of conceptual mappings in this experimental condition was caused by the line-by-line presentation of

stimuli. The authors also argue that these findings can be used to account for the different results obtained in Nayak and Gibbs (1990) and Glucksberg, Brown, and McGlone (1993).

However, at this point we would like to point out some important methodological constraints present in Gong and Ahrens (2007), and Nayak and Gibbs (1990). Namely, both studies suffer from the fact that they are based on the null-hypothesis that conceptual mappings indeed exist, and that they underpin idiom and metaphor comprehension. Both studies rely on the manipulation of priming story-contexts and congruency relations between the prime-target pairs; however, this is done only in the metaphorical condition. In effect, the experimental setups in these two studies afford only the comparison of the effects of congruent and incongruent prime-target pairs, with the underlying assumption that conceptual mappings facilitate comprehension. The nature and the psychological validity of the construct of conceptual mappings itself, however, remains unaddressed. To be able to claim that conceptual mappings afford an advantage in metaphor (or idiom) comprehension, one would need to include additional experimental conditions that would involve (at least) literal priming paragraphs and unrelated priming paragraphs. This would license the comparison of the metaphorical condition and the remaining conditions, with identical targets in each condition. Only if such comparisons would show facilitation with congruent metaphorical priming compared to congruent literal priming, could one argue that conceptual mappings are activated and that they indeed have a role in online comprehension of metaphors (or idioms) in discourse context. Without such a validation, the results outlined in Nayak and Gibbs (1990) and Gong and Ahrens (2007) remain restricted to the impact of the nature of the main task and the format of stimuli presentation in congruent and incongruent metaphorical conditions. Consequently, the role and activation of conceptual mappings remains unclear.

Keysar et al. (2000) tested whether metaphor processing indeed requires the activation of conceptual mappings as proposed by Lakoff and Johnson (1980). Based on the previous research and extensive criticism of the conceptual mapping view (e.g., Jackendoff and Aron 1991; Glucksberg, Brown, and McGlone 1993; McGlone 1996, 2007, 2011; Murphy 1996, 1997), Keysar et al. (2000) hypothesized that conceptual mappings might be relevant for novel, non-conventional metaphors, whereas conventional metaphors would not require the activation of such mappings. Moreover, they also expected that the explicit instantiation of a conceptual mapping "might foster the use of that mapping if appropriate expressions appear in the text" (Keysar et al. 2000: 580). If the processing of conventional metaphorical expressions is indeed facilitated by conventional mappings, then they should also facilitate the processing of novel metaphors presumably based on those mappings. On the other hand, the processing of conventional expressions might simply be facilitated by linguistics associations, in which case mappings are redundant.

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Four priming conditions were used in Experiment 1: (i) implicit mapping, (ii) no mapping, (iii) explicit mapping, and (iv) literal meaning. Targets were based on Lakoff and Johnson's (2003[1980b]) examples. If the conceptual mapping view holds, then the implicit-mapping condition should activate the relevant mappings, thereby facilitating the comprehension of the final sentence in the paragraph (Table 2.6). If this was not the case, then there should be no differences in comprehension of the final sentence between the two conditions. Additionally, Keysar et al. (2000) also introduced an explicit mapping condition, where the proposed conceptual mappings are introduced from the onset of the paragraph. Finally, there was also a literal condition, where metaphorical expressions were replaced by the corresponding literal statements. The results obtained in the first experiment did not show any differences between the four experimental conditions. This suggests that the proposed conceptual mappings were not activated, insofar as no facilitation could be identified in either explicit or implicit mapping conditions.

Table 2.6. Example of stimuli used in Experiment 1–3 (IDEAS ARE PEOPLE), adopted from Keysar et al. (2000: 582)

Implicit-mapping scenario: As a scientist, Tina thinks of her theories as her contribution. She is a *prolific* researcher, *conceiving* an enormous number of new findings each year.	No-mapping scenario: As a scientist, Tina thinks of her theories as her contribution. She is a dedicated researcher, initiating an enormous number of new findings each year.
Explicit-mapping scenario: As a scientist, Tina thinks of her theories as her children. She is a *prolific* researcher, *conceiving* an enormous number of new findings each year.	Literal-meaning scenario: As a scientist, Tina thinks of her theories as children. She makes certain that she nurtures them all. But she does not neglect her real children. She monitors their development carefully.
Novel-mapping scenario: As a scientist, Tina thinks of her theories as her children. She is a *fertile* researcher, *giving birth* to an enormous number of new findings each year.	Target sentence: *Tina is currently weaning her latest child.* Target word: *Weaning*

In the second experiment Keysar et al. (2000) explored whether conceptual mappings could be activated by novel or non-conventional metaphorical expressions. Conventional metaphorical expressions from the explicit-mapping condition were replaced by unconventional expressions (Table 2.6). If mappings are indeed activated in this condition, they should afford shorter reading times of target sentences. The results did not reveal any significant difference between the implicit-mapping condition and no-mapping condition. More importantly, reading times between the novel-mapping and literal condition were similar, with no significant differences. Additional comparisons showed significantly faster reading times in the novel and literal conditions compared to the implicit and no-

mapping scenarios. These results suggest that "only scenarios that used novel expressions showed evidence that readers relied on conceptual mappings" (Keysar et al. 2000: 588). Conventional metaphorical expressions, on the other hand, did not afford the activation of conceptual mappings.

In order to explore whether the facilitation in the literal and novel condition identified in Experiment 2 was indeed caused by conceptual mappings and not semantic priming, Keysar et al. (2000) conducted another experiment. In Experiment 3 participants were asked to read the priming paragraphs (without the target sentence), after which they proceeded to the lexical decision task (for the target word, Table 2.6). The rationale was that if the novel context afforded facilitation in Experiment 2 owing to semantic priming, then this facilitation should be identified in Experiment 3 as well. If there is no facilitation in Experiment 3, then the effects of semantic priming can be ruled out. The results showed higher mean response times in the novel condition, but the comparisons did not yield significance. Consequently, such results show that the facilitation identified in Experiment 2 was not caused by semantic priming.

Overall, Keysar et al. (2000) concluded that conventional metaphorical expressions do not instantiate conceptual mappings, and comprehension actually takes place directly. The comprehension of novel metaphors, on the other hand, might be facilitated by different processes. Additionally, "conceptual mappings […] are not routinely used, but instead may be generated and used from perceived or inferred similarities between domains" (Keysar et al. 2000: 591). In addition to Murphy (1996), who presented arguments contrary to the conceptual mapping view in the sense that models such as the structure-mapping model (Gentner 1983) are more suitable for accounting for metaphor comprehension at the conceptual level, Keysar et al. (2000: 591) claim that their study affords additional criticism at the level of language use. Namely, one of the major consequences of Lakoff and Johnson's claim concerning the overall pervasiveness of metaphors is the "conflation of literal and metaphorical language" (Keysar et al. 2000: 591). However, many linguistic expressions understood as metaphorical under the conceptual mapping view are seen as literal phrases in psychology. As pointed out in Jackendoff and Aron (1991: 325), Lakoff's "characterization obscures certain important distinctions and stretches the notion 'metaphor' to a number of cases that should be understood in other terms." Another problem is posited by the choice of metaphorical schematizations, which is not always straightforward. For example, Lakoff and Turner (1989) treat the conceptualization LIFE IS A FIRE as more favorable than LIFE IS A FLAME or LIFE IS SOMETHING THAT GIVES OFF HEAT (Jackendoff and Aron 1991: 324). Finally, based on the results obtained in their experiments Keysar et al. (2000) conclude that, although conceptual mappings may play an important role under some specific circumstances, in other situations they are redundant.

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Thibodeau and Durgin (2008) based their study on the critical examination of results presented in Keysar et al. (2000). Namely, first they replicated Experiment 2 from the former study, after which they conducted their version of the experiment. Thibodeau and Durgin (2008) stress some potential difficulties associated with the stimuli used in Keysar et al. (2000). Namely, there were discrepancies between conventional metaphors and their novel-metaphor counterparts, and many conventional metaphorical expressions used in the former study were not in line with Lakoff and Johnson's classifications (Thibodeau and Durgin 2008: 522). In their selection of stimuli, Thibodeau and Durgin (2008: 522) focused on the following criteria: (i) all conventional metaphors were taken from Lakoff and Johnson; (ii) conceptual metaphors that they chose were indeed consistent and represented stock phrases; (iii) primes with conventional metaphors and their corresponding metaphor were "conceptually parallel;" and (iv) participants were encouraged to address the experimental stimuli more thoroughly.

The first experiment was identical to Experiment 2 from Keysar et al. (2000), and the obtained results showed an identical trend. Namely, significantly shorter reading times for target sentences were recorded in the novel and literal conditions, compared to conventional, and non-metaphorical conditions. Also, there were no differences in reading times between the novel and literal condition. The second experiment in Thibodeau and Durgin (2008) was conducted with a different set of stimuli (as described above). The results in this case showed that conventional metaphors facilitated the comprehension of novel target metaphors via conceptual mappings. Namely, shorter reading times for targets were recorded in conditions "with conceptually-related novel metaphors than when they were following non-metaphoric language with a parallel interpretation" (Thibodeau and Durgin 2008: 528). As a result, the authors concluded that both novel and conventional metaphors can afford the activation of conceptual mappings. In Experiment 3 Thibodeau and Durgin (2008) tested whether the identified facilitation was a function of metaphor content. This was done in order to make sure that the facilitation recorded in the previous experiment was not caused by the fact that metaphorical primes prepared the participants for metaphorical targets. The stimuli used in Experiment 3 contained "pairs of scenarios […] constructed using different sets of conventional metaphors (e.g., ANGER IS HEAT; ANGER IS A WILD BEAST)" (Thibodeau and Durgin 2008: 530). The results showed shorter reading times for novel target metaphors when they appeared after a prime containing a conventional metaphor from the same metaphor family, compared to the condition when the prime contained conventional metaphors from a different metaphor family.

Thibodeau and Durgin (2008: 531) conclude that priming with related conventional metaphors facilitates the comprehension of novel metaphors. Furthermore, they argue that their results offer support for the psychological reality of Lakoff and Johnson's notion of metaphor

families. They also stress the communicative function of metaphors to the extent that the use of metaphors "may encourage the speaker and prepare the listener to use other related metaphors, both novel and conventional" (Thibodeau and Durgin 2008: 532). This process is dubbed "communicative facilitation [and it is] neutral with respect to the mechanism by which related metaphors facilitate each other" (Thibodeau and Durgin 2008: 532). Finally, the authors propose that the obtained results offer support for the existence and import of conceptual mappings in metaphor comprehension.

A rather neglected factor that can affect the processing of metaphor in context includes individual differences between participants, which can be manifested at different levels. Some of the relevant factors include differences in crystalized and fluid intelligence. Stamenković, Ichien, and Holyoak (2020) conducted a study in which they explored the effects of individual differences in fluid and crystalized intelligence on metaphor comprehension between participants, when metaphors appeared after the antecedent linguistic context. Targets included only literary metaphors and they were presented "in the form of a single critical sentence" (Stamenković, Ichien, and Holyoak 2020: 290). The main experiment included three conditions: (i) without prior context (baseline condition), (ii) congruent metaphorical context, where the antecedent context supported metaphorical readings of target sentences, and (iii) congruent literal context, where the context was designed to favor a literal interpretation of the target sentence; i.e., *literal-congruent* contexts provided encyclopedia-like information related to topics relevant to the target domain" (Stamenković, Ichien, and Holyoak 2020: 291). The researchers expected that congruent metaphorical context would facilitate metaphor comprehension, and that, in terms of individual differences, it would "encourage and facilitate semantic integration as the dominant strategy for interpreting the critical sentence" (Stamenković, Ichien, and Holyoak 2020: 289). The congruent literal context, on the other hand, was expected to cause a lag. However, it was not clear how it would affect individual differences.

The study included the following four tasks: (i) Raven's Progressive Matrices (RPM) – a test used to explore differences in analogical reasoning, and which is "generally considered a central measure of fluid intelligence" (Stamenković, Ichien, and Holyoak 2020: 290); (ii) Semantic Similarities Test (SST) which offers "a rapid assessment of crystalized verbal intelligence with face validity of relevance to metaphor comprehension" (Stamenković, Ichien, and Holyoak 2020: 290). This test was developed by Stamenković, Ichien, and Holyoak (2019); (iii) Vocabulary Subtest of Wechsler Adult Intelligence Scale, which represents "a standardized measure of crystalized intelligence" (Stamenković, Ichien, and Holyoak 2020: 290); and (iv) comprehension of literary metaphors, where each target sentence appeared in one of the three conditions described above. Participants were required to write down their interpretations of target sentences.

Compared to the baseline condition (without prior context), the results showed both the expected facilitation in metaphor comprehension in the congruent metaphorical condition, and the expected inhibition in the congruent literal condition. Additionally, fluid intelligence proved to be "a reliable predictor of metaphor comprehension scores" (Stamenković, Ichien, and Holyoak 2020: 293) and these predictions were not confounded by individual contexts. Crystalized verbal intelligence showed a significant effect in the baseline condition. There was also a significant interaction between congruent metaphorical context condition and crystalized verbal intelligence compared to the baseline condition. Interaction between crystalized intelligence and congruent literal condition, on the other hand, did not reach significance. Such results suggest that congruent metaphorical contexts enhance the impact of crystalized verbal intelligence on metaphor comprehension, and that "the metaphor-congruent context encouraged and facilitated semantic integration as the dominant strategy for interpreting the critical sentence" (Stamenković, Ichien, and Holyoak 2020: 293).

One of the shortcomings of many previous studies is not only the marginal role of context, but also the lack of clear norming procedures of the experimental stimuli. Hartung and associates (2020) attempted to remedy that by introducing appropriate contexts, and by using previously normed materials developed by Cardillo and associates (2010). Namely, Hartung et al. (2020) conducted an fMRI study in which they investigated the effect of appropriate context on the comprehension of novel metaphorical and corresponding literal statements. The authors highlight the fact that the majority of previous studies dealt with decontextualized stimuli, or, at best, with stimuli in minimal sentence-level contexts. Such experimental setups underplay the import of context in metaphor processing to the extent that "context facilitates prediction, limits possible interpretation, and likely facilitates co-activating relevant information and semantically related concepts to ease processing of figurative language" (Hartung et al. 2020: 2). As a result, some studies have been able to identify differences in processing between metaphorical and literal expressions in conditions without context. Stimuli used in the experiment included short paragraphs related to target sentences. Metaphorical and literal target pairs were selected from Cardillo et al. (2010) based on low familiarity ratings (corresponding to the higher degree of novelty).

Namely, as discussed above, Cardillo et al. (2010) constructed a database of metaphorical and literal pairs of sentences that could be used in future research. To remedy the shortcomings of previous studies in which the stimuli were constructed artificially, typically without undergoing any norming procedures, the authors conducted three norming studies which included: (i) words, (ii) sentences, and (iii) online comprehension. The first norming study provided assessments of *frequency, concreteness, length base auditory imagery,* and *base visual imagery*; the second study provided the assessments of *familiarity, naturalness, imageability, figurativeness,* and

interpretability; finally, in the third study they explored *the positive valence ratio, valence judgement,* and *reaction time* (Cardillo et al. 2010: 655–660). After eliminating the "weak items", they compiled the final list of 280 pairs of metaphorical and literal sentences. The database was also adapted for investigating novelty, understood as an important confound in metaphor comprehension research (Cardillo et al. 2010: 652).

In addition to sensical contexts, Hartung et al. (2020) also included jabberwocky contexts[45] as a control condition. The obtained results did not reveal any significant differences in the processing of metaphorical and literal target sentences in sensical context. One possibility for such findings is that context affords the activation of all relevant semantic features; in effect, there were no violations of expectancies, even with novel metaphors. In other words, "narrative contexts facilitate semantic integration and potentially decrease working memory demands by predicting and pre-activating relevant semantic information and aiding the resolution of a novel metaphor's semantic ambiguity" (Hartung et al. 2020: 6). The results did not reveal any processing differences between the metaphorical and literal sentences in the jabberwocky context condition either.

Another important function of metaphors that has been identified in previous research is that they can serve as contextualization devices. Namely, metaphors can afford metaphorical framings of events or situations via metaphorical schemas. In that sense, Allbritton (1995: 33) argues that "an important function of metaphor is the creation of schemas for understanding abstract domains of experience." Also, the use of metaphors can increase the coherence of texts. Allbritton (1995) is primarily interested in the functions that metaphors perform. Some of the main functions include: (i) the interpersonal function that affords the focus on the common ground between interlocutors (Allbritton 1995: 35); (ii) creating similarities between the vehicle and the topic; and (iii) "providing a framework for understanding a new domain or for restructuring the understanding of a familiar domain" (Allbritton 1995: 36). Consequently, using a specific vehicle to refer to the topic can affect or even alter one's understanding of the topic[46] (Allbritton 1995: 37). Typically, with analogical metaphors similar to those discussed in Lakoff and Johnson (2003[1980b]), a more familiar domain is used to elaborate on the less familiar domain.

Allbritton (1995: 38) introduces the notion of metaphor-based schemas, where conceptual metaphors give way to "schematic knowledge structures that can influence the way information about a metaphor's topic domain is processed and represented in memory." Additionally, these

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[45] Jabberwocky contexts were constructed as grammatically acceptable sentences "in which content words are replaced by pseudowords that are phonotactically and syllabically possible in the language but bear no semantic meaning" (Hartung et al. 2020: 2).

[46] For instance, Gentner and Gentner (1983) describe how different metaphorical framings of electricity yield different conceptualizations of the processes from the field of electrodynamics.

metaphorical schemas constitute a part of readers' background knowledge (Allbritton 1995: 41). Moreover, metaphor entailments constitute systematic schematizations. Once some elements of such a schema are encountered, the remainder of the schema can be completed via pattern completion. To distinguish metaphorical schemas (or metaphorical framings) from the typical schemas, Allbritton (1995: 38) argues that the former pose as "an encapsulation of a particular way of understanding [the topic domain] which results from the metaphorical comparison" between the vehicle and topic domain. Similar to the notion of highlighting and hiding (in the sense of Reddy 1979, and Lakoff and Johnson 2003[1980b]), Allbritton (1995: 38) also argues that metaphorical schemas act as filters which amplify the information congruent with the schema, while downplaying the incongruent information.

Schemas also organize information systematically in accordance with their internal structure. For instance, the ordering of elements and the order of actions in a familiar prototypical schema can influence the order of reported events in a recall task. Bower, Black, and Turner (1979) reported that activities are organized in memory in a hierarchical fashion. Also, in the recall task, participants remembered the events in the order typical of a generalized script, even in cases when the text stimuli were presented in scrambled order. Allbritton (1995: 39) proposes another function of metaphorical schemas – providing "a means for connecting pieces of information in memory." For instance, Allbritton, McKoon, and Gerrig (1995) found that metaphorical schemas facilitated the construction of links between elements in text representation. Participants recorded shorter recognition times for the critical sentence in conditions where the prime and target activated the same (i.e., congruent) schema compared to the incongruent prime-target combinations. In effect, Allbritton (1995: 41) argues that metaphorical schemas are important not only for the coherence of textual representations, but may also play a vital role in discourse comprehension.

Allbritton, McKoon, and Gerrig (1995) conducted a series of four experiments in which they tested the role of metaphorical schemas in text representation and comprehension. Specifically, they used "word and sentence recognition priming to assess the degree to which elements of a text representation were associated with one another in memory" (Allbritton, McKoon, and Gerrig 1995: 614). Namely, participants were first presented with priming paragraphs designed to induce a metaphorical schema, after which they were presented with the target stimuli. Targets were metaphorical sentences (or words) and they appeared after primes that contained the same metaphorical schema. The rationale was that prime-target pairs containing the same metaphorical schema should be recognized faster compared to prime-target pairs based on different metaphorical framings.

The results obtained in the first experiment showed "that the prime and target sentences were more closely connected within the participants' text representations when they shared a relationship to a metaphor-based schema than when they did not" (Allbritton, McKoon, and Gerrig 1995: 615). Primes and targets used in the second and third experiment constituted single words. The results obtained from these two experiments showed "that the connections responsible for the priming were part of the text representations formed during reading" (Allbritton, McKoon, and Gerrig 1995: 616), insofar as the duration of single-word primes was not sufficient to facilitate the use of retrieval strategies. Results obtained in the final experiment showed shorter recognition times for target words when they were primed by a word from a previous metaphorical sentence, than when primed by a word from a previous literal sentence on the same topic. Overall, Allbritton, McKoon, and Gerrig (1995) concluded that the experimental data support the idea "that metaphor-based schemas can be used during reading to link one element of text to another." Moreover, metaphorical schemas can account for text representation, and can increase the level of coherence at the level of text representation (Allbritton, McKoon, and Gerrig 1995: 619).

2.6.1 SECTION SUMMARY

This section included a selection of some of the more relevant studies dealing with the role of context in metaphor comprehension. The majority of studies dealt with the role of priming (i.e., contextualization) and its effects on the processing of different types of metaphorical targets (e.g., in terms of conventionality, familiarity, aptness, etc.), and comparisons between the processing of metaphorical and literal language (Ortony et al. 19878; Haviland and Clark 1974; Glucksberg, Gildea, and Bookin 1982; Gildea and Glucksberg 1983; Inhoff, Lima, and Carroll 1984; Shinjo and Myers 1987; Keysar 1994; Keysar et al. 2000; Thibodeau and Durgin 2008). In addition to that, some of the studies addressed more specific problems. For instance, McCabe (1983), Nayak and Gibbs (1990), Glucksberg, Brown, and McGlone (1993), and Gong and Ahrens (2007) dealt with the problem of the appropriateness of metaphors in the given contexts (i.e., contextual aptness), depending on the type of contexts and types of targets. In addition to the role of context in metaphor comprehension, Stamenković, Ichien, and Holyoak (2020) also explored the potential role of individual differences between participants. Hartung et al. (2020) explored the role of context in the comprehension of novel metaphors and their literal counterparts, and they attempted to ensure the ecological validity of the study by using the stimuli that had undergone initial norming in a study conducted by Cardillo et al. (2010). Finally, a group of studies also explored the role of metaphorical framing and metaphorical schemas (Allbritton 1995; Allbritton, McKoon, and Gerrig 1995; Ortony et al. 1978).

The primary aim of this section was to emphasize the role of context in metaphor comprehension and its import for increasing the degree of *ecological validi*ty of the obtained results, as well as the level of *explanatory validity* of the theoretical model(s). The former refers to the degree of correspondence between the experimental stimuli and actual instances of contextualized language use. The latter is directly conditioned by the former, in that it entails how well the given model explains *how* the actual process of meaning construction in the case of metaphorical language is influenced by the various types of contexts, and *how* it might relate to the processing of (their counterpart) literal language.

Finally, we also address the issue of contextual aptness of target metaphorical expressions (which will undergo initial norming procedures) presented in sentence-level contexts, following (i) the antecedent metaphorical primes (in the form of homogenous metaphor clusters), (ii) their corresponding literal counterparts, and (iii) incongruent primes (section 5).

3. CORPUS ANALYSIS

In the present section we turn to the description and analysis of a small specialized corpus from which the stimuli used in the main experiments were selected. Namely, as outlined in previous research (e.g., Hartung 2020; Cardillo et al. 2010), psycholinguistic experiments often include stimuli which are decontextualized, which do not reflect actual instances of language use, and which rarely undergo any norming procedures. Instead, stimuli are often constructed artificially, based on specific research goals. In order to circumvent those issues, the experimental part of the present study (sections 4 and 5) will use stimuli selected based on the results of the initial norming procedures. Also, instances of metaphorical language will be selected from a small specialized corpus of newspaper articles described in this section. This is expected to increase the ecological validity[47] of the study and the reliability of the obtained results.

First, an overview of the corpus structure in terms of frequencies and densities of target items is provided, which is followed by a qualitative analysis of the selected representative examples of metaphorical expressions. Apart from individual metaphorically used words, we also analyzed the overall clustering tendency in the corpus, and identified the most frequent and most dominant clusters (in terms of the most frequent conceptual key in the given cluster). Finally, we also provide a qualitative analysis of selected clusters, after which we turn to the description of the procedures used to select the stimuli for the main experiments. This also included a translation procedure. Namely, since the corpus is in English, while the participants in the main experiments were native speakers of Serbian, all stimuli selected from the corpus were translated into Serbian. This was done in accordance with the main methodological guidelines, where psycholinguistic experiments related to language processing should be conducted in the participants' mother tongue (e.g., Kostić 2010). While all the guidelines and principles of translation studies have been followed, we will also emphasize the potential limitations of the translation procedure.

3.1 AIMS AND RESEARCH QUESTIONS

Apart from the general aim of ensuring the ecological validity of the stimuli used in the main experiments (sections 4 and 5), this part of the study also included additional aims. Specifically, the study was designed to identify instances of metaphorically used words, and to explore the clustering tendency in the corpus. We also wanted to identify the most frequent conceptual keys, and the most

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[47] See section 3.5.1 for details.

frequent metaphor clusters both in terms of the metaphorical expressions with the highest count in the cluster, and in terms of cluster size. Also, we wanted to explore whether any instances of metaphorical projections of image schemata could be identified in individual metaphorically used words, and how the structure and possible functions of metaphor clusters could be accounted for in terms of metaphorical framing and mental models. Consequently, this part of the study was designed to provide answers to the following research questions:

i. Which conceptual key showed the highest frequency and the highest density (i.e., count per 1,000 words) in the corpus for individual metaphorical expressions?

ii. Which group of metaphor clusters was the most frequent in terms of cluster size?

iii. Which group of metaphor clusters was the most frequent in terms of the metaphorical expressions with the highest count in the cluster (i.e., in terms of the dominant conceptual key)? Were there any significant differences in the average cluster size for each metaphor group based on the dominant conceptual key in the cluster?

iv. Were there any instances of metaphorical projections of image schemata? How can individual metaphorical expressions be described in qualitative terms?

v. How can the identified clusters be described in qualitative terms in relation to metaphorical framing, mental models, and possible functions of individual metaphorical expressions in the cluster?

3.2 CORPUS DESCRIPTION

The corpus used in the research constituted a small specialized corpus (in line with Koester 2010, and Reppen 2010) of newspaper articles extracted from the online editions of the New York Times. All articles were topically related, in that they dealt with the reports of the three presidential debates that took place between Barack Obama and Mitt Romney on the following dates: October 3rd, October 16th, and October 22nd, 2012. Target newspaper articles were selected from the online archives of *The New York Times*, based on the following criteria:

i. the date range included the period three days before the debate, and five days after each debate;

ii. the type of entry was restricted to articles alone;

iii. articles below the length of 500 words were not included in the corpus;

iv. the search strings included the following keywords or key phrases: *Barrack Obama, Mitt Romney, presidential election, presidential debate, election campaign, Republicans,*

Democrats, and *ballot.* The articles that initially appeared in the search were then further analyzed in order to ascertain that they were indeed related to the topic of presidential debates. Those articles that met the requirements were included in the corpus.

The corpus included 76 articles, with a total of 78,782 words, and mean article length of 1030.27 words (SD=344.37). Article titles were not included in the corpus. The shortest article was 537 words-long, while the longest article contained 2,199 words.

3.3 IDENTIFICATION OF INDIVIDUAL METAPHORICAL EXPRESSIONS

All articles were tagged manually for instances of metaphorically used words or phrases (i.e., for metaphor keywords), and prepared for subsequent analyses using *WordSmith Tools 6.0* (Scott 2010, 2014; Tribble 2010). Identification of metaphorically used words was conducted along the main guidelines discussed in section 2.5.1.7. Namely, we used the MIPVU (Steen et al. 2010), which represents an updated procedure originally introduced by the Pragglejaz Group (2007). In brief, the identification of metaphorically used words was conducted in accordance with the following steps:

i.   reading the entire article to establish the general topic and context;

ii. identification of lexical items. This was done following the recommendations outlined in Praggleajz (2007) and Steen et al. (2010);

iii. comparison of basic and contextual meanings of lexical items. If an item's contextual meaning could be recognized as a function of its basic meaning, that lexical item was identified as used in the metaphorical sense. The resources used in this part of the analysis included the following: *Oxford Advanced Learner's Dictionary* (7th ed.) (Wehmeier 2005), *Oxford Dictionary of Collocations* (Crowther, Dignen, and Lea 2005), *Oxford Dictionary of Idioms* (Siefring 2004), *Oxford Dictionary of Phrasal Verbs* (Cowie and Mackin 2005), *Longman Dictionary of American English* (Bullon et al. 2008), and *Macmillan English Dictionary for Advanced Learners of American English* (Rundell and Fox 2002);

iv. the analyses were performed in two passes, with four weeks between the passes. All analyses were performed by the author.

Apart from the above listed steps, another important component was also included in the analysis. When deciding between the metaphorical and non-metaphorical use of lexical items, in addition to the comparison between the contextual and basic meanings, we also investigated their potential image-schematic base that could serve as grounding for the contextualized, metaphorical extensions of meaning. In that sense, some items that have been tagged for metaphorical use might not show a high degree of discrepancy between the contextual and metaphorical senses. However,

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their pronounced image schematic base renders their use in the given context metaphorical, rather than literal. For example, this was often the case with the preposition *in*, which often serves as the space builder[48] for CONTAINMENT metaphors.

Another two groups of metaphors where the image schematic base was very important for their identification were MOTION and CONFLICT metaphors. Namely, metaphorically used lexical items originating from the frame of MOTION have a pronounced image schematic structure based on the path schema. As outlined in section 2.5.1.6, path schemata can often undergo metaphorical projections. Additionally, the import of spatial experience and spatial schemas for human conceptualization and metaphorical language has also been emphasized in previous research (e.g., Johnson 1987; Lakoff 1987; Mandler 1992, 2012; Gibbs and Colston 1995; Antović 2009, 2010, 2016, 2018; Antović and Stamenković 2012). CONFLICT metaphors, on the other hand, are commonly associated to the force schema. Namely, the frame of CONFLICT is very dynamic, and it involves a high degree of interaction and exertion of force (in the literal sense). Consequently, many metaphorical extensions of senses of lexical items from the frame of CONFLICT are actually based on metaphorical projections of the force schema[49].

Finally, it is important to note that the corpus analysis presented here does not attempt to prove the existence of cross-domain mappings, nor the existence of conceptual metaphors available in long-term memory. Namely, following Steen (2007: 286), we also recognize that the precise identification of conceptual mappings can be a subject of disagreement, and should constitute "a research question of its own." Moreover, any claims about the existence of such mappings should undergo experimental scrutiny, since corpus analysis can do no more than point to the existence of certain lexical patterns that *might have* a deeper conceptual base. Without subsequent experimental assessment, such stipulations will necessarily remain at the level of a hypothesis.

For the purposes of annotation and further analyses and comparisons of metaphor groups, we will employ the provisional operational annotation of the identified metaphors as members of specific groups of conceptual metaphors, and their overarching conceptual keys (in the sense of Charteris-Black 2004). Still, the key word being *operational*, such annotation at this point does not assume the existence of specific predefined mappings. Rather, it should be understood as the classification of possible conceptual patterns that can function recursively (in the sense of Figar 2013a, 2014a). The classification itself is based on the relation of *hyponymy*, similar to that found in the structure of categories. More precisely, in the domain of lexical semantics, hyponymy represents the paradigmatic

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[48] The concept of a space builder is taken from the framework of mental spaces theory, where it is understood as "a grammatical expression that either opens a new space or shifts focus to an existing space" (Fauconnier 1997: 40).
[49] Specific examples of metaphorical projections of image schemata of path, force, and containment are given in section 3.2.2.

sense relation of *inclusion* (Lyons 1968: 453), which is also hierarchical in nature as it includes the superordinate element, the *hypernym*, and its subordinate elements, *hyponyms* (Prćić 1997: 95; Lipka 1992: 144; Geeraerts 2010: 82), where *hyponyms* "on the same level of the hierarchy are called *co-hyponyms*" (Lipka 1992: 144). The hierarchical organization also entails that the more specific sense of a *hyponym* in effect narrows its denotation (i.e., its range of reference), while the *hypernym* receives the widest denotational range in a given hierarchy (Prćić 1997: 95-96). Additionally, hyponymy poses as a *transitive* relationship (Prćić 1997: 96; Geeraerts 2010: 82).

Our classification of conceptual keys was based primarily on the overarching frame to which a given metaphorically used word belonged. The conceptual key can be understood as the hypernym (i.e., the most inclusive level) with multiple conceptual metaphors (i.e., hyponyms) corresponding to it. Metaphorically used items pose as co-hyponyms in relation to the conceptual metaphor that is above them in the hierarchy. Also, we recognize that the offered classification can be potentially elaborated in more detail, so as to be more or less inclusive. In that sense, the proposed classifications should be understood only as descriptive tools. The possible activation and interaction of conceptual domains (in our terminology mental spaces organized by semantic frames) is explored further in the experimental setup in section 4.

3.3.1 QUANTITATIVE ANALYSIS

Lexical items identified as used metaphorically were tagged manually, and the materials were prepared for subsequent analyses in *WordSmith Tools 6.0* (Scott 2010, 2014; Tribble 2010). Namely, the *search over tags* function of the software affords the overview of the position of individual target items within sentences, paragraphs, and the overall article structure. Additionally, the software also provides an overview of the distribution of targets in the entire corpus, as well as in individual articles. Apart from the number of target items, it also gives the normalized projection of *hits per 1,000 words*, and dispersion. The visual representation of targets in the dispersion plot provides a graphic overview of the targets both in the corpus and in individual articles from the corpus (Figure 3.1). Additionally, double-clicking on the target in the concordance list provides access to the entire corpus unit (in our case a specific newspaper article) so that it can be examined in wider context if necessary.
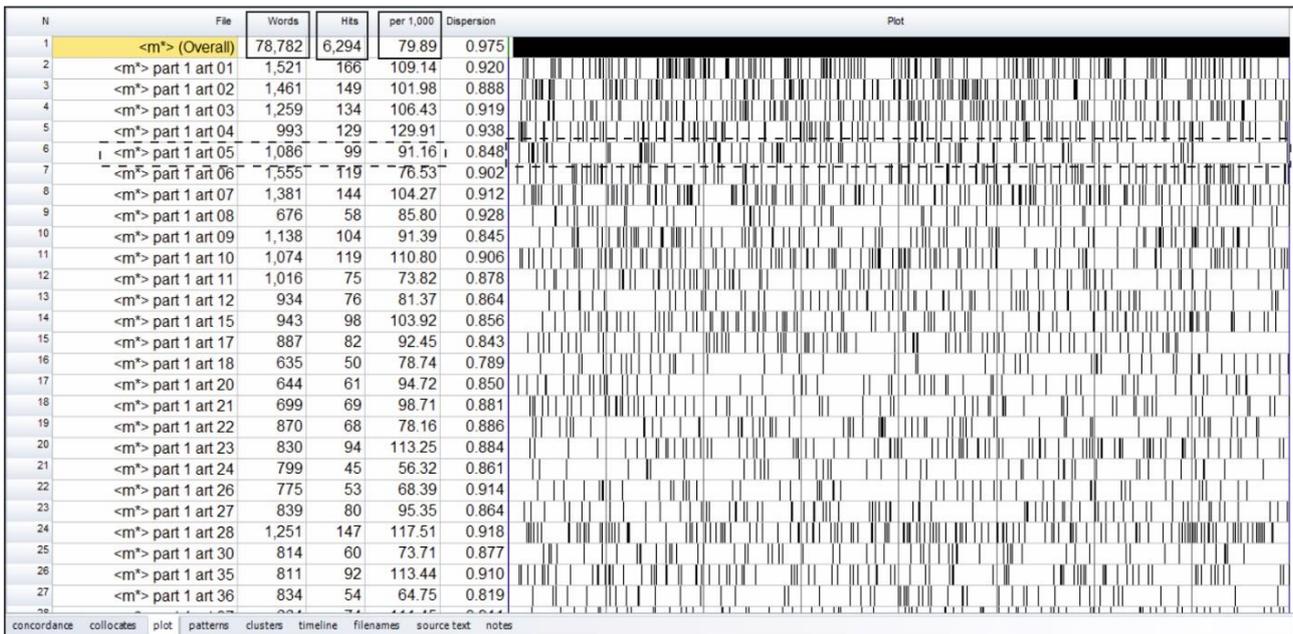
Figure 3.1. Output from *WordSmith Tools 6.0*

Quantitative analysis showed a total of 6,294 metaphorically used words, with an average density of 79.89 target items per 1,000 words. Figure 3.2 gives an overview of the total count of metaphorically used words (i.e., metaphorical expressions) belonging to each of the main conceptual keys, while Figure 3.3 gives an overview of overall mean densities of target items per 1,000 words, for each conceptual key. The highest density was recorded for CONFLICT metaphors (20.57), followed by MOTION metaphors (20.19), and finally CONTAINMENT metaphors (19.82). We will be using the normalized values of target items per 1,000 words (i.e., density), as it is understood as a more objective and more reliable measure than the number of occurrences. The distribution of mean densities per article from the corpus for each conceptual key, and the distribution of overall mean metaphor densities per article for all metaphorically used words are given in the scatterplots in Figure 3.4.
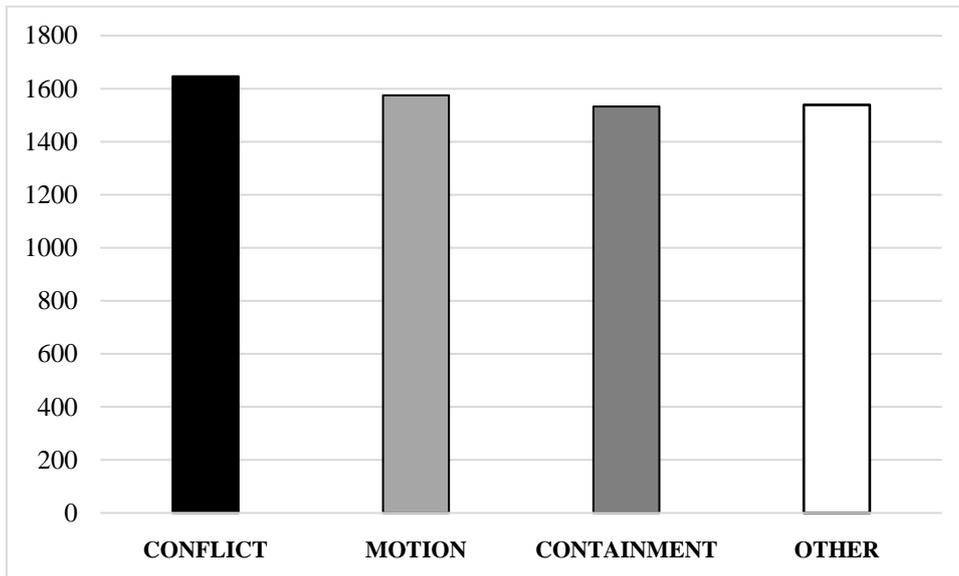
Figure 3.2. Total number of occurrences of metaphorically used words for each conceptual key
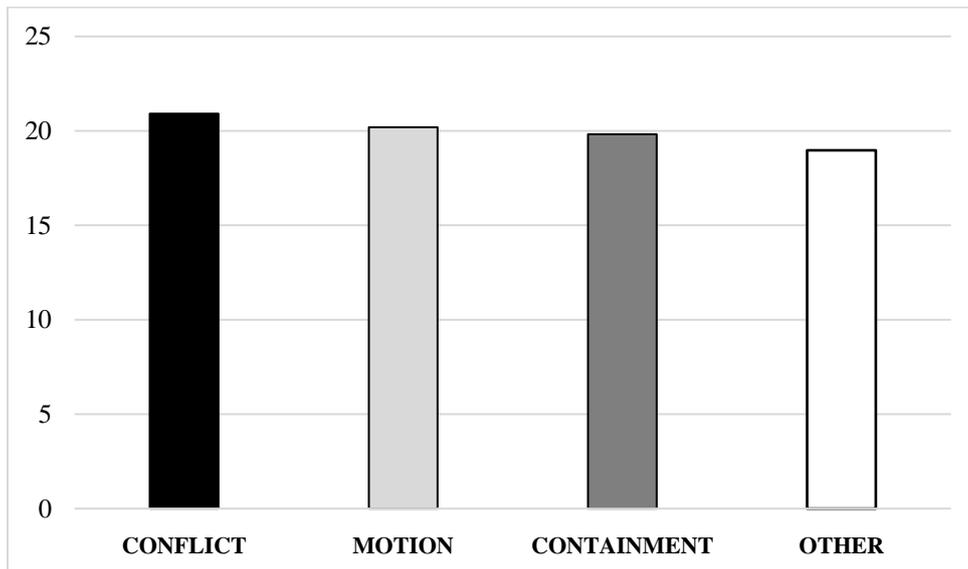
Figure 3.3. Average density per 1,000 words for each conceptual key
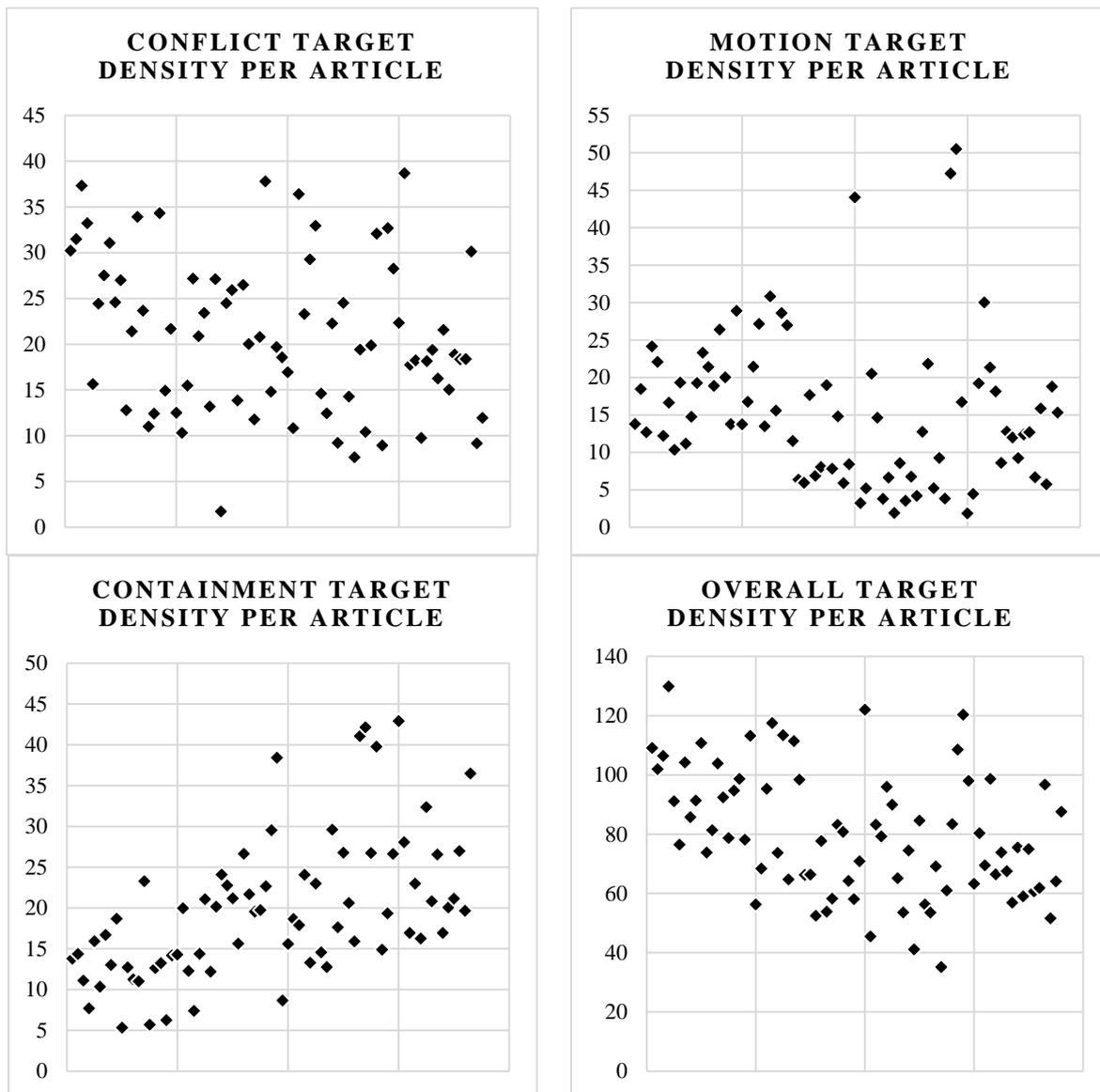
Figure 3.4. Metaphor density per article for each conceptual key,
and overall metaphor density per article

3.3.2 QUALITATIVE ANALYSIS

Examples of metaphorical projections of path, force, and containment schemata will be analyzed in this section. Namely, as argued above (section 2.5.1.6), image schemata pose as preconceptual structures that provide the base for abstract reasoning. Also, they often undergo metaphorical projections. As this was also one of the main criteria in the metaphor identification procedure, we turn to selected examples of such metaphorical projections. It is worth noting that the overall tendency identified in the corpus showed that metaphorical expressions rarely appear in isolation, but rather co-occur with other metaphorical expressions. The phenomenon of metaphor clusters and interactions of individual metaphorical expressions is explored in more detail in the

following section, while here we focus on instances of individual metaphorically used words. Also, the selected metaphorically used words will be accompanied by a provisional list of potential conceptual metaphors that they might instantiate. Again, as argued above, we recognize the fact that the proposed conceptualizations can be subject to further, more detailed specifications. It is also worth emphasizing once again that such classification will serve as an operational artefact of analysis and a descriptive, rather than an explanatory tool. It will not be used in any way to confirm the existence of conceptual mappings. Namely, the psychological reality of conceptual mappings is still a matter of debate (e.g., Jackendoff and Aron 1991; Murphy 1996, 1997; McGlone 1996, 2007, 2011).

Table 3.1 shows instances of MOTION metaphors, based on the path schema. Namely, the embodied experience of physical movement through space can often be extended to more abstract experiences and concepts, giving way to metaphorical construals. For instance, the election is commonly conceptualized as a sport race (examples 1, 5, 7, 10, 11, and 14), which places emphasis on the dynamic and competitive nature of the political process, and on the end-point of the path which represents the goal. Another common conceptualization is realized through the combination of path and containment schemata, where motion is metaphorically constructed as either leaving (examples 4, 6, and 11) or entering (examples 8 and 9) a container. Path schemata also exhibit interaction with force schemata (examples 6 and 13). Such interaction is licensed by the highly dynamic nature of motion, which is typically associated with the effects of certain forces that can act either from the outside, causing an object to move, or they can be understood as being internal, which can cause self-initiated motion.

Table 3.1. Examples of metaphorical projections of the path schema
and its interactions with other metaphorically used words

1)	With the race<m-race> now in the home stretch and the debates starting on Wednesday, Mr. Romney's campaign appears to be shifting course<m-motion><m-ship>. Shear and Parker (2012, October 1)	▪ ELECTION CAMPAIGN IS A RACE ▪ POLITICAL PARTY IS A SHIP
2)	This week, he pivoted<m-motion> to the center, as many political analysts had long expected him to do. Cooper, Kocieniewski, and Calmes (2012, October 4)	▪ POLITICAL MOVES ARE PHYSICAL MOTION

3)	America is approaching<m-motion> the so-called fiscal cliff. Edsall (2012, October 21)	▪ POLITICS (ECONOMY) IS MOTION ALONG A PATH ▪ COUNTRY IS A PERSON
4)	But, on Wednesday night, Romney finally emerged<m-motion-emission> from the fog<m-containment>. Brooks (2012, October 4)	▪ GOOD POLITICAL MOVES ARE MOTION OUT OF A CONTAINER ▪ CONFUSION IS FOG (FOG IS A CONTAINER)
5)	Largely because he has remained slightly ahead<m-race> in<m-containment> polls of the most important swing states. Silver (2012, October 23)	▪ ELECTION CAMPAIGN IS A SPORT RACE ▪ POLLS ARE A CONTAINER
6)	Phillip Tricolla, who works in<m-containment> construction, said he had entered<m-motion-containment> the debate leaning toward<m-force> Mr. Romney and exited<m-motion> the same way. Gabriel (2012, October 17)	▪ INDUSTRY IS A CONTAINER ▪ POLITICAL PROCESS IS MOTION INTO A CONTAINER ▪ DEBATE IS A CONTAINER ▪ POLITICAL PREFERENCE IS FORCE ▪ POLITICAL PROCESS IS MOTION OUTSIDE OF A CONTAINER
7)	Mr. Romney had closed the polling gap<m-race> in<m-containment> several of these states. Landler and Oppel (2012, October 17)	▪ ELECTION CAMPAIGN IS A SPORT RACE ▪ STATES ARE CONTAINERS
8)	Volunteers for President Obama have flooded<m-force><m-motion> into<m-containment> Latino-owned nail salons here. Nagourney and Santos (2012, October 18)	▪ VIOLENT ENTRY OF PEOPLE INTO A CONTAINER IS A FLOOD (FORCE) ▪ NAIL SALONS ARE CONTAINERS
9)	And he emphasized that his plans for Medicare would not affect current beneficiaries or people close to entering<m-motion><m-containment> the system. Zeleny and Rutenberg (2012, October 3)	▪ ACQUIRING MEDICAL INSURANCE IS ENTERING A CONTAINER ▪ MEDICARE IS A CONTAINER
10)	That is, it ought to imply that a candidate is gaining ground<m-motion-race> in<m-containment> the race<m-race> and, furthermore, is likely to continue to gain ground<m-race>. Silver (2012, October 26)	▪ ELECTION CAMPAIGN IS A SPORT RACE ▪ ELECTION CAMPAIGN (RACE) IS A CONTAINER

11)	But the president <u>emerged from</u>\<m-motion-emission>\<m-containment> the encounter having settled nerves <u>within</u>\<m-containment> his panicky party and claiming a new chance to frame the <u>race</u>\<m-race> with just three weeks left. Baker (2012, October 17)	▪ FAVORABLE OUTCOME IS MOTION OUT OF A CONTAINER ▪ POLITICAL PARTY IS A CONTAINER ▪ ELECTION CAMPAIGN IS A SPORT RACE
12)	Leading American stock indexes <u>fell</u>\<m-motion> 1.5 percent <u>in</u>\<m-containment> the seven days after Mr. Romney delivered his strong performance <u>in</u>\<m-containment> the first debate. Popper (2012, October 16)	▪ DECREASE IN VALUE IS MOTION DOWNWARD ▪ TIME IS A CONTAINER ▪ PRESIDENTIAL DEBATE IS A CONTAINER
13)	Accepting the role as Mrs. Obama's chief of staff could have been seen as <u>a step backward</u>\<m-motion>, but it proved to be a deft move that <u>cemented</u>\<m-force> Ms. Cutter's place <u>in</u>\<m-containment> foible Obamaland. Chozick (2012, October 12)	▪ DEMOTION IS MOTION BACKWARD ▪ ESTABLISHING A POLITICAL POSITION IS FORCE ▪ POLITICAL PARTY IS A CONTAINER
14)	Obama seemed tired or bored, and he <u>fell way behind</u>\<m-race> <u>in</u>\<m-containment> the much-anticipated <u>battle</u>\<m-conflict> of the zingers. Collins (2012, October 4)	▪ ELECTION CAMPAIGN IS A SPORT RACE ▪ PRESIDENTIAL DEBATE IS A BATTLE ▪ PRESIDENTIAL DEBATE (BATTLE) IS A CONTAINER

Table 3.2 shows instances of metaphorical projections of force schemata. Similar to path schemata, force schemata also tend to cooccur with other metaphors. For instance, examples 15, 16, 19, and 22, show interactions between force and containment schemata, while example 15 and the previously discussed examples 6 and 13 show an interaction between force and motion schemata. Again, the embodied experience of physical forces in everyday interaction with the world gives way to metaphorical projections of the force schema. In effect, positive news can be conceptualized as force (example 15), statistics are conceptualized as a blizzard (example 16), political influence as an obstacle (examples 17 and 18), mental images as a force (example 20), influx of money as a tide (example 21), and negative influences on one's career as derailment (example 22).

Table 3.2. Examples of metaphorical projections of force schemata

and their interactions with other metaphorically used words

15)	On Monday, investors were <u>buoyed</u><m-force> by a report showing that retail sales <u>rose</u><m-motion-force> 1.1 percent <u>in</u><m-containment> September, more than expected. Popper (2012, October 16)	▪ POSITIVE NEWS ARE FORCE ▪ INCREASE IN VALUE IS MOTION UPWARD ▪ TIME IS A CONTAINER
16)	But their main points <u>through</u><m-containment> their month of debates will be delivered through a <u>blizzard</u><m-force> of numbers. Shear (2012, October 3)	▪ TIME IS A CONTAINER ▪ STATISTICS IS A BLIZZARD (FORCE)
17)	Both sides recalibrated their strategies, escalated their advertising campaigns <u>in</u><m-containment> swing states, and <u>drew</u><m-force> huge crowds for rallies. Rutenberg and Baker (2012, October 4)	▪ SWING STATES ARE CONTAINERS ▪ POLITICAL ADS ARE FORCE
18)	Republicans <u>blocked</u><m-force> those proposals. Calmes and Harwood (2012, October 2)	▪ POLITICAL INFLUENCE IS AN OBSTACLE (BLOCKAGE)
19)	Weld had his appointment as the envoy to Mexico <u>blocked</u><m-force> <u>in</u><m-containment> the Senate. Hakim (2012, October 13)	▪ POLITICAL INFLUENCE IS AN OBSTACLE (BLOCKAGE) ▪ SENATE IS A CONTAINER
20)	When someone is asked to form a mental image of the act of voting, it helps <u>trigger</u><m-force> that habit. Duhigg (2012, October 13)	▪ MENTAL IMAGE IS FORCE
21)	This has offset the <u>tide of dollars</u><m-force-motion> still <u>sweeping in</u><m-force-motion> from the persistent trade surpluses. Bradsher (2012, October 17)	▪ INFLUX OF MONEY IS A TIDE (MONEY IS FORCE) ▪ INFLUX OF MONEY IS MOTION
22)	Her bright career was almost <u>derailed</u><m-force><m-motion> <u>in</u><m-containment> 2004. Chozick (2012, October 12)	▪ END OF A CAREER IS DERAILMENT ▪ TIME IS A CONTAINER

Table 3.3 contains additional examples of CONFLICT metaphors which have also been identified in previous corpus-based studies as very frequent in political discourse (e.g., Charteris-Black 2004; Steinert 2003; Burnes 2011; Silaški, Đurović, and Radić-Bojanić 2009). Insofar as they have a strong experiential base, it can also be argued that these metaphors are also culturally determined, since the notion of conflict is quite common in our culture. Consequently, it is not unusual to talk about election campaigns, presidential debates, or the political (and the related economic)

processes in terms of battles, skirmishes, or wars (example 23 and 33), attack ads (examples 24), fights (examples 25, 34, and 36), armed conflicts or face-offs (example 26), armies of supporters (example 27), assaults (example 28), attacks (examples 29 and 31), exchange of gunfire (example 30), battlegrounds (example 32), confrontations or disputes (example 35), wounds (example 37), onslaught (example 38), attack squads (example 39), clobbering the opponent (example 40), and ammunition (example 41). Additionally, metaphorically used words associated to the conceptual key of CONFLICT also typically cooccur with other metaphorically used words from other conceptual keys. So, examples 23, 34, and 35 show cooccurrences with containment metaphors; examples 24, 33, 38, 40, show interaction with motion metaphors; and, finally, examples 32, 39, and 41 show cooccurrences of CONFLICT, MOTION, and CONTAINMENT metaphors.

Table 3.3. Additional examples of CONFLICT metaphors	
23)	But many economists say the current <u>battles</u><m-conflict> are mere <u>skirmishes</u><m-conflict>, not a real <u>trade war</u><m-conflict>. LaFraniere (2012, October 15)	▪ POLITICAL PROCESS IS A BATTLE ▪ POLITICAL EXCHANGES ARE SKIRMISHES ▪ ECONOMY IS WAR
24)	Brazilian news media appeared to be relieved when the Obama campaign <u>released</u><m-motion-emission-force> <u>ads attacking</u><m-conflict> Mr. Romney for suggesting that PBS could lose its funding. Editorial (2012, October 23)	▪ POLITICAL ADS ARE WEAPONS
25)	He waited all of 45 seconds to make clear he came not just ready for a <u>fight</u><m-conflict> but ready <u>to pick one</u><m-conflict>. Baker (2012, October 17)	▪ PRESIDENTIAL DEBATE IS A FIGHT
26)	But advisers say Mr. Romney is <u>armed</u><m-conflict> with a <u>litany</u><m-religion> of arguments for his <u>face-off</u><m-conflict> with Mr. Obama <u>in</u><m-containment> Denver this week. Shear and Parker (2012, October 1)	▪ ARGUMENTS ARE WEAPONS ▪ POLITICAL ADDRESS IS PREACHING ▪ DEBATE IS A FACE-OFF ▪ DENVER IS A CONTAINER
27)	Both campaigns have <u>armies</u><m-conflict> of supporters posting on Twitter as soon as the debate begins. Shear (2012, October 14)	▪ SUPPORTERS ARE AN ARMY

28)	The <u>vigorous assault</u><m-conflict> on Mr. Romney suggested just how worried Mr. Obama's campaign has become. Landler and Baker (2012, October 4)	▪ POLITICAL CAMPAIGN IS AN ASSAULT
29)	Mr. Romney <u>raised an attack</u><m-conflict> that the Obama administration <u>threatens</u><m-conflict> jobs and energy independence by excessive environmental regulation. Gabriel and Kaplan (2012, October 13)	▪ POLITICAL CAMPAIGN IS AN ATTACK ▪ UNFAVORABLE POLITICAL STRATEGY IS A THREAT
30)	Mr. Romney <u>fired back</u><m-conflict> with an indictment of Mr. Obama. Baker (2012, October 4)	▪ ARGUMENTS ARE BULLETS (DEBATE IS A GUN FIGHT)
31)	Mr. Obama frequently uses it <u>to push back against</u><m-force> Mr. Romney's <u>attacks</u><m-conflict> that he has failed at job creation. Shear (2012, October 3)	▪ ARGUMENTS ARE FORCE ▪ POLITICAL CAMPAIGN IS AN ATTACK
32)	The <u>battleground</u><m-conflict> state polls that <u>came in</u><m-motion-containment> on Wednesday were generally very close to our model's current projections. Silver (2012, October 26)	▪ STATE IS A BATTLEGROUND ▪ POLLS ARE MOVING OBJECTS
33)	He's got <u>to win a battle</u><m-conflict> for a fiscal framework that gives him the ability to make the kind of investments that he's out on the <u>campaign trail</u><m-motion> talking about. Calmes (2012, October 15)	▪ POLITICS IS A BATTLE ▪ POLITICAL CAMPAIGN IS A JOURNEY
34)	The <u>fight</u><m-conflict> for female voters intensified this week after the town-hall-style debate <u>in</u><m-containment> New York, which included a question about equal pay for women that prompted a <u>clash</u><m-conflict> between the candidates over who could best serve women's needs. Huetteman and Shear (2012, October 19)	▪ GAINING SUPPORTERS IS A FIGHT ▪ NEW YORK IS A CONTAINER ▪ POLITICAL DISAGREEMENT IS A CLASH
35)	If anything, these <u>confrontations</u><m-conflict> look more like a <u>dispute</u><m-conflict> <u>in</u><m-containment> couples' therapy. Stanley (2012, October 4)	▪ DEBATE IS A CONFRONTATION ▪ DEBATE IS A DISPUTE ▪ COUPLES' THERAPY IS A CONTAINER

36)	The election is now being <u>fought</u><m-conflict> on the president's preferred ground. Shear and Parker (2012, October 1)	▪ ELECTION CAMPAIGN IS A FIGHT
37)	It may never be the subject of a real debate, but the <u>untreated wound</u><m-conflict> leaves both candidates with much to answer for. Editorial (2012, October 3)	▪ UNRESOLVED ISSUES ARE PHYSICAL WOUNDS
38)	Mr. Obama's ad <u>onslaught</u><m-conflict> appears to have helped the president gain an <u>advantage</u><m-race> on issues like Medicare. Rutenberg and Peters (2012, October 2)	▪ POLITICAL ADS ARE WEAPONS ▪ ELECTION CAMPAIGN IS A SPORT RACE
39)	Ms. Cutter, who turns 44 on Oct. 22, <u>has emerged</u><m-motion-emission> as Mr. Obama's one-woman <u>attack squad</u><m-conflict>. Chozick (2012, October 12)	▪ PROVING ONE'S VALUE IS MOTION OUT OF A CONTAINER ▪ POLITICAL AIDS ARE AN ATTACK SQUAD
40)	Mitt Romney <u>clobbered</u><m-conflict> President Obama and in the sort of <u>shift</u><m-force-motion> that political operatives dream about. Carr (2012, October 14)	▪ PRESIDENTIAL DEBATE IS A FIGHT ▪ CHANGE IN POLITICAL BALANCE IS A FORCE
41)	The new, lower figure that <u>came out</u><m-motion-emission-containment> last week provides new <u>ammunition</u><m-conflict> for Mr. Romney to argue that the president's policies have failed to <u>kick-start</u><m-motion-force> the American economy. Shear (2012, October 3)	▪ STATISTICS IS A MOVING OBJECT ▪ STATISTICS IS AMMUNITION ▪ POLICIES ARE FORCE

Table 3.4 shows additional examples of metaphorical projections of the containment schema. As seen in the examples so far, CONTAINMENT metaphors are quite frequent, and often co-occur with CONFLICT and MOTION metaphors. Here we have a few rare examples where they demonstrate minimal interaction with other metaphor groups. In example 42, a TV set is conceptualized as a container, in example 43, the polls and time are conceptualized as containers, while in example 44, the budget, infrastructure, and research are construed as containers. Such conceptualizations are again licensed by the primary embodied experience of enclosed spaces, and the experience of physical motion into and out of such enclosed spaces which is typically associated with the influence of some forces. Although they constitute a group of almost invisible metaphors, owing to their image-schematic base and high frequency, they appear to play an important cohesive role in the structuring

of discourse, affording a multi-level metaphorical structuring (in the sense of Koller 2003), along with (at least) CONFLICT and MOTION metaphors.

Table 3.4. Additional examples of individual metaphorical projections of the containment schema

42)	Television is <u>packed full</u><m-containment> of political ads from the $2.5 billion being spent on the presidential election. Carr (2012, October 14)	▪ TV IS A CONTAINER
43)	My research suggests that a candidate who <u>gains ground</u><m-motion-race> <u>in</u><m-containment> the polls <u>in</u><m-containment> one month is no more likely to do so <u>in</u><m-containment> the next one. Silver (2012, October 26)	▪ ELECTION CAMPAIGN IS A RACE ▪ POLLS ARE A CONTAINER ▪ TIME IS A CONTAINER
44)	But also nestled <u>within</u><m-containment> this category [*budget for national parks and space program*] are critical outlays for investments <u>in</u><m-containment> infrastructure and research. Rattner (2012, October 14)	▪ BUDGET IS A CONTAINER ▪ INFRASTRUCTURE AND RESEARCH ARE CONTAINERS

Since we have shown so far that the metaphorically used words from the main three conceptual keys (in the sense of Charteris-Black 2004) – MOTION, CONFLICT, and CONTAINMENT, tend to cooccur quite frequently in the present corpus, in the next section we turn to the analysis of metaphor clusters.

3.4 IDENTIFICATION OF METAPHOR CLUSTERS

Identification of metaphor clusters was conducted in line with the methodologies outlined in Koller (2003), Figar and Antović (2015), and Figar (2019). Namely, a metaphor cluster "represents a group of topically related metaphorical expressions found in ongoing discourse" (Figar 2019: 235), and it includes at least three metaphorical expressions. The identification of metaphor clusters was conducted in line with the following procedure:

i. after the initial identification of individual metaphorically used words, we explored the dispersion plots generated in *WordSmith Tools 6.0* (Scott 2010, 2014; Tribble 2010) in order to visually identify sections with increased metaphor density, which were understood as potential cluster candidates;

ii. double-clicking the dispersion plot for a given corpus unit (in our case an individual newspaper article) provided an overview of the numbered positions of metaphorically used words (Figure 3.5). The analysis of target item proximities based on such numerical distribution afforded an initial list of cluster candidates. Potential cluster members were evaluated 15 word-positions to the left and right with respect to the target word. Sentence-boundaries were also taken into consideration;

iii. in the following step, we proceeded to the qualitative analysis of potential clusters in order to check which of the initial candidates were indeed topically related, and could be, in effect, understood as clusters;

iv. finally, once the target item had been identified as a cluster, we proceeded to the identification of the dominant metaphor (i.e., the dominant conceptual key) in the cluster. Based on the tags marked in the analysis of individual metaphorically used words, we identified the corresponding conceptual key with the highest frequency in the cluster. All clusters were subsequently categorized based on this criterion.
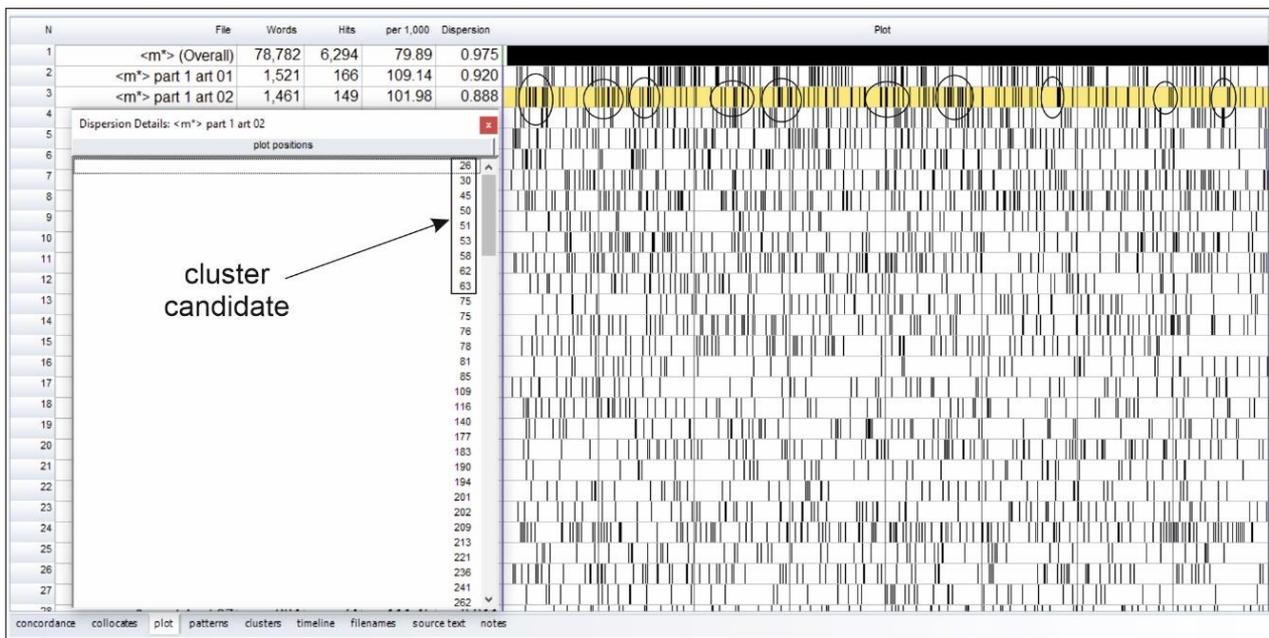
Figure 3.5. Dispersion plots and cluster identification

3.4.1 QUANTITATIVE ANALYSIS

Quantitative analysis showed a total of 950 clusters which included 4,643 metaphorically used words. Overall, 73.77% of the total count of metaphorically used words identified in the corpus participated in clusters. The average number of clusters per article was 12.61 (SD=5.39), and the distribution of the average cluster sizes per article is given in the scatter plot in Figure 3.6.

The average overall cluster size was 4.89 metaphorically used words (SD=2.04). Figure 3.7 shows cluster frequencies as a function of their size. It can be seen that the most frequent were 3-metaphor clusters (29.8%), followed by 4-metaphor clusters (23.3%), 5-metaphor clusters (17.2%), and 6-metaphor clusters (12.6%). Up to this point, the frequency of clusters showed a linear decline in the number of occurrences. The frequency of clusters larger than six metaphors showed an exponential decline in the number of occurrences, as can be seen in Figure 3.7.

Figure 3.8 shows cluster frequencies according to the dominant metaphor in the cluster. The highest frequency was identified for clusters with the highest counts of CONFLICT or FORCE metaphors (28.8%), followed by clusters with the highest counts of MOTION metaphors (23.2%), and CONTAINMENT metaphors (20.3%). This is followed by clusters with equal counts of: CONFLICT and MOTION metaphors (8.9%), CONFLICT, MOTION, and CONTAINMENT metaphors (7.3%), CONFLICT and CONTAINMENT metaphors (4.2%), JOURNEY and CONTAINMENT metaphors (4.2%), and other combinations of metaphors in the cluster (3.1%). Our decision to classify CONFLICT and FORCE metaphors under the same conceptual key is licensed by the fact that conflict normally includes

certain elements of force. Moreover, the present corpus showed a high level of contextual relatedness between the concepts of conflict and force. Still, we acknowledge that specific contextual uses of the two conceptualizations in other corpora need not necessarily allow such classification. Finally, it can be concluded that the three main metaphor groups that showed the highest frequencies in the analysis of individual metaphors also preserved the same tendency in the identified clusters.
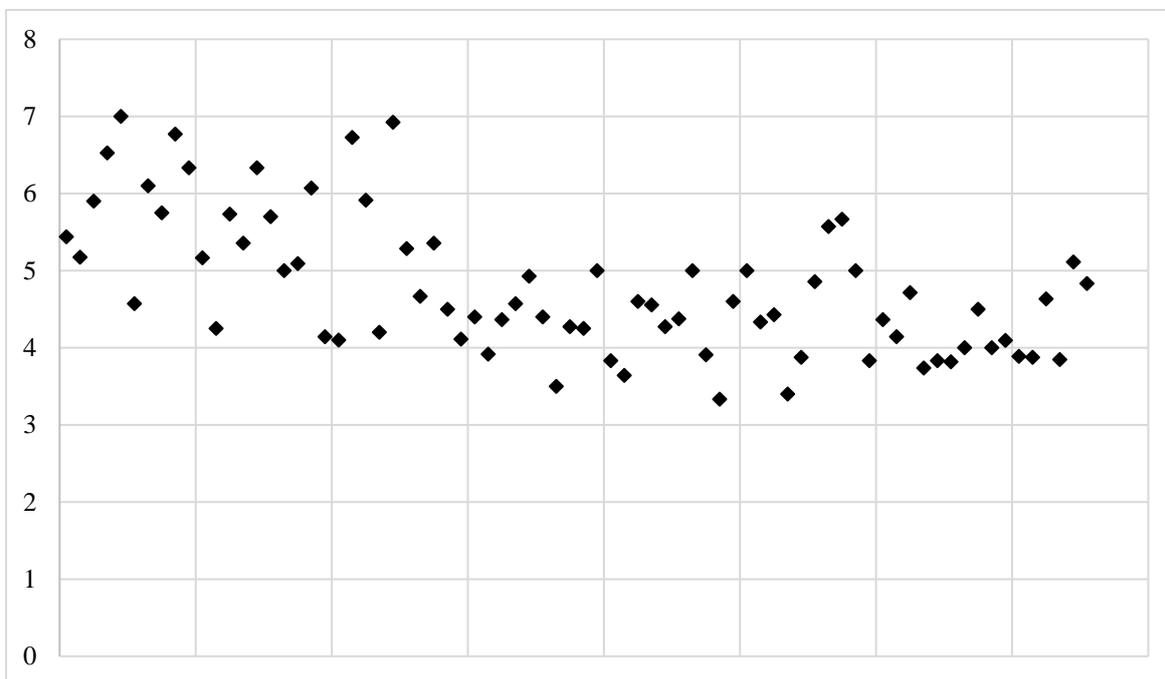
Figure 3.6. Distribution of average cluster sizes per article
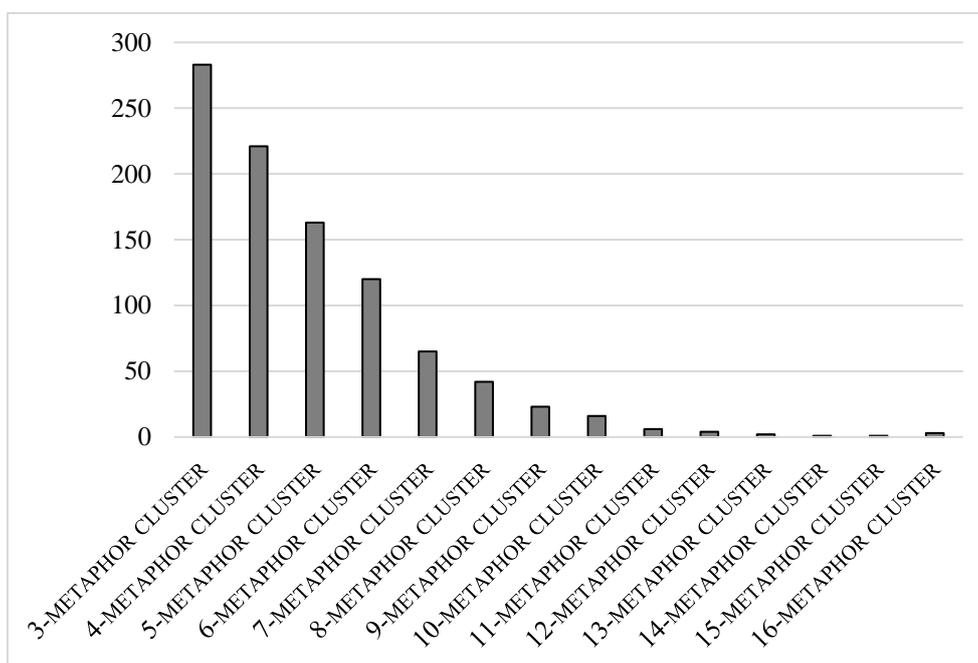
Figure 3.7. Cluster frequencies
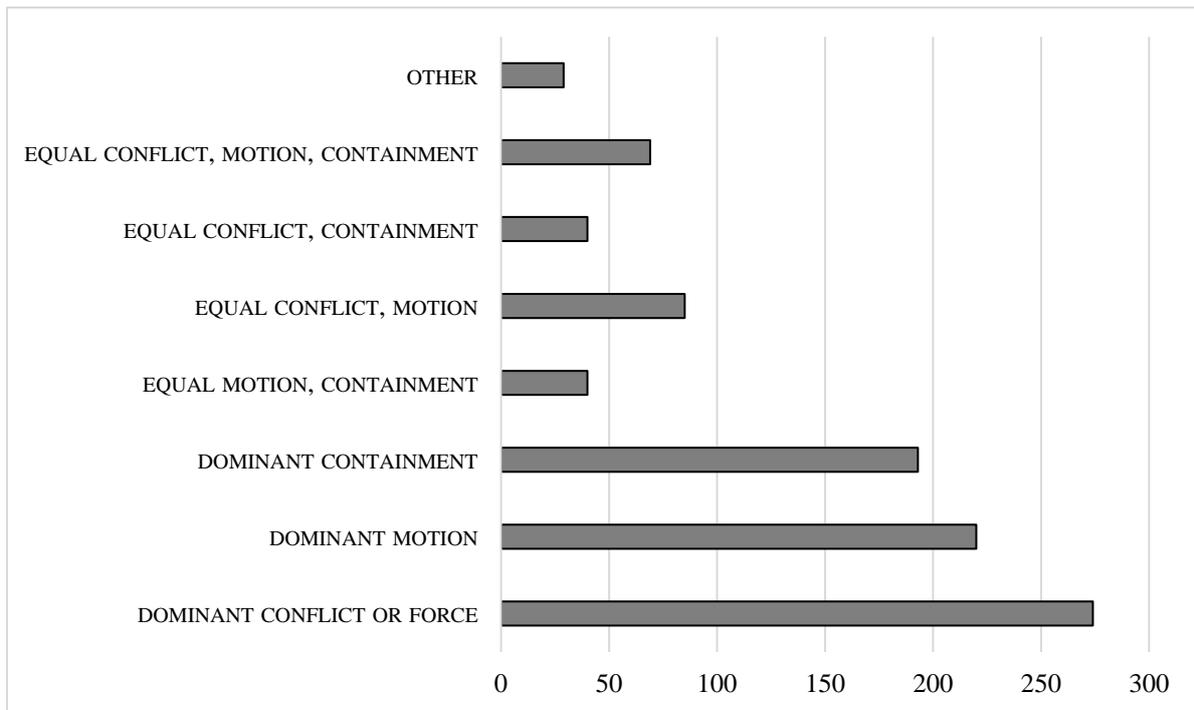
Figure 3.8. Cluster frequencies organized by dominant metaphors
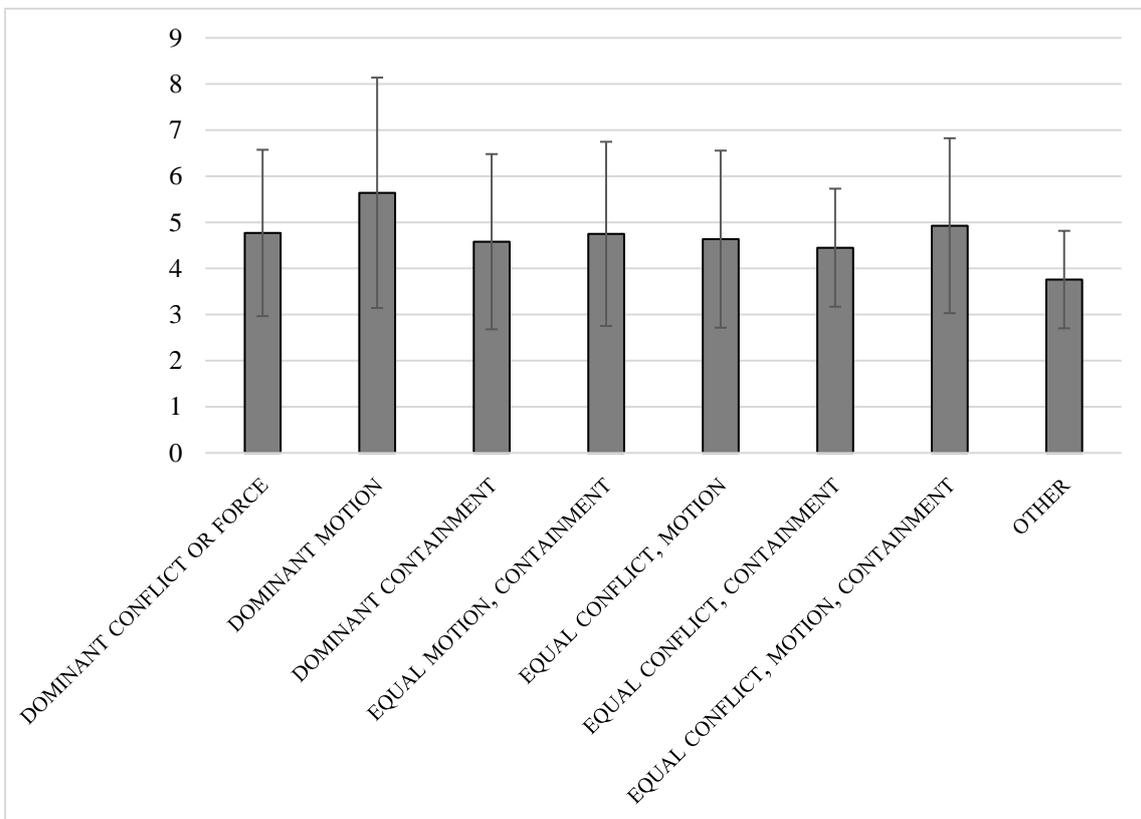
Figure 3.9. Average cluster size for each group according to the dominant metaphor

Figure 3.9 shows average cluster sizes for each metaphor group, based on the dominant metaphor in the cluster. One-way ANOVA showed a significant main effect of cluster type (i.e., the dominant metaphor in the cluster) on the average clusters size ($F(7, 942)=7.09$, $p<.0005$, $\eta^2=.05$). Additional post-hoc comparisons (Tukey post-hoc tests) showed significantly higher cluster sizes for clusters with the highest frequency of MOTION metaphors (M=5.64, SD=2.50), compared to clusters with the highest counts of CONFLICT or FORCE metaphors (M=4.77, SD=1.80, $p<.0005$), and to clusters with the highest count of CONTAINMENT metaphors (M=4.58, SD=1.90, $p<.0005$). The difference in mean cluster size between clusters with the highest count of CONFLICT/FORCE metaphors and CONTAINMENT metaphors did not reach significance ($p=.97$).

3.4.2 QUALITATIVE ANALYSIS

Tables 3.6–3.10 give an overview of representative metaphor clusters from the corpus. A provisional list of possible conceptual metaphors is also provided, again with the caveat that the specific conceptualizations remain subject to possible further, more detailed classifications. Overall, the identified clusters are dominated by combinations of conceptually coherent metaphorical expressions (in the sense of Kimmel 2010). This means that the majority of metaphorical expressions share either the source or the target input, or in some cases both. In the present corpus, metaphorical expressions from the clusters were predominantly related by the same target input from the general conceptual key – POLITICS, while the source inputs varied. This suggests that all metaphorical expressions were topically related, and their integration into the discourse was facilitated by the overall contexts of individual corpus units, i.e., individual newspaper articles. Once again, the corpus included a selection of newspaper articles dealing with a specific topic of presidential debates. So even in cases of mixed metaphors (in the sense of Kimmel 2010), i.e., metaphors with different source and target input spaces, their integration into the discourse was licensed by the same article context.

Still, apart from metaphorical expressions that can be classified under the three main conceptual keys – POLITICS IS CONFLICT, POLITICS IS MOTION, and POLITICS IS A CONTAINER, clusters sometimes included other conceptualizations as well. For example, cluster 4 included conceptualizations LEGISLATION IS A MACHINE and MEDICARE IS A LIVING BEING, cluster 9 included the conceptualization CAMPAIGN IS ELECTRIC CURRENT, cluster 18 included the conceptualizations ADS ARE STREAMS and DISPOSITION IS GAS, cluster 16 included the conceptualization INDIVIDUAL POLLS ARE ELEMENTS OF A LARGER STRUCTURE, and clusters 14 and 21 contained the conceptualization TIME IS A CONTAINER. Bearing in mind that the main purpose of corpus analysis in the present study was to ensure the ecological validity and facilitate the selection of stimuli used in

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the main experiments (sections 4 and 5), our discussion here will be focused only on instances of clusters that contained metaphorical expressions from the three main conceptual keys (i.e., CONFLICT, MOTION, and CONTAINMENT). Additionally, we will employ the following terminology in the classification of clusters: (i) clusters that contain metaphorical expressions corresponding to a single conceptual key will be understood as *homogenous*, while (ii) clusters that contain metaphorical expressions from two, or all three relevant conceptual keys will be treated as *heterogenous*.

Clusters 1–3 (Table 3.6) represent instances of *homogenous* clusters, while all of the remaining examples represent *heterogenous* clusters. In the first example, there are three metaphorical expressions corresponding to SPORT RACE metaphors, and the general conceptual key of MOTION. In example 2, there are two WAR metaphors, and one FORCE metaphor. As discussed above, bearing in mind that the notion of conflict typically includes (at least) certain elements of force, all of these metaphors have been classified under the conceptual key of CONFLICT. We acknowledge the fact that force and conflict need not always go hand in hand; however, bearing in mind the high degree of contextual relatedness of the two conceptualizations in the present corpus, we decided to classify them as a single group of metaphors. Example 3 also shows a homogenous cluster that includes a combination of WAR and FORCE metaphors.

Table 3.6. Examples of homogenous metaphor clusters
and a provisional list of possible conceptual metaphors

	METAPHOR CLUSTER	**POSSIBLE CONCEPTUAL METAPHORS**
1)	It's a race<m-race> for the exits, with Mr. Obama at a fast trot<m-race> and Mr. Romney at a brisk walk<m-race>, now that he has discarded his primary-season vow that we stay around to kill the Taliban. Sanger (2012, October 20)	▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A SPORT RACE
2)	Now, both campaigns have armies<m-conflict> of supporters posting on Twitter as soon as the debate begins. They are armed<m-conflict> with hashtags and snarky observations as they seek to guide<m-force-motion> the early reaction to the debate. Shear (2012, October 14)	▪ SUPPORTERS ARE SOLDIERS ▪ ARGUMENTS ARE WEAPONS ▪ CAMPAIGN IS FORCE
3)	Mr. Romney argues there is no need to hold back because a trade war<m-conflict-war> is already under way. But many economists say the current battles<m-conflict> are mere skirmishes<m-conflict>, not a real trade war<m-conflict>.	▪ TRADE IS WAR ▪ ECONOMY IS A BATTLE ▪ ECONOMIC TURBULENCES ARE SKIRMISHES ▪ TRADE IS WAR

	They warn that unilateral sanctions could trigger Chinese retaliation<m-conflict> that would more than offset<m-force> any economic benefits.	▪ ECONOMIC ACTION IS RETALIATION ▪ ECONOMIC ACTION IS FORCE
	LaFraniere (2012, October 15)	

Examples 4–9 (Table 3.7) represent heterogenous clusters with the highest count of CONFLICT/FORCE metaphors. In addition to the three FORCE metaphors, example 4 also contains conceptualizations LEGISLATION IS A MACHINE and MEDICARE IS A LIVING BEING, rendering it a case of mixed metaphors (in the sense of Kimmel 2010). Still, the five metaphorical expressions are related by the overall discourse context, and constitute a coherent structure. Example 5 contains four CONFLICT/FORCE metaphors and one CONTAINMENT metaphor. While conceptualizations in terms of FORCE, WAR, and BULLETS provide the dynamic structuring of the cluster, the CONTAINMENT metaphor could be understood as a background, cohesive device.

Table 3.7. Examples of metaphor clusters with the highest count of CONFLICT/FORCE metaphors and a provisional list of possible conceptual metaphors

	METAPHOR CLUSTER	POSSIBLE CONCEPTUAL METAPHORS
4)	Mr. Romney pressed<m-force> Mr. Obama on a provision of his health care overhaul<m-machine> that cut<m-force> $716 billion from the growth<m-personification> in Medicare, saying that by cutting<m-force> fees paid to providers it was certain to affect treatment. Zeleny and Rutenberg (2012, October 3)	▪ ARGUMENTS ARE FORCE ▪ LEGISLATION IS A MACHINE ▪ ARGUMENTS ARE FORCE ▪ MEDICARE IS A LIVING BEING ▪ POLITICAL ACTION IS FORCE
5)	But, members of both parties said, the question will be whether the late surge<m-motion-force> in<m-container> Republican advertising will be enough to undo<m-force> the damage<m-conflict> to Mr. Romney's standing from the early barrage<m-conflict> of commercials from Mr. Obama and his supporting super PAC. Rutenberg and Peters (2012, October 3)	▪ POLITICAL ADS ARE FORCE ▪ POLITICAL PARTY IS A CONTAINER ▪ ADS ARE FORCE ▪ POLITICS IS WAR ▪ COMMERCIALS ARE BULLETS
6)	The president, who polls show has developed a lead<m-race> in<m-container> several battleground<m-conflict> states, has been instructed by aides to use humor and his wide smile to fend off<m-conflict> attempts to be drawn<m-force> into<m-container> the fray<m-conflict>. Zeleny (2012, October 2)	▪ CAMPAIGN IS A SPORT RACE ▪ STATES ARE CONTAINERS ▪ CAMPAIGN IS WAR ▪ HUMOR IS A WEAPON ▪ ARGUMENTS ARE FORCE ▪ DEBATE IS WAR

7)	President Obama and Mitt Romney retreated\<m-journey\> to different corners of the electoral ring\<m-boxing\> on Wednesday, a day after going toe-to-toe\<m-conflict\> on Long Island. But both kept flinging\<m-conflict\> taunts at each other, as they girded\<m-force\> for a final debate on Monday and the increasingly pugilistic closing rounds\<m-boxing\> of the election campaign. Landler and Oppel (2012, October 17)	▪ CAMPAIGN IS A JOURNEY ▪ CAMPAIGN IS BOXING ▪ DEBATE IS A FIGHT ▪ DEBATE IS A FIGHT ▪ DEBATE IS A FIGHT ▪ CAMPAIGN IS BOXING
8)	They [Obama's aides] said the debate had reset\<m-force\> the race\<m-race\> to where they expected it to be: the president holding a narrow lead\<m-race\> in\<m-containment\> enough battleground\<m-conflict\> states that they hope will let him eke out\<m-force\> victory over Mr. Romney. Landler and Oppel (2012, October 17)	▪ ARGUMENTS ARE FORCE ▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A RACE ▪ STATES ARE CONTAINERS ▪ STATES ARE BATTLEGROUNDS ▪ ARGUMENTS ARE FORCE
9)	A lot has changed since Mr. Obama's race\<m-race\> to the White House electrified\<m-force\> the world, overturning\<m-force\> expectations about race\<m-race\> at home and abroad and bringing\<m-force\> "Yes, we can," into\<m-containment\>the political lexicon around the world. Editorial (2012, October 23)	▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS ELECTRIC CURRENT (CAMPAIGN IS NATURAL FORCE) ▪ CAMPAIGN IS FORCE ▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS FORCE ▪ POLITICAL LEXICON IS A CONTAINER

In addition to the dominant CONFLICT/FORCE metaphors, examples 6–9 also contain instances of MOTION and CONTAINMENT metaphors. Namely, the election camping is conceptualized as a sport race, states as battlegrounds (example 6) and containers (example 8), arguments as force (examples 6 and 8), election campaign as force and electric current (i.e., natural force; example 9), and as war (example 6). Additionally, the political lexicon is conceptualized as a container (example 9), which can also be understood as an instance of a CONDUIT metaphor, where words are seen as containers (in the sense of Reddy 1979). The combination of CONFLICT and MOTION metaphors is quite frequent (also evident in examples 7, 12, 13, and 15–22). On the one hand, this is licensed by the connection between the concepts of conflict and motion, insofar as conflict is typically described dynamically, which necessitates the involvement of some type of motion and possibly the exchange of forces. On the other hand, the context of the presidential election and presidential debates also allows for the parallel construals of the political process in terms of war, battlegrounds, races, and containers. All of these represent instances of entrenched, conventionalized conceptualizations that should work together to emphasize each other's rhetorical force (in the sense of Mio 1997; Kimmel 2010; Figar and Antović 2015; Figar 2019).

For instance, Figar (2019: 246) found that a heterogenous cluster[50] containing CONFLICT, JOURNEY, and CONTAINMENT metaphors afforded a "hierarchical threefold metaphorical structuring of the cluster," and there was also a high degree of dynamic interaction between the metaphorical expressions in the cluster. Koller (2003) also argued that metaphors identified in clusters afford a multi-layered structuring of the text, and serve specific rhetorical purposes depending on their positions in the text. Overall, it can be argued that individual metaphorical expressions in the present clusters work together to afford not only a coherent structuring of the text, but might also serve as prompts for the construction of a coherent cognitive scenario via appropriate mental models. As this latter claim would require further experimental testing, at this point we leave it at the level of a (testable) hypothesis, and we address it in more detail in an experimental setup in section 5.

Example 7 also represents a cluster with the highest number of occurrences of CONFLICT metaphors, and only one JOURNEY metaphor. We address it separately because it contains a very typical conceptualization of the political process – in terms of a boxing match. While it could be classified as a SPORT metaphor, owing to the aggressive aspect of the campaign that it was used to emphasize in the present corpus, we opted for the conceptual key of CONFLICT instead. Again, we stress that we offer only a provisional qualification of metaphorically used words in terms of the possible corresponding conceptual metaphors. This is due to the fact that the exact nature and psychological reality of conceptual mappings remains an open issue (e.g., Jackendoff and Aron 1991; Murphy 1996, 1997; McGlone 1996, 2007, 2011). In example 7, the election is conceptualized as a boxing ring, candidates as fighters, and the end of the campaign as the end of a boxing match. The JOURNEY metaphor is used to conceptualize the political strategy in the campaign as the motion of candidates in a boxing ring (i.e., retreating to their corners). In effect, the two conceptualizations appear to work together to afford a two-fold metaphorical structuring of the cluster.

Table 3.8. Examples of metaphor clusters with the highest count of MOTION metaphors and a provisional list of possible conceptual metaphors

METAPHOR CLUSTER	POSSIBLE CONCEPTUAL METAPHORS
10) Mr. Obama has maintained a strong advantage over\<m-race\> Mitt Romney among the crucial constituency of young voters, slightly increasing his lead\<m-race\> in\<m-containment\> polls since the spring. Saulny (2012, October 17)	▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A SPORT RACE ▪ POLLS ARE CONTAINERS

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[50] The stimuli used in Figar (2019) were also extracted from the present corpus.

11)	That is, it ought to imply that a candidate is gaining ground\<m-journey\> in\<m-containment\> the race\<m-race\> and, furthermore, is likely to continue to gain ground\<m-journey\>. Silver (2012, October 26)	▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A CONTAINER ▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A JOURNEY
12)	The battleground\<m-conflict\> state polls that came\<m-journey\> in\<m-containment\> on Wednesday were generally very close to our model's current projections. For instance, one showed a tied race\<m-race\>, while the other two showed Mr. Obama ahead\<m-race\> by margins of two and five points. That is pretty much what you'd expect if Mr. Obama's lead\<m-race\> there were about two points, which is where our model now has it. Silver (2012, October 26)	▪ STATES ARE BATTLEGROUNDS ▪ EXCHANGE OF INFORMATION IS MOTION ▪ POLITICAL PARTY CAMP IS A CONTAINER ▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A SPORT RACE
13)	After trailing\<m-race\> President Obama by 4 or 5 points in\<m-containment\> the polls on Oct. 1 — a position\<m-journey-position\> that very few candidates have come back from\<m-journey\> — he now holds ties or small leads\<m-race\> in\<m-containment\> many national polls and has cut\<m-force\> the advantage\<m-race\> Mr. Obama had in\<m-containment\> swing states to a razor-thin margin\<m-margin\>. Silver (2012, October 13)	▪ CAMPAIGN IS A SPORT RACE ▪ POLLS ARE CONTAINERS ▪ POSITION IN POLITICS IS POSITION IN SPACE ▪ POLITICS IS A JOURNEY ▪ CAMPAIGN IS FORCE ▪ CAMPAIGN IS A SPORT RACE ▪ STATES ARE CONTAINERS ▪ ADVANTAGE IN THE POLLS IS PHYSICAL DISTANCE IN SPACE

Examples 10–13 (Table 3.8) are instances of clusters in which MOTION metaphors were identified as dominant. Example 10 shows a cooccurrence of two SPORT RACE metaphors and one CONTAINMENT metaphor. The former two conceptualizations should stress the dynamic and competitive nature of the election campaign, and they also stem from the path schema. The latter conceptualization situates candidates' rankings in the race within a container, where the polls are conceptualized as a container. Like in the previous cases, the two conceptualizations work together to structure the discourse and the corresponding mental representations of the presidential campaign. A similar combination of metaphorical expressions is also found in example 11. In this case the campaign is conceptualized as a sport race, which is in turn construed as a container. In that sense, the political process is represented as a dynamic set of events that are taking place within an enclosed space. As already discussed in the analysis of individual metaphors above, MOTION and CONTAINMENT metaphors often cooccur and interact with each other.

Example 12 shows a cluster that contains CONFLICT, MOTION, and CONTAINMENT metaphors. Namely, the campaign is again conceptualized as a sport race, states as battlegrounds, and political party as a container. Again, these metaphorical expressions provide a coherent discourse structure, and they have been most likely used as rhetorical tools to impose a certain perspective. In that sense, their potential impact on the readers could be further explored in light of the metaphorical frames *invoked* by the text, and the corresponding frames *evoked* by the readers (in the sense of Fillmore 1982: 124). Namely, metaphorically used words should serve to direct readers towards a metaphorical construal of the election campaign. More to the point, entrenched conceptualizations make use of the shared background knowledge structures to present familiar metaphorical framings and use them to guide the readers' process of meaning construction. These can be understood as metaphor-based schemas (in the sense of Allbritton 1995, and Allbritton, McKoon, and Gerrig 1995). Again, the assumption that metaphorical expressions indeed have such an effect on the readers also remains at a level of a hypothesis, as it would also require additional experimental verification. Specifically, we address the issue of the activation of semantic frames in metaphorical conceptualizations in an experimental setup in section 4. In example 13, the campaign is again conceptualized as a sport race, polls as containers, states as containers, and the political process as physical motion, or position in space. All of the conclusions outlined in the discussion of the previous example also apply here.

Examples 14–16 (Table 3.9) represent clusters with the highest count of CONTAINMENT metaphors. Apart from the dominant metaphors, these clusters also contain instances of FORCE, WAR, SPORT RACE, and JOURNEY metaphors. Despite demonstrating the highest count in these clusters, CONTAINMENT metaphors do not seem to have the most important rhetorical role. For instance, in example 15, industry and debate are conceptualized as containers, while the additional metaphorical expressions construe supporters as travelers and political reputation as force. This shows that the main protagonists and actions are conceptualized as movement or force, whereas containment metaphors were used to set the background, insofar as they were used to conceptualize the industry in which the protagonist is employed, and the debate which the protagonist discusses. In that sense, we may offer a similar conclusion presented in Figar (2019: 245), in that CONTAINMENT metaphors seem to provide "an additional, perhaps underlying layer of textual cohesion, by 'filling the blanks' between JOURNEY and CONFLICT metaphors in the cluster." Example 16 also shows instances of WAR, BATTLE, and SPORT RACE metaphors. Again, CONTAINMENT metaphors are used to construe states, polls, and time, providing the backdrop against which the main protagonists, interactions, and events are constructed.

Table 3.9. Examples of metaphor clusters with the highest count of CONTAINMENT metaphors and a provisional list of possible conceptual metaphors

	METAPHOR CLUSTER	POSSIBLE CONCEPTUAL METAPHORS
14)	The market declined<m-journey> 0.3 percent in<m-containment> his first 1,368 days in<m-containment> office — a performance more than 68 percentage points worse than that for Mr. Obama. Sommer (2012, October 20)	▪ DECREASE IN VALUE IS MOTION DOWNWARD ▪ TIME IS A CONTAINER ▪ POLITICAL POSITION IS A CONTAINER
15)	Phillip Tricolla, who works in<m-containment> construction, said he had entered<m-journey> the debate<m-containment> leaning toward<m-force> Mr. Romney and exited<m-journey><m-containment> the same way, but no firmer. Gabriel (2012, October 17)	▪ INDUSTRY IS A CONTAINER ▪ SUPPORTERS ARE TRAVELERS ▪ DEBATE IS A CONTAINER ▪ POLITICAL REPUTATION IS FORCE ▪ DEBATE IS A CONTAINER ▪ SUPPORTERS ARE TRAVELERS
16)	The polling has been more varied in<m-containment> Virginia, a battle<m-conflict> between a Democratic former governor, Tim Kaine, and a Republican former senator, George Allen. But Mr. Kaine pulled<m-force> slightly ahead<m-race> in<m-containment> the polls in<m-containment> September and has continued to lead<m-race> in<m-containment> a majority<m-compositionality> of post-debate polls. Silver (2012, October 13)	▪ STATE IS A CONTAINER ▪ CAMPAIGN IS A BATTLE ▪ CAMPAIGN IS FORCE ▪ CAMPAIGN IS A SPORT RACE ▪ POLLS ARE CONTAINERS ▪ TIME IS A CONTAINER ▪ CAMPAIGN IS A SPORT RACE ▪ POLLS ARE CONTAINERS ▪ INDIVIDUAL POLLS ARE ELEMENTS OF A LARGER STRUCTURE

Examples 17 and 18 show clusters with equal counts of CONFLICT and MOTION metaphors, while examples 19, 20, and 21 represent clusters with an equal number of occurrences of MOTION and CONTAINMENT metaphors (Table 3.10). Finally, example 22 shows a cluster with an equal count of CONFLICT, MOTION, and CONTAINMENT metaphors (Table 3.10). The cooccurrence, potential interaction, the function performed by the target items, and their mutual relatedness via article context can be analyzed along the same lines like the previously discussed examples.

Table 3.10. Examples of additional metaphor clusters

and a provisional list of possible conceptual metaphors

	METAPHOR CLUSTER	POSSIBLE CONCEPTUAL METAPHORS
17)	While Republicans face a battle<m-conflict> cutting<m-force> into<m-containment> Mr. Obama's lead<m-race> with Latinos, Mr. Romney was catching up<m-race>. Nagourney and Santos (2012, October 18)	▪ POLITICS IS A BATTLE ▪ CAMPAIGN IS FORCE ▪ POLITICAL POSITION IS A CONTAINER ▪ CAMPAIGN IS A SPORT RACE ▪ CAMPAIGN IS A SPORT RACE
18)	A boisterous<m-personification> campaign, which has played out through dueling<m-conflict> rallies and an endless stream<m-flow-motion> of television commercials, took a sober turn<m-motion> as the candidates stood at facing lecterns for the first time. Mr. Obama, who has appeared to take command<m-conflict> of the race<m-race> in<m-containment> most battleground<m-conflict> states, seemed to adopt an air<m-air-gas> of caution throughout the evening. Zeleny and Rutenberg (2012, October 3)	▪ CAMPAIGN IS A LIVING BEING ▪ RALLY IS WAR ▪ ADS ARE STREAMS ▪ CAMPAIGN IS A MOVING OBJECT ▪ CAMPAIGN IS WAR ▪ CAMPAIGN IS A SPORT RACE ▪ STATES ARE CONTAINERS ▪ STATES ARE BATTLEGROUNDS ▪ DISPOSITION IS GAS
19)	The dynamic in<m-containment> the political air wars<m-conflict> has led to<m-motion> worry among Republican strategists outside the campaign<m-containment> that Mr. Romney's team has simply been outmatched by Mr. Obama's in its approach<m-motion> to advertising and the way it goes about<m-motion> buying ad time on television. Rutenberg and Peters (2012, October 3)	▪ POLITICS IS A CONTAINER ▪ CAMPAIGN IS WAR ▪ CAMPAIGN IS A JOURNEY ▪ CAMPAIGN IS A CONTAINER ▪ POLITICAL STRATEGY IS MOTION
20)	Ahead of the debate<m-journey-position>, Mr. Romney was trailing<m-race> slightly in<m-containment> national polls and by larger margins in<m-container> some battleground<m-conflict> states. Shear (2012, October 4)	▪ CAMPAIGN IS A JOURNEY ▪ CAMPAIGN IS A SPORT RACE ▪ POLLS ARE CONTAINERS ▪ STATES ARE CONTAINERS ▪ STATES ARE BATTLEGROUNDS
21)	In<m-containment> the summer of 2007, his campaign for the White House well under way<m-motion>, Senator Barack Obama waded<m-motion> into<m-container> the minefield<m-conflict-war> of racial politics and accused President George W. Bush of sitting idly by<m-motion> as a "quiet riot" simmered<m-cooking> in<m-container> black communities. Peters and Rutenberg (2012, October 3)	▪ TIME IS A CONTAINER ▪ CAMPAIGN IS A JOURNEY ▪ POLITICS IS MOTION ▪ RACIAL POLITICS IS A CONTAINER ▪ POLITICS IS WAR ▪ LACK OF ACTION IS LACK OF MOTION ▪ POLITICAL TENSION IS FORCE ▪ BLACK COMMUNITIES ARE CONTAINERS

22)	On Monday, investors were buoyed<m-force> by a report showing that retail sales rose<m-journey> 1.1 percent in<m-containment> September, more than expected. Popper (2012, October 16)	▪ POLITICS (ECONOMY) IS FORCE ▪ INCREASE IN VALUE IS PHYSICAL MOTION UPWARD ▪ TIME IS A CONTAINER

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3.5 SELECTION OF STIMULI FOR THE MAIN EXPERIMENTS

In this section we address the issue of the ecological validity of the stimuli used in the main experiments (sections 4 and 5), and the main methodological guidelines and procedures used in the selection of target items.

3.5.1 ECOLOGICAL VALIDITY

In order to ascertain the ecological validity of the study, stimuli used in the main experiments (sections 4 and 5) were not generated artificially, but rather selected from a corpus of newspaper articles. To clarify, as outlined in Diehl, Wall, and Freund (2017: 178) and (Gouvier, Barker, and Musso 2010: 420), the concept of ecological validity was initially introduced by Brunswik (1943) in the context of the psychology of perception. Namely, ecological validity refers to "whether the stimuli included in a psychological experiment are a good representation of the organism–environment relation in the naturally occurring ecology" (Diehl, Wall, and Freund 2017: 178). Consequently, such a view of ecological validity requires "the representative sampling of objects, subjects, settings/contexts and time frames for generalization purposes" (Diehl, Wall, and Freund 2017: 179). In somewhat broader terms, ecological validity also represents "the degree to which test performance predicts behaviors in real-world settings" (Gouvier, Barker, and Musso 2010: 399). Phrased differently, ecological validity can refer to "to the relation between real-world phenomena and the investigation of these phenomena in experimental contexts" (Schmuckler 2001: 420). It has also been argued that "contextualizing data aids ecological validity" (Wilkinson, Ferraro, and Kemp 2017:234), and that the context in which the research is taking place also has an important influence on the obtained results, and constitutes an important dimension of the construct of ecological validity (Schmuckler 2001: 421). In the present study, ecological validity will refer to *the extent to which the selected stimuli reflect actual instances of real-life language use*. This initial requirement is understood as a prerequisite for the satisfactory level of ecological validity to be ascertained in the forthcoming experiments in which the selected stimuli are used.

Namely, psycholinguistic experiments typically rely on stimuli compiled artificially for the purposes of the given experiment (e.g., Hartung et al. 2020; Cardillo et al. 2010; Boeynaems 2017). Stimuli are typically decontextualized, and rarely undergo any norming procedures. As a result, our research started with the analysis of a small specialized corpus (in the sense of Koester 2010, and Reppen 2010), described above. Based on the analysis of the frequencies and densities (i.e., the

normalized number of occurrences per 1,000 words) of metaphorically used words, we compiled a list of metaphorical expressions in optimal contexts (i.e., sentence-level contexts), all taken directly from the corpus. In Experiments 1–4, metaphorical sentences will be used as primes in the main task. In Experiments 5–6, metaphorical sentences will appear as targets in the main task, while one of the priming conditions will contain homogenous metaphor clusters. Metaphor clusters have also been identified in the corpus, and the modified clusters used in the final two experiments reflect fully the overall clustering tendency identified in the corpus. Moreover, the ecological validity of the choice of the corpus and the selection of stimuli is further validated by the fact that "*newspaper language* represents a good approximation of *everyday language*[51]" (Figar 2014a: 47). In effect, we expect that the use of contextualized stimuli that represent instances of actual language use that closely approximates everyday communication should yield more objective and more reliable results, thereby increasing the overall ecological validity of the study.

3.5.2 METHODOLOGY AND PROCEDURES

Selected metaphorical expressions corresponding to the conceptual keys of POLITICS IS CONFLICT and POLITICS IS MOTION were used as stimuli in the main experiments in the present study (sections 4 and 5). All metaphorical expressions were presented in optimal contexts, i.e., sentence-level contexts (Prćić 1997: 28), also extracted from the corpus. Bearing in mind that participants were native speakers of Serbian, and following the main methodological guidelines of psycholinguistic research where experiments should be conducted in participants' mother tongue (Kostić 2010), all stimuli were first translated into Serbian. The translation procedures followed the main methodological guidelines of translation studies (Newmark 1988; Alvarez 1993; Baker 1992; Dobrzyfiska 1995; Jovanović 2001; Venuti 2000; Kuhiwczak and Littau 2007; Hlebec 2009; Massey and Ehrensberger-Dow 2017) and contrastive analysis (Ivir 1997; Đorđević 2004; Prćić 2005).

Namely, our primary goal was to preserve the communicative value of each metaphorical expression. In that sense, where it was possible, we opted for formal correspondence (in the sense of Đorđević 2004, and Prćić 2005) which entails that the form, function, and content of the two elements from SL and TL are the same. SL stands for the source language, in our case English, and TL for the target language, i.e., Serbian. In other cases, we opted for functional-communicative translation equivalence (Đorđević 2004: 53-67; Prćić 2005: 169-172). Namely, equivalence is understood as "relative and not absolute, achievable only in the communicative context of situation and having no

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[51] Original emphasis.

existence outside that context, created anew in each new context" (Ivir 1997: 175). We also relied on the notion of *dynamic equivalence*. Nida (2000[1964]) discussed the distinction between *formal* and *dynamic equivalence*, stressing the fact that the former focuses all attention on the message itself, and is exemplified by gloss translation where "the translator attempts to reproduce as literally and meaningfully as possible the form and content of the original" (Nida [2000]1964: 129), while the latter is focused on the dynamic elements which entail "that the relationship between receptor and message should be substantially the same as that which existed between the original receptors and the message" (Nida [2000]1964: 129). Additionally, in order to avoid possible cases of convergence, i.e., cases where multiple elements from SL have a single correspondent (or equivalent) in TL (Đorđević 2004), we attempted to preserve most of the metaphor keywords from SL in translation. This was done in order to maintain the variety of metaphorical conceptualizations in each of the conceptual keys in the source language (English) in their translations into the target language (Serbian). Consequently, this leads to an important caveat.

Namely, as a result of such translation strategy, some of the translations do not appear to sound as *natural* in the Serbian language as they do in English. However, all potential stimuli (translated into Serbian) were first included in the norming studies (see below), and the selection of the final list of stimuli used in the experiments was based on the overall mean ratings obtained in those studies. Additionally, all metaphorical expressions were presented in optimal contexts, which should afford easier comprehension in cases where the *referential level* or *naturalness* (in the sense of Newmark 1988) may have been compromised. In other words, *textual* and *pragmatic equivalence* (in the sense of Baker 1992) which have been satisfied in the translation of optimal contexts should override the potential disruption caused by the introduction of conceptualizations that may not be highly conventional in the target language. This also reflects the fact that the use of certain metaphorical conceptualizations can be culture-specific (e.g., Dobrzyfiska 1995; Baker 1992; Kuhiwczak and Littau 2007; Massey and Ehrensberger-Dow 2017). Stimuli used in the experiments along with the original items from the corpus (in English) are provided in Tables 4.3 and 4.6 (section 4), and Tables 5.3 and 5.6 (section 5).

The initial list of stimuli was compiled based on the distribution of metaphor keywords in the corpus. We attempted to include most of the common metaphorical expressions from the conceptual keys of CONFLICT and MOTION, which were then translated into Serbian. The final list of potential stimuli included 103 CONFLICT and 89 MOTION metaphors (Appendices B and C, respectively). All of the selected items were first included in the norming studies, where each potential target stimulus was rated on 7-point Likert scales along the following six dimensions extracted from previous research in psycholinguistics (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991;

Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011; Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019): *metaphoricity, familiarity, contextual aptness*, *aptness, comprehensibility, and number of possible interpretations*. Based on the obtained ratings for each of the relevant dimensions, a total coefficient was calculated as the sum of overall mean ratings for *metaphoricity, familiarity, contextual aptness*, *aptness,* and *comprehensibility* (in line with Stamenković, Milenković, and Dinčić 2019). Further details about the norming studies are presented in sections 4 and 5.

In Experiments 1–4, contextualized metaphorical expressions were used as primes. Experiments 1 and 2 dealt with CONFLICT metaphors, while Experiments 3 and 4 dealt with MOTION metaphors. The main aim of the first four experiments was to test the activation of the organizing frames of source and target inputs in metaphorical expressions from the conceptual keys of CONFLICT and MOTION, in a categorization task, using an online reaction time paradigm. Experiments 1 and 2 used 60 highest rated stimuli from the conceptual key of CONFLICT, based on the overall coefficient from the norming studies. Experiments 3 and 4 used 60 highest rated stimuli from the conceptual key of MOTION.

In experiments 5 and 6, we used metaphorical targets and metaphorical primes in the form of homogenous clusters. Each priming cluster was designed as a 3-sentence-long paragraph, where each sentence contained one metaphorical expression. In order to reduce the *noise* in the experiment and afford greater control of the experimental stimuli, we opted for homogenous clusters. All clusters used in the experiments were constructed based on the clusters identified in the corpus, and the individual metaphorically used words identified in the first part of the corpus analysis. The list of clusters is given in section 5, Tables 5.10 and 5.22.

In Experiment 5, all target metaphorical expressions represented instances of CONFLICT metaphors, while in Experiment 6, all targets belonged to the conceptual key of MOTION. Targets used in each of the experiments were metaphorical expressions from the two respective conceptual keys presented in optimal contexts. Based on the results of the norming studies, each experiment included seven top-, middle-, and low-rated metaphorical targets from the given conceptual key, respectively, making up for the total of 21 targets in each experiment. All stimuli used as primes (section 4) are presented in Tables 4.3 and 4.6; stimuli used as targets (section 5) are given in Tables 5.3 and 5.6; and the complete list of stimuli from the conceptual keys of CONFLICT and MOTION used in the norming studies are presented in Appendices B and C, respectively. In addition to targets in Serbian, Tables 4.3, 4.6, 5.3, and 5.6 also contain the original items in English presented in context.

3.6 DISCUSSION

In this section we briefly summarize answers to the main research questions outlined above.

RQ1. Which conceptual key showed the highest frequency and the highest density (i.e., count per 1,000 words) in the corpus for individual metaphorical expressions?

Identification of individual metaphorically used words was conducted in line with the methodology presented in Steen et al. (2010) and Pragglejaz (2007). Additionally, image schematic base and its potential impact on the contextual meanings of target items was also taken into consideration. All items were tagged and prepared for subsequent analysis in *WordSmith Tools 6.0* (Scott 2010, 2014; Tribble 2010). Quantitative analysis of individual metaphorically used words showed approximately similar frequencies and densities for metaphorical expressions from the conceptual keys of CONFLICT, MOTION, and CONTAINMENT. Other conceptualizations identified in the corpus did not demonstrate a systematic distribution like these three groups, and, in effect, all of those items were classified into a single, separate group.

RQ2. Which group of metaphor clusters was the most frequent in terms of cluster size?

Identification of metaphor clusters was conducted in line with the procedures outlined in Koller (2003), Figar and Antović (2015), and Figar (2019). Namely, we used the dispersion plots generated by *WordSmith Tools 6.0* to identify sections in the articles with increased density of individual metaphorically used words. These cases were then explored for topical relatedness in order to determine whether they could be classified as an instance of a metaphor cluster or not. Quantitative analysis of the identified metaphor clusters in terms of cluster size showed the highest number of occurrences for 3-metaphor clusters, followed by 4-, 5-, and 6-metaphor clusters. Also, a linear decline could be identified between 3- and 6-metaphor clusters. Larger clusters showed a more rapid decrease in the number of occurrences, resulting in an exponential decline.

RQ3. Which group of metaphor clusters was the most frequent in terms of the metaphorical expressions with the highest count in the cluster (i.e., in terms of the dominant conceptual key)? Were there any significant differences in the average cluster size for each metaphor group based on the dominant conceptual key in the cluster?

Based on the dominant conceptual key in the cluster, identified as the type of a metaphorical expression with the highest count, the highest frequency was recorded for metaphorical expressions from the conceptual key of CONFLICT or FORCE. This was followed by clusters in which the dominant metaphorical expressions were from the conceptual key of MOTION. The next group of clusters included the highest count of containment METAPHORS. The final three groups included clusters with equal counts of CONFLICT and MOTION metaphors, followed by clusters with equal counts of MOTION and CONTAINMENT metaphors, and finally those with equal counts of metaphorical expressions from each of the three main conceptual keys. One-way ANOVA revealed a significant main effect of metaphor group (in terms of the dominant conceptual key), while subsequent Tukey post-hoc tests showed a significantly larger overall mean cluster size for MOTION metaphors compared to both CONFLICT ($p<.0005$) and CONTAINMENT metaphors ($p<.0005$).

RQ4. Were there any instances of metaphorical projections of image schemata? How can individual metaphorical expressions be described in qualitative terms?

Corpus analysis showed instances of metaphorical projections of the image schemata of path, force, and containment. Metaphorical projections of the path schema gave way to a variety of conceptualizations grouped under the conceptual key POLITICS IS MOTION. Metaphorical projections of force schemata were grouped under the conceptual key POLITICS IS CONFLICT, while projections of the containment schema were classified as elements of the conceptual key POLITICS IS A CONTAINER. As argued above, while CONFLICT metaphors need not necessarily involve force, our corpus showed that contextualized metaphorical meanings of metaphorically used words classified as members of the conceptual key of CONFLICT demonstrated quite frequent associations to the force schema.

Additionally, qualitative analysis showed a high degree of cooccurrence of metaphorical expressions from the three main conceptual keys. For instance, path schemata were frequently associated with containment schemata, giving way to metaphorical conceptualizations of motion into, or outside of entities conceptualized as enclosed spaces, i.e., containers. Moreover, FORCE metaphors and MOTION metaphors also cooccurred quite frequently. All instances of metaphorical projections of image schemata were licensed by the extension of preconceptual, predominantly spatial, embodied

experiences with the world, which provided the scaffolding for higher-level cognitive processes, including metaphorical conceptualizations of everyday experience.

RQ5. How can the identified clusters be described in qualitative terms in relation to metaphorical framing, mental models, and possible functions of individual metaphorical expressions in the cluster?

In line with the encyclopedic view of meaning, where words are understood as access points to larger knowledge structures (in the sense of Fillmore 1982, and Langacker 1987), i.e., frames, metaphorically used words afford metaphorical framings of events via metaphorical schemas (e.g., Allbritton 1995; Allbritton, McKoon, and Gerrig 1995). A distinction is made between the frames invoked by the text, meant to direct the readers towards a specific viewpoint, and frames evoked by the readers. Also, the lexical content of the clusters should afford the construction of the corresponding representations in the form of mental models.

Corpus analysis revealed the dominance of heterogenous clusters, i.e., clusters with multiple metaphorical expressions with various source inputs referring to the same target input. Such clusters seem to be highly compatible, which was licensed by the overall context of individual corpus units (i.e., individual newspaper articles). Namely, all individual articles dealt with the subject of presidential debates. Additionally, while CONFLICT and MOTION metaphors were typically used to metaphorically construe the main events and protagonists, CONTAINMENT metaphors seem to have played a role of cohesive devices used to construe the background against which the main events, actions, and participants were conceptualized. To reiterate, such combinations of metaphorical expressions within clusters were facilitated by the overall discourse context.

4. SEMANTIC FRAME ACTIVATION IN A CATEGORIZATION TASK

This section deals with the first four experiments, designed to test the activation and interaction of semantic frames that serve as the organizing frames of source and target inputs spaces in conceptual metaphors corresponding to the conceptual keys POLITICS IS CONFLICT (Experiments 1 and 2) and POLITICS IS MOTION (Experiments 3 and 4). First, the results of the norming studies for target words from the frames of CONFLICT, MOTION, and POLITICS are presented. This is followed by the description of metaphorical primes used in the experiments, after which the methodology, research questions, experimental setup, results, and comparisons of the relevant results between experiments are discussed in detail.

4.1 NORMING STUDIES

In the first part of this section, we present the results of the norming studies for target items from the frames of CONFLICT, MOTION, and POLITICS. This is then followed by the overview of the results of the norming studies of congruent metaphorical primes from the conceptual keys POLITICS IS CONFLICT and POLITICS IS MOTION.

4.1.1 TARGET ITEMS

4.1.1.1 CONFLICT FRAME – NORMING STUDY

The list of stimuli included 112 one-, two-, three-, and four-syllable nouns and verbal nouns from the semantic frame of CONFLICT (Appendix A), selected from the referent sources (Ćosić 2008; Vujanić et al. 2007; Stevanović et al. 1990; Wehmeier 2005; Siefring 2004; Rundell and Fox 2002; Gove 1984; Crowther, Dignen, and Lea 2005; Bullon et al. 2008; Cowie and Mackin 2005; WordNet; FrameNet). The norming study involved a categorization task in which participants were asked to rate (on 6-point Likert scales) how good a representative of the category CONFLICT each of the given targets was. Unlike some of the previous studies (e.g., Rosch et al. 1976), higher ratings corresponded to better representatives of the category (6=an exceptionally good representative, 1=an exceptionally bad representative). Thirty-six 3rd-year students from the English Department, Faculty of Philosophy, University of Niš, all native speakers of Serbian, volunteered to take part in the study. Participants'

average age was 21.53 (SD=0.65), and there were 30 female and 6 male participants. Criteria for selecting the final list of target stimuli were the following:

i. top 5 rated one-, two-, three-, and four-syllable words, making up for a total of 20 target stimuli; and

ii. only words that did not appear as metaphor keywords in the selected metaphorical expressions from the corpus that were later used as primes in the main experiments. This was done in order to avoid the effects of repetition priming (in the sense of Forster, Mohan, and Hector 2003, and Masson and Bodner 2003). Namely, in repetition priming, the prime and the target are identical (Forster, Mohan, and Hector 2003: 3); consequently, the repetition prime opens "the lexical entry corresponding to the prime so that when the matching target is presented, that entry is already in an open state" (Masson and Bodner 2003: 33). Additionally, repetition priming can exert long-term effects (Masson and Bodner 2003).
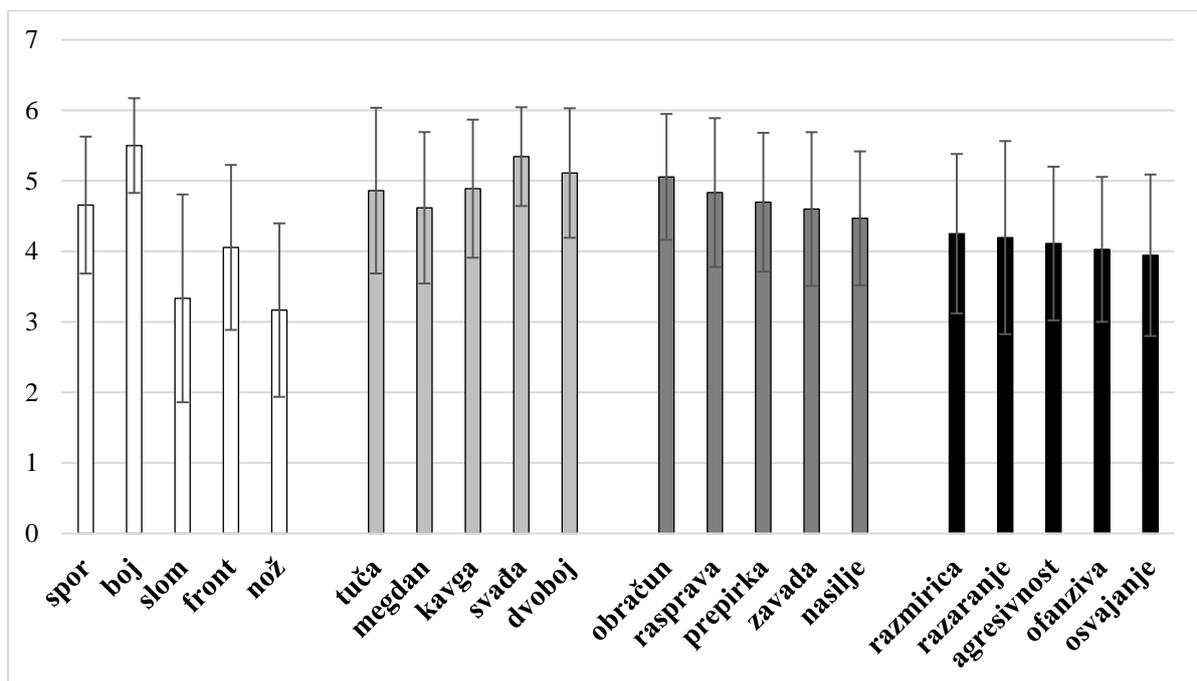
Figure 4.1. Targets from the CONFLICT frame

The final list of targets used in the experiments is presented in Figure 4.1, while the ratio of mean tendencies for one-, two-, three-, and four-syllable words is given in Figure 4.2. One-way repeated measures ANOVA showed a significant impact of syllable group ($p<.0005$), and subsequent pairwise comparisons revealed a significant difference in the following cases: (i) one- and two-syllable words ($M_1=4.28$, $SD_1=0.62$, $M_2=5.05$, $SD_2=0.64$, $p=.001$), (ii) two- and three-syllable words ($M_2=5.05$, $SD_2=0.64$, $M_3=4.75$, $SD_3=0.52$, $p=.033$), and (iii) two- and four-syllable words ($M_2=5.05$, $SD_2=0.64$, $M_4=4.11$, $SD_4=0.60$ $p<.0005$).

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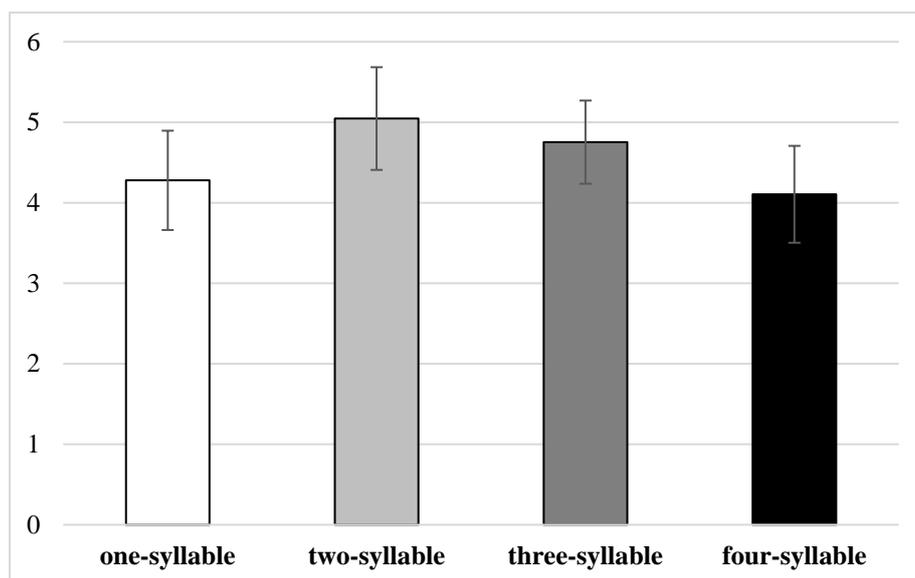
Figure 4.2. Mean tendencies for *one-, two-, three-,* and *four-syllable* words (CONFLICT frame)

4.1.1.2 MOTION FRAME – NORMING STUDY

The initial list of stimuli included 114 one-, two-, three-, and four-syllable nouns and verbal nouns from the semantic frame of MOTION (Appendix A), selected from the same sources as in the previous norming study (Ćosić 2008; Vujanić et al. 2007; Stevanović et al. 1990; Wehmeier 2005; Siefring 2004; Rundell and Fox 2002; Gove 1984; Crowther, Dignen, and Lea 2005; Bullon et al. 2008; Cowie and Mackin 2005; WordNet; FrameNet). This norming study included an identical procedure used in the norming of items from the CONFLICT frame. Namely, it included a categorization task in which participants were asked to rate each of the target words for goodness-of-exemplar in relation to the category MOTION, on 6-point Likert scales. Forty-six 3rd-year students from the English department, Faculty of Philosophy, University of Niš, all native speakers of Serbian, volunteered to take part in the study. Participants' average age was 21.72 (SD=0.81), and there were 37 female and 9 male participants. Criteria for selecting the final list of target stimuli were identical to the ones used in the norming study of items from the frame of CONFLICT:

  i.   top 5 rated one-, two-, three-, and four-syllable words, making up for a total of 20 target stimuli; and

  ii. again, only words that did not appear as metaphor keywords in the selected metaphorical expressions from the corpus that were later used as primes in the main experiments. This was, again, done in order to avoid the effects of repetition priming (in the sense of Forster, Mohan, and Hector 2003, and Masson and Bodner 2003).
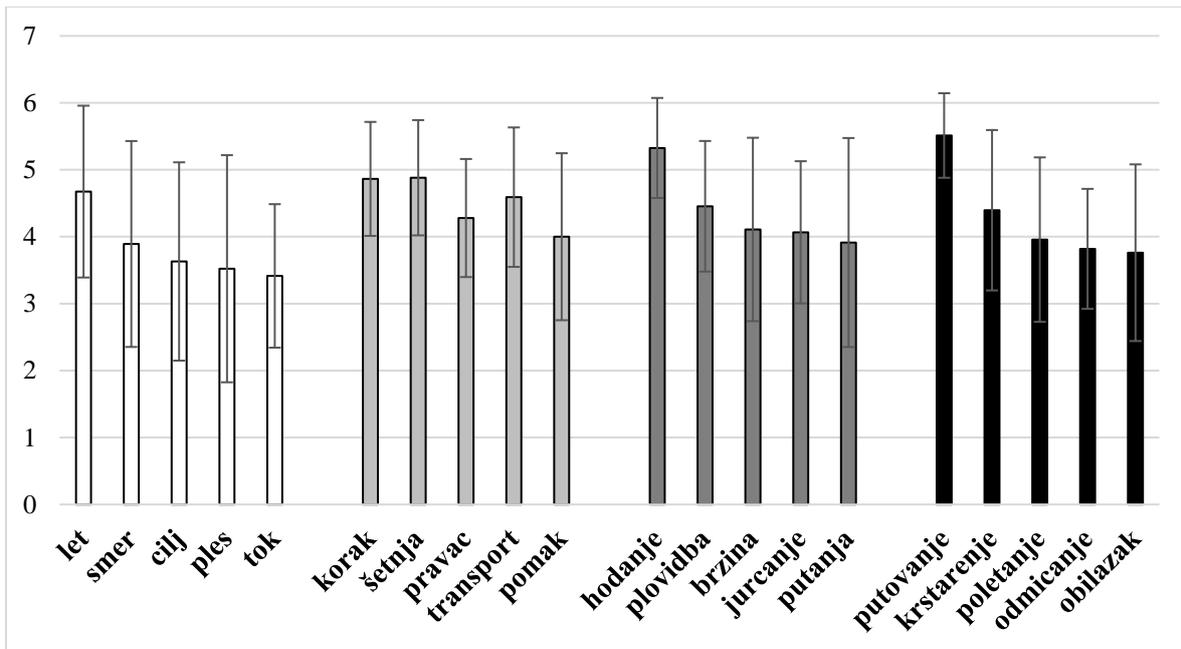
Figure 4.3. Targets from the MOTION frame
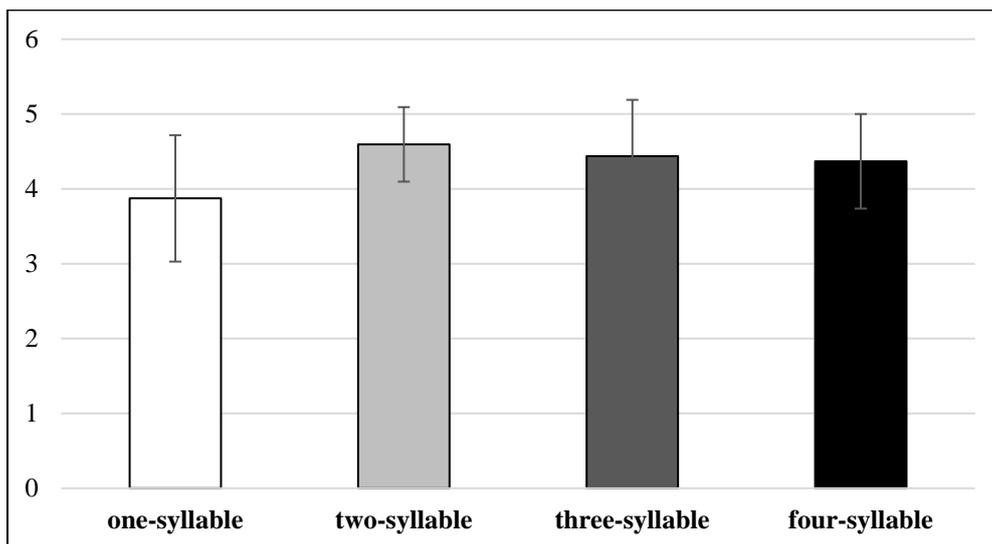
Figure 4.4. Mean tendencies for *one-, two-, three-,* and *four-syllable* words (MOTION frame)

The final list of targets is given in Figure 4.3. We also calculated the mean tendencies for each syllable group and compared them (Figure 4.4). One-way repeated measures ANOVA showed a significant main effect of syllable group (p=.008), while subsequent pairwise comparisons showed significant differences between one-syllable group and all the remaining groups (M_1=4.03, SD_1=0.83, M_2=4.61, SD_2=0.46, $p_{1,2}$=0.005, M_3=4.58, SD_3=0.71, $p_{1,3}$=.002, M_4=4.41, SD_4=0.62, $p_{1,4}$=.045). The

remaining comparisons did not reach significance (Figure 4.4). Additionally, the comparison of overall mean ratings of the selected groups of targets from the frames of CONFLICT and MOTION, respectively, did not yield significance (M_{MOTION}=4.32, SD_{MOTION}=0.31, $M_{CONFLICT}$=4.55, $SD_{CONFLICT}$=0.43, p=.349). In effect, we can conclude that the overall ratings of selected targets showed similar levels of prototypicality within each of the frames.

4.1.1.2 POLITICS FRAME – NORMING STUDY

The list of stimuli included 185 one-, two-, three-, and four-syllable nouns and verbal nouns from the semantic frame of POLITICS (Appendix A), selected from the same sources used in the previous two norming studies (Ćosić 2008; Vujanić et al. 2007; Stevanović et al. 1990; Wehmeier 2005; Siefring 2004; Rundell and Fox 2002; Gove 1984; Crowther, Dignen, and Lea 2005; Bullon et al. 2008; Cowie and Mackin 2005; WordNet; FrameNet). Again, participants were asked to perform ratings for the goodness-of-exemplar on 6-point Likert scales for all items. Thirty-one 3rd-year students from the English Department, Faculty of Philosophy, University of Niš, all native speakers of Serbian, volunteered to take part in the study. Participants' average age was 21.81 (SD=1.01), and there were 21 female and 10 male participants. Criteria for selecting the final list of target stimuli were identical to the ones used in the norming studies of the frames of CONFLICT and MOTION:

i.   we selected the top 5 rated one-, two-, three-, and four-syllable words, making up for a total of 20 target words; and

ii. only words that did not appear as metaphor keywords or metaphor key-phrases in the selected metaphorical expressions from the corpus which were later used as primes in the main experiments.

The list of target items is given in Figure 4.5. One-way repeated measures ANOVA revealed a significant main effect of syllable group (p<.0005), while additional pairwise comparisons revealed significant differences in the following cases (Figure 4.6): (i) one- and two-syllable words (M_1=4.53, SD_1=0.98, M_2=5.22, SD_2=0.57, p=.009); (ii) one- and three-syllable words (M_1=4.53, SD_1=0.98, M_3=5.89, SD_3=0.26, p<.0005); (iii) one and four-syllable words (M_1=4.53, SD_1=0.98, M_4=5.80, SD_4=0.28, p<.0005); (iv) two- and three-syllable words (M_2=5.22, SD_2=0.57, M_3=5.89, SD_3=0.26, p=.001), and (v) two- and four-syllable words (M_2=5.22, SD_2=0.57, M_4=5.80, SD_4=0.28, p=.002).
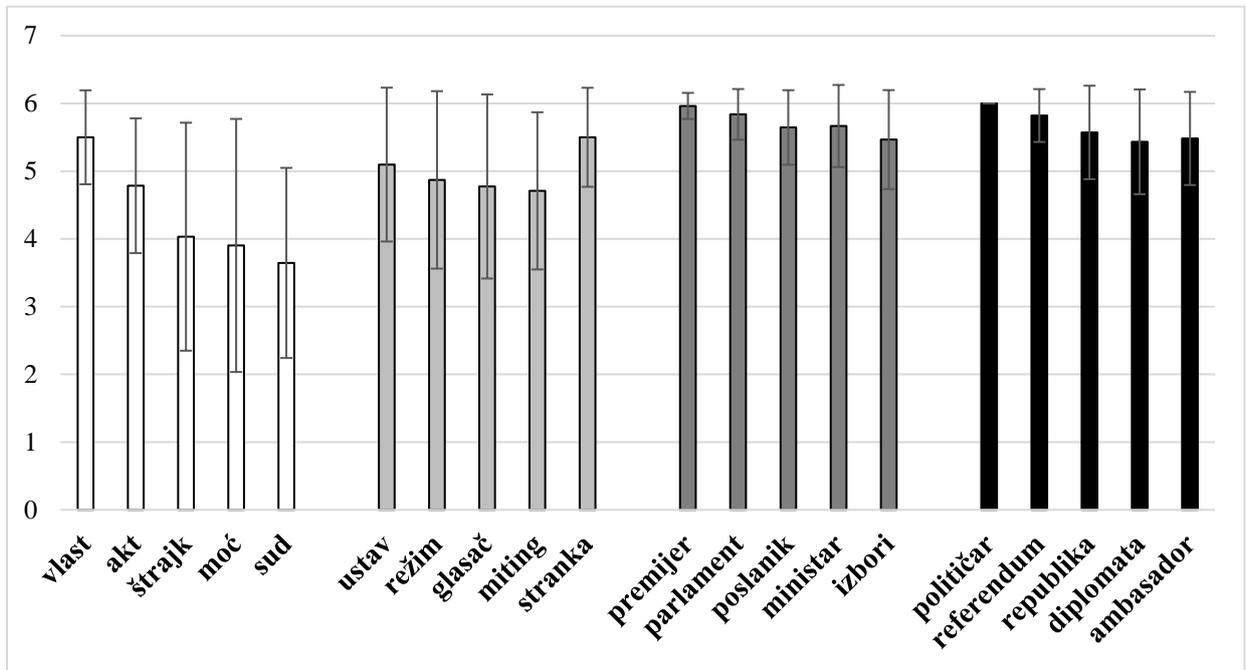
Figure 4.5. Targets from the POLITICS frame
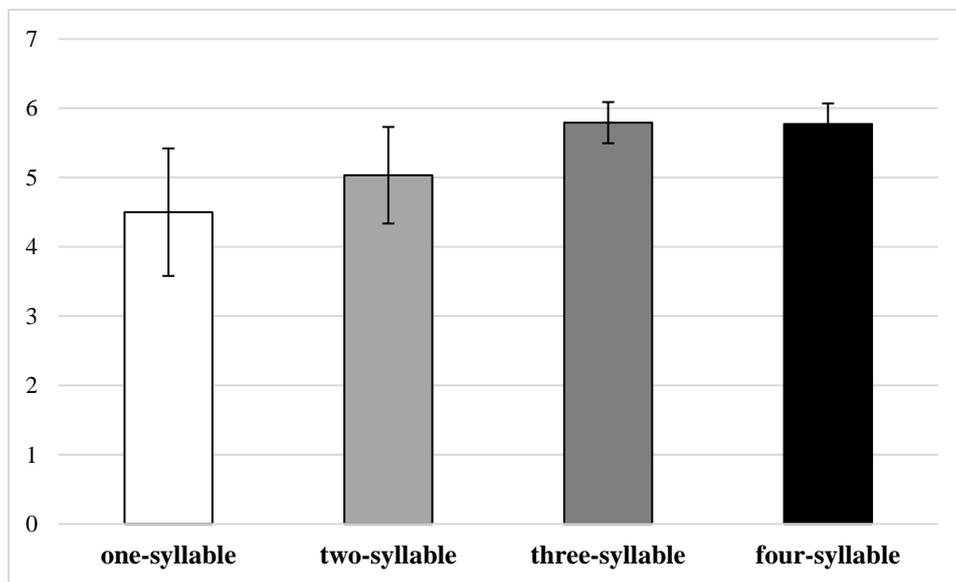
Figure 4.6. Mean tendencies for *one-, two-, three-,* and *four-syllable* words (POLITICS frame)

4.1.2 METAPHORICAL PRIMING SENTENCES

The present section gives an overview of the metaphorical sentences used in the congruent priming conditions in Experiments 1–4. All metaphorical primes were selected from the corpus and then translated into Serbian[52]. All stimuli were included in the initial norming study conducted via questionnaires with 7-point Likert scales. Target metaphorical expressions were presented in optimal contexts (i.e., sentence-level context, Prćić 1997), and they were rated along the following six dimensions, based on the previous research in the field (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011; Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019): *metaphoricity, aptness, contextual aptness, comprehensibility, familiarity,* and *number of possible interpretations*. Additionally, we also calculated the total coefficient which represented the sum of the overall mean ratings of *metaphoricity, aptness, contextual aptness, comprehensibility,* and *familiarity* (in line with the methodology outlined in Stamenković, Milenković, and Dinčić 2019). The first four experiments included 60 top-rated sentences from each of the two conceptual keys – POLITICS IS CONFLICT and POLITICS IS MOTION.

The following two subsections provide an overview and main characteristics of the subset of priming sentences. In section 5.1 we will address the interaction between the rated dimensions for each of the two metaphor groups in more detail.

4.1.2.1 CONFLICT PRIMES

CONFLICT primes were selected based on the norming study that included 103 metaphorical expressions corresponding to the conceptual key of CONFLICT, extracted from the corpus, translated into Serbian, and presented to participants in the forms of questionnaires (Appendix B). Metaphorical expressions were not presented in isolation, but in optimal contexts. Ratings were performed across the six dimensions mentioned above (i.e., *metaphoricity, aptness, contextual aptness, comprehensibility, familiarity,* and *number of possible interpretations*). 60 top-rated items based on the value of the total coefficient were used as primes in Experiments 1 and 2.

The norming study included two questionnaires with 7-point Likert scales, where the first one included the assessment of *metaphoricity, familiarity, and contextual aptness*, while the second one

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[52] See section 3.5 for details.

included ratings of *aptness, comprehensibility,* and *number of possible interpretations*. Thirty-five participants, all students from the English Department, Faculty of Philosophy, Niš, and native speakers of Serbian, completed the first questionnaire for course credits. There were 23 female and 12 male participants (average age of 22.22, SD=1), twenty of whom were 4th-year students, and twelve 3rd-year students. For the second questionnaire, there were 25 participants also from the English Department, Faculty of Philosophy, Niš, all native speakers of Serbian. All of them were 4th-year students, and there were 18 female and 7 male participants (average age 21.56, SD=0.77).
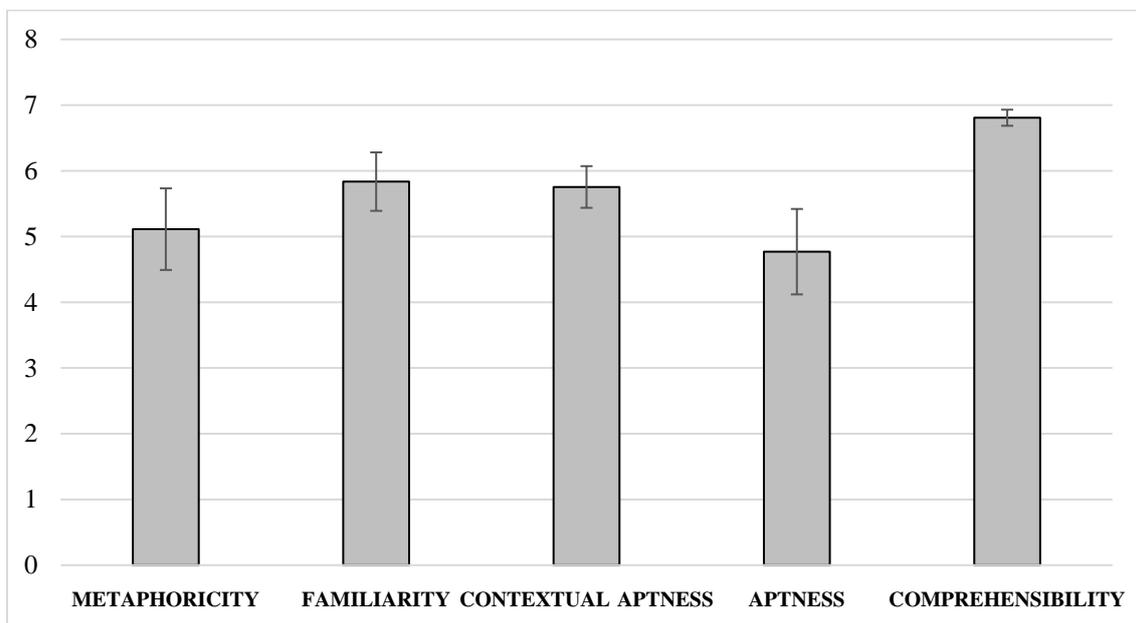
Figure 4.7. Overall mean tendencies for *metaphoricity, familiarity, contextual aptness, aptness,* and *comprehensibility* for the selected subset of items (CONFLICT primes)

In this section we analyzed and compared the overall mean tendencies for the database of the 60 selected items used for priming (Table 4.2). Subsequent analyses presented in section 5.1 will show that the overall tendency identified in this subset of items matches the overall tendency and interaction identified for the entire sample of items. The correlation analysis also included the Holm-Bonferroni sequential correction (Gaetano 2013). As shown in Table 4.1, metaphoricity ratings showed consistent negative correlations with all of the remaining dimensions, all of which also reached significance. This suggests that higher ratings of metaphoricity correspond to lower ratings of the remaining dimensions, and vice versa. In other words, items perceived as more metaphorical are less comprehensible, not very familiar, not particularly suitable in the given context, and their aptness ratings are also lower. Familiarity, on the other hand, showed consistent, significant positive correlations with contextual aptness, aptness, and comprehensibility. In other words, more familiar items were also more suitable in the given context, easier to understand, and more apt. Contextual

aptness also showed significant positive correlations with aptness and comprehensibly, and a similar result was obtained for correlations between aptness and comprehensibility. Overall, it can be concluded that only metaphoricity showed significant negative correlations compared to the other five dimensions. All of the remaining dimensions showed significant positive correlations.

Table 4.1. Correlations between the relevant dimensions (CONFLICT primes)

		METAPHORICITY	FAMILIARITY	CONTEXTUAL APTNESS	APTNESS	COMPREHENSIBILITY
METAPHORICITY	Pearson Correlation	1	-.525**	-.320*	-.593**	-.351**
	Sig. (2-tailed)		.000	.014	.000	.014
	N	60	60	59	60	57
FAMILIARITY	Pearson Correlation	-.525**	1	.739**	.468**	.550**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	60	60	59	60	57
CONTEXTUAL APTNESS	Pearson Correlation	-.320*	.739**	1	.480**	.352**
	Sig. (2-tailed)	.013	.000		.000	.008
	N	59	59	59	59	56
APTNESS	Pearson Correlation	-.593**	.468**	.480**	1	.389**
	Sig. (2-tailed)	.000	.000	.000		.003
	N	60	60	59	60	57
COMPREHENSIBILITY	Pearson Correlation	-.351**	.550**	.352**	.389**	1
	Sig. (2-tailed)	.014	.000	.014	.009	
	N	57	57	56	57	57

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

4.1.2.1.1 Qualitative description of CONFLICT primes

Table 4.2 gives an overview of the selected priming sentences and their corresponding conceptual metaphors and conceptual keys. As discussed in section 3, the qualification of metaphorical expressions as representatives of a specific conceptual metaphor remains arbitrary to a large extent, and it is subject to individual assessments and possible variations. Namely, while metaphorically used words can be identified with a reasonable degree of certainty, identifying the actual conceptual mapping instantiated by the metaphorical expression would require a separate line of research (e.g., Steen 2007; Steen et al. 2010). For instance, different analysts can identify different conceptual metaphors, with higher or lower degrees of specificity. In that sense, our classification of the selected stimuli as instantiations of specific conceptual metaphors and their corresponding conceptual keys remains open to further (re)interpretation, and will be used as *an artefact of analysis*,

and as a *descriptive* rather than an *explanatory* tool (as outlined in section 3.3.2). We use the annotation below only in the *operational* sense, for the ease of further discussion.

Overall, we were able to identify the following set of conceptual metaphors in our database:

- ARGUMENT IS A FIGHT
- ARGUMENTS ARE FORCE
- ARGUMENTS ARE A NATURAL FORCE
- ARGUMENTS ARE WEAPONS
- BAD ARGUMENTS ARE WEAKNESS
- COMMERCIALS ARE WEAPONS
- CRITICISM IS FORCE
- CRITICISM IS A NATURAL FORCE
- CRITICISMS ARE WEAPONS
- DIFFICULT TOPICS ARE A MINEFIELD
- ECONOMY IS A BATTLE
- ECONOMY IS FORCE
- ECONOMY IS WAR
- ELECTION CAMPAIGN IS A BATTLE
- ELECTION CAMPAIGN IS A BOXING MATCH
- ELECTION CAMPAIGN IS FORCE
- ELECTION CAMPAIGN IS FORCE

- ELECTION IS WAR
- INSULTS WEAPONS
- MARKETING CAMPAIGN IS A BATTLE
- MARKETING CAMPAIGN IS WAR
- MEDIA ARE WEAPON
- MEDIA CAMPAIGN IS A FIGHT
- PARTY MEMBERS ARE SOLDIERS
- POLITICAL DIALOGUE (NEGOTIATION) IS FORCE
- POLITICAL PLANS ARE FORCE
- POLITICS IS FORCE
- POLITICS IS WAR
- PRESIDENTIAL DEBATE IS A BATTLE
- PRESIDENTIAL DEBATE IS A FIGHT
- PRESIDENTIAL DEBATE IS CONFLICT
- SUPPORTERS ARE ALLIES
- SUPPORTERS ARE SOLDIERS
- TAXES ARE FORCE

The overarching conceptual key could be represented in the form POLITICS IS CONFLICT, with certain alternative classifications that include the following: CAMPAIGN IS CONFLICT, POLITICS IS WAR, POLITICS IS BOXING, POLITICS IS FORCE, ECONOMY IS CONFLICT, ECONOMY IS WAR. However, all of the alternative classifications of the conceptual key can be subsumed under the frame of CONFLICT, since WAR, FORCE, and BOXING have obvious connections to the more encompassing frame. There is also a link between CONFLICT metaphors and metaphorical projections of the image schema of force (see section 2.5.1.6 for details). Additionally, as argued in section 3, owing to the strong contextual link between CONFLICT and FORCE metaphors identified in our corpus, both groups have been classified as instantiations of the conceptual key POLITICS IS CONFLICT.

Table 4.2. CONFLICT primes

	METAPHORICAL PRIMING SENTENCES	CONCEPTUAL METAPHOR	CONCEPTUAL KEY
1.	Novi kandidat će morati **da brani svoje stavove** tokom predstojeće debate.	DEBATE IS CONFLICT	POLITICS IS CONFLICT
2.	Predsednik je **nadjačao svog protivkandidata u marketinškoj kampanji**.	MARKETING CAMPAIGN IS A BATTLE	POLITICS IS CONFLICT / CAMPAIGN IS CONFLICT
3.	Predsednik mora **da dobije bitku za fiskalni plan** tokom predstojeće debate.	PRESIDENTIAL DEBATE IS A BATTLE	POLITICS IS CONFLICT
4.	Kandidati tokom debate neće mnogo čekati pre nego što **krenu u napad**.	PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT
5.	Kandidati će na debatu doći **naoružani dobro uvežbanim replikama**.	ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
6.	Stranke imaju **armije pristalica** koje postavljaju komentare na tviteru.	SUPPORTERS ARE SOLDIERS	POLITICS IS CONFLICT / POLITICS IS WAR
7.	Predsednik **je napao novog kandidata tvrdnjama** da su njegovi planovi laž.	ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT
8.	Stranka **je žestoko napala protivničkog kandidata** tokom medijske kampanje.	MEDIA CAMPAIGN IS A FIGHT (BATTLE)	POLITICS IS CONFLICT
9.	Kandidati se uveliko pripremaju **za završnu rundu predizborne kampanje**.	ELECTION CAMPAIGN IS A BOXING MATCH	POLITICS IS CONFLICT / POLITICS IS BOXING
10.	Nakon **žestokog medijskog napada** na svog protivnika predsednik je u prednosti.	MEDIA CAMPAIGN IS A FIGHT	POLITICS IS CONFLICT
11.	Tokom debate, nijedan kandidat nije uspeo **da zada smrtonosni udarac**.	PRESIDENTIAL DEBATE IS A FIGHT / ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
12.	Novi kandidat **je zauzeo odbrambeni stav** tokom poslednje debate.	PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT
13.	Sa svakim novim pitanjem u debati **usledio je i novi verbalni napad**.	ARGUMENTS IS A FIGHT	POLITICS IS CONFLICT

14.	Tokom poslednje debate, **kandidati su razmenjivali udarac za udarcem**.	ARGUMENTS ARE WEAPONS / PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
15.	Predsednik je svojom izjavom **zadao direktan udarac novom kandidatu**.	ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
16.	Predsednik **je ubedljivo nadmašio svog protivkandidata u marketinškom ratu**.	MARKETING CAMPAIGN IS WAR	POLITICS IS CONFLICT / POLITICS IS WAR
17.	Nakon prve debate, usledila je **bujica kritika** usmerenih ka predsedniku.	CRITICISM IS (A NATURAL) FORCE / ARGUMENTS ARE (A NATURAL) FORCE	POLITICS IS CONFLICT / POLITICS IS FORCE
18.	Tokom čitave diskusije novi kandidat **je žestoko napadao predsednika**.	ARGUMENT IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
19.	Predsednik **je primio udarac** tokom diskusije **i nije se branio**.	ARGUMENT IS A FIGHT	POLITICS IS CONFLICT
20.	Novi kandidat **je pretrpeo brutalan udarac** tokom poslednje debate.	PRESIDENTIAL DEBATE IS A FIGHT / ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
21.	Stranka će nastaviti **da vrši pritisak na predsednika** po pitanju ekonomije.	POLITICAL DIALOGUE (NEGOTIOATION) IS FORCE	POLITICS IS CONFLICT / POLITICS IS FORCE
22.	Protivkandidat **će nadjačati predsednika** uz pomoć svojih saveznika.	POLITICAL GROUPS ARE ALLIES	POLITICS IS CONFLICT / POLITICS IS WAR
23.	Predsednik nije uspevao **da se odbrani od verbalnih napada** drugog kandidata.	ARGUMENTS ARE WEAPONS / PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
24.	Izazivač planira da tokom debate **napadne spoljnu politiku predsednika**.	ARGUMENTS ARE WEAPONS / PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
25.	Simpatizeri vladajuće stranke **su naoružani sarkastičnim komentarima**.	ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
26.	Predsednik tvrdi da nema potrebe za uzdržavanjem jer je **trgovinski rat već u toku**.	ECONOMY IS WAR	ECONOMY IS CONFLICT
27.	Kandidati će morati **da se izbore sa najvećom pretnjom** – fiskalnom liticom.	ELECTION CAMPAIGN IS A FIGHT / ECONOMY IS FORCE	POLITICS IS CONFLICT
28.	Broj reklama je bolji **pokazatelj stanja u marketinškom ratu** nego potrošen novac.	MARKETING CAMPAIGN IS WAR	POLITICS IS CONFLICT / POLITICS IS WAR
29.	**Žestoki medijski napadi** na predsednika pokazuju zabrinutost suparnika.	MEDIA ARE A WEAPON	POLITICS IS CONFLICT / POLITICS IS WAR
30.	Kandidati su napravili kratak predah **od žestokih predizbornih bitki**.	ELECTION CAMPAIGN IS A BATTLE	POLITICS IS CONFLICT / POLITICS IS WAR
31.	Predsednikov žestok nastup tokom poslednje debate **je uzburkao medije**.	ARGUMENTS ARE (A NATURAL) FORCE	POLITICS IS CONFLICT / POLITICS IS FORCE

32.	Predsednik je izgubio debatu **jer nije izvršio dovoljan pritisak na protivnika**.	ARGUMENTS ARE FORCE / PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
33.	Predsednik **ne može i dalje ići iz jedne bitke koja šteti budžetu u drugu**.	ECONOMY IS WAR	ECONOMY IS CONFLICT
34.	Dinamika **u političkom medijskom ratu** zabrinula je stratege u obe stranke.	POLITICS IS WAR	POLITICS IS CONFLICT
35.	Debata će pružiti veliki broj prilika **za žestoke napade sa obe strane**.	PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT
36.	Predsednik će tokom naredne debate **pokušati da pređe u ofanzivu**.	ELECTION IS WAR	POLITICS IS CONFLICT / POLITICS IS WAR
37.	Mediji tvrde da će povećanje poreza **nauditi manjim preduzećima**.	TAXES ARE A FORCE	POLITICS IS FORCE / ECONOMY IS FORCE
38.	**Nakon rafalne paljbe kritika**, predsednik je nastupio jako odlučno.	CRITICISMS ARE WEAPONS / ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
39.	Predsednik i novi kandidat **su razmenjivali oštre udarce i optužbe**.	ARGUMENTS ARE WEAPONS / PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
40.	Kroz nove planove, **predsednik će saseći** sve što se ne tiče ministarstva odbrane.	POLITICAL PLANS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS FORCE
41.	Kandidat je **ne samo došao spreman na borbu, već i spreman da je zapodene**.	PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT
42.	Cilj novog kandidata **nije da uništi predsednika**, već da pridobije poverenje.	ELECTION CAMPAIGN IS WAR / ELECTION CAMPAIGN IS FORCE	POLITICS IS CONFLICT / POLITICS IS FORCE
43.	Protivkandidat **planira da napadne Belu kuću nizom argumenata**.	ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
44.	**Tokom borbe u sredu uveče** nijedan od kandidata nije ustuknuo.	PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT
45.	**Kandidati su se tokom debate sukobljavali** oko veličine vlade.	PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT
46.	Nova članica stranke je uskoro postala **odani vojnik predsednikove kampanje**.	PARTY MEMBERS ARE SOLDIERS	POLITICS IS CONFLICT / POLITICS IS WAR
47.	Obe stranke će se uskoro **suočiti sa novom bitkom tokom kampanje**.	ELECTION CAMPAIGN IS A BATTLE	POLITICS IS CONFLICT / POLITICS IS WAR
48.	**Rafalna paljba reklama** protivničke partije ugrozila je protivnike.	MARKETING CAMPAIGN IS WAR / COMMERCIALS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
49.	Predsednički kandidati **su se sukobili oko pitanja poreske politike**.	PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT
50.	2004. godine je njena blistava karijera **gotovo izbačena iz šina**.	POLITICS IS FORCE	POLITICS IS CONFLICT
51.	Mnogi ekonomisti su izjavili **da su trenutne bitke obične čarke**.	ECONOMIC CHANGE IS A BATTLE	ECONOMY IS CONFLICT / ECONOMY IS WAR

52.	**Predsednik nije uzvraćao vatru** i nije iskoristio ključne protivargumente.	ARGUMENTS ARE WEAPONS / PRESIDENTIAL DEBATE IS A BATTLE	POLITICS IS CONFLICT / POLITICS IS WAR
53.	Kandidati su i nakon debate **nastavili da se gađaju uvredama**.	INSULTS ARE WEAPONS / PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
54.	U debati nisu pomenuti **napadi koji su već izvršeni u medijskom ratu**.	MEDIA CAMPAIGN IS WAR / PRESIDENTIAL DEBATE IS A FIGHT	POLITICS IS CONFLICT / POLITICS IS WAR
55.	Nova izjava za medije **je predsednika učinila dugoročno ranjivim**.	BAD ARGUMENTS ARE WEAKNESS / ELECTION CAMPAIGN IS WAR	POLITICS IS CONFLICT / POLITICS IS WAR
56.	**Najnovije predizborne borbe** vodiće se na predsednikovom terenu.	ELECTION CAMPAIGN IS A BATTLE	POLITICS IS CONFLICT / POLITICS IS WAR
57.	Tokom debate, **oba kandidata su pokušavala da rane jedan drugog**.	PRESIDENTIAL DEBATE IS A FIGHT (BATTLE)	POLITICS IS CONFLICT
58.	**Izazivač je sasekao predsednikovu prednost** u mnogim državama.	ELECTION CAMPAIGN IS A WEAPON	POLITICS IS CONFLICT / POLITICS IS FORCE
59.	Senator je neplanirano **zalutao u minsko polje rasističke politike**.	DIFFICULT TOPICS ARE A MINEFIELD	POLITICS IS CONFLICT / POLITICS IS WAR
60.	Izazivač je prema anketama u zaostatku **na većem delu bojišta**.	ELECTION CAMPAIGN IS A BATTLE	POLITICS IS CONFLICT / POLITICS IS WAR

Table 4.3 offers an overview of the original items extracted from the corpus, and the corresponding Serbian translations already outlined in Table 4.2. Items selected from the corpus mainly contain a somewhat wider context from which the target metaphorically used words along with the *filtered* optimal context were selected. As outlined in section 3.5, the main aim in the translation procedures was to preserve the range of metaphorical conceptualizations from the SL (English) in translations into the TL (Serbian). In some cases, the metaphorically used words from the SL were preserved, in other cases, they were substituted by the more common metaphorically used words from the TL. As Table 4.2 also offers a set of possible conceptualizations coupled with the corresponding metaphorical expressions translated into Serbian, while items from the corpus are typically presented in wider contexts, the overview of original items and the counterpart stimuli in Serbian is given in a separate table. Additionally, personal names and specific party references have been omitted in the translated stimuli, and the main roles are typically presented as the president (i.e., predsednik) and the challenger (i.e., protivkandidat, izazivač).

Table 4.3. Translations of metaphorical expressions from the conceptual key

POLITICS IS CONFLICT

No.	ITEMS FROM THE CORPUS (IN WIDER CONTEXT)	SERBIAN TRANSLATIONS (IN 'FILTERED' OPTIMAL CONTEXT)
1.	Mr. Romney will be forced to defend his plans during the next debate[53]. Rattner (2012, October 14)	Novi kandidat će morati **da brani svoje stavove** tokom predstojeće debate.
2.	Mr. Obama has outgunned Mr. Romney in advertising in critical states. Landler and Baker (2012, October 4)	Predsednik je **nadjačao svog protivkandidata u marketinškoj kampanji**.
3.	He's got to win a battle for a fiscal framework that gives him the ability to make the kind of investments that he's out on the campaign trail talking about. Calmes (2012, October 15)	Predsednik mora **da dobije bitku za fiskalni plan** tokom predstojeće debate.
4.	It will be telling how long they wait before starting to unload them [well-practiced one-liners] and how they address one another from the outset of the debate. Zeleny (2012, October 2)	Kandidati tokom debate neće mnogo čekati pre nego što **krenu u napad**.
5.	Both candidates will come to the debate armed with well-practiced one-liners. Zeleny (2012, October 2)	Kandidati će na debatu doći **naoružani dobro uvežbanim replikama**.
6.	Now, both campaigns have armies of supporters posting on Twitter as soon as the debate begins. Shear (2012, October 14)	Stranke imaju **armije pristalica** koje postavljaju komentare na tviteru.
7.	Mr. Obama came out swinging, accusing Mr. Romney of lying to the American people about his plans for the nation. Landler and Baker (2012, October 4)	Predsednik **je napao novog kandidata tvrdnjama** da su njegovi planovi laž.
8.	The Obama campaign and its supporters […] have hammered Mr. Romney in recent ads.[54] Chozick (2012, October 12)	Stranka **je žestoko napala protivničkog kandidata** tokom medijske kampanje.
9.	Candidates are preparing for the final round of the campaign.[55] Carr (2012, October 14)	Kandidati se uveliko pripremaju **za završnu rundu predizborne kampanje**.
10.	After the bitter attack ads on the airwaves, Mr. Obama has developed a lead.[56] Zeleny (2012, October 2); Rutenberg and Peters (2012, October 3)	Nakon **žestokog medijskog napada** na svog protivnika predsednik je u prednosti.
11.	Neither candidate delivered that knockout blow. Zeleny and Rutenberg (2012, October 3)	Tokom debate, nijedan kandidat nije uspeo **da zada smrtonosni udarac**.

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[53] Composed from multiple sections of the corpus.
[54] Composed from multiple sections of the corpus.
[55] Composed from multiple sections of the corpus.
[56] Composed from multiple sections of the corpus.

12.	What came out was a long and rambling critique that for some was hard to follow and seemed defensive. Shear (2012, October 21)	Novi kandidat **je zauzeo odbrambeni stav** tokom poslednje debate.
13.	Each question was followed by a new verbal jab.[57] Collins (2012, October 4)	Sa svakim novim pitanjem u debati **usledio je i novi verbalni napad**.
14.	During the last debate [the candidates exchanged jab after jab][58]. Landler and Oppel (2012, October 17)	Tokom poslednje debate, **kandidati su razmenjivali udarac za udarcem**.
15.	Mr. Obama made sure to use the first question [...] to jab Mr. Romney. Baker (2012, October 17)	Predsednik je svojom izjavom **zadao direktan udarac novom kandidatu**.
16.	Mr. Romney's team has simply been outmatched by Mr. Obama's in its approach to advertising [in the ad war][59]. Rutenberg and Peters (2012, October 3)	Predsednik **je ubedljivo nadmašio svog protivkandidata u marketinškom ratu**.
17.	The immediate reaction to Wednesday night's presidential debate was a torrent of criticism directed at President Obama. Shear (2012, October 4)	Nakon prve debate, usledila je **bujica kritika** usmerenih ka predsedniku.
18.	He forcefully engaged Mr. Obama throughout the night. Zeleny and Rutneberg (2012, October 3)	Tokom čitave diskusije novi kandidat **je žestoko napadao predsednika**.
19.	He took it on the chin and didn't fight back. Saulny (2012, October 17)	Predsednik **je primio udarac** tokom diskusije **i nije se branio**.
20.	If this were football, she might have had a yellow flag thrown on her [...] but it's a tough business and it was a brutal hit. Chozick (2012, October 12)	Novi kandidat **je pretrpeo brutalan udarac** tokom poslednje debate.
21.	Aides stress that Mr. Romney will continue to press the economic case against the president. Shear and Parker (2012, October 1)	Stranka će nastaviti **da vrši pritisak na predsednika** po pitanju ekonomije.
22.	... predictions that he [Mr. Obama] would be far outgunned by Mr. Romney and his allied "super PACS." Rutenberg and Peters (2012, October 3)	Protivkandidat **će nadjačati predsednika** uz pomoć svojih saveznika.
23.	But none of it explained Mr. Obama's failure at times to defend himself against Mr. Romney's attacks. Rutenberg and Baker (2012, October 4)	Predsednik nije uspevao **da se odbrani od verbalnih napada** drugog kandidata.
24.	Mr. Romney intends [to hit the White House with a series of arguments — on energy, health care, taxes, spending and] a more direct attack on Mr. Obama's foreign policy record. Shear and Parker (2012, October 1)	Izazivač planira da tokom debate **napadne spoljnu politiku predsednika**.

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[57] Composed from multiple sections of the corpus.
[58] Composed from multiple sections of the corpus.
[59] Composed from multiple sections of the corpus.

25.	They are armed with hashtags and snarky observations. Shear (2012, October 14)	Simpatizeri vladajuće stranke **su naoružani sarkastičnim komentarima**.
26.	Mr. Romney argues there is no need to hold back because a trade war is already under way. LaFraniere (2012, October 15)	Predsednik tvrdi da nema potrebe za uzdržavanjem jer je **trgovinski rat već u toku**.
27.	[…] and the winners begin to grapple with the most immediate threat to the markets: the so-called fiscal cliff. Popper (2012, October 16)	Kandidati će morati **da se izbore sa najvećom pretnjom** – fiskalnom liticom.
28.	Commercial counts are a better guide to the advertising war than sheer dollars. Rutenberg and Peters (2012, October 3)	Broj reklama je bolji **pokazatelj stanja u marketinškom ratu** nego potrošen novac.
29.	Mr. Obama's ad onslaught appears to have helped the president gain an advantage [and has led to worry among Republican strategists][60]. Rutenberg and Peters (2012, October 3)	**Žestoki medijski napadi** na predsednika pokazuju zabrinutost suparnika.
30.	Mr. Obama and John McCain took a break from the bitterness of their election battle. Otterman (2012, October 17)	Kandidati su napravili kratak predah **od žestokih predizbornih bitki**.
31.	The president's fiery debate performance [alerted the media][61]. Landler and Oppel (2012, October 17)	Predsednikov žestok nastup tokom poslednje debate **je uzburkao medije**.
32.	The president's advisers concluded that he had lost his first debate by not pressing Mr. Romney enough. Landler and Baker (2012, October 4)	Predsednik je izgubio debatu **jer nije izvršio dovoljan pritisak na protivnika**.
33.	He [Mr. Obama] can't go from one draining budget battle to the next. Calmes (2012, October 15)	Predsednik **ne može i dalje ići iz jedne bitke koja šteti budžetu u drugu**.
34.	The dynamic in the political air wars has led to worry among Republican strategists outside the campaign. Rutenberg and Peters (2012, October 3)	Dinamika **u političkom medijskom ratu** zabrinula je stratege u obe stranke.
35.	The debate will be divided into six segments of 15 minutes, with ample opportunity for robust exchanges [from both sides]. Zeleny (2012, October 2)	Debata će pružiti veliki broj prilika **za žestoke napade sa obe strane**.
36.	The president now finds himself entering the final month of the campaign trying to get off the defensive and regain his footing. Landler and Baker (2012, October 4)	Predsednik će tokom naredne debate **pokušati da pređe u ofanzivu**.
37.	Mr. Romney said raising taxes on high earners would hurt small-business owners, who create jobs. Gabriel (2012, October 17)	Mediji tvrde da će povećanje poreza **nauditi manjim preduzećima**.

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[60] Composed from multiple sections of the corpus.
[61] Composed from multiple sections of the corpus.

38.	Under fire from fellow Democrats, Mr. Obama came out swinging. Landler and Baker (2012, October 4)	**Nakon rafalne paljbe kritika**, predsednik je nastupio jako odlučno.
39.	Under bright lights in a Tarrant County College lecture hall last week, State Senator Wendy Davis, the Democratic incumbent, and her Republican challenger, State Representative Mark Shelton, traded sharp jabs and bitter accusations. Ramshaw (2012, October 18)	Predsednik i novi kandidat **su razmenjivali oštre udarce i optužbe**.
40.	Mr. Romney has put forward a budget framework that would not eviscerate Medicare and Social Security, as is commonly believed, but would slash everything else that's not defense. Rattner (2012, October 14)	Kroz nove planove, **predsednik će saseći** sve što se ne tiče ministarstva odbrane.
41.	He waited all of 45 seconds to make clear he came not just ready for a fight but ready to pick one. Baker (2012, October 17)	Kandidat je **ne samo došao spreman na borbu, već i spreman da je zapodene**.
42.	Mr. Romney's goal is not focused on tearing down the president, aides said, but rather to use the audience of tens of millions of Americans to show that he can be trusted to improve their lives. Zeleny (2012, October 2)	Cilj novog kandidata **nije da uništi predsednika**, već da pridobije poverenje.
43.	Mr. Romney intends to hit the White House with a series of arguments. Shear and Parker (2012, October 1)	Protivkandidat **planira da napadne Belu kuću nizom argumenata**.
44.	As they battled it out Wednesday night, neither shied away from the fight of a generation. Baker (2012, October 4)	**Tokom borbe u sredu uveče** nijedan od kandidata nije ustuknuo.
45.	The first presidential debate is likely to focus on economic issues as President Obama and Mitt Romney clash over the size and role of government. Calmes and Harwood (2012, October 2)	**Kandidati su se tokom debate sukobljavali** oko veličine vlade.
46.	Ms. Cutter has become the chief messenger for the Obama campaign, a loyal soldier who says the things the candidate can't. Chozick (2012, october 12)	Nova članica stranke je uskoro postala **odani vojnik predsednikove kampanje**.
47.	Republicans face a [new] battle [in the campaign] cutting into Mr. Obama's lead with Latinos. Nagourney and Santos (2012, October 18)	Obe stranke će se uskoro **suočiti sa novom bitkom tokom kampanje**.
48.	Republican advertising will be enough to undo the damage to Mr. Romney's standing from the early barrage of commercials from Mr. Obama and his supporting super PAC. Rutenberg and Peters (2012, October 3)	**Rafalna paljba reklama** protivničke partije ugrozila je protivnike.
49.	President Obama and Mitt Romney did not just spar over tax policy and deficit reduction. Stanley (2012, October 4)	Predsednički kandidati **su se sukobili oko pitanja poreske politike**.

50.	Her bright career was almost derailed in 2004. Chozick (2012, October 12)	2004. godine je njena blistava karijera **gotovo izbačena iz šina**.
51.	But many economists say the current battles are mere skirmishes, not a real trade war. LaFraniere (2012, October 15)	Mnogi ekonomisti su izjavili **da su trenutne bitke obične čarke**.
52.	But he [Mr. Obama] didn't return fire, and never mentioned "47 percent," let alone Mr. Romney's houses and planes. Stanley (2012, October 4)	**Predsednik nije uzvraćao vatru** i nije iskoristio ključne protivargumente.
53.	President Obama and Mitt Romney retreated to different corners of the electoral ring on Wednesday […] but both kept flinging taunts at each other. Landler and Oppel (2012, October 17)	Kandidati su i nakon debate **nastavili da se gađaju uvredama**. [Kandidati su nastavili sa provokacijama i nakon debate]
54.	The president did not bring up some of the attacks that the campaign has made in television ads. Shear (2012, October 4)	U debati nisu pomenuti **napadi koji su već izvršeni u medijskom ratu**.
55.	That [the latest statement] makes him [Mr. Obama] effective in the short term but vulnerable in the long term. Landler and Baker (2012, October 4)	Nova izjava za medije **je predsednika učinila dugoročno ranjivim**.
56.	The election is now being fought on the president's preferred ground. Shear and Parker (2012, October 1)	**Najnovije predizborne borbe** vodiće se na predsednikovom terenu.
57.	They didn't seem to feel people's pain; they mostly tried to wound each other [during the debate]. Stanley (2012, October 17)	Tokom debate, **oba kandidata su pokušavala da rane jedan drugog**.
58.	He [Romney] […] has cut the advantage Mr. Obama had in swing states to a razor-thin. Silver (2012, October 13)	**Izazivač je sasekao predsednikovu prednost** u mnogim državama.
59.	Senator Barack Obama waded into the minefield of racial politics. Peters and Rutenberg (2012, October 3)	Senator je neplanirano **zalutao u minsko polje rasističke politike**.
60.	Ahead of the debate, Mr. Romney was trailing […] by larger margins in some battleground states. Shear (2012, October 4)	Izazivač je prema anketama u zaostatku **na većem delu bojišta**.

4.1.2.2 MOTION PRIMES

MOTION primes were also selected based on the initial norming study of 89 metaphorical expressions from the conceptual key of MOTION, selected from the corpus and translated into Serbian (Appendix C). All target items were presented in optimal context, in questionnaire forms, and ratings were performed on 7-point Likert scales. Like in the case of CONFLICT primes, the first set of questionnaires included the ratings of *metaphoricity, familiarity,* and *contextual aptness*. The second set of questionnaires included ratings of *aptness, comprehensibility,* and *number of possible interpretations*. The first part of the norming study was conducted with 29 participants, all students from the English Department, Faculty of Philosophy, Niš, and native speakers of Serbian. There were 19 female and 10 male participants (average age 22.72, SD=1). All participants were 4th-year students. The second part of the norming study included 25 participants, 19 female, and 5 male (average age 20.68, SD=1.46), ten of whom were 1st-year students, and fifteen 3rd-year students. All participants were also students from the English Department, Faculty of Philosophy, Niš, and native speakers of Serbian. Based on the values of the total coefficient calculated as the sum of mean values of *metaphoricity, aptness, contextual aptness, comprehensibility*, and *familiarity*, 60 items with highest ratings were included as primes in Experiments 3 and 4 (Table 4.4).
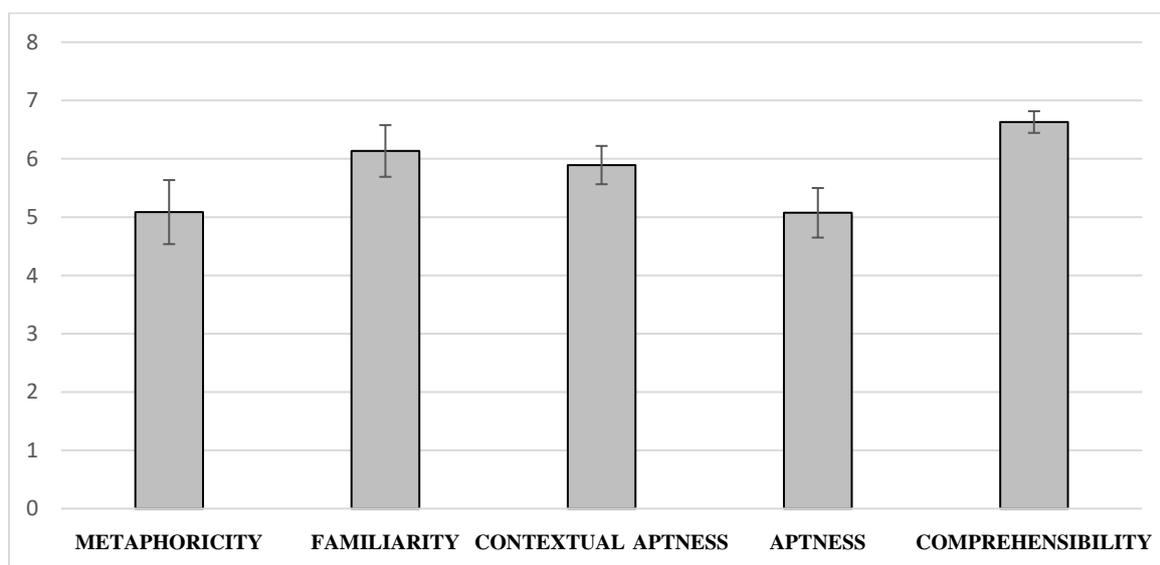
Figure 4.8. Overall mean tendencies for *metaphoricity, familiarity, contextual aptness, aptness,* and *comprehensibility* for the selected subset of items (motion primes)

We analyzed the overall mean tendencies (Figure 4.8) of the selected 60 items in the present database (Table 4.4). The correlation analysis again included the Holm-Bonferroni sequential correction (Gaetano 2013). The analysis showed negative correlations between metaphoricity and

contextual aptness, aptness, and comprehensibility, none of which, however, reached significance (Table 4.4). This suggests that higher ratings of contextual aptness, aptness, and comprehensibility correlate with lower ratings of metaphoricity. The correlation between metaphoricity and contextual aptness was positive, but very small, and it also did not reach significance. Familiarity showed positive correlations with aptness, contextual aptness, and comprehensibility, and the correlation with contextual aptness was significant. Consequently, items rated as more familiar are also more apt, they are more easily understood, and they fit better in the given optimal contexts. Contextual aptness showed consistent, significant positive correlations compared to aptness and comprehensibility, which suggests that higher ratings of contextual aptness correspond to higher ratings of the remaining two dimensions. Aptness and comprehensibility also showed a positive correlation which did not reach significance.

Table 4.4. Correlations between the relevant dimensions (MOTION primes)

		METAPHORICITY	FAMILIARITY	CONTEXTUAL APTNESS	APTNESS	COMPREHENSIBILITY
METAPHORICITY	Pearson Correlation	1	-.086	.012	-.209	-.182
	Sig. (2-tailed)		>.05	>.05	.448	.567
	N	60	60	59	59	54
FAMILIARITY	Pearson Correlation	-.086	1	.680**	.254	.301
	Sig. (2-tailed)	.513		.000	.104	.081
	N	60	60	59	59	54
CONTEXTUAL APTNESS	Pearson Correlation	.012	.680**	1	.331*	.371**
	Sig. (2-tailed)	.931	.000		.022	.018
	N	59	59	59	58	53
APTNESS	Pearson Correlation	-.209	.254	.331*	1	.216
	Sig. (2-tailed)	.224	.156	.044		.224
	N	59	59	58	59	53
COMPREHENSIBILITY	Pearson Correlation	-.182	.301	.371**	.216	1
	Sig. (2-tailed)	.242	.081	.024	.242	
	N	54	54	53	53	54

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

4.1.2.2.1 Qualitative description of MOTION primes

The list of metaphorical primes for this group of metaphors is given in Table 4.5. Once again, we recognize that the proposed conceptual metaphors corresponding to the target metaphorical expressions can be phrased differently, possibly with a greater degree of specificity (as argued in

section 3). However, the organizing frames of inputs of the conceptual key remain superordinate in relation to (potentially) even more specific formulations of conceptual metaphors.

Our analysis revealed the following set of possible conceptual metaphors:

- BAD ARGUMENTATION (DECISION) IS A DEAD-END STREET
- ECONOMIC CHANGE IS MOTION,
- ECONOMY IS A JOURNEY
- ECONOMY IS MOTION ALONG A PATH
- ECONOMY IS MOTION ALONG A PATH
- ELECTION CAMPAIGN IS A JOURNEY
- ELECTION CAMPAIGN IS A SPORT RACE
- ELECTION IS A CROSSROAD
- ELECTION IS A SPORT RACE
- FACTORIES ARE MOVING OBJECTS
- GOOD DECISIONS ARE UPWARD MOTION
- LACK OF AGREEMENT IS ABSENCE OF MOTION
- POLITICAL (ECONOMIC) PROGRESS IS MOTION ALONG A PATH
- POLITICAL (ECONOMIC) PROGRESS IS MOTION FORWARD
- POLITICAL CHANGES ARE MOTION
- POLITICAL DECISIONS ARE CHANGES IN POSITION IN SPACE
- POLITICAL DISTANCE IS PHYSICAL DISTANCE
- POLITICAL FUNCTIONS ARE POSITIONS IN A SPORTS TEAM
- POLITICAL MOVES ARE STEPS
- POLITICAL MOVES ARE STEPS ALONG A PATH
- POLITICAL OBSTACLES ARE IMPEDIMENTS TO MOTION
- POLITICAL OPPONENTS ARE OBSTACLES
- POLITICAL PARTY IS A SHIP
- POLITICAL POSITION IS POSITION IN SPACE
- POLITICAL POSITION IS AN OBSTACLE
- POLITICAL PROCESS IS A JOURNEY
- POLITICAL PROCESS IS A JOURNEY (FORWARD)
- POLITICAL SPACE IS PHYSICAL SPACE
- POLITICAL STRATEGY IS MOTION ALONG A PATH
- POLITICAL SUCCESS IS UPWARD MOTION
- PRESIDENTIAL DEBATE IS MOTION ALONG A PATH
- STATE IS A MOVING OBJECT
- STATE IS A SHIP
- STOCK MARKET CHANGE IS MOTION
- UNFAVORABLE POLITICAL CHANGE IS BACKWARD MOTION

In addition to the general conceptual key POLITICS IS MOTION, we were also able to identify some finer nuances that include the following conceptualizations: POLITICS IS A SPORT RACE, ECONOMY IS MOTION, POLITICS IS MOTION (UPWARD), and POLITICS IS MOTION (FORWARD). The conceptual key ECONOMY IS MOTION is an obvious exception; however, since politics and economy are closely connected, especially in the context of a presidential election campaign, we decided to

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also include metaphors with target inputs organized by the frame of ECONOMY. The conceptual key POLITICS IS A SPORT RACE is also very frequent, as it is quite common to refer to presidential campaigns and election in terms of a sport race. While these metaphors could be easily classified into the group of SPORT metaphors, since they highlight the competitive aspects of the political process, we focused primarily on their motion-component and their source-path-goal image schematic base.

	Table 4.5. MOTION primes		
	METAPHORICAL PRIMING SENTENCES	**CONCEPTUAL METAPHOR**	**CONCEPTUAL KEY**
1.	Delovalo je da predsednik **u potpunosti kontroliše predizbornu trku**.	ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
2.	Obe stranke su priznale da bi prva debata mogla **da utiče na ishod predsedničke trke**.	ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
3.	Smatramo da su i država i ekonomija **i dalje na pravom putu**.	POLITICAL (ECONOMIC) PROGRESS IS MOTION ALONG A PATH	POLITICS IS MOTION / ECONOMY IS MOTION
4.	Kandidati će pokušati **da učvrste svoje položaje u predizbornoj kampanji**.	POLITICAL POSITION IS POSITION IN SPACE / ELECTION CAMPAIGN IS A JOURNEY	POLITICS IS MOTION
5.	Prihvatanje nove pozicije možda deluje **kao veliki korak unazad**.	UNFAVORABLE POLITICAL CHANGE IS BACKWARD MOTION	POLITICS IS MOTION
6.	Nakon duge kampanje, **predizborna trka je u završnoj fazi**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
7.	Kandidat je u utorak **napravio još jedan pogrešan korak u debati**.	POLITICAL MOVES ARE STEPS / PRESIDENTIAL DEBATE IS A PATH	POLITICS IS MOTION
8.	Kako tvrde kandidati, **ovi izbori biće prekretnica** za ovu izuzetnu naciju.	ELECTION IS A CROSSROAD	POLITICS IS MOTION
9.	Nakon duge kampanje, usledila je i **završnica predizborne trke**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
10.	Predsednik je optužen **da nije uspeo da izvede zemlju iz ekonomske krize**.	POLITICAL STRATEGY IS MOTION ALONG A PATH / GOOD DECISIONS ARE MOTION OUT OF A CONTAINER	POLITICS IS MOTION
11.	Sledeća predsednička debata **je odmah iza ugla**.	ELECTION CAMPAIGN IS MOTION ALONG A PATH	POLITICS IS MOTION

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12.	Savetnici su upozorili kandidata **da je predizborna trka daleko od dobijene**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
13.	Protivkandidat će pokušati **da povrati kontrolu nad predizbornom trkom**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
14.	Predizborna kampanja je nakon više meseci **ušla u završnu fazu**.	ELECTION CAMPAIGN IS A SPORT RACE / ELECTION CAMPAIGN IS MOTION ALONG A PATH	POLITICS IS MOTION / POLITICS IS A SPORT RACE
15.	U Kongresu je **nakon maratonskih razgovora ipak došlo do zastoja**.	LACK OF AGREEMENT IS ABSENCE OF MOTION	POLITICS IS MOTION
16.	Ankete pokazuju da birači veruju **da se država kreće u pravom smeru**.	POLITICAL PROCESS IS A JOURNEY / STATE IS A MOVING OBJECT	POLITICS IS MOTION
17.	**Zastoj u Kongresu predstavlja prepreku koja predsedniku stoji na putu**.	POLITICAL OPPONENTS ARE OBSTACLES / LACK OF AGREEMENT IS ABSENCE OF MOTION	POLITICS IS MOTION
18.	**Ukoliko budemo nastavili ovim putem** situacija će se pogoršati.	POLITICAL PROCESS IS A JOURNEY	POLITICS IS MOTION
19.	Predsednik je svoj slab nastup u poslednjoj debati **ostavio iza sebe**.	POLITICAL PROCESS IS A JOURNEY FORWARD	POLITICS IS MOTION (FORWARD)
20.	Obe stranke su priznale **da je predsednička trka veoma neizvesna**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
21.	Predsednik **je vratio ekonomiju sa ivice provalije**.	POLITICAL PROCESS IS A JOURNEY	POLITICS IS MOTION
22.	I sve dosadašnje predizborne kampanje **kretale su se sličnom putanjom**.	ELECTION CAMPAIGN IS A JOURNEY	POLITICS IS MOTION
23.	**Kandidat je naišao na veliku prepreku** kada je predstavljao svoj ekonomski plan.	POLITICAL OBSTACLES ARE IMPEDIMENTS TO MOTION	POLITICS IS MOTION
24.	Kandidati **polako ulaze u poslednji mesec predizborne kampanje**.	ELECTION CAMPAIGN IS A JOURNEY / TIME IS SPACE / TIME IS A CONTAINER	POLITICS IS MOTION
25.	Oba kandidata **su zalazila u pitanja koja je trebalo da izbegnu**.	PRESIDENTIAL DEBATE IS MOTION ALONG A PATH	POLITICS IS MOTION
26.	Kandidat **je pokrenuo medijsku kampanju** kako bi ojačao svoje glavne ideje.	POLITICAL CAMPAIGN IS A JOURNEY / POLITICAL CAMPAIGN IS FORCE	POLITICS IS MOTION
27.	Prošle godine, **on je uskočio na mesto predsednikovog savetnika**.	POLITICAL FUNCTIONS ARE POSITIONS IN A SPORTS TEAM	POLITICS IS MOTION
28.	Tokom debate, predsednički kandidati **su često skretali s puta**.	PRESIDENTIAL DEBATE IS MOTION ALONG A PATH	POLITICS IS MOTION

29.	Predsednik je poručio **da je njegova vlada ostvarila stabilan napredak**.	POLITICAL (ECONOMIC) PROGRESS IS MOTION FORWARD	POLITICS IS MOTION / ECONOMY IS MOTION
30.	Predizborna kampanja **je iznenada promenila pravac** pred novu debatu.	ELECTION CAMPAIGN IS MOTION ALONG A PATH	POLITICS IS MOTION
31.	Nivo podrške za novog kandidata **popeo se** na 36 procenata.	POLITICAL SUCCESS IS UPWARD MOTION	POLITICS IS (UPWARD) MOTION
32.	**Smer u kome se kreću ekonomija i berza** utiče na uspeh kandidata.	ECONOMY IS A JOURNEY / ECONOMY IS MOTION ALONG A PATH	ECONOMY IS MOTION
33.	Predsednički kandidati **preduzimaju oprezne korake** kako bi privukli birače.	POLITICAL MOVES ARE STEPS ALONG A PATH	POLITICS IS MOTION
34.	Predsednik i nakon poslednje debate **ima veliku prednost u medijima**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
35.	Rezultat prve debate je i u prošlosti često **menjao tok izbora**.	ELECTION CAMPAIGN IS MOTION / PRESIDENTIAL DEBATE IS FORCE	POLITICS IS MOTION
36.	Izazivač je prema rezultatima anketa **u velikom zaostatku**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION
37.	Kampanja koju je stranka do skoro vodila **polako počinje da menja kurs**.	POLITICAL CAMPAIGN IS MOTION ALONG A PATH / POLITICAL PARTY IS A SHIP	POLITICS IS MOTION
38.	**Predizborna trka** se pretvara u izbor između ličnosti dva kandidata.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
39.	Kandidat nije objasnio **kako će zaobići političke prepreke na putu**.	POLITICAL OBSTACLES ARE IMPEDIMENTS TO MOTION / POLITICAL PROCESS IS MOTION ALONG A PATH	POLITICS IS MOTION
40.	**Zoštravanje predsedničke trke** izazvalo je nove polemike.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
41.	**Promena kursa kojim se država kreće** mogla bi da zaustavi ekonomski napredak.	STATE IS A SHIP / ECONOMIC PROGRESS IS MOTION FORWARD	POLITICS IS MOTION
42.	Ekonomska kriza **navela je predsednika** da potpiše novi zakon.	POLITICAL PROCESS IS MOTION ALONG A PATH / ECONOMIC CRISIS IS FORCE	POLITICS IS MOTION
43.	Predsednik je obećao **da će se proizvodnja uskoro vratiti u zemlju**.	ECONOMIC CHANGE IS MOTION / FACTORIES ARE MOVING OBJECTS	ECONOMY IS MOTION
44.	Novi kandidat **je napredovao 4 poena** prema anketama.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
45.	**Znamo da je put kojim idemo pogrešan** i da je vreme **za novi put**.	POLITICAL PROCESS IS A JOURNEY	POLITICS IS MOTION

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46.	Predsednik je optužen **da se udaljio od pouzdanih starih saveznika**.	POLITICAL DISTANCE IS PHYSICAL DISTANCE	POLITICS IS MOTION
47.	Predsednik je tokom čitave debate **često neočekivano uletao u ćorsokak**.	BAD ARGUMENTATION (DECISION) IS A DEAD-END STREET	POLITICS IS MOTION
48.	Cilj kandidata je **da se skloni s puta narodu i pokrene preduzetnički duh**.	POLITICAL POSITION IS AN OBSTACLE / POLITICAL DECISIONS ARE CHANGES IN POSITION IN SPACE	POLITICS IS MOTION
49.	Predsednički kandidat će tokom debate povući svoj potez **u predizbornoj trci**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
50.	Kandidat je ubedio birače da njegova politika predstavlja **bolji put** za zemlju od suparnikove.	POLITICAL PROCESS IS A JOURNEY	POLITICS IS MOTION
51.	Videće se da li će poslednja debata promeniti **dinamiku predizborne trke**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
52.	Događaji u poslednje dve nedelje **doveli su do novih razgovora**.	POLITICAL PROCESS IS MOTION ALONG A PATH / POLITICAL EVENTS ARE FORCE	POLITICS IS MOTION
53.	**Dok je njegov mandat tekao**, mediji su pratili njegove aktivnosti.	POLITICAL PROCESS IS FORWARD MOTION ALONG A PATH	POLITICS IS MOTION
54.	Ima više načina na koje se mogu objasniti **najnovija kretanja na berzi**.	STOCK MARKET CHANGE IS MOTION	ECONOMY IS MOTION
55.	Moral u stranci je porastao i odagnao ideju da im **predizborna trka** izmiče.	POLITICAL PROCESS IS MOTION ALONG A PATH / ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
56.	Izazivač se našao **u poziciji sa koje se retko koji kandidat vratio**.	POLITICAL POSITION IS POSITION ON A PATH / ELECTION CAMPAIGN IS MOTION ALONG A PATH	POLITICS IS MOTION
57.	Kineska ekonomija je, nakon dužeg vremena, **prošle godine usporila**.	ECONOMY IS MOTION ALONG A PATH	ECONOMY IS MOTION
58.	Tradicionalna večera **je usputna stanica pred izbore** svake četiri godine.	ELECTION CAMPAIGN IS MOTION ALONG A PATH	POLITICS IS MOTION
59.	Prema anketama, **predsednik je u malom zaostatku u većini država**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
60.	Debata **je vratila** predizbornu kampanju **na tačku** koja je bila očekivana.	ELECTION CAMPAIGN IS MITION ALONG A PATH / PRESDIENTIAL DEBATE IS FORCE	POLITICS IS MOTION

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Table 4.6 gives an overview of the metaphorically used words from the SL presented in wider contexts, and their counterparts in the TL. Like in the previous group of stimuli (metaphorical expressions from the conceptual key of CONFLICT), we also tried to preserve as many metaphorical conceptualizations from the SL as possible. In other cases, we relied on the notion of dynamic equivalence (see section 3.5.2 for details). Again, personal names and specific party references have been omitted in the translations and presented as general roles (e.g., predsednik, protivkandidat, izazivač).

Table 4.6. Translations of metaphorical expressions from the conceptual key
POLITICS IS MOTION

	ITEMS FROM THE CORPUS (IN WIDER CONTEXT)	SERBIAN TRANSLATIONS (IN 'FILTERED' OPTIMAL CONTEXT)
1.	Mr. Obama […] appeared to [have completely taken] command of the race. Zeleny and Rutenberg (2012, October 3)	Delovalo je da predsednik **u potpunosti kontroliše predizbornu trku**.
2.	Both parties agreed that the first debate could affect the outcome of the race.[62] Shear (2012, October 4)	Obe stranke su priznale da bi prva debata mogla **da utiče na ishod predsedničke trke**.
3.	The way I feel, the country and the economy are on the right track. Saulny (2012, October 17)	Smatramo da su i država i ekonomija **i dalje na pravom putu**.
4.	The candidates will attempt to reinforce their positions in the race.[63] Popper (2012, October 16)	Kandidati će pokušati **da učvrste svoje položaje u predizbornoj kampanji**.
5.	Accepting the role as Mrs. Obama's chief of staff could have been seen as a step backward. Chozick (2012, October 12)	Prihvatanje nove pozicije možda deluje **kao veliki korak unazad**.
6.	[After a long campaign] the race is now in the home stretch[64]. Shear and Parker (2012, October 1)	Nakon duge kampanje, **predizborna trka je u završnoj fazi**.
7.	On Tuesday night, he [Mr. Romney] made another such misstep. Stanley (2012, October 17)	Kandidat je u utorak **napravio još jedan pogrešan korak u debati**.
8.	According to the candidates [...], this is the most important election in a generation, a crossroads for an exceptional nation. Bruni (2012, October 1)	Kako tvrde kandidati, **ovi izbori biće prekretnica** za ovu izuzetnu naciju.
9.	The lengthy campaign culminated in the closing stages of the race.[65]	Nakon duge kampanje, usledila je i **završnica predizborne trke**.

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[62] Composed from multiple sections of the corpus.
[63] Composed from multiple sections of the corpus.
[64] Composed from multiple sections of the corpus.
[65] Composed from multiple sections of the corpus.

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	Peters and Rutenberg (2012, October 16)	
10.	Mitt Romney on Wednesday accused President Obama of failing to lead the country out of the deepest economic downturn since the Great Depression. Zeleny and Rutenberg (2012, October 3)	Predsednik je optužen **da nije uspeo da izvede zemlju iz ekonomske krize**.
11.	Another [debate] is just around the corner. Shear (2012, October 14)	Sledeća predsednička debata **je odmah iza ugla**.
12.	Mr. Romney's senior aides warned staff members and donors that the race was hardly won. Rutenberg and Baker (2012, October 4)	Savetnici su upozorili kandidata **da je predizborna trka daleko od dobijene**.
13.	[Mr. Romney will attempt to] regain command of the race. Zeleny (2012, October 2)	Protivkandidat će pokušati **da povrati kontrolu nad predizbornom trkom**.
14.	[After many months] the campaign was moving into its final stages. Calmes (2012, October 15)	Predizborna kampanja je nakon više meseci **ušla u završnu fazu**.
15.	The lengthy negotiations were halted by the Congressional gridlock.[66] Chozick (2012, October 12)	U Kongresu je **nakon maratonskih razgovora ipak došlo do zastoja**.
16.	Other polls indicate that voters increasingly believe the country is headed in the right direction. Shear and Parker (2012, October 1)	Ankete pokazuju da birači veruju **da se država kreće u pravom smeru**.
17.	... an effort to pass economic policy by executive order that paints Congressional gridlock as standing in Mr. Obama's way. Chozick (2012, October 12)	**Zastoj u Kongresu predstavlja prepreku koja predsedniku stoji na putu**.
18.	If we continue down his path, there's no question that the middle class [...] will continue to be buried with higher and higher expenses. Shear (2012, October 4)	**Ukoliko budemo nastavili ovim putem** situacija će se pogoršati.
19.	For Mr. Obama, however, it was a day to start putting his listless performance in the first debate behind him. Landler and Oppel (2012, October 17)	Predsednik je svoj slab nastup u poslednjoj debati **ostavio iza sebe**.
20.	Both campaigns acknowledged that the race is close enough that the first debate could reorder a contest ... Zeleny and Rutenberg (2012, October 3)	Obe stranke su priznale **da je predsednička trka veoma neizvesna**.
21.	Mr. Obama has brought the economy back from the brink. Rutenberg and Peters (2012, October 3)	Predsednik **je vratio ekonomiju sa ivice provalije**.
22.	All of the previous campaigns also followed a similar trajectory. Silver (2012, October 13)	I sve dosadašnje predizborne kampanje **kretale su se sličnom putanjom**.

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[66] Composed from multiple sections of the corpus.

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23.	Mr. Romney came in with the greater hurdle of explaining his vision for the future [and his economic policy][67]. Baker (2012, October 4)	**Kandidat je naišao na veliku prepreku** kada je predstavljao svoj ekonomski plan.
24.	And as the race enters its final month ... Duhigg (2012, October 13)	Kandidati **polako ulaze u poslednji mesec predizborne kampanje**.
25.	There were moments when both men inadvertently slipped into the quirks they were supposed to suppress. Stanley (2012, October 4)	Oba kandidata **su zalazila u pitanja koja je trebalo da izbegnu**.
26.	Mr. Romney went up quickly with ads promoting his five-point economic plan, to reinforce the idea that he has provided specifics to voters. Shear (2012, October 14)	Kandidat **je pokrenuo medijsku kampanju** kako bi ojačao svoje glavne ideje.
27.	The next year she stepped into an advisory role in the West Wing. Chozick (2012, October 12)	Prošle godine, **on je uskočio na mesto predsednikovog savetnika**.
28.	... but their discussion often [went] deep into the weeds ... Zeleny and Rutenberg (2012, October 3)	Tokom debate, predsednički kandidati **su često skretali s puta**.
29.	Obama's message that his administration has made steady progress is resonating with people under 30. Saulny (2012, October 17)	Predsednik je poručio **da je njegova vlada ostvarila stabilan napredak**.
30.	A boisterous campaign [...] took a sober turnas the candidates stood at facing lecterns. Zeleny and Rutenberg (2012, October 3)	Predizborna kampanja **je iznenada promenila pravac** pred novu debatu.
31.	Mr. Romney's level of support went to 36 percent. Saulny (2012, October 17)	Nivo podrške za novog kandidata **popeo se** na 36 procenata.
32.	The direction of the economy and the market influences the success of the candidates. Popper (2012, October 16)	**Smer u kome se kreću ekonomija i berza** utiče na uspeh kandidata.
33.	The candidates […] are taking careful steps to make themselves attractive to on-the-fence voters. Ramshaw (2012, October 18)	Predsednički kandidati **preduzimaju oprezne korake** kako bi privukli birače.
34.	The attack ads after the last debate put Mr. Obama in the lead by a large margin.[68] Landler and Oppel (2012, October 17)	Predsednik i nakon poslednje debate **ima veliku prednost u medijima**.
35.	The results of the first debate [those kinds of "gotcha" moments] have sometimes changed the course of an election.[69] Shear (2012, October 4)	Rezultat prve debate je i u prošlosti često **menjao tok izbora**.

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[67] Composed from multiple sections of the corpus.
[68] Composed from multiple sections of the corpus.
[69] Composed from multiple sections of the corpus.

36.	[According to the polls] Mr. Romney was trailing […] by larger margins in some battleground states. Shear (2012, October 4)	Izazivač je prema rezultatima anketa **u velikom zaostatku**.
37.	Mr. Romney's campaign appears to be shifting course. Shear and Parker (2012, October 1)	Kampanja koju je stranka do skoro vodila **polako počinje da menja kurs**.
38.	Democrats have been trying all along to turn the 2012 race into a "choice" election between the policies and personalities of both candidates. Shear and Parker (2012, October 1)	**Predizborna trka** se pretvara u izbor između ličnosti dva kandidata.
39.	... but he has not described what it would look like or how he would get around the roadblocks in Congress. Cooper et al. (2012, October 17)	Kandidat nije objasnio **kako će zaobići političke prepreke na putu**.
40.	But the tightening of the race in the last two weeks has led to more talk. Popper (2012, October 16)	**Zoštravanje predsedničke trke** izazvalo je nove polemike.
41.	… changing course would wipe away the economic progress the country is steadily making. Zeleny and Rutenberg (2012, October 3)	**Promena kursa kojim se država kreće** mogla bi da zaustavi ekonomski napredak.
42.	… when the economic crisis led him [Mr. Obama] to draft a big stimulus package. Calmes (2012, October 15)	Ekonomska kriza **navela je predsednika** da potpiše novi zakon.
43.	… Mr. Ryan promising a return of manufacturing in the industrial northeast. Gabriel and Kaplan (2012, October 13)	Predsednik je obećao **da će se proizvodnja uskoro vratiti u zemlju**.
44.	… in the sort of shift that political operatives dream about, [Mr. Romney] moved four […] points in the polls. Carr (2012, October 14)	Novi kandidat **je napredovao 4 poena** prema anketama.
45.	We know the path that we're taking isn't working, and it's time for a new path. Zeleny and Rutenberg (2012, October 3)	**Znamo da je put kojim idemo pogrešan** i da je vreme **za novi put**.
46.	Mr. Romney said the president had allowed the nation's influence to atrophy by "stepping away from its allies. Shear and Parker (2012, October 1)	Predsednik je optužen **da se udaljio od pouzdanih starih saveznika**.
47.	Obama often found himself at the end of a verbal cul-de-sac. Shear (2012, October 4)	Predsednik je tokom čitave debate **često neočekivano uletao u ćorsokak**.
48.	... a challenger who [...] argued that [his] greatest goal was to get out of the way of a free people and unleash the American entrepreneurial spirit. Baker (2012, October 4)	Cilj kandidata je **da se skloni s puta narodu i pokrene preduzetnički duh**.
49.	For 90 minutes, the rivals will be essentially equal, creating what Mr. Romney's advisers believe is a critical opportunity to make a move in the race. Zeleny (2012, October 2)	Predsednički kandidat će tokom debate povući svoj potez **u predizbornoj trci**.

50.	Mr. Romney convinc[ed] the shrinking pool of undecided voters that [his policies] represent a better path for the country.[70] Baker (2012, October 4)	Kandidat je ubedio birače da njegova politika predstavlja **bolji put** za zemlju od suparnikove.
51.	Whether it [the debate] changes the fundamental dynamics of the campaign remains to be seen. Landler and Baker (2012, October 4)	Videće se da li će poslednja debata promeniti **dinamiku predizborne trke**.
52.	But the tightening of the race in the last two weeks has led to more talk. Popper (2012, October 16)	Događaji u poslednje dve nedelje **doveli su do novih razgovora**.
53.	As his term progressed, the press corps took note of the governor's travels. Hakim (2012, October 13)	**Dok je njegov mandat tekao**, mediji su pratili njegove aktivnosti.
54.	But there are several other ways to explain the market's recent movements. Popper (2012, October 16)	Ima više načina na koje se mogu objasniti **najnovija kretanja na berzi**.
55.	But they said the debate reversed the sagging morale [...] and dispelled what had been a growing notion that the race was slipping away from Mr. Romney. Rutenberg and Baker (2012, October 4)	Moral u stranci je porastao i odagnao ideju da im **predizborna trka** izmiče.
56.	After trailing President Obama by 4 or 5 points in the polls on Oct. 1 — a position that very few candidates have come back from … Silver (2012, October 13)	Izazivač se našao **u poziciji sa koje se retko koji kandidat vratio**.
57.	As China's economy has slowed over the last year [the pressure on prices has begun to ease]. Bradsher (2012, October 17)	Kineska ekonomija je, nakon dužeg vremena, **prošle godine usporila**.
58.	The annual Al Smith Dinner, as it is known, has attracted attention every four years as a lighthearted pit stop for presidential candidates. Otterman (2012, October 17)	Tradicionalna večera **je usputna stanica pred izbore** svake četiri godine.
59.	The president is trailing slightly in national polls. Shear (2012, October 4)	Prema anketama, **predsednik je u malom zaostatku u većini država**.
60.	The debate had reset the race to where they expected it to be. Landler and Oppel (2012, October 17)	Debata **je vratila** predizbornu kampanju **na tačku** koja je bila očekivana.

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[70] Composed from multiple sections of the corpus.

4.2 Semantic frame activation in metaphorical expressions corresponding to the conceptual key POLITICS IS CONFLICT

The first two experiments were designed to test the activation of the organizing frames of source and target inputs in conceptual metaphors corresponding to the conceptual key POLITICS IS CONFLICT – i.e., the frames of CONFLICT and POLITICS. In the first experiment, we tested the activation of the semantic frame of CONFLICT in a categorization task, in three priming conditions: (i) congruent metaphorical priming, (ii) congruent literal priming, and (iii) incongruent priming. In the second experiment, we tested the activation of the semantic frame of POLITICS in a similar fashion. Metaphorical primes used in the two experiments were identical. This enabled us to compare the overall mean tendencies in RTs in the main task for targets from each of the two respective frames in order to see whether the same metaphorical content would produce a difference in the recorded RTs in the main task for targets from the two groups.

Such experimental setup was chosen based on the general idea accepted by all metaphor theorists that metaphors involve two input spaces – the source and target[71]. Consequently, we assumed that a metaphorical expression corresponding to a given conceptual metaphor would activate the organizing frames of those inputs. Building on the idea of the encyclopedic view of meaning and semantic frames, individual lexical items should serve as access points for these broader structures (e.g., Fillmore 1982; Langacker 1987). Once the participants processed and constructed the relevant mental models based on the priming sentences, they were required to perform a categorization task for the upcoming target words from the frames of CONFLICT (Experiment 1) and POLITICS (Experiment 2). We hypothesized that the decision-making process in the main task would be facilitated in the two congruent priming conditions compared to the incongruent condition.

The use of the categorization task is justified by the close conceptual link between framing and categorization discussed in Fillmore (1976, 1982). Moreover, Figar (2020) presented evidence in favor of the categorization task rather than the lexical decision task for testing semantic frame activation in pre-task priming[72]. Namely, the lexical decision task proved to have a reduced cognitive load, thereby overriding the prime. The categorization task, on the other hand, facilitated the identification of semantic frame activation. Although Figar (2020) used semantic pre-task priming, we expect that the online priming paradigm used in the present study will amplify the effect of the prime, and facilitate the identification of frame-level activation and interaction.

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[71] For the terminological clarification see section 2.5.1.4.
[72] For an overview of Figar (2020), see section 2.4.1.

All targets used in the first two experiments had undergone initial norming, described in section 4.1.1. Metaphorical primes for both groups of metaphors had also undergone an initial norming procedure (section 4.1.2), and based on metaphorical primes, we designed their corresponding literal primes. Namely, literal primes were designed based on their metaphorical counterparts, but they were designed to activate only the frames of CONFLICT and POLITICS, respectively. As mentioned above, identical metaphorical primes were used in both experiments.

4.2.1 METHODOLOGY, AIMS, AND RESEARCH QUESTIONS

Experiments 1 and 2 included the following two main aims:

a. to compare the effects of congruent metaphorical and congruent literal primes in the categorization task for elements from the frames of CONFLICT and POLITICS, respectively. Metaphorical primes were selected after the norming procedure described above, and literal primes were designed as their counterparts. Namely, metaphorically used words and phrases from the metaphorical primes were substituted by words or phrases used in the literal sense. Congruent literal primes in Experiment 1 were designed to activate only the organizing frame of the source input, i.e., CONFLICT, whereas the congruent literal primes in Experiment 2 were designed to activate the organizing frame of the target input, i.e., POLITICS; and

b. to determine whether there is a difference in the level of activation of organizing frames of source and target inputs in conceptual metaphors corresponding to the conceptual key POLITICS IS CONFLICT, when prototypical elements from the two respective frames (CONFLICT and POLITICS) are primed by the same metaphorical content. By metaphorical content we are referring to specific metaphorical expressions (metaphor keywords and phrases) corresponding to the afore mentioned conceptual key, presented in optimal contexts (i.e., sentence-level contexts, Prćić 1997). If there is any sort of dynamic interaction between the two frames, we should be able to identify a difference in their levels of activation, reflected in the differences in RTs recorded in the main task. Accordingly, assuming that the selected targets used in the experiments are of equal levels of prototypicality (which has been ascertained in the norming studies), and primed with identical metaphorical sentences, corresponding again to the conceptual key POLITICS IS CONFLICT which should activate both frames, the frame with the higher degree of activation should afford faster access and shorter RTs in the categorization task.

In effect, the first two experiments were designed to answer the following research questions:

i. Will there be a significant difference in the overall mean tendencies of RTs recorded in the categorization task between the metaphorical and literal conditions for targets from each of the two respective frames (i.e., CONFLICT and POLITICS)?

ii. How will the incongruent priming condition affect participants' decision-making in the main task? Will there be any notable differences compared to the two congruent priming conditions?

iii. Will there be a significant difference in RTs in the categorization task for targets from the frames of CONFLICT and POLITICS, respectively, when primed by the same metaphorical sentences?

iv. Do the obtained results offer support for any of the metaphor processing models in the domain of psycholinguistics described in section 2.5.2, which included *the analogy view, categorization view*, and *conceptual mapping view*?

v. How can the obtained results be explained in terms of (i) semantic priming, (ii) semantic frames and mental models, and (iii) structure building framework?

4.2.2 EXPERIMENTAL PROCEDURES

The first two experiments involved a categorization task with three priming conditions, conducted in a reaction time (RT) paradigm. The experimental setup involved a within-subjects design, and participants were randomly assigned to one of three lists of stimuli. All three lists contained the same set of 20 target words from the target frame – CONFLICT in Experiment 1, and POLITICS in Experiment 2 (introduced in the norming studies above). Sentences used for priming were different in semantic content in each of the lists (in each of the two experiments), in order to ensure that their lexical-semantic content alone would not bias the participants' responses (Tables 4.5 and 4.7). Each target word appeared three times in each of the lists, in randomized order after one of the three priming sentences: (i) congruent metaphorical, (ii) congruent literal, and (iii) incongruent. Metaphorical sentences were extracted from the corpus based on the frequency of metaphor keywords, and translated into Serbian, as described in the norming study above. Their literal counterparts were designed based on their corresponding metaphorical pairs, and each metaphorical/literal pair was normalized for the number of syllables. This was done in order to ascertain that the length of primes would not bias participants' responses, relying on the notion that the human brain recognizes the level of a syllable as psychologically real (e.g., Kostić 2010).

Participants in each experiment were randomly assigned to one of the three experimental lists. The dependent variable of interest that we recorded was reaction time (RT), measured in milliseconds

(ms). The experiment was conducted using *Open Sesame* (Mathôt, Schreij, and Theeuwes 2012) on a standard PC configuration. Before proceeding to the experiment participants read the instructions on the introductory screen. Then, a priming sentence appeared, centered on the screen, and participants' task was to first carefully read the sentence. Reading times for priming sentences were not limited. Once they had read the priming sentence, participants were instructed to press any key to continue, after which a fixation dot appeared, centered on the screen, in the duration of 400 ms. This was then followed by the target word presented in lowercase letters, centered on the screen, typed in black font (Times New Roman, 12 pt) on a light-grey background. Participants' task was to decide as quickly as possible whether the target that appeared was a good representative of the category in question or not (i.e., CONFLICT in Experiment 1, and POLITICS in Experiment 2). Answers were collected from the keyboard, and response keys (Yes/No) were counterbalanced between "A" and "L" keyboard keys. RTs (in milliseconds) were measured from the onset of the target stimulus until participants pressed one of the keys. After that they proceeded to the next stimulus, and the procedure was repeated until the experiment was completed.

Each experiment included a total of 76 prime-target pairs that appeared in random order across participants. In addition to the 60 conditions involving targets from the frames of CONFLICT and POLITICS, respectively (Experiments 1 and 2), there were also 16 distractor-conditions which involved 4 common everyday categories (ANIMALS, CLOTHES, BUILDINGS, and SPORT), with 4 distractors from each of the categories (Table 4.6). Distractor items did not undergo any norming procedures, and they were selected from the similar sources used for the selection of target items (Ćosić 2008; Vujanić et al. 2007; Stevanović et al. 1990; Wehmeier 2005; Siefring 2004; Rundell and Fox 2002; Gove 1984; Crowther, Dignen, and Lea 2005; Bullon et al. 2008; Cowie and Mackin 2005; WordNet; FrameNet). Prime-target pairs used in distractor conditions are given in Table 4.6. They included literal statements designed to activate specific frames, and all distractor conditions were incongruent – i.e., there was a mismatch between the frame(s) activated by the priming sentence, and the corresponding frames activated by the targets.

4.2.3 EXPERIMENT 1

Experiment 1 was designed to test the activation of the semantic frame of CONFLICT in three priming conditions: (i) congruent metaphorical, (ii) congruent literal, and (iii) incongruent. The data obtained from this experiment are discussed below. The experiment included 51 participants, with 17 participants per experimental list. All participants were students from the Faculty of Philosophy, University of Niš, native speakers of Serbian. 47 participants were from the English Department, and 4 participants from the Psychology Department, all of whom volunteered to take part in the study. There were 32 female and 19 male participants, with the average age of 20.33 (SD=1.24). Additionally, there were nineteen 2nd-year students and thirty-two 1st-year students. 41 participants reported their right hand as the dominant one, while the remaining 10 participants reported their left hand as dominant.

Participants were randomly assigned to one of three experimental lists, and the experiment proceeded in line with the procedures described above. The list of prime-target pairs used in this experiment is given in Table 4.7. The list of prime-target pairs in the distractor condition is given in Table 4.8. The same set of stimuli in the distractor condition was used in the first four experiments.

Table 4.7. Prime-target pairs, CONFLICT frame			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Novi kandidat će morati da brani svoje stavove tokom predstojeće debate.	Novi general će morati da brani svoj narod tokom predstojećih sukoba.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
LIST 2	Predsednik je nadjačao svog protivkandidata u marketinškoj kampanji.	General je nadjačao svoje protivnike tokom ratnih sukoba.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.
LIST 3	Predsednik mora da dobije bitku za fiskalni plan tokom predstojeće debate.	Vojska mora da dobije narednu bitku na ratištu u Avganistanu.	Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ekstruzivno.
TARGET 1: SPOR			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kandidati tokom debate neće mnogo čekati pre nego što krenu u napad.	Vojnici neće mnogo čekati pre nego što krenu u napad.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.
LIST 2	Kandidati će na debatu doći naoružani dobro uvežbanim replikama.	Vojnici će krenuti u borbu naoružani najsavremenijim oružjem.	Venera je druga planeta u Sunčevom sistemu, a posle Sunca i Meseca najsjajniji je objekat na nebu.
LIST 3	Stranke imaju armije pristalica koje postavljaju komentare na tviteru.	General iza sebe ima čitavu armiju vojnika koji mu verno služe.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.

TARGET 2: BOJ			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je napao novog kandidata tvrdnjama da su njegovi planovi laž.	Pobunjenici su u toku noći napali glavni štab protivničke vojske.	Nakon žestokih vazdušnih napada, pobunjenička vojska je u prednosti.
LIST 2	Stranka je žestoko napala protivničkog kandidata tokom medijske kampanje.	Tokom ratnih sukoba došlo je ozbiljnih razmena vatre na bojištima.	Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ekstruzivno.
LIST 3	Kandidati se uveliko pripremaju za završnu rundu predizborne kampanje.	I jedan i drugi bokser sede u svom uglu i spremaju se za završnu rundu borbe.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.

TARGET 3: SLOM			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nakon žestokog medijskog napada na svog protivnika predsednik je u prednosti.	Nakon povlačenja pobunjenika, u grad su umarširale savezničke trupe.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.
LIST 2	Tokom debate, nijedan kandidat nije uspeo da zada smrtonosni udarac.	Tokom okršaja, nijedan od boraca nije uspeo da zada smrtonosni udarac.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Novi kandidat je zauzeo odbrambeni stav tokom poslednje debate.	Nakon poslednje bitke, protivnička vojska je počela sa povlačenjem.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.

<div align="center">TARGET 4: FRONT</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Sa svakim novim pitanjem u debati usledio je i novi verbalni napad.	Čim su pristigle nove trupe na bojište, borbe su nastavljene.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 2	Tokom poslednje debate, kandidati su razmenjivali udarac za udarcem.	Tokom poslednjeg duela, borci su razmenjivali udarac za udarcem.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.
LIST 3	Predsednik je svojom izjavom zadao direktan udarac novom kandidatu.	Jedan od boksera je zahvaljujući dobroj taktici zadao direktan udarac protivniku.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.

<div align="center">TARGET 5: NOŽ</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je ubedljivo nadmašio svog protivkandidata u marketinškom ratu.	General je ubedljivo nadmašio svog protivnika u pogledu strategije.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 2	Nakon prve debate, usledila je bujica kritika usmerenih ka predsedniku.	Nakon prve bitke, usledile su brze pripreme za predstojeće okršaje.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
LIST 3	Tokom čitave diskusije novi kandidat je žestoko napadao predsednika.	Tokom čitave bitke, pobunjenici su žestoko napadali svoje protivnike.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".

<div align="center">TARGET 6: TUČA</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

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	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je primio udarac tokom diskusije i nije se branio.	Bokser je tokom borbe primio udarac ali nije se branio.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 2	Novi kandidat je pretrpeo brutalan udarac tokom poslednje debate.	Pobunjenička vojska pretrpela je brutalan poraz tokom poslednjih borbi.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.
LIST 3	Stranka će nastaviti da vrši pritisak na predsednika po pitanju ekonomije.	Pobunjenička vojska je nastavila da vrši žestok pritisak na protivničke položaje.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.

TARGET 7: MEGDAN			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Protivkandidat će nadjačati predsednika uz pomoć svojih saveznika.	Pobunjenička vojska bi mogla da pobedi u sukobima uz pomoć saveznika.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.
LIST 2	Predsednik nije uspevao da se odbrani od verbalnih napada drugog kandidata.	Vojnici na ratištu nisu uspevali da se odbrane od napada protivnika.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
LIST 3	Izazivač planira da tokom debate napadne spoljnu politiku predsednika.	Vojska će nastaviti da napada neprijatelja na svim položajima.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.

TARGET 8: KAVGA			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Simpatizeri vladajuće stranke su naoružani sarkastičnim komentarima.	Pobunjenička vojska naoružana je najrazličitijim oružjem.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.
LIST 2	Predsednik tvrdi da nema potrebe za uzdržavanjem jer je trgovinski rat već u toku.	Rat između dve zemlje već dugo traje, tako da nema potrebe ni za kakvim suzdržavanjem.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Kandidati će morati da se izbore sa najvećom pretnjom – fiskalnom liticom.	Pobunjenička vojska će morati da se izbori sa najvećom pretnjom – vazdušnim napadima.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.

TARGET 9: SVAĐA			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Broj reklama je bolji pokazatelj stanja u marketinškom ratu nego potrošen novac.	Broj žrtava je mnogo bolji pokazatelj stanja u sukobima nego potrošen novac.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 2	Žestoki medijski napadi na predsednika pokazuju zabrinutost suparnika.	Žestoki napadi protivničke vojske prilično su zabrinuli građane.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.
LIST 3	Kandidati su napravili kratak predah od žestokih predizbornih bitki.	Tokom pauze između rundi, oba boksera su napravila kratak predah.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.

TARGET 10: DVOBOJ			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Predsednikov žestok nastup tokom poslednje debate je uzburkao medije.	Neočekivani teroristički napadi doveli su do opšte mobilizacije.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.
LIST 2	Predsednik je izgubio debatu jer nije izvršio dovoljan pritisak na protivnika.	General je izgubio bitku jer nije izvršio dovoljan pritisak na protivnike.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 3	Predsednik ne može i dalje ići iz jedne bitke koja šteti budžetu u drugu.	General ne može i dalje ići iz jedne bitke koja šteti državi u drugu.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".

TARGET 11: OBRAČUN			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**

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List			
LIST 1	Dinamika u političkom medijskom ratu zabrinula je stratege u obe stranke.	Neočekivani razvoj oružanih sukoba zabrinuo je stratege u obe vojske.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.
LIST 2	Debata će pružiti veliki broj prilika za žestoke napade sa obe strane.	Nova bitka će pružiti prilike za žestoke napade s obe strane.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 3	Predsednik će tokom naredne debate pokušati da pređe u ofanzivu.	General će sačekati pojačanje pre nego što krene u ofanzivu.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.

TARGET 12: RASPRAVA

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Mediji tvrde da će povećanje poreza nauditi manjim preduzećima.	Novi ratni sukobi će najviše nauditi civilnim licima.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 2	Nakon rafalne paljbe kritika, predsednik je nastupio jako odlučno.	Nakon rafalne paljbe koja je usledila prethodne noći, pobunjenici su ponovo napali.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.
LIST 3	Predsednik i novi kandidat su razmenjivali oštre udarce i optužbe.	Bokseri su tokom meča razmenjivali oštre udarce i aperkate.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.

TARGET 13: PREPIRKA

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kroz nove planove, predsednik će saseći sve što se ne tiče ministarstva odbrane.	Kroz nove ratne planove, general će dosta ojačati i osavrementiti strukturu vojske.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 2	Kandidat je ne samo došao spreman na borbu, već i spreman da je zapodene.	Bokser je došao na meč ne samo spreman na borbu, već i spreman da je zapodene.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 3	Cilj novog kandidata nije da uništi predsednika, već da pridobije poverenje.	Cilj saveznika nije da uništi pobunjeničku vojsku, već da pridobije poverenje naroda.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.

TARGET 14: ZAVADA

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LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Protivkandidat planira da napadne Belu kuću nizom argumenata.	Neprijatelj planira da napadne glavni grad nuklearnim oružjem.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.
LIST 2	Tokom borbe u sredu uveče nijedan od kandidata nije ustuknuo.	Tokom borbe u sredu ni jedna vojska nije ni na trenutak ustuknula.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 3	Kandidati su se tokom debate sukobljavali oko veličine vlade.	Generali su se tokom bitke sukobljavali oko glavnih strateških ciljeva.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.

TARGET 15: NASILJE

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nova članica stranke je ubrzo postala odani vojnik predsednikove kampanje.	Novi vojnik se vrlo brzo istakao svojom hrabrošću tokom poslednjih borbi.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 2	Obe stranke će se uskoro suočiti sa novom bitkom tokom kampanje.	Sukobljene vojske će uskoro započeti nove bitke oko glavnih ciljeva.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 3	Rafalna paljba reklama protivničke partije ugrozila je protivnike.	Rafalna paljba iz te0škog oružja ugrozila je vojnike u prvim borbenim redovima.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.

TARGET 16: RAZMIRICA

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednički kandidati su se sukobili oko pitanja poreske politike.	Protivničke vojske su se sukobile oko glavnih strateških položaja.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.
LIST 2	2004. godine je njena blistava karijera gotovo izbačena iz šina.	2004. godine, saveznička vojska je umalo doživela poraz.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.

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LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Mnogi ekonomisti su izjavili da su trenutne bitke obične čarke.	Analitičari su izjavili da su trenutne bitke sa pobunjenicima samo obične čarke.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.

TARGET 17: RAZARANJE

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik nije uzvraćao vatru i nije iskoristio ključne protivargumente.	Saveznici nisu uzvraćali vatru i nisu koristili tešku artiljeriju.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 2	Kandidati su i nakon debate nastavili da se gađaju uvredama.	Pobunjenici su i po okončanju sukoba nastavili sa provokacijama.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 3	U debati nisu pomenuti napadi koji su već izvršeni u medijskom ratu.	Neprijatelj je odmah po objavi rata krenuo u prve napade.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.

TARGET 18: AGRESIVNOST

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nova izjava za medije je predsednika učinila dugoročno ranjivim.	Nova strategija je pokazala brojne slabosti i učinila vojsku ranjivom.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.
LIST 2	Najnovije predizborne borbe vodiće se na predsednikovom terenu.	Najnovije borbe vodiće se na planinskom terenu koji više odgovara pobunjenicima.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 3	Tokom debate, oba kandidata su pokušavala da rane jedan drugog.	Tokom dvoboja, oba borca su pokušavala da rane jedan drugog.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.

TARGET 19: OFANZIVA

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

LIST 1	Izazivač je sasekao predsednikovu prednost u mnogim državama.	Saveznička vojska je uspostavila dominaciju na većem delu bojišta.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 2	Senator je neplanirano zalutao u minsko polje rasističke politike.	Izvidnica pobunjeničke vojske neočekivano je zalutala u minsko polje.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.
LIST 3	Izazivač je prema anketama u zaostatku na većem delu bojišta.	Pobunjenička vojska je pretrpela velike gubitke na većem delu bojišta.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
TARGET 20: OSVAJANJE			

Table 4.8. Distractor prime-target pairs		
PRIMING SENTENCES – DISTRACTORS	**DISTRACTOR TARGET**	**TARGET FRAME**
Vojska ima zadatak da štiti građane i državu.	pas	ANIMAL
Venera je druga planeta po udaljenosti od Sunca.	mačka	
Tuča je nasilna radnja sa ciljem da se uspostavi dominacija.	kornjača	
Ernest Hemingvej je poznati američki pisac.	aligator	
Rat podrazumeva upotrebu oružja i fizičke sile.	šal	CLOTHES
Havaji su omiljena turistička destinacija.	šešir	
Služenje vojnog roka je i dalje obavezno u nekim državama.	haljina	
Džez je muzički stil nastao početkom 20. veka u Americi.	pantalone	
Ratovi se obično sastoje iz nizova vojnih pohoda.	stan	BUILDING
Lipa je rod koji obuhvata oko 30 vrsta listopadnog drveća.	kuća	
Vojna jedinica danas slavi 150 godina postojanja.	koliba	

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Titanik je potonuo 14. aprila 1912. godine.	vikendica	
General je sinoć podneo ostavku.	sport	
Poljoprivreda je takođe poznata i kao zemljoradnja.	fudbal	
U feudalizmu, države su vodile ratove zbog pljački i porobljavanja.	košarka	SPORT
Fejsbuk je društvena mreža koja postoji od 2004. godine.	vaterpolo	

4.2.3.1 RESULTS AND DISCUSSION

4.2.3.1.1 Overall mean tendencies

One-way repeated measures ANOVA showed a significant main effect of priming condition (Wilks' Lambda=.65, $F(2, 47)$=12.66, $p<.0005$, partial η^2=.35). Subsequent pairwise comparisons did not reveal a significant difference between the two congruent conditions (i.e., metaphorical and literal conditions; $p>.05$), while the mean RTs recorded in the incongruent condition were significantly and consistently higher compared to both metaphorical (M_{met}=1114.59 ms, SD_{met}=231.28 ms, M_{incong}=1342.58 ms, SD_{incong}=394.68 ms, $p<.0005$), and literal conditions (M_{lit}=1121.32 ms, SD_{lit}=227.98 ms, $p<.0005$; Figure 4.9). To make sure that there were no differences in recorded RTs between the three experimental lists, we ran an additional one-way ANOVA with Tukey post-hoc tests. The results did not reveal a significant effect for experimental list in any of the three priming conditions ($p_{literal}$=.181, $p_{metaphorical}$=.281, $p_{incongruent}$=.849). In effect, it can be concluded that the same types of primes showed the same effects across all three lists.

The obtained results suggest that congruent primes (either metaphorical or literal) facilitated participants' decision-making in the categorization task, as opposed to incongruent primes which caused a lag in RTs. In this case, the lag was caused by the misalignment between the incongruent frames, and the frame of CONFLICT to which the targets belonged. In other words, the expectancies generated by the primes in the incongruent condition were not met by the targets. Consequently, in this experimental condition the participants took longer time to decide whether the target belonged to the frame of CONFLICT or not. With congruent priming, on the other hand, both metaphorical and

literal priming sentences seem to have generated expectancies of equal strength, thereby affording similar degrees of facilitation in decision making in the main task.
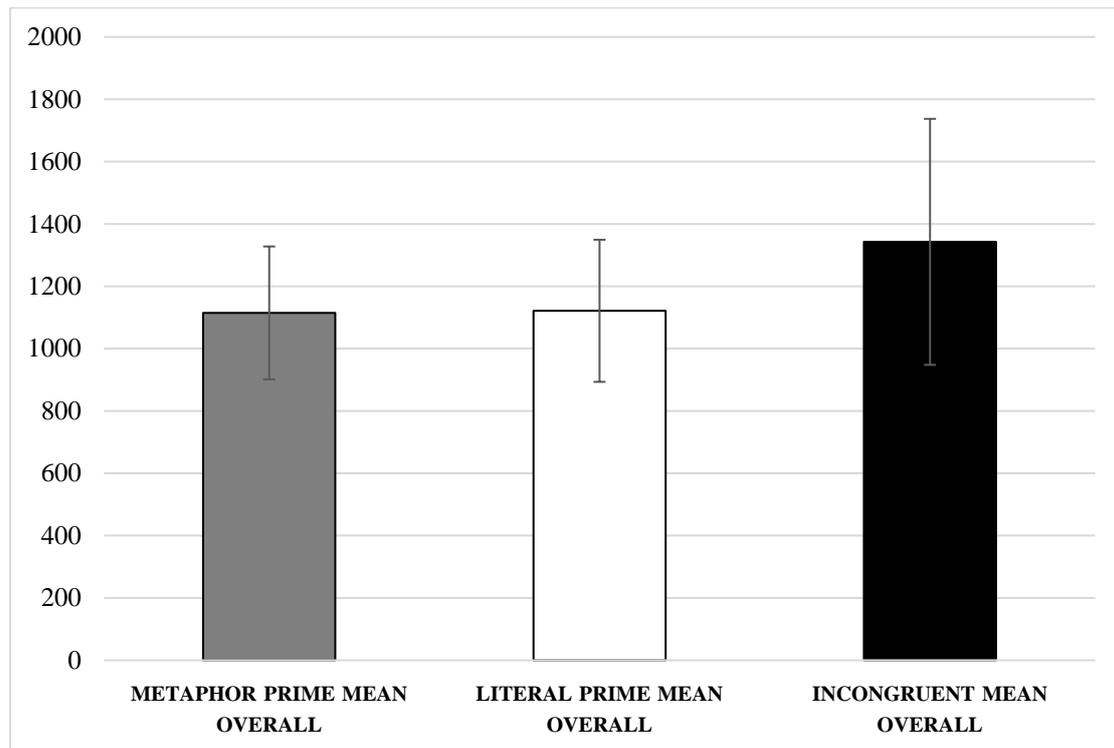
Figure 4.9. Overall mean RTs in the three experimental conditions for targets from the frame of CONFLICT

From the perspective of mental models, and the event indexing model (e.g., Zwaan, Langston, and Graesser 1995), participants took extra time to dismiss the initially constructed mental models activated by the respective semantic content of priming sentences in the incongruent condition, and to activate the relevant mental model (in this case organized by the frame of CONFLICT), against which they could assess the goodness of fit of the selected targets. Moreover, such findings also seem to offer further empirical support to the broader notion of the encyclopedic view of meaning (e.g., Fillmore 1982; Evans and Green 2007), insofar as sentence-primes have obviously activated more than what is contained within their lexical-semantic makeup, thereby licensing faster access to related semantic material (i.e., to targets that belong to the same frame).

In the context of the structure building framework (e.g., Gernsbacher 1997), category-membership judgements in the two congruent priming conditions appear to have been facilitated by the mechanism of enhancement. Namely, the frame-level structures activated by the congruent primes afforded shorter RTs in the main task, irrespective of the type of prime (i.e., metaphorical or literal). This also suggests that the mechanism of enhancement is equally pronounced both in the case when the priming sentence contains two metaphorically activated frames (CONFLICT and POLITICS), and in

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the case when it contains the literal frame of CONFLICT alone. In the incongruent condition, there is a discrepancy between the frame-level content activated by the primes and the frame to which targets belong. Consequently, we assume that the participants needed longer time to suppress the information activated by the prime, and which appeared to be irrelevant for the categorization of the target word. In other words, participants took additional time to delete the irrelevant traces from their working memory before making a decision in the main task. As will be shown later, the specific nature of the interplay between the mechanisms of suppression and enhancement appears to be conditioned by the experimental setup, type of stimuli, and the nature of the main task (see section 5.2 for details). Namely, while the mechanism of suppression here caused a processing lag in the main task in the incongruent condition, Experiments 5 and 6 will actually show an opposite trend – facilitation in the incongruent condition in judgements of contextual aptness (section 5.2).

4.2.3.1.3 Qualitative analysis

Building on the idea of the encyclopedic view of meaning and frame semantics, individual lexical items from priming sentences should serve as proxies that afford access to related, schematic knowledge structures stored in long-term memory. In that sense, the prime is expected to facilitate the construction of a coherent mental model, where the specific nature of the model is a function of the lexical-semantic content of the priming sentence.

For instance, the metaphorical priming sentence *Žestoki medijski napadi na predsednika pokazuju zabrinutost suparnika* should afford the activation of the frames of POLITICS and CONFLICT. The activation of the former is triggered by the following words and phrases: *predsednik, suparnik,* and *medijski*, while the latter is activated by the following words and phrases: *žestoki medijski napadi, suparnik,* and *zabrinutost.* As argued by all metaphor theorists, irrespective of the actual approach to comprehension mechanisms, their understanding of the motivation for metaphor use, or even the actual discipline (i.e., linguistics, philosophy, psychology, or cognitive science), metaphors are understood to involve the activation of two domains[73]. In our case, the metaphorical expression in question can be classified under the conceptual metaphor ELECTION IS A FIGHT (or MEDIA IS A BATTLEGROUND), and the broader conceptual key POLITICS IS CONFLICT. Since the priming sentence (presumably) activates two semantic frames, the upcoming information (be it a word, phrase, sentence, or a larger section of discourse) should be more easily integrated if it is congruent with one of the two frames. In that sense, the target word *dvoboj* should be easily integrated as it corresponds to the organizing frame of the source input space in the conceptual metaphor. In other words, the

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[73] In our terminology, two input spaces – source and target input.

categorization decision in the main task is facilitated by the fact that the target belongs to an already activated semantic frame. In the context of the structure building framework, we can also argue that the decision-making process in the main task is facilitated by the enhancement mechanism. Namely, this is afforded by the congruency between the frame of CONFLICT activated by the prime and the target word which belongs to the same frame.

Additionally, the fact that metaphorical primes (presumably) activate two semantic frames (corresponding to the organizing frames of the source and target input spaces), should not cause any delay in decision-making, since all primes from this experimental condition constitute highly conventionalized metaphorical expressions. Namely, discussing POLITICS in terms of CONFLICT and the sub-frames contained within this larger and more encompassing frame is quite common (e.g., Charteris-Black 2004; Steinert 2003; Burnes 2011; Silaški, Đurović, and Radić-Bojanić 2009; Figar 2013a, 2014a). Consequently, although frames may demonstrate a certain degree of interaction, they are not expected to cause any processing lags. Moreover, all of the selected targets could also easily become inputs for metaphorical conceptualizations of the political process.

The congruent literal prime, *Povlačenje pobunjenika sa glavnih položaja pokazuje njihovu nemoć*, on the other hand, was designed to activate the frame of CONFLICT alone. This was achieved through the following lexical items: *povlačenje, pobunjenici, glavni položaji,* and *nemoć*. Like in the previous example, the alignment between the activated partial frame-level structure and the target word *(dvoboj)* facilitated participants' decision-making in the categorization task. In other words, the prime seems to have enhanced the relevant frame structure, which in turn allowed the participants to integrate the upcoming information into the already constructed mental model more easily. Also, the expectancies generated by the prime were satisfied by the upcoming target word, insofar as no misalignment could be identified between the frame activated by the prime and the frame activated by the target word. Overall, the two congruent conditions did not show a significant difference in the recorded RTs, suggesting that both congruent priming conditions afforded equal facilitation in the main task. Once again, the presence of two frames in metaphorical primes obviously did not cause any lags in categorization judgements, suggesting that both metaphorical and literal use of the CONFLICT frame affords equal degrees of activation of this frame.

In the incongruent priming condition, on the other hand, the sentence *Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika,* activates the frame of MEANS OF TRANSPORTATION. This is facilitated by the following lexical items: *autobus, motorno putničko vozilo, javni prevoz,* and *putnici.* The target *dvoboj*, however, belongs to the frame of CONFLICT, as already discussed above. In that sense, there is an obvious misalignment between the two frames, and an obvious mismatch between the expectancies generated by the prime and the frame-structure activated by the target word *dvoboj*. Consequently, the participants needed extra time to dismantle the mental

model constructed based on the incongruent priming sentence, and to activate the relevant background knowledge structures against which they would compare the target word and determine its' category membership. This also suggests that the participants most likely relied on the suppression mechanism in this condition, to the extent that they needed to exclude the irrelevant information before making their decision in the main task. Consequently, this led to increased RTs in this condition compared to both of the previous congruent conditions.

4.2.4 EXPERIMENT 2

The second experiment was designed to test the activation of the semantic frame of POLITICS in the three already introduced priming conditions: (i) congruent metaphorical, (ii) congruent literal, and (iii) incongruent. The data obtained from this experiment are presented in the following subsections. The experiment included 51 participants, native speakers of Serbian, all students from the Faculty of Philosophy, University of Niš. All participants volunteered to take part in the study. There were 41 participants from the English Department, and 10 participants from the Psychology Department. Forty-one participants were 1st-year students, six 2nd-year students, and four 4th-year students. Also, 33 participants were female, and 18 male, with the average age of 20.20 (SD=1.81). 47 participants reported their right hand as dominant, while 4 reported their left hand to be dominant one.

Participants were randomly assigned to one of the three experimental lists of stimuli, with 17 participants assigned to each list. All experimental procedures were conducted along the lines described in section 4.2.2. Prime-target pairs used in the experiment are listed in Table 4.9.

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Novi kandidat će morati da brani svoje stavove tokom predstojeće debate.	Novi kandidat će morati da predstavi svoje stavove tokom predstojeće debate.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
LIST 2	Predsednik je nadjačao svog protivkandidata u marketinškoj kampanji.	Predsednička stranka sprovela je veoma uspešnu marketinšku kampanju.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.

Table 4.9. Prime-target pairs, POLITICS frame

| LIST 3 | Predsednik mora da dobije bitku za fiskalni plan tokom predstojeće debate. | Predsednik mora da bude ubedljiv u diskusiji o fiskalnom planu u debati. | Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ekstruzivno. |

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kandidati tokom debate neće mnogo čekati pre nego što krenu u napad.	Kandidati tokom debate neće mnogo čekati pre nego što krenu sa diskusijom.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.
LIST 2	Kandidati će na debatu doći naoružani dobro uvežbanim replikama.	Kandidati će na debatu doći pripremljeni, sa dobro uvežbanim replikama.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.
LIST 3	Stranke imaju armije pristalica koje postavljaju komentare na tviteru.	Stranke imaju veliki broj pristalica koje postavljaju komentare na tviteru.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.

TARGET 2: AKT

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je napao novog kandidata tvrdnjama da su njegovi planovi laž.	Predsednik je izjavio da su planovi njegov protivnika obična laž.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
LIST 2	Stranka je žestoko napala protivničkog kandidata tokom medijske kampanje.	Stranka je tokom medijske kampanje često komentarisala nastupe protivkandidata.	Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ekstruzivno.
LIST 3	Kandidati se uveliko pripremaju za završnu rundu predizborne kampanje.	Kandidati se uveliko pripremaju za završnu debatu tokom predizborne kampanje.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.

TARGET 3: ŠTRAJK

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nakon žestokog medijskog napada na svog protivnika predsednik je u prednosti.	Nakon uspešnih obraćanja medijima, predsednik je u prednosti.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.

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List	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 2	Tokom debate, nijedan kandidat nije uspeo da zada smrtonosni udarac.	Tokom debate, nijedan kandidat nije prezentovao ključne argumente.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.
LIST 3	Novi kandidat je zauzeo odbrambeni stav tokom poslednje debate.	Novi kandidat je delovao neubedljivo tokom poslednje debate.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.

TARGET 4: MOĆ		

List	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Sa svakim novim pitanjem u debati usledio je i novi verbalni napad.	Sa svakim novim pitanjem u debati, usledila je i dalja diskusija.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 2	Tokom poslednje debate, kandidati su razmenjivali udarac za udarcem.	Tokom poslednje debate kandidati su razmenjivali argument za argumentom.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.
LIST 3	Predsednik je svojom izjavom zadao direktan udarac novom kandidatu.	Predsednik je u svojoj izjavi kritikovao nastupe svog suparnika.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.

TARGET 5: SUD		

List	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je ubedljivo nadmašio svog protivkandidata u marketinškom ratu.	Predsednik je ubedljivo nadmašio svog protivkandidata u marketinškoj kampanji.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 2	Nakon prve debate, usledila je bujica kritika usmerenih ka predsedniku.	Nakon prve debate, bilo je puno kritika na račun predsednikovog nastupa.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
LIST 3	Tokom čitave diskusije novi kandidat je žestoko napadao predsednika.	Tokom čitave diskusije novi kandidat je dosta kritikovao predsednika.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".

TARGET 6: USTAV		

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je primio udarac tokom diskusije i nije se branio.	Predsednik se nije uključivao u diskusiju i izbegavao je pogled protivkandidata.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 2	Novi kandidat je pretrpeo brutalan udarac tokom poslednje debate.	Novi kandidat nije bio uspešan tokom diskusija u poslednjoj debati.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.
LIST 3	Stranka će nastaviti da vrši pritisak na predsednika po pitanju ekonomije.	Stranka će nastaviti da traži od predsednika odgovore na pitanja o ekonomiji.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.

	TARGET 7: REŽIM		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Protivkandidat će nadjačati predsednika uz pomoć svojih saveznika.	Protivkandidat se nada da će mu bolja medijska kampanja pomoći.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.
LIST 2	Predsednik nije uspevao da se odbrani od verbalnih napada drugog kandidata.	Predsednik nije davao odgovore na pitanja svog protivkandidata.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
LIST 3	Izazivač planira da tokom debate napadne spoljnu politiku predsednika.	Kandidat planira da tokom debate postavi i pitanje u vezi sa ekonomijom.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.

	TARGET 8: GLASAČ		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Simpatizeri vladajuće stranke su naoružani sarkastičnim komentarima.	Simpatizeri vladajuće stranke šalju sarkastične komentare.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.
LIST 2	Predsednik tvrdi da nema potrebe za uzdržavanjem jer je trgovinski rat već u toku.	Predsednik tvrdi da je zbog velike krize potreban novi ekonomski plan.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Kandidati će morati da se izbore sa najvećom pretnjom – fiskalnom liticom.	Kandidati će morati da ponude rešenje za ekonomsku krizu.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.

<div align="center">TARGET 9: MITING</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Broj reklama je bolji pokazatelj stanja u marketinškom ratu nego potrošen novac.	Broj reklama je bolji pokazatelj stanja u predizbornoj kampanji nego potrošen novac.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 2	Žestoki medijski napadi na predsednika pokazuju zabrinutost suparnika.	Predsednik je u medijskim nastupima dosta kritikovao svoje protivnike.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.
LIST 3	Kandidati su napravili kratak predah od žestokih predizbornih bitki.	Kandidati su napravili kratak predah od dugih predsedničkih debata.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.

<div align="center">TARGET 10: STRANKA</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednikov žestok nastup tokom poslednje debate je uzburkao medije.	Predsednikove izjave tokom poslednje debate zainteresovale su medije.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.
LIST 2	Predsednik je izgubio debatu jer nije izvršio dovoljan pritisak na protivnika.	Predsednik je izgubio debatu jer nije upotrebio sve bitne argumente.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 3	Predsednik ne može i dalje ići iz jedne bitke koja šteti budžetu u drugu.	Predsednik mora da ponudi konkretna rešenja za poboljšanje budžeta.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

<div align="center">TARGET 11: PREMIJER</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

LIST 1	Dinamika u političkom medijskom ratu zabrinula je stratege u obe stranke.	Stanje u predizbornoj kampanji izazvalo je brojne komentare u medijima.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.
LIST 2	Debata će pružiti veliki broj prilika za žestoke napade sa obe strane.	Debata će pružiti veliki broj prilika za zanimljivu diskusiju.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 3	Predsednik će tokom naredne debate pokušati da pređe u ofanzivu.	Predsednik će tokom naredne debate pokušati da predstavi ubedljive argumente.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.

TARGET 12: PARLAMENT

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Mediji tvrde da će povećanje poreza nauditi manjim preduzećima.	Mediji tvrde da nove ekonomske reforme neće biti povoljne ni za koga.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 2	Nakon rafalne paljbe kritika, predsednik je nastupio jako odlučno.	Nakon lošeg nastupa u prvoj debati, predsednik je delovao veoma odlučno.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.
LIST 3	Predsednik i novi kandidat su razmenjivali oštre udarce i optužbe.	Predsednik i novi kandidat su razmenjivali brojne argumente i optužbe.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.

TARGET 13: POSLANIK

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kroz nove planove, predsednik će saseći sve što se ne tiče ministarstva odbrane.	Kroz nove planove, predsednik će sprovesti detaljnu reformu ministarstva odbrane.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 2	Kandidat je ne samo došao spreman na borbu, već i spreman da je zapodene.	Kandidat je na debatu došao pripremljen i delovao je veoma samouvereno.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 3	Cilj novog kandidata nije da uništi predsednika, već da pridobije poverenje.	Cilj novog kandidata je da pridobije poverenje javnosti za svoju kandidaturu.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.

TARGET 14: MINISTAR

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LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Protivkandidat planira da napadne Belu kuću nizom argumenata.	Protivkandidat planira da kritikuje rad vlade u prethodnom periodu.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.
LIST 2	Tokom borbe u sredu uveče nijedan od kandidata nije ustuknuo.	Tokom debate u sredu uveče oba kandidata su predstavila ubedljive argumente.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 3	Kandidati su se tokom debate sukobljavali oko veličine vlade.	Kandidati su tokom debate diskutovali i o veličini vlade.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.

<div align="center">

TARGET 15: IZBORI

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LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nova članica stranke je uskoro postala odani vojnik predsednikove kampanje.	Nova članica stranke uskoro je postala i član predsednikovog tima.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 2	Obe stranke će se uskoro suočiti sa novom bitkom tokom kampanje.	Obe stranke će morati da odgovaraju na pitanja predstavnika medija.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 3	Rafalna paljba reklama protivničke partije ugrozila je protivnike.	Reklamna kampanja vladajuće stranke bila je veoma uspešna.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.

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TARGET 16: POLITIČAR

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LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednički kandidati su se borili oko pitanja poreske politike.	Predsednički kandidati su diskutovali o pitanju poreske politike.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.
LIST 2	2004. godine je njena blistava karijera gotovo izbačena iz šina.	2004. godine ona je gotovo ostala bez posla.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Mnogi ekonomisti su izjavili da su trenutne bitke obične čarke.	Mnogi ekonomisti su kritikovali nove budžetske planove vladajuće stranke.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.

TARGET 17: REFERENDUM

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik nije uzvraćao vatru i nije iskoristio ključne protivargumente.	Predsednik nije odgovarao na pitanja i nije iskoristio neke od važnih argumenata.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 2	Kandidati su i nakon debate nastavili da se gađaju uvredama.	Kandidati su i nakon debate nastavili sa diskusijom i uvredama.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 3	U debati nisu pomenuti napadi koji su već izvršeni u medijskom ratu.	U debati nisu pomenuti neki od važnih argumenata koji su već naglašeni ranije.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.

TARGET 18: REPUBLIKA

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nova izjava za medije je predsednika učinila dugoročno ranjivim.	Predsednik je u novoj izjavi za medije govorio o ekonomiji u zemlji.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.
LIST 2	Najnovije predizborne borbe vodiće se na predsednikovom terenu.	Prema izjavama medija, predsednička kampanja je za sada vrlo uspešna.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 3	Tokom debate, oba kandidata su pokušavala da rane jedan drugog.	Tokom debate oba kandidata su pokušavala da predstave važne argumente.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.

TARGET 19: DIPLOMATA

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

LIST 1	Izazivač je sasekao predsednikovu prednost u mnogim državama.	Novi kandidat vodi uspešnu kampanju u većem delu zemlje.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 2	Senator je neplanirano zalutao u minsko polje rasističke politike.	Senator je neplanirano morao da diskutuje i o pitanju rasizma.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.
LIST 3	Izazivač je prema anketama u zaostatku na većem delu bojišta.	Prema anketama, novi kandidat je do sada bio prilično uspešan.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
	TARGET 20: AMBASADOR		

4.2.4.1 RESULTS AND DISCUSSION

4.2.4.1.1 Overall mean tendencies

Like in Experiment 1, one-way repeated measures ANOVA revealed a significant effect of priming condition (Wilks' Lambda=.42, $F(2, 45)$=31.66, $p<.0005$, partial η^2=.59), and pairwise comparisons showed a significant difference in the overall mean RTs between the incongruent condition and both the metaphorical (M_{met}=883.90 ms, SD_{met}=155.23 ms, M_{incong}=1131.01 ms, SD_{incong}=302.67 ms, $p<.0005$) and literal condition (M_{lit}=879.38 ms, SD_{lit}=168.23 ms, $p<.0005$; Figure 4.10). One-way ANOVA with Tukey post-hoc comparisons was used to ensure that all three experimental lists of stimuli afforded equal degrees of priming. The results did not reveal any significant differences between experimental lists between any of the priming conditions ($p_{literal}$=.670, $p_{metaphorical}$=.844, $p_{incongruent}$=.463).

Overall, both types of congruent primes generated expectancies that were aligned with the subsequently presented targets. Such frame-level alignment produced facilitation in the main task, evident in shorter RTs compared to the incongruent condition. In light of semantic frames and the encyclopedic view of meaning, the congruent primes afforded the activation of frame structures into which the targets from the frame of POLITICS could be easily incorporated. Namely, individual lexical items from priming sentences afforded the co-activation of coherent structures from the frame of POLITICS. Subsequent targets from the same frame could then be more easily recognized as belonging to the frame. This can also be attributed to the congruency effects licensed by the enhancement

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mechanism (in the sense of Gernsbacher 1997) which served to activate and foreground the lexical-semantic content introduced by the congruent primes. The targets were then easily matched to the congruent traces in working memory. With incongruent primes, participants most likely needed to first suppress the irrelevant traces from working memory, in order to be able to identify the frame to which the target words belonged, and only then could they make a categorization judgment. From the perspective of mental models, it can be argued that in the congruent priming conditions participants were able to easily integrate the target words into the existing model, which in turn shortened their decision-making times. In the incongruent condition, however, they needed to first dismiss the constructed model and access additional, relevant background knowledge structures from their long-term memory. This, consequently, increased the time required to make a categorization judgement in the main task.
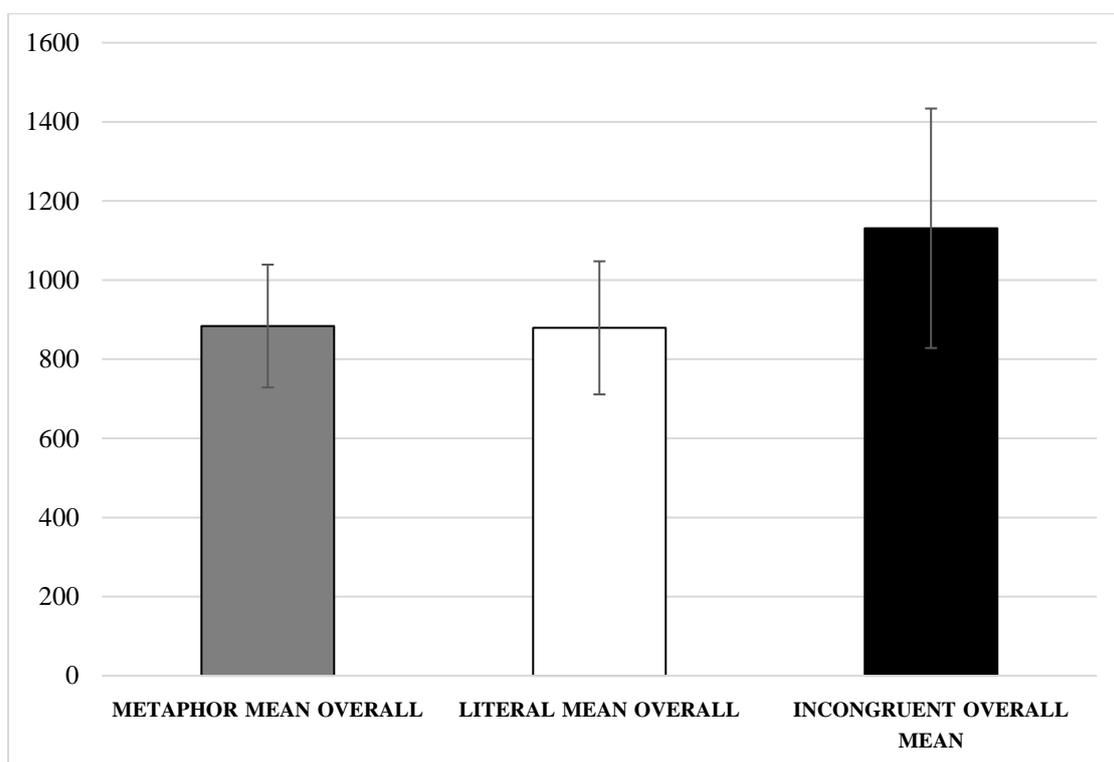
Figure 4.10. Overall mean RTs in the three experimental conditions
for targets from the frame of POLITICS

4.2.4.1.2 Qualitative analysis

In qualitative terms, the metaphorical prime *Žestoki medijski napadi na predsednika pokazuju zabrinutost suparnika*, already discussed above, is expected to activate both the frame of CONFLICT

and the frame of POLITICS, as the organizing frames of the source and target input spaces in the conceptual metaphor ELECTION IS A BATTLE (or MEDIA IS A BATTLEFIELD). As discussed above, the activation of the semantic frames is afforded by specific lexical items. In the case of congruent priming, the prime and target belong to the same semantic frame, and participants' decision in the categorization task is facilitated by such frame-level alignment. In other words, the expectancies generated by the prime are satisfied by the target word. Once again, seeing that the priming sentence contains a highly entrenched metaphorical conceptualization of the political process in terms of conflict, the frames of CONFLICT and POLITICS can be understood as compatible. Consequently, the target *stranka* is easily categorized as the member of the frame of POLITICS. In the context of structure building (Gernsbacher 1997), the enhancement mechanism again seems to facilitate decision making in the main task, inasmuch as the relevant frame-level structure has been activated by the prime, and the new information is easily matched to the congruent structure. In other words, the coherent mental model constructed based on the content of the priming sentence is updated with novel information that is both relevant and coherent with the organizing frame of the target input space.

The literal congruent prime *Predsednik je u medijskim nastupima dosta kritikovao svoje protivnike* was designed to activate only the frame of POLITICS. Decision making in the main task was facilitated by the fact that the target word *stranka* belonged to the same frame. In effect, the expectancies generated by the prime were not violated. Moreover, the novel information was coherent in relation to the initially constructed mental model. Like in the previous congruent experimental conditions, the enhancement mechanism also seems to have afforded easier decision making in the main task.

With incongruent priming, like in Experiment 1, the sentence *Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika* was designed to activate the incongruent frame of MEANS OF TRANSPORTATION. Due to the mismatch between the frames of CONFLICT and MEANS OF TRANSPORTATION, the participants most likely needed to identify and activate the new relevant background knowledge structures that would enable them to make a categorization judgment in the main task. In other words, they apparently needed to first suppress the irrelevant frame-level structure introduced by the prime, in order to be able to decide on the target's category membership. Consequently, this resulted in increased RTs compared to the two congruent experimental conditions.

4.2.5 COMPARISON OF EXPERIMENTS 1 AND 2

Comparisons of overall mean RTs for targets from the frames of CONFLICT and POLITICS (Figure 4.11), after being primed with identical metaphorical sentences which contained metaphorical expressions corresponding to the conceptual key POLITICS IS CONFLICT was conducted using one-way repeated measures ANOVA. The analysis showed a significant main effect of frame (Wilks' Lambda=.61, $F(, 48)=31.14$, $p<.0005$, partial $\eta^2=.39$), and pairwise comparisons showed significantly shorter RTs for targets from the frame of POLITICS (M=893.05 ms, SD=162.15 ms, $p<.0005$) compared to those from the frame of CONFLICT (M=1103.68 ms, SD=203.00 ms).
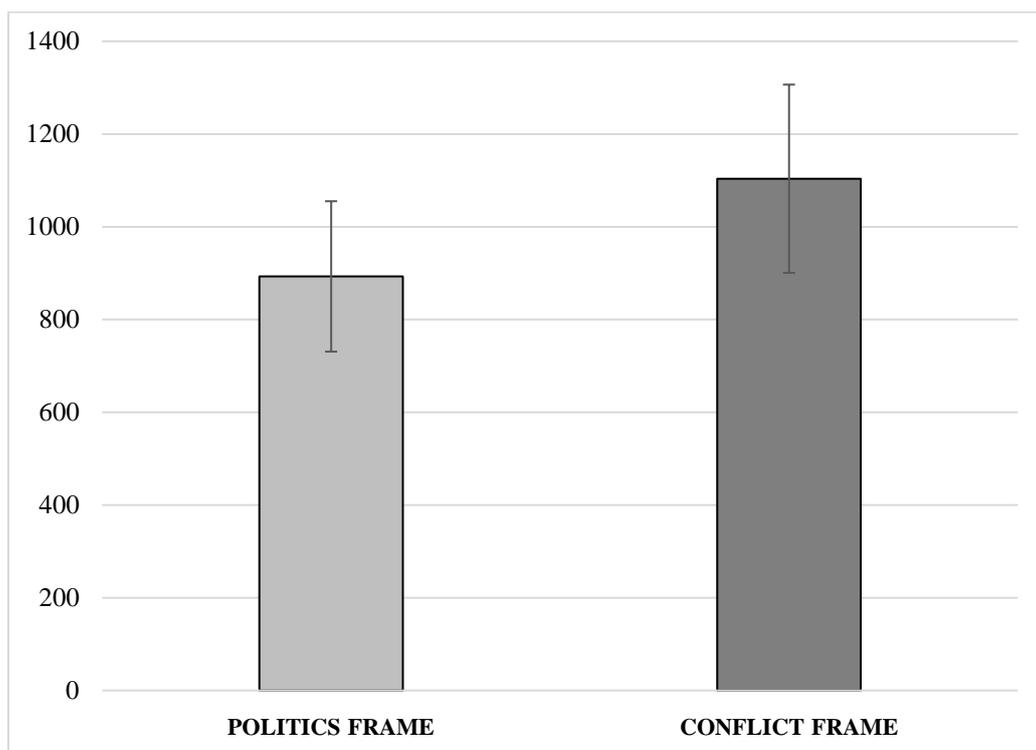
Figure 4.11. Overall mean RTs for targets from the frames of CONFLICT and POLITICS in Experiments 1 and 2

Overall, the obtained findings show different levels of activation of the two organizing frames of input spaces in conceptual metaphors found under the conceptual key POLITICS IS CONFLICT. This conclusion is sanctioned by the fact that the metaphorical priming sentences contained elements of organizing frames of both input spaces, but the recorded effect was significantly stronger for target words from the frame of POLITICS (i.e., the target input, or tenor/topic/target domain). In effect, this attests to the dynamic nature of interaction between the organizing frames of input spaces in conceptual metaphors from the conceptual key POLITICS IS CONFLICT, in the given optimal contexts provided by the priming sentences. Moreover, such findings may also offer at least some support to

the interaction view of metaphor processing (Richards (1965[1936]; Black 1962; Tourangeau and Sternberg 1981, 1982; Sternberg and Nigro 1983; Trick and Katz 1986; Kelly and Keil 1987).

In brief, according to the interaction view (see section 2.5.2.1 for details), metaphor involves the interaction of two thoughts manifested in a single word (or phrase) that is being used metaphorically, and the final constructed meaning is a direct product of interaction between these two thoughts (Richards 1965[1936]: 93). In other words, a distinction is made between the principal subject (i.e., the word belonging to the organizing frame of the target input space, in our terminology), and the subsidiary subject (i.e., the word from the organizing frame of the source input space). Additionally, as Black (1962) argued, these two subjects are seen as systems of elements. In the domain of psycholinguistic research, the interaction view has its counterpart in the form of the domains-interaction view that can be classified into the broader analogy view.

Namely, in the domains-interaction view metaphors represent implicit analogies (Trick and Katz 1986: 186). For instance, Kelly and Keil (1987) argue that individual lexical items license access to broader knowledge structures (in our terminology frames). They also claim that the source and target inputs are restructured, and that the target input is restructured to a greater degree compared to the source. In that sense (as argued in section 2.5.2.1) the target input should also show a higher degree of activation. Tourangeau and Sternberg (1982) also understand the notion of domains to be highly flexible, and that a domain may encompass an entire category. Additionally, Tourangeau and Sternberg (1982) argued that the activation of domains and the relevant features necessarily involves a certain degree of interaction between domains. Moreover, an important determinant of the relevant features is the local context – in our case, the context provided by the priming sentences. Namely, context serves as a filter that facilitates the selection of elements relevant for the process of meaning construction. It is also worth noting at this point that the connection between categorization, framing, and contextualization has been recognized by Fillmore (1982).

Overall, our evidence appear to go in favor of the domains-interaction view, insofar as priming with identical metaphorical sentences showed shorter RTs in the categorization task for elements belonging to the organizing frame of the target input (i.e., POLITICS), compared to elements from the organizing frame of the source input (i.e., CONFLICT). We understand the measured RTs as the correlates of the level of activation. Longer RTs should correspond to a lower degree of activation, whereas shorter RTs should correlate with higher degrees of activation. Consequently, more active frame structures should be also easier to access, resulting in shorter RTs in the categorization task.

The use of the categorization task is justified by the fact that the processes of categorization and framing are closely connected (e.g., Fillmore 1976, 1982), especially bearing in mind the fact that we are able to categorize entire frames. Additionally, the comparison of categorization and lexical decision tasks for the identification of frame activation has already been discussed in Figar (2020).

Namely, by comparing the two tasks in a pre-task priming paradigm, Figar (2020) concluded that the categorization task was by far more suitable, while the lexical decision task proved to be much easier in terms of cognitive load, to the extent that it appeared to override the prime. In the present study, we used online priming, based on the assumption that the effects recorded with pre-task priming would be even more pronounced.

In conclusion, the first two experiments with metaphorical primes corresponding to the conceptual key POLITICS IS CONFLICT offer a certain degree of support for the domains-interaction view of metaphor processing. However, the results presented here go only as far as providing evidence for the different degrees of activation of the organizing frames of source and target input spaces. The finer nuances of the comprehension process remain to be addressed in future research.

4.3 SEMANTIC FRAME ACTIVATION IN METAPHORICAL EXPRESSIONS CORRESPONDING TO THE CONCEPTUAL KEY POLITICS IS MOTION

Experiments 3 and 4 were designed to test the activation of semantic frames of source and target input spaces in conceptual metaphors from the conceptual key POLITICS IS MOTION. The overall experimental setup was identical to that of Experiments 1 and 2, with the difference in the stimuli that were used. In Experiment 3, we explored the activation of the semantic frame of MOTION in a categorization task, and like the first two experiments, this experiment also included three experimental conditions: (i) congruent metaphorical priming, (ii) congruent literal priming, and (iii) incongruent priming. In Experiment 4, we explored the activation of the semantic frame of POLITICS using the same experimental paradigm as in Experiment 2. Namely, targets used in Experiment 4 were identical to those used in Experiment 2. Metaphorical primes used in Experiments 3 and 4 were identical, and their literal counterparts were designed by replacing the metaphorically used words and phrases with words and phrases used in their literal sense. Congruent literal primes in Experiment 3 were designed to activate only the frame of MOTION, while in Experiment 4 they were designed to activate only the frame of POLITICS. All targets were selected based on the results of the norming studies described above (section 4.1.1). Metaphorical primes were also selected based on the initial norming studies (section 4.1.2).

The main rationale behind this experimental setup is identical to that described in section 4.2 dealing with semantic frame activation in metaphorical expressions from the conceptual key POLITICS IS CONFLICT. Namely, based on the theoretical framework dealing with metaphor research, a conceptual metaphor is expected to activate two semantic frames that serve as the organizing frames of source and target input spaces. Individual lexical items from the primes should serve as proxies for accessing the relevant structures of background knowledge, in effect facilitating the construction of the relevant mental models. The use of the categorization task is again warranted by the close link between the mechanisms of framing and categorization. Finally, priming with identical metaphorical sentences in the two experiments is expected to offer insight into the level of activation of each of the organizing frames of source and target inputs. Namely, if there is any difference in the levels of activation between the frames of MOTION and POLITICS, this should be reflected in the difference in RTs in the main task.

4.3.1 METHODOLOGY, AIMS, AND RESEARCH QUESTIONS

The main aims of Experiments 3 and 4 were similar to those of the first two experiments, and they involved the following:

a. to compare the effects of congruent primes in the first two experimental conditions in each experiment. Namely, while metaphorical primes were meant to activate the organizing frames of both input spaces (i.e., MOTION and POLITICS), literal primes used in Experiment 3 were designed to activate only the frame of MOTION, whereas those used in Experiment 4 were designed to activate the frame of POLITICS; and

b. to explore the possible difference in the level of activation of semantic frames that served as the organizing frames of source and target input spaces, after priming with identical metaphorical content. All metaphorical expressions belonged to the conceptual key POLITICS IS MOTION. Namely, bearing in mind that metaphorical primes afforded the activation of both organizing frames, comparison of RTs for targets belonging to each of the two frames (targets from the frame of MOTION in Experiment 3, and targets from the frame of POLITICS in Experiment 4) should reveal possible differences in the level of activation of the two frames.

Experiments 3 and 4 were designed to address the following research questions:

i. Will there be a significant difference in the overall mean tendencies of RTs recorded in the main task between the two congruent priming conditions for targets from each of the two respective frames (i.e., MOTION and POLITICS)? Will the results differ from those obtained in Experiments 1 and 2?

ii. How will the incongruent priming condition affect participants' decision-making in the main task? Will incongruent priming cause a similar processing lag like in the first two experiments?

iii. Will there be a significant difference in RTs in the categorization task for targets from the frames of MOTION and POLITICS, respectively, when primed by the same metaphorical sentences? Will the difference in the level of activation between the organizing frames of source and target inputs identified for the conceptual key POLITICS IS CONFLICT also be identified here?

iv. Will there be a difference in the level of activation of the semantic frame of POLITICS between the condition of metaphorical priming with metaphorical expressions from the conceptual key POLITICS IS CONFLICT (Experiment2) and those from the conceptual key POLITICS IS MOTION (Experiment 4)?

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v.   Will the obtained results also offer support for the interaction view of metaphor processing (similar to Experiments 1 and 2)?

vi.   How can the obtained results be explained in terms of (i) semantic priming, (ii) semantic frames and mental models, and (iii) structure building framework?

4.3.2 EXPERIMENTAL PROCEDURES

The experimental procedures were identical to those employed in the first two experiments. To avoid repetition, we only reiterate the main points in the procedure[74]. Namely, there were three experimental conditions (congruent metaphorical priming, congruent literal priming, and incongruent priming), and the experiments involved a reaction time paradigm. Both experiments were conducted as a within-subjects design, and the stimuli in each experiment were organized in 3 experimental lists. Each target appeared three times in each of the lists, in one of the three experimental conditions. Both targets and metaphorical primes had undergone initial norming procedures (see section 4.1 for details). Congruent literal primes were constructed based on their metaphorical counterparts and were normalized for the number of syllables in each pair.

Experiments were designed in *Open Sesame* (Mathôt, Schreij, and Theeuwes 2012) and ran on a standard PC configuration. The experiments were conducted along the following steps: (i) the participants first read the instructions that appeared on the screen; (ii) then a priming sentence appeared, centered on the screen, and, as instructed, the participants read the sentence carefully; (iii) this was followed by a fixation point, again centered on the screen, in the duration of 400 ms; (iv) then a target word appeared, printed in black, lowercase letters (Times New Roman, 12 pt), centered on the screen, and participants were required to respond as quickly as possible whether it was a good representative of the frame in question or not (MOTION in Experiment 3 and POLITICS in Experiment 4). Answers were collected from the keyboard and the responses in the binary (Yes/No) decision task were counterbalanced between the "A" and "L" keys. The relevant dependent variable of interest was RTs (measured in milliseconds). Apart from the set of 60 conditions that included target words, the experiments also included additional 16 distractor conditions which were identical to those used in the first two experiments (see Table 4.6 for details).

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[74] The reader is directed to section 4.2.2 above for more details about the procedures.

4.3.3 EXPERIMENT 3

In Experiment 3 we test the activation of the semantic frame of MOTION in the three already discussed priming conditions: (i) congruent metaphorical, (ii) congruent literal, and (iii) incongruent. The experiment included 51 participants, all students from the Faculty of Philosophy, University of Niš, and native speakers of Serbian. 37 participants were from the Psychology Department, and 14 from the English Department. There were forty-four 3rd-year students, and seven 1st-year students. Additionally, there were 37 female, and 14 male participants, with the average age of 21.53 (SD=1.50). 44 participants reported their right hand as dominant, while 7 reported their left hand as the dominant one. Participants were randomly assigned to one of the experimental lists, with 17 participants per list. The stimuli used in this experiment are presented in Table 4.10.

Table 4.10. Prime-target pairs, MOTION frame			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Delovalo je da predsednik u potpunosti kontroliše predizbornu trku.	Delovalo je da glavni favorit u potpunosti kontroliše trku na 400 m.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
LIST 2	Obe stranke su priznale da bi prva debata mogla da utiče na ishod predsedničke trke.	Oba tima su priznala da bi prva trka mogla da utiče na ishod čitavog takmičenja.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.
LIST 3	Smatramo da su i država i ekonomija i dalje na pravom putu.	Nakon što je zalutao, vozač autobusa je ponovo na pravom putu.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
TARGET 1: LET			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Kandidati će pokušati da učvrste svoje položaje u predizbornoj kampanji.	Favorit će pokušati da učvrsti svoj položaj u finalnoj etapi trke.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.
LIST 2	Prihvatanje nove pozicije možda deluje kao veliki korak unazad.	Pošto je osetio dim kada je ušao u zgradu, napravio je veliki korak unazad.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Nakon duge kampanje, predizborna trka je u završnoj fazi.	Uprkos jakoj kiši, maratonska trka je u završnoj fazi.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.

TARGET 2: SMER

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kandidat je u utorak napravio još jedan pogrešan korak u debati.	Planinar je napravio pogrešan korak i pao sa litice u reku.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
LIST 2	Kako tvrde kandidati, ovi izbori biće prekretnica za ovu izuzetnu naciju.	Autobus je naišao na raskrsnicu i vozač nije znao kojim putem treba da krene.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 3	Nakon duge kampanje, usledila je i završnica predizborne trke.	Nakon dugih visinskih priprema, usledila je i poslednja trka.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.

TARGET 3: CILJ

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je optužen da nije uspeo da izvede zemlju iz ekonomske krize.	Učitelj je izveo učenike iz škole u šetnju do obližnjeg parka.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.
LIST 2	Sledeća predsednička debata je odmah iza ugla.	Prodavnica koju je devojka tražila nalazi se odmah iza ugla.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 3	Savetnici su upozorili kandidata da je predizborna trka daleko od dobijene.	Trka je bila daleko od dobijene i trkač je polako pojačao tempo.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.

TARGET 4: PLES

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Protivkandidat će pokušati da povrati kontrolu nad predizbornom trkom.	Favorit će pokušati da povrati kontrolu nad finalnom trkom.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.

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	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 2	Predizborna kampanja je nakon više meseci ušla u završnu fazu.	Maratonska trka je uskoro ušla u završnu fazu.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
LIST 3	U Kongresu je nakon maratonskih razgovora ipak došlo do zastoja.	Zbog velikih odrona došlo je do zastoja u saobraćaju.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.

TARGET 5: TOK		

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Ankete pokazuju da birači veruju da se država kreće u pravom smeru.	Pošto je proverio mapu, planinar je bio siguran da se kreće u pravom smeru.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 2	Zastoj u Kongresu predstavlja prepreku koja predsedniku stoji na putu.	Autobus je naišao na veliku prepreku na putu i nije mogao dalje.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.
LIST 3	Ukoliko budemo nastavili ovim putem situacija će se pogoršati.	Ukoliko budemo nastavili ovim putem sigurno stižemo do aerodroma na vreme.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.

TARGET 6: KORAK		

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je svoj slab nastup u poslednjoj debati ostavio iza sebe.	Putnici su uskoro ostavili Italiju iza sebe i krenuli nazad kući.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 2	Obe stranke su priznale da je predsednička trka veoma neizvesna.	Finalna trka na sto metara bila je veoma neizvesna.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 3	Predsednik je vratio ekonomiju sa ivice provalije.	Vozač je pažljivim manevrisanjem uspeo da vrati kamion sa ivice provalije.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.

TARGET 7: ŠETNJA		

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	I sve dosadašnje predizborne kampanje kretale su se sličnom putanjom.	Svi vozači na stazi kretali su se sličnom putanjom.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.
LIST 2	Kandidat je naišao na veliku prepreku kada je predstavljao svoj ekonomski plan.	Planinar je uskoro naišao na veliku prepreku i nije mogao dalje.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.
LIST 3	Kandidati polako ulaze u poslednji mesec predizborne kampanje.	Posetioci su polako ušli u glavnu zgradu muzeja.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.

TARGET 8: PRAVAC			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Oba kandidata su zalazila u pitanja koja je trebalo da izbegnu.	Tokom šetnje, pas je zalazio u visoku travu oko staze.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 2	Kandidat je pokrenuo medijsku kampanju kako bi ojačao svoje glavne ideje.	Zemljotres je pokrenuo lavinu koja je prekrila celo podnožje planine.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 3	Prošle godine, on je uskočio na mesto predsednikovog savetnika.	Pošto je ugledao osobu koja se davi, spasilac je uskočio u bazen.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.

TARGET 9: TRANSPORT			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Tokom debate, predsednički kandidati su često skretali s puta.	Tokom šetnje, par je često skretao sa glavnog puta.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.
LIST 2	Predsednik je poručio da je njegova vlada ostvarila stabilan napredak.	Planinari su polako napredovali uz strmu liticu planine.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.

LIST			
LIST 3	Predizborna kampanja je iznenada promenila pravac pred novu debatu.	Automobil je iznenada promenio pravac i sleteo s puta.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.

<div align="center">TARGET 10: POMAK</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nivo podrške za novog kandidata popeo se na 36 procenata.	Planinar se uz tešku muku napokon popeo i na najviši vrh planine.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 2	Smer u kome se kreću ekonomija i berza utiče na uspeh kandidata.	Smer u kome duva vetar usporava trkače na stazi.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 3	Predsednički kandidati preduzimaju oprezne korake kako bi privukli birače.	Pošto je izašao iz autobusa, on se laganim koracima kretao ka svom stanu.	Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ekstruzivno.

<div align="center">TARGET 11: HODANJE</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik i nakon poslednje debate ima veliku prednost u medijima.	Favorit i dalje ima veliku prednost u odnosu na ostale vozače na stazi.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 2	Rezultat prve debate je i u prošlosti često menjao tok izbora.	Rečni tok je dosta ubrzan nakon skorašnje jake kiše.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.
LIST 3	Izazivač je prema rezultatima anketa u velikom zaostatku.	Favorit je u zaostatku u odnosu na ostale učesnike u trci.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

<div align="center">TARGET 12: PLOVIDBA</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kampanja koju je stranka do skoro vodila polako počinje da menja kurs.	Zbog lošeg vremena i visokih talasa, brod je morao da promeni kurs.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 2	Predizborna trka se pretvara u izbor između ličnosti dva kandidata.	Maratonska trka se svela na završni sprint između glavnih favorita.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 3	Kandidat nije objasnio kako će zaobići političke prepreke na putu.	Zbog nevremena bilo je dosta prepreka na putu i saobraćaj je stao.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.

TARGET 13: BRZINA		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Zaoštravanje predsedničke trke izazvalo je nove polemike.	Tokom poslednje etape biciklistička trka je postala jako neizvesna.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 2	Promena kursa kojim se država kreće mogla bi da zaustavi ekonomski napredak.	Promena kursa kojim se brod kreće mogla bi da ga odvede u nepoznate vode.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 3	Ekonomska kriza navela je predsednika da potpiše novi zakon.	Pošto se navigacija pokvarila, kontrolni toranj je navodio avion ka pisti.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.

TARGET 14: JURCANJE		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je obećao da će se proizvodnja uskoro vratiti u zemlju.	Nakon dugog putovanja, predsednik se najzad vratio u zemlju.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.
LIST 2	Novi kandidat je napredovao 4 poena, prema anketama.	Povorka je polako napredovala uz strmu planinu.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.
LIST 3	Znamo da je put kojim idemo pogrešan i da je vreme za novi put.	Put kojim su išli očigledno pogrešan, pa su stali da bolje prouče mapu.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.

TARGET 15: PUTANJA		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

LIST 1	Predsednik je optužen da se udaljio od pouzdanih starih saveznika.	Mladić se neplanirano udaljio od grupe i jedva je uspeo da ih pronađe u gužvi.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.
LIST 2	Predsednik je tokom čitave debate često neočekivano uletao u ćorsokak.	Dok je pokušavao da pobegne od policije vozio je jako brzo i uleteo je u ćorsokak.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 3	Cilj kandidata je da se skloni s puta narodu i pokrene preduzetnički duh.	Brzo su se sklonili s puta kada su videli da ka njima juri kamion.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more“.

	TARGET 16: PUTOVANJE		

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednički kandidat će tokom debate povući svoj potez u predizbornoj trci.	Favorit će promeniti taktiku za finalnu trku ove sezone.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.
LIST 2	Kandidat je ubedio birače da njegova politika predstavlja **bolji put** za zemlju od suparnikove.	Pošto su detaljno proučili mapu, izletnici su našli bolji put od planiranog.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 3	Videće se da li će poslednja debata promeniti dinamiku predizborne trke.	Zbog neočekivane kiše i mokre staze, dinamika trke se promenila.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.

	TARGET 17: KRSTARENJE		

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Događaji u poslednje dve nedelje doveli su do novih razgovora.	Vodič je doveo grupu turista do starog dela grada.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 2	Dok je njegov mandat tekao, mediji su pratili njegove aktivnosti.	Kako su napredovali na svom putovanju, bilo je sve više oblaka.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Ima više načina na koje se mogu objasniti najnovija kretanja na berzi.	Laganim koracima su se kretali kroz park i pričali.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.

	TARGET 18: POLETANJE		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Moral u stranci je porastao i odagnao ideju da im predizborna trka izmiče.	Delovalo je da finalna trka ipak izmiče najvećem favoritu.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.
LIST 2	Izazivač se našao u poziciji sa koje se retko koji kandidat vratio.	Na svom putovanju kroz pustinju došli su napokon i do krajnje tačke.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.
LIST 3	Kineska ekonomija je, nakon dužeg vremena, prošle godine usporila.	Zbog jake kiše, vozač je iz bezbednosnih razloga morao da uspori.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.

	TARGET 19: ODMICANJE		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Tradicionalna večera je usputna stanica pred izbore svake četiri godine.	Ovaj motel je usputna stanica za sve koji su se zaputili ka primorju.	Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ekstruzivno.
LIST 2	Prema anketama, predsednik je u malom zaostatku u većini država.	Prema statistikama, tim je u blagom zaostatku u odnosu na ostatak lige.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.
LIST 3	Debata je vratila predizbornu kampanju na tačku koja je bila očekivana.	Pošto su se izgubili, vratili su se na polaznu tačku kako bi se bolje organizovali.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.

	TARGET 20: OBILAZAK		

4.3.3.1 RESULTS AND DISCUSSION

4.3.3.1.1 Overall mean tendencies

One-way repeated measures ANOVA showed a significant main effect of priming condition (Wilks' Lambda=.66, $F(2, 46)=12.03$, $p<.0005$, partial $\eta^2=.34$), while pairwise comparisons showed significant differences between the incongruent and literal condition ($M_{lit}=1067.06$ ms, $SD_{lit}=223.24$ ms, $M_{incong}=1242.31$ ms, $SD_{incong}=384.83$ ms, $p<.0005$), and the incongruent and metaphorical condition ($M_{met}=1054.74$ ms, $SD_{met}=224.30$ ms, $p<.0005$), with significantly longer RTs recorded in the incongruent condition (Figure 4.12). Additionally, we also ran a one-way ANOVA with Tukey post-hoc tests to make sure that the lexical-semantic content of priming sentences did not cause any differences between the three experimental lists of stimuli for responses within each of the priming conditions. The results did not reveal any significant differences between the three experimental lists ($p_{literal}=.684$, $p_{metaphorical}=.407$, $p_{incongruent}=.614$). In other words, there were no differences in the effects of priming between the three experimental lists of stimuli.
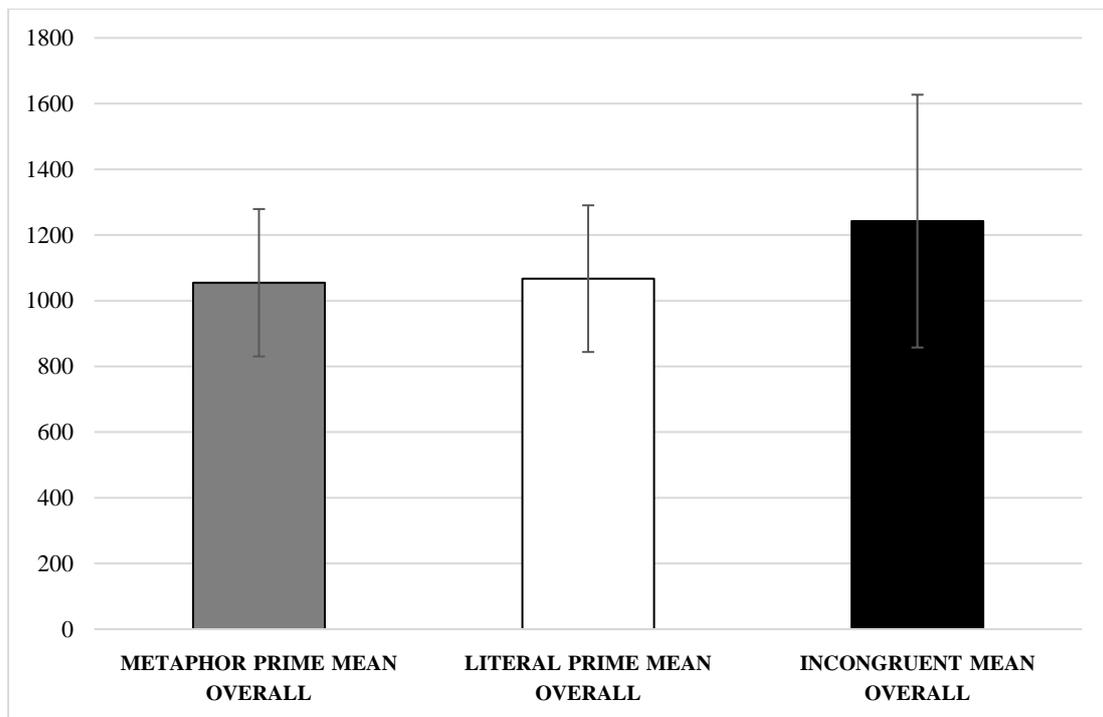
Figure 4.12. Overall mean RTs in the three experimental conditions
for targets from the frame of MOTION

Comparisons of the overall mean tendencies of recorded RTs between the metaphorical and literal condition did not reveal any significant differences ($p > .05$). In other words, none of the two conditions afforded a stronger initial activation of the MOTION frame that could bias participants' responses. On the other hand, the incongruent condition obviously affected participants' decision-making, which can be concluded from significantly higher RTs. Namely, the misalignment between the incongruent frames activated by the priming sentences and the frame of MOTION to which the targets belong caused a significant lag in RTs.

Discussed in the context of the structure building framework (Gernsbacher 1997), these findings suggest that shorter RTs in the two congruent priming conditions were sanctioned by the enhancement mechanism. Namely, the frame(s) activated by the congruent metaphorical and literal primes were aligned with the frame to which the target words belonged. On the other hand, with incongruent priming, the mechanism of suppression appears to have been more dominant, to the extent that the frames activated by the congruent primes were not aligned with the frame to which the target belonged. Thus, it took participants extra time to make a categorization decision in the main task.

In terms of mental models, we assume that all primes gave way to the construction of coherent mental models. Namely, individual lexical items afforded access to the relevant frame-level structures, thereby facilitating the process of meaning construction. In the case of congruent priming (both metaphorical and literal), the subsequently presented target word provided access to the frame that was aligned with the already activated frames. Consequently, participants took less time to make a categorization decision. However, in the incongruent condition the mental model constructed based on the content of the prime and the upcoming information did not match. So, participants took more time to suppress the irrelevant information active in working memory, and identify and recruit the relevant information from long-term memory based on which they could decide whether the target was a member of the category of MOTION or not.

In the sense of semantic priming, the content of the priming sentences should have generated expectancies that the upcoming information would be sensically and semantically related to the initially introduced content. In the case of congruent priming, this should cause facilitation in the main task, as shown by the results. In the incongruent condition, however, the violation of expectancies should cause inhibition in the main task. This prediction was also supported by the obtained data.

4.3.3.1.2 Qualitative analysis

In this section we will analyze one of the sets of stimuli used in the experiment. Namely, the metaphorical priming sentence *Predizborna kampanja je iznenada promenila pravac pred novu debatu,* corresponds to the conceptual metaphor ELECTION CAMPAIGN IS A JOURNEY, and to the conceptual key POLITICS IS MOTION. It is expected to activate the frames of JOURNEY (as the organizing frame of the source input) and ELECTION CAMPAIGN (corresponding to the organizing frame of the target input). As discussed above, owing to the fact that we are dealing with conventional metaphorical expressions, the potential interference between the two domains in the priming sentence did not occur, insofar as no processing lag could be identified relative to the literal prime. The target *pomak* can be understood to serve as an access point to the frame of MOTION. Consequently, the prime already activated the relevant information which, in turn, facilitated category-membership judgements in the main task. In other words, the frame activated by the target was aligned with the frame activated by the prime. We could also argue that the coherence of the initially constructed mental model was not violated by the introduction of the target. The process also appears to have been facilitated by the enhancement mechanism, in the sense that the information relevant for the categorization task had already been activated by the prime. In other words, the frames activated by the priming sentence provided a background against which participants could easily assess the category membership of target items.

The corresponding literal prime *Automobil je iznenada promenio pravac i sleteo s puta*, was designed to activate only the frame of MOTION (i.e., JOURNEY). The target *pomak* obviously afforded access to the same frame activated by the prime. So, we can argue that the decision-making process in the main task was again facilitated by the mechanism of enhancement, and that the initially constructed mental model corresponding to the prime was aligned with the frame-level structures activated by the target.

In the case of incongruent priming, the sentence *Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha,* should activate the semantic frame of CAR ENGINE. Obviously, the frame activated by the prime and the frame activated by the target *pomak* are not aligned. In order to make a category-membership judgement, participants first needed to override the irrelevant information introduced by the prime, and this was most likely facilitated by the suppression mechanism. Also, the frame activated by the target violated the coherence of the initially constructed mental model.

4.3.4 EXPERIMENT 4

Similar to Experiment 2, in Experiment 4 we also test the activation of the semantic frame of POLITICS in the three already introduced priming conditions: (i) congruent metaphorical, (ii) congruent literal, and (iii) incongruent. The experiment included 27 participants from the English Department, and 24 participants from the Psychology Department, making up a total of 51 participants. All participants were native speakers of Serbian, and students at the Faculty of Philosophy, University of Niš. There were forty-five 3rd-year students, and six 4th-year students. Additionally, there were 42 female, and 9 male participants, with the average age of 21.78 (SD=0.97). 46 participants reported their right hand as the dominant one, while the remaining 5 participants reported their left hand as dominant. All participants were randomly assigned to one of the three experimental lists, with 17 participants for each list. The stimuli used in this experiment are presented in Table 4.11.

Table 4.11. Prime-target pairs, POLITICS frame			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Delovalo je da predsednik u potpunosti kontroliše predizbornu trku.	Delovalo je da predsednik u potpunosti kontroliše predizbornu kampanju.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
LIST 2	Obe stranke su priznale da bi prva debata mogla da utiče na ishod predsedničke trke.	Obe stranke su priznale da bi prva debata mogla da utiče na ishod izbora.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.
LIST 3	Smatramo da su i država i ekonomija i dalje na pravom putu.	Smatramo da su i država i ekonomija i dalje u dobrom stanju.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
TARGET 1: VLAST			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kandidati će pokušati da učvrste svoje položaje u predizbornoj kampanji.	Kandidati će pokušati da predstave svoje ideje u predizbornoj kampanji.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 2	Prihvatanje nove pozicije možda deluje kao veliki korak unazad.	Prihvatanje nove pozicije možda deluje kao veliko razočarenje.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 3	Nakon duge kampanje, predizborna trka je u završnoj fazi.	Nakon duge kampanje, na redu su i debate pred izbore.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.

TARGET 2: AKT			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kandidat je u utorak napravio još jedan pogrešan korak u debati.	Kandidat je u utorak napravio još jednu veliku grešku u debati.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
LIST 2	Kako tvrde kandidati, ovi izbori biće prekretnica za ovu izuzetnu naciju.	Kako tvrde kandidati, ovi izbori biće veoma važni za ovu izuzetnu naciju.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.
LIST 3	Nakon duge kampanje, usledila je i završnica predizborne trke.	Nakon duge kampanje, usledila je i dugo čekana predizborna tišina.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.

TARGET 3: ŠTRAJK			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je optužen da nije uspeo da izvede zemlju iz ekonomske krize.	Predsednik je optužen da nije uspeo da ponudi rešenje za ekonomsku krizu.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.
LIST 2	Sledeća predsednička debata je odmah iza ugla.	Sledeća predsednička debata je će uticati na rezultate izbora.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.
LIST 3	Savetnici su upozorili kandidata da je predizborna trka daleko od dobijene.	Savetnici su upozorili kandidata da se pripremi za najvažnije pregovore.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.

TARGET 4: MOĆ			

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Protivkandidat će pokušati da povrati kontrolu nad predizbornom trkom.	Protivkandidat će pokušati da povrati kontrolu nad predizbornom kampanjom.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 2	Predizborna kampanja je nakon više meseci ušla u završnu fazu.	Predizborna kampanja je pružila dosta prilika za burne diskusije.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 3	U Kongresu je nakon maratonskih razgovora ipak došlo do zastoja.	U Kongresu su nakon dugih razgovora ipak uspeli da postignu dogovor.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.

TARGET 5: SUD

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Ankete pokazuju da birači veruju da se država kreće u pravom smeru.	Ankete pokazuju da birači veruju da će predsednik pobediti i na ovim izborima.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 2	Zastoj u Kongresu predstavlja prepreku koja predsedniku stoji na putu.	Neslaganja u Kongresu remete predsednikove planove za reizbor.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 3	Ukoliko budemo nastavili ovim putem situacija će se pogoršati.	Ukoliko ne dođe do promene taktike situacija će se pogoršati.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.

TARGET 6: USTAV

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je svoj slab nastup u poslednjoj debati ostavio iza sebe.	Predsednik je zaboravio na svoj slab nastup u poslednjoj debati.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 2	Obe stranke su priznale da je predsednička trka veoma neizvesna.	Obe stranke su priznale da su predsednički izbori neizvesni.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.

LIST			
LIST 3	Predsednik je vratio ekonomiju sa ivice provalije.	Predsednik je predstavio plan za rešavanje ekonomske krize.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.

TARGET 7: REŽIM			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	I sve dosadašnje predizborne kampanje kretale su se sličnom putanjom.	I sve dosadašnje predizborne kampanje bile su slične kao i ova.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.
LIST 2	Kandidat je naišao na veliku prepreku kada je predstavljao svoj ekonomski plan.	Kandidat je osetio nepoverenje birača kada je predstavljao svoj ekonomski plan.	Zemlja nije potpuno pravilnog oblika,već je malo spljoštena na polovima a ispupčena na ekvatoru.
LIST 3	Kandidati polako ulaze u poslednji mesec predizborne kampanje.	Kandidati sada očekuju poslednji mesec predizborne kampanje.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.

TARGET 8: GLASAČ			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Oba kandidata su zalazila u pitanja koja je trebalo da izbegnu.	Oba kandidata su se bavila pitanjima koja je trebalo da izbegnu.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 2	Kandidat je pokrenuo medijsku kampanju kako bi ojačao svoje glavne ideje.	Kandidat je iskoristio medijsku kampanju kako bi istakao svoje glavne ideje.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike.
LIST 3	Prošle godine, on je uskočio na mesto predsednikovog savetnika.	Prošle godine, on je primljen na mesto predsednikovog savetnika.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.

TARGET 9: MITING			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**

LIST 1	Tokom debate, predsednički kandidati su često skretali s puta.	Tokom debate, predsednički kandidati su se često bavili nebitnim pitanjima.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 2	Predsednik je poručio da je njegova vlada ostvarila stabilan napredak.	Predsednik je poručio da je njegova vlada rešila veliki broj problema.	Nafta se nalazi u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika.
LIST 3	Predizborna kampanja je iznenada promenila pravac pred novu debatu.	Predizborna kampanja je pred novu debatu iznenada postala neizvesna.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.

	TARGET 10: STRANKA		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nivo podrške za novog kandidata popeo se na 36 procenata.	Nivo podrške za novog kandidata sada je samo 36 procenata.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja.
LIST 2	Smer u kome se kreću ekonomija i berza utiče na uspeh kandidata.	Stanje na berzi i u ekonomiji utiče na uspeh kandidata.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".
LIST 3	Predsednički kandidati preduzimaju oprezne korake kako bi privukli birače.	Predsednički kandidati koriste različite strategije kako bi privukli birače.	Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ekstruzivno.

	TARGET 11: PREMIJER		
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik i nakon poslednje debate ima veliku prednost u medijima.	Predsednik i nakon poslednje debate ima veliku podršku javnosti.	Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka.
LIST 2	Rezultat prve debate je i u prošlosti često menjao tok izbora.	Rezultat prve debate je i u prošlosti često uticao na rezultat izbora.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer.

LIST 3	Izazivač je prema rezultatima anketa u velikom zaostatku.	Izazivač je prema rezultatima anketa nastupio veoma loše u poslednjoj debati.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

TARGET 12: PARLAMENT

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kampanja koju je stranka do skoro vodila polako počinje da menja kurs.	Kampanja koju je stranka do skoro vodila polako počinje da se menja.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis.
LIST 2	Predizborna trka se pretvara u izbor između ličnosti dva kandidata.	Predizborna kampanja se pretvara u izbor između ličnosti dva kandidata.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.
LIST 3	Kandidat nije objasnio kako će zaobići političke prepreke na putu.	Kandidat nije objasnio kako će ubuduće rešavati političke probleme.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.

TARGET 13: POSLANIK

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Zaoštravanje predsedničke trke izazvalo je nove polemike.	Neizvesnost predsedničkih izbora izazvala je nove polemike.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju.
LIST 2	Promena kursa kojim se država kreće mogla bi da zaustavi ekonomski napredak.	Nova poreska politika mogla bi da utiče na ekonomsko stanje u zemlji.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.
LIST 3	Ekonomska kriza navela je predsednika da potpiše novi zakon.	Zbog velike ekonomske krize predsednik je potpisao novi zakon.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji.

TARGET 14: MINISTAR

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION

LIST 1	Predsednik je obećao da će se proizvodnja uskoro vratiti u zemlju.	Predsednik je obećao da će se proizvodnja u zemlji uskoro obnoviti.	Prvu uspešnu konstrukciju aviona, sa realizacijom, izvela su braća Vilbur i Orvil Rajt.
LIST 2	Novi kandidat je napredovao 4 poena prema anketama.	Novi kandidat je dobio još 4 poena prema anketama.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 3	Znamo da je put kojim idemo pogrešan i da je vreme za novi put.	Znamo da je dosadašnja politika bila pogrešna i da je vreme za novu.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.

TARGET 15: IZBORI			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Predsednik je optužen da se udaljio od pouzdanih starih saveznika.	Predsednik je optužen da više ne sarađuje sa starim saveznicima.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu.
LIST 2	Predsednik je tokom čitave debate često neočekivano uletao u ćorsokak.	Predsednik tokom čitave debate često nije imao odgovor na pitanja.	Đumbir spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 3	Cilj kandidata je da se skloni s puta narodu i pokrene preduzetnički duh.	Cilj kandidata je da pospeši ekonomiju i probudi preduzetnički duh.	Delovi biljke selena su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

TARGET 16: POLITIČAR			
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Predsednički kandidat će tokom debate povući svoj potez u predizbornoj trci.	Predsednički kandidat će tokom debate predstaviti plan svoje stranke.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika.
LIST 2	Kandidat je ubedio birače da njegova politika predstavlja bolji put za zemlju od suparnikove.	Kandidat je ubedio birače da je on bolji izbor za zemlju od suparnika.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.

LIST			
LIST 3	Videće se da li će poslednja debata promeniti dinamiku predizborne trke.	Videće se da li će poslednja debata uticati na ishod predsedničkih izbora.	Ernest Hemingvej je dobio Pulicerovu nagradu 1953. godine za svoj roman „Starac i more".

<div align="center">TARGET 17: REFERENDUM</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Događaji u poslednje dve nedelje doveli su do novih razgovora.	Događaji u poslednje dve nedelje izazvali su nove polemike.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha.
LIST 2	Dok je njegov mandat tekao, mediji su pratili njegove aktivnosti.	Dok je predsednik bio na vlasti, mediji su pratili njegove aktivnosti.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
LIST 3	Ima više načina na koje se mogu objasniti najnovija kretanja na berzi.	Ima više načina na koje se mogu objasniti najnovije malverzacije na berzi.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.

<div align="center">TARGET 18: REPUBLIKA</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Moral u stranci je porastao i odagnao ideju da im predizborna trka izmiče.	Moral u stranci je porastao i odagnao ideju da će izgubiti na izborima.	Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru.
LIST 2	Izazivač se našao u poziciji sa koje se retko koji kandidat vratio.	Nakon duge kampanje, kandidat je čekao rezultate izbora.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13.
LIST 3	Kineska ekonomija je, nakon dužeg vremena, prošle godine usporila.	Kineska ekonomija je izazvala veliku pažnju medija.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika.

<div align="center">TARGET 19: DIPLOMATA</div>

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Tradicionalna večera je usputna stanica pred izbore svake četiri godine.	Tradicionalna večera održava se pred same izbore svake četiri godine.	Iverica je naziv za ploču napravljenu od iverja drveta i može biti presovana normalno i ektruzivno.

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LIST 2	Prema anketama, predsednik je u malom zaostatku u većini država.	Obe stranke su priznale da su predsednički izbori neizvesni.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
LIST 3	Debata je vratila predizbornu kampanju na tačku koja je bila očekivana.	Prema anketama, predsednikova predizborna kampanja dala je dobre rezultate.	Bor je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa.
TARGET 20: AMBASADOR			

4.3.4.1 RESULTS AND DISCUSSION

4.3.4.1.1 Overall mean tendencies

One-way repeated measures ANOVA revealed a significant main effect or priming condition (Wilks' Lambda=.57, $F(2, 44)$=16.30, $p<.0005$, partial η^2=.43). Subsequent pairwise comparisons did not show a significant difference between metaphorical and literal conditions, while the difference between both the incongruent condition and metaphorical condition (M_{met}=829.98 ms, SD_{met}=147.76 ms, M_{incong}=1044.61 ms, SD_{incong}=334.25 ms, $p<.0005$), and the incongruent condition and literal condition (M_{lit}=846.17, SD_{lit}=144.21 ms, $p<.0005$) reached significance, with higher mean RTs recorded in the incongruent condition in both cases (Figure 4.13). One-way ANOVA with Tukey post-hoc comparisons was used to make sure that there were no differences in the recorded RTs between the three lists of stimuli across the three experimental conditions. The analysis did not reveal any significant differences in any of the priming conditions ($p_{literal}$=.478, $p_{metaphorical}$=.346, $p_{incongruent}$=.906).

This again shows that both metaphorical and literal priming conditions afforded similar levels of activation of the frame of POLITICS. In other words, once again participants' RTs were invariant to the priming condition. Incongruent conditions, on the other hand, inhibited the decision-making process which is reflected in significantly longer RTs. Moreover, the obtained results show that the activation of, and access to individual targets can indeed be facilitated by congruent semantic priming, either metaphorical or literal. This is evidenced by significantly shorter RTs in both congruent conditions compared to the incongruent condition. A similar result has already been obtained in the previous three experiments.
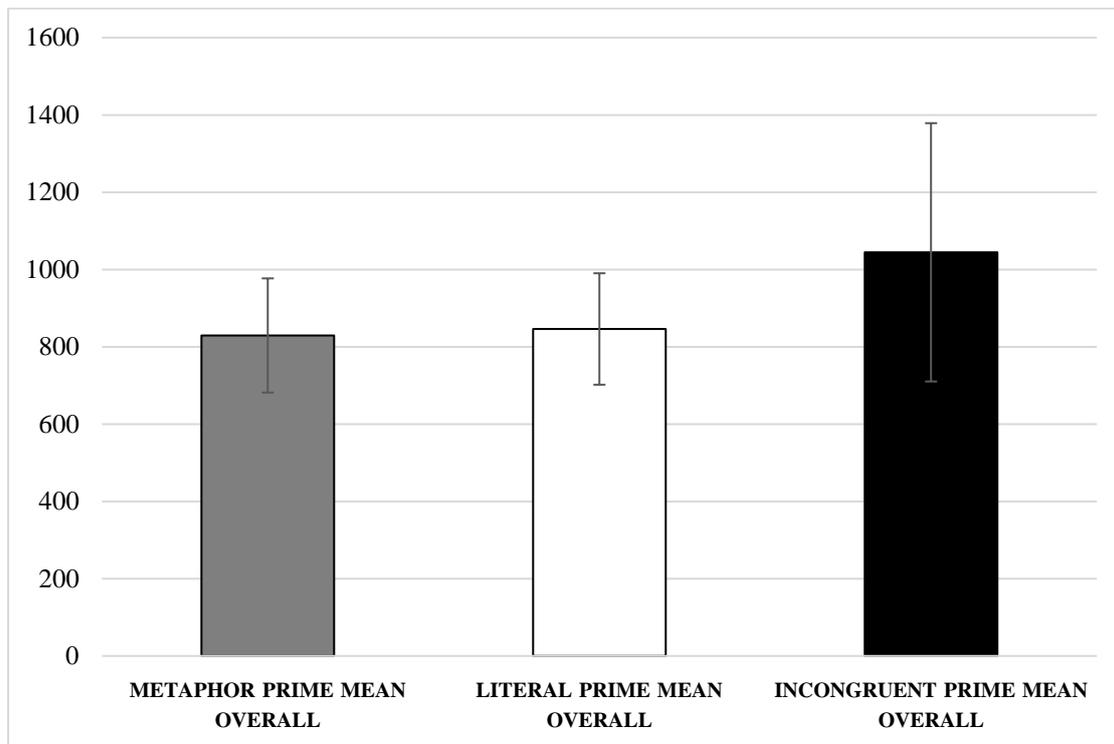
Figure 4.13. Overall mean RTs in the three experimental conditions
for targets from the frame of POLITICS

Once again, semantic priming in the two congruent conditions afforded the construction of coherent mental models. The subsequently presented targets belonged to the same frame activated by the primes, so participants found it easier to make a category-membership decision in the main task. In the sense of priming mechanisms, it can be argued that the targets did not violate the expectancies afforded by the primes, insofar as targets served to activate the same frame-level structures that had already been accessed by the primes. Further, we can also assume that the content introduced by the congruent primes enhanced the relevant elements and, in effect, facilitated the categorization judgements in the main task. Like in the previous experiment, incongruent priming, on the other hand, prompted the mechanism of suppression which allowed participants to exclude the irrelevant information and access the relevant frame structure (i.e., the frame of POLITICS) activated by the target. We can also argue that the expectancies generated by the incongruent prime were violated, and that the initially constructed mental model needed to be dismissed. This, in turn, caused a processing lag, resulting in longer RTs recorded in the main task.

4.3.4.1.2 Comparison of Experiments 2 and 4

We also compared the mean RTs in congruent metaphorical conditions between Experiments 2 and 4 (Figure 4.14), in order to explore possible differences in activation afforded by metaphorical expressions from the conceptual key POLITICS IS MOTION, and those from the conceptual key POLITICS IS CONFLICT. Targets in both experiments were identical and belonged to the frame of POLITICS. Repeated measures ANOVA did not reveal a significant effect of conceptual key (Wilk's Lambda=.965, $F(1, 48)$=1.76, p=.191, partial η^2=.035), which suggests that metaphorical expressions corresponding to both conceptual keys afforded equal levels of priming. In other words, both groups of metaphorical expressions seem to have activated the frame of POLITICS to the same degree, thereby equally facilitating participants' judgements of category membership.
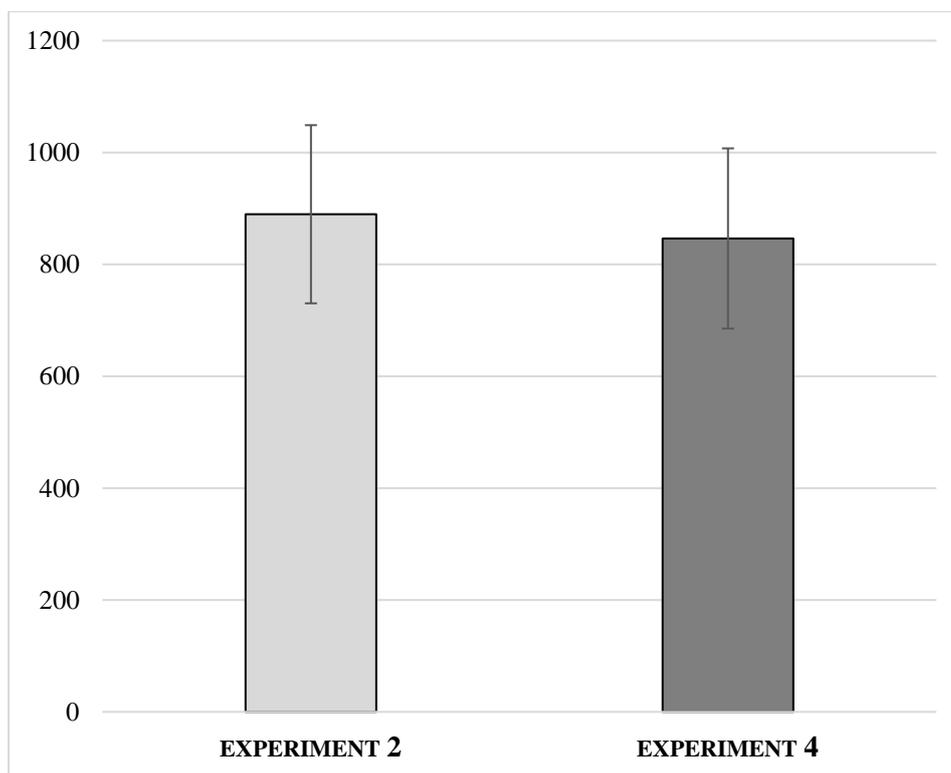
Figure 4.14. Mean RTs in congruent metaphorical conditions in Experiments 2 and 4

4.3.4.1.3 Qualitative analysis

In this section, we analyze the effect of the metaphorical prime *Predizborna kampanja je iznenada promenila pravac pred novu debatu,* already analyzed in Experiment 3. As argued above, the prime should activate the frames of ELECTION CAMPAIGN and JOURNEY. The target in this

experiment, *stranka*, is expected to activate the frame of POLITICS, which encompasses the frame of ELECTION CAMPAIGN. As a result, we expect that the decision making in the main task will be again facilitated by the enhancement mechanism, seeing that the frame-level structures against which participants should make their category-membership judgements were already active. The structure and coherence of the mental model constructed based on the prime was also preserved.

The corresponding literal prime in this case, *Predizborna kampanja je pred novu debatu iznenada postala neizvesna*, was designed to activate only the frame of ELECTION CAMPAIGN. The target *stranka* should provide access to the frame of POLITICS and, in effect, to the frame of ELECTION CAMPAIGN. We can argue that the enhancement mechanism is again at play, as the relevant information that should make it easier for participants to make categorization judgements was already active and foregrounded by the prime. In terms of mental models, the structure of the model constructed based on the prime was not violated.

In the incongruent condition, however, the sentence *Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji,* activates the frame of THEORETICAL PHYSICS (possibly even EINSTEIN), which is obviously misaligned with the frame of POLITICS activated by the target *stranka*. The suppression mechanism is again expected to play a pronounced role in this condition, to the extent that it should enable participants to eliminate the irrelevant information, and to dismiss the irrelevant mental model constructed based on the content of the priming sentence. Consequently, this additional processing obviously caused a lag reflected in significantly longer RTs recorded in this condition.

4.3.5 COMPARISON OF EXPERIMENTS 3 AND 4

One-way repeated measures ANOVA showed a significant effect of frames (Wilks' Lambda=.68, $F(1, 49)$=22.66, p<.0005, partial η^2=.32) in favor of the frame of POLITICS (M=843.58 ms, SD=158.47 ms), as participants showed significantly shorter overall mean RTs when categorizing targets from this frame compared to targets from the frame of MOTION (M=1058.21 ms, SD=220.53 ms), after being primed with identical metaphorical sentences (Figure 4.15). The results show different levels of activation of the organizing frames of input spaces in conceptual metaphors from the conceptual key POLITICS IS MOTION. Namely, the metaphorical priming sentences contained elements from the organizing frames of both input spaces, yet the recorded effect was significantly stronger for target words from the frame of POLITICS. Such findings suggest that there is a certain degree of interaction between the organizing frames of input spaces in conceptual metaphors contained in the priming sentences. Like with the first two experiments, such results seem to offer

support to the interaction view of metaphor processing (Richards (1965[1936]; Black 1962; Tourangeau and Sternberg 1981, 1982; Sternberg and Nigro 1983; Trick and Katz 1986; Kelly and Keil 1987). Seeing that the main tenets of this view have already been discussed in section 2.5.2.1, and summarized in section 4.2.5, we will proceed to the main conclusions and implications of the presented findings from Experiments 3 and 4.
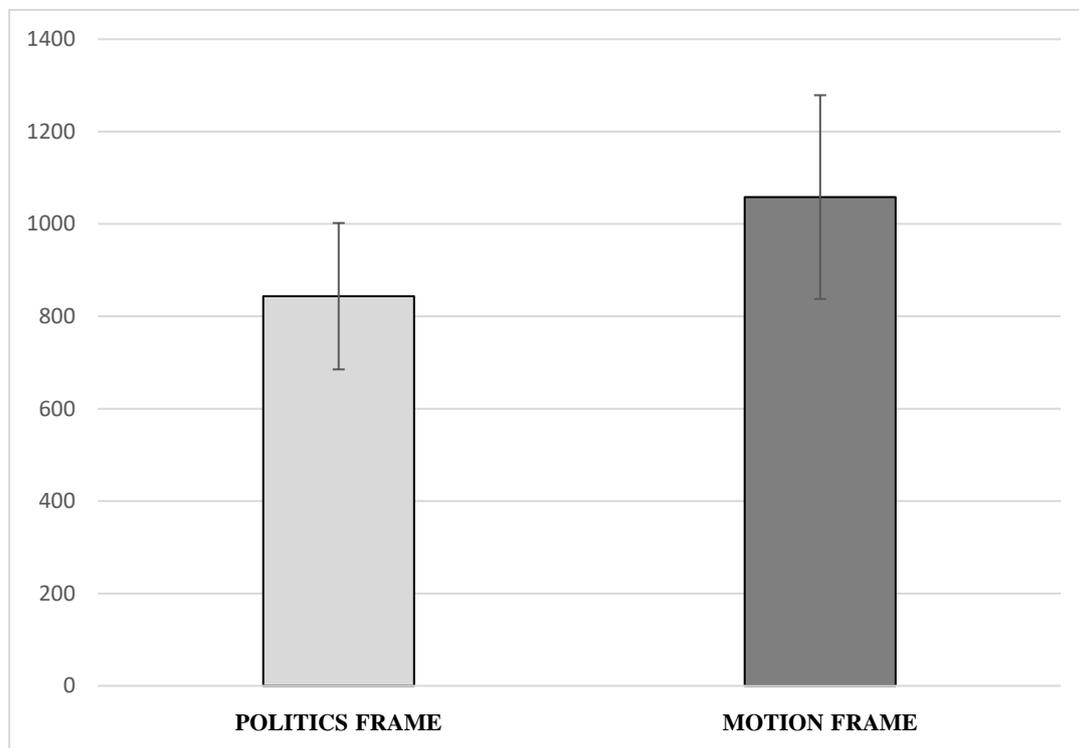
Figure 4.15. Overall mean RTs for targets from the frames of MOTION and POLITICS in Experiments 3 and 4

Namely, the obtained results seem to offer support for the domains-interaction view. Identical metaphorical primes used in Experiments 3 and 4 gave way to shorter RTs in the main task for target words from the frame of POLITICS (i.e., the organizing frame of the target input), compared to targets from the frame of MOTION (i.e., the organizing frame of the source input). The recorded RTs are seen as correlates of processing difficulties which are, in turn, directly conditioned by the level of activation. A higher level of activation and easier processing is correlated with shorter RTs, and vice versa. Once again, the use of the categorization task is licensed by the intricate connection between categorization, framing, and contextualization (e.g., Fillmore 1976, 1982). The effectiveness of the categorization task in comparison to the lexical decision task in testing the semantic frame activation has been explored in Figar (2020). Results from that study provided evidence in favor of the categorization task.

Overall, like in Experiments 1 and 2, we also conclude that Experiments 3 and 4 seem to offer evidence in favor of the domains-interaction view, to the extent that the organizing frames of the source and target inputs in conceptual metaphors corresponding to the conceptual key POLITICS IS MOTION appear to have different degrees of activation. The finer points involved in the process of meaning construction should be addressed in future research.

4.4 DISCUSSION: EXPERIMENTS 1–4

In the present section we summarize the main results obtained in the first four experiments, and offer answers to the main research questions outlined in sections 4.2.1 and 4.3.1.

4.4.1 EXPERIMENTS 1 AND 2

This section will be dealing with the main research questions related to Experiments 1 and 2.

RQ1. Will there be a significant difference in the overall mean tendencies of RTs recorded in the categorization task between the metaphorical and literal conditions for targets from each of the two respective frames (i.e., CONFLICT and POLITICS)?

The obtained results did not reveal any significant differences between the two congruent priming conditions in either of the first two experiments. Overall, such findings suggest that both metaphorical sentences which served to activate both of the relevant frames (i.e., CONFLICT and POLITICS), and literal sentences which activated only one of the two frames, respectively (CONFLICT in Experiment 1, and POLITICS in Experiment 2), afforded equal degrees of priming. In that sense, both metaphorical and literal contextualization afforded by the primes provided equal degrees of facilitation in the main task.

The findings also show that even though the lexical content of metaphorical sentences activated two semantic frames, this did not cause a processing lag compared to the literal priming condition where the primes activated only one of the two frames. One possible explanation is provided by the fact that all metaphorical sentences instantiated entrenched, i.e., highly conventional metaphors. Also, corpus research on metaphor in political discourse has shown that the political process is commonly conceptualized in terms of conflict (e.g., Charteris-Black 2004; Steinert 2003; Burnes 2011). Consequently, metaphorical priming proved to be no different than literal priming, in terms of the degree of facilitation it afforded. Additionally, as revealed by the comparison of results of Experiments 1 and 2 in the case of metaphorical priming, the organizing frame of the target input appears to be more active. While this might lead to a hypothesis that equal degrees of priming between the metaphorical and literal conditions should be identified only in Experiment 2, where targets were from the frame of POLITICS, this need not be the case. Namely, owing to the entrenched conceptualization of politics in terms of conflict, we can argue that the two frames bear intricate conceptual links. Consequently, the recruitment of either of the two frames should facilitate the

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judgments of category membership for targets belonging to both the frame of CONFLICT and the frame of POLITICS.

RQ2. How will the incongruent priming condition affect participants' decision-making in the main task? Will there be any notable differences compared to the two congruent priming conditions?

In the experimental conditions with incongruent priming, on the other hand, we identified inhibition in the main task, insofar as the recorded RTs were significantly longer compared to the two congruent priming conditions in both experiments. Namely, the semantic frames activated by the lexical-semantic content of the priming sentences were not aligned with the frames activated by the target words in the two experiments (CONFLICT in Experiment 1, and POLITICS in Experiment 2). Consequently, incongruent contextualization introduced a certain degree of noise that caused a processing lag reflected in increased RTs in the categorization task.

RQ3. Will there be a significant difference in RTs in the categorization task for targets from the frames of CONFLICT and POLITICS, respectively, when primed by the same metaphorical sentences?
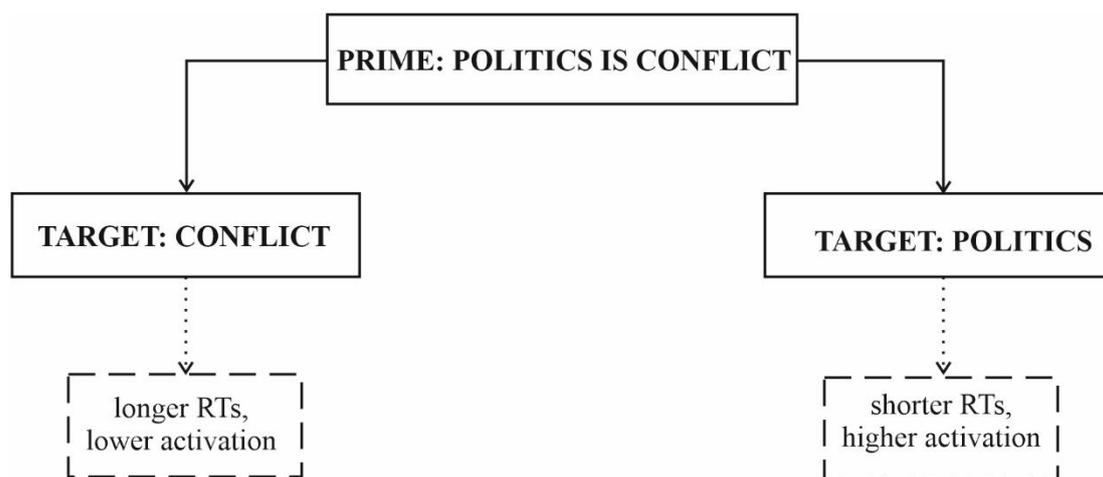
Figure 4.16. Different activation levels between the frames of CONFLICT and POLITICS

Priming with identical metaphorical sentences showed different degrees of activation of the organizing frames of the source and target inputs (see Figure 4.16). This was reflected in significantly longer RTs recorded for targets from the frame of CONFLICT. Namely, RTs were understood as correlates of processing difficulty and activation level, in the sense that shorter RTs should correspond to easier processing and higher activation level. The obtained results suggest that the organizing frame of the target input seems to be more active, which in turn afforded faster access and faster decision making in the main task, compared to the organizing frame of the source input.
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RQ4. Do the obtained results offer support for any of the metaphor processing models in the domain of psycholinguistics described in section 2.5.2?

Different levels of activation of the organizing frames of the source and target inputs appear to offer support to the interaction view of metaphor processing – in the context of psycholinguistic research, this is dubbed the domains-interaction view. Under this view, the activation of domains and features (in our terminology, semantic frames and elements of frames) necessitates a certain degree of interaction between domains (e.g., Tourangeau and Sternberg 1982). Moreover, Kelly and Keil (1987) maintain that the source and target inputs need to be restructured, and that this is more pronounced in the target input. Our results could be interpreted in relation to Kelly and Keil's (1987) findings in the sense that a higher degree of activation of the organizing frame of the target input (in our case the frame of POLITICS) afforded easier and faster access to its elements. In turn, participants were able to make faster decisions in terms of category-membership of target items.

RQ5. How can the obtained results be explained in terms of (i) semantic priming, (ii) semantic frames and mental models, and (iii) structure building framework?

In terms of semantic priming, lexical content of the primes affords access to the relevant frame-level structures. In turn, when the upcoming target belongs to the same frame, it does not violate the expectancies created by the prime, consequently leading to facilitation in the main task. On the other hand, with incongruent priming, there is a mismatch in frame-level structure between the prime and the target; consequently, this causes inhibition in the main task. In the context of semantic frames and mental models, it can be argued that the lexical content of primes licenses the construction of coherent mental models.

If the target is consistent with the schematic organization of the mental model, it is easier to make a categorization decision in the main task. On the contrary, if the target cannot be easily included in the initially constructed mental model, a processing lag can be identified. In terms of the structure building framework, decision-making in the two congruent priming conditions seems to be facilitated by the enhancement mechanism. Namely, when the target belongs to the same frame activated by the prime, the relevant information is already enhanced, resulting in shorter RTs. If the target does not belong to the same frame already activated by the priming sentence, a processing lag is recorded. This suggests that the participants most likely needed to suppress the irrelevant contextualization provided by the prime, and access the relevant background knowledge structure that would facilitate their category-membership judgments. The generalized schematic structure that also applies to Experiments 3 and 4 is presented in Figure 4.17.
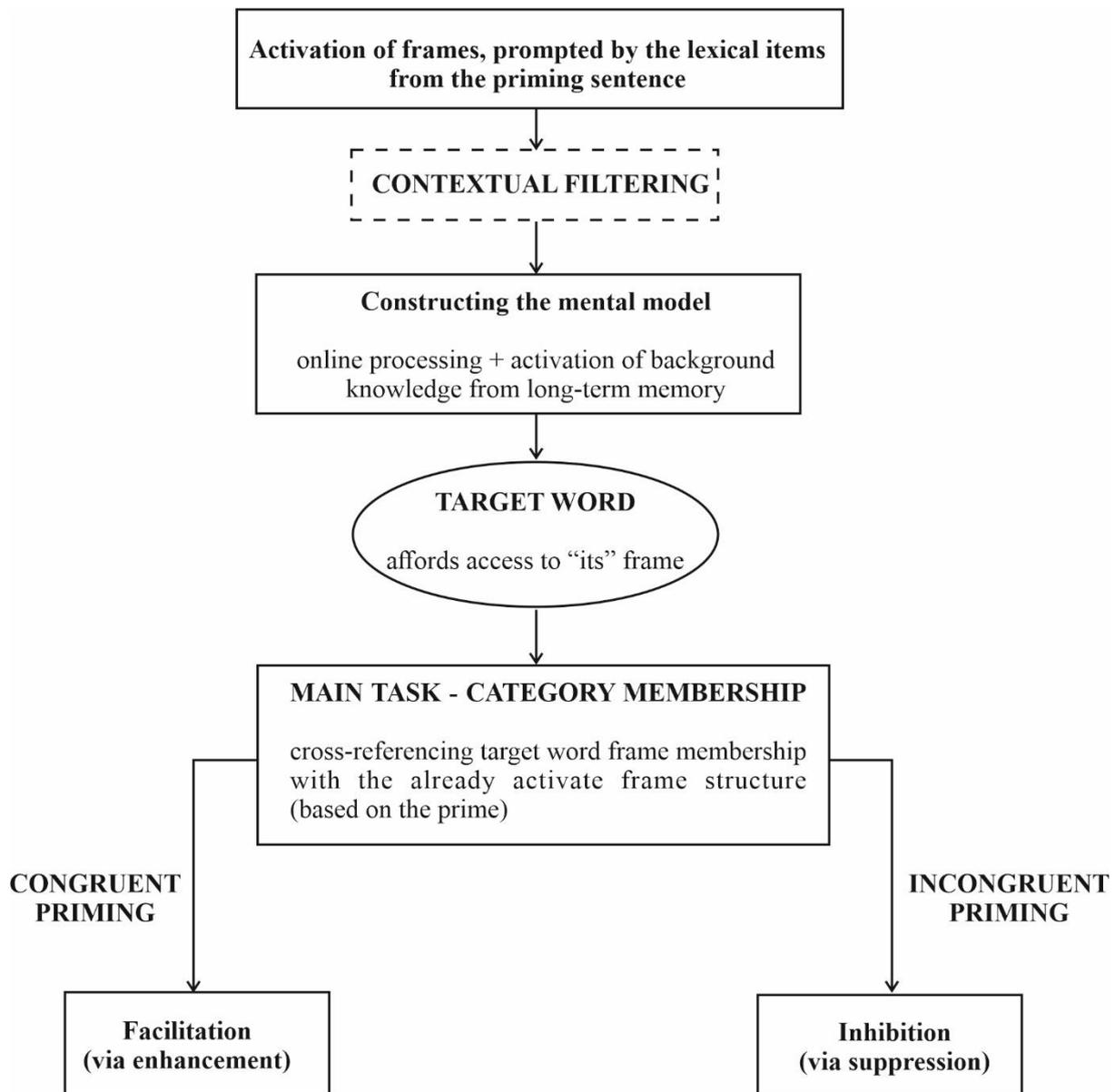
Figure 4.17. Schematics of the decision-making process in congruent and incongruent priming conditions

4.4.2 EXPERIMENTS 3 AND 4

In this section we present responses to the main research questions related to Experiments 3 and 4. Seeing that the experimental setup and the majority of research questions are similar to those in Experiments 1 and 2, and bearing in mind that the obtained results point to similar conclusions as was the case in the first two experiments, we will once again reiterate only the major points already discussed in section 4.3.6.1.

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RQ1. Will there be a significant difference in the overall mean tendencies of RTs recorded in the main task between the two congruent priming conditions for targets from each of the two respective frames (i.e., MOTION and POLITICS)? Will the results differ from those obtained in Experiments 1 and 2?

Like with the first two experiments, the comparison of RTs in the two congruent conditions in Experiments 3 and 4 did not show any significant differences. Again, this can be, at least in part, attributed to the highly conventionalized conceptualization of politics in terms of motion, present in congruent metaphorical primes. In effect, the presence of two organizing frames of source and target inputs in the metaphorical priming conditions did not cause any processing lag compared to its counterpart, literal priming condition. Therefore, it can be concluded that both metaphorical and literal congruent priming sentences afforded equal degrees of facilitation in the main task.

RQ2. How will the incongruent priming condition affect participants' decision-making in the main task? Will incongruent priming cause a similar processing lag like in the first two experiments?

Again, incongruent priming caused a consistent processing lag, similar to that recorded in the first two experiments. Namely, RTs recorded in this condition were significantly longer compared to both of the two congruent conditions. Also, it can be argued that incongruent framings introduced noise that caused a delay in RTs in the categorization task.

RQ3. Will there be a significant difference in RTs in the categorization task for targets from the frames of MOTION and POLITICS, respectively, when primed by the same metaphorical sentences? Will the difference in the level of activation between the organizing frames of source and target inputs identified for the conceptual key POLITICS IS CONFLICT also be identified here?

The comparison of congruent metaphorical priming conditions between Experiments 3 and 4, where identical metaphorical sentences were used as primes, showed an advantage in favor of the frame of POLITICS (i.e., the organizing frame of the target input). Namely, RTs recorded for the categorization of elements from the frame of POLITICS were significantly shorter compared to RTs for elements from the frame of MOTION. In turn, this suggests a higher degree of activation of the frame of POLITICS. Participants' RTs were seen as correlates of the activation level and processing lag, to the extent that longer RTs were associated with processing difficulties and a lower level of activation (see Figure 4.18).
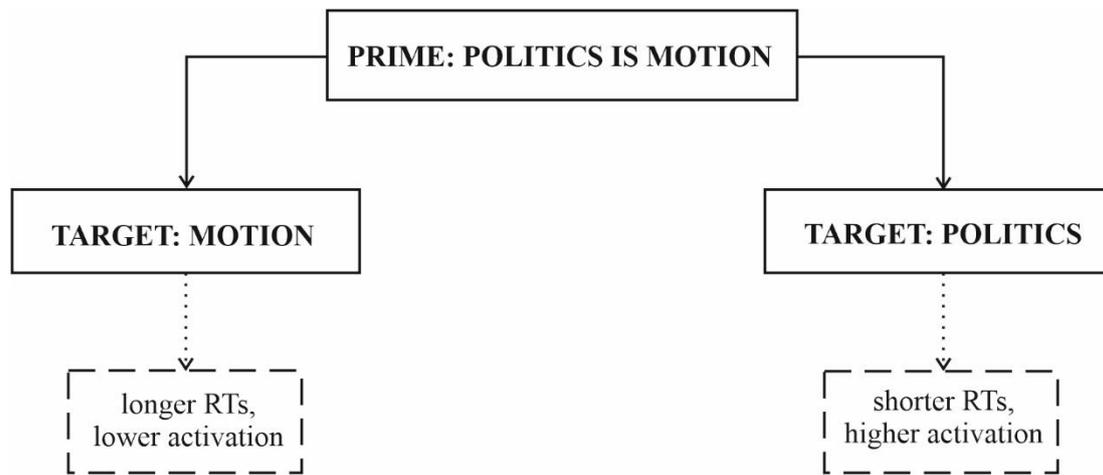
Figure 4.18. Different activation levels between the frames of MOTION and POLITICS

RQ4. Will there be a difference in the level of activation of the semantic frame of POLITICS between the condition of metaphorical priming with metaphorical expressions from the conceptual key POLITICS IS CONFLICT (Experiment 2) and those from the conceptual key POLITICS IS MOTION (Experiment 4)?

The comparison of results from Experiments 2 and 4 did not reveal any differences in RTs in the categorization task for identical targets from the frame of POLITICS, primed by metaphorical sentences corresponding to the conceptual keys POLITICS IS CONFLICT (Experiment 2) and POLITICS IS MOTION (Experiment 4). Such results can be attributed to the highly conventional nature of the two conceptual keys, rendering them equally suitable for the conceptualization of the political process. In other words, priming sentences from both groups afforded equal facilitation in the main task. The fact that each priming sentence gave a description of certain aspects of the political process suggests that the main topic[75] of the primes was in fact politics, conceptualized in various ways. Therefore, we can also argue that the frame of POLITICS, activated by the targets in these two experiments is also aligned with the general topic (i.e., theme) introduced by the primes. This can also serve to amplify the facilitation effect in the main task.

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[75] Note that the concept 'topic' here is not used to refer to the topic domain in metaphorical mappings, but rather in the sense of 'the general theme'.

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RQ5. Will the obtained results also offer support for the interaction view of metaphor processing (similar to Experiments 1 and 2)?

Like in Experiments 1 and 2, the last two experiments also showed different levels of activation of the organizing frames of source (MOTION) and target (POLITICS) input spaces. As discussed above, the comparisons revealed significantly longer RTs recorded for the organizing frame of the source input, compared to the target. Since RTs are seen as a correlate of processing difficulties and the level of frame activation, we can conclude that the frame of POLITICS showed a higher degree of activation in this group of metaphors as well. This seems to be analogous to the idea of a greater degree of restructuring in the target domain, proposed by some advocates of the domains-interaction view of metaphor processing (e.g., Kelly and Keil 1987). Also, a greater degree of activation can be associated with easier access to elements from the frame in question (in our case the frame of POLITICS). Overall, we can conclude that the results obtained in Experiments 3 and 4 offer support for the interaction view of metaphor processing.

RQ6. How can the obtained results be explained in terms of (i) semantic priming, (ii) semantic frames and mental models, and (iii) structure building framework?

Semantic priming, mental models, and structure building framework can be used to account for the obtained results in a similar fashion as in Experiments 1 and 2. In brief, in congruent priming conditions individual lexical items from the priming sentences serve to activate the related semantic frames. In the case of congruent literal primes, only one frame is activated, whereas congruent metaphorical primes activate two frames – the organizing frames of source and target inputs. When the subsequently presented target word belongs to the same frame that has already been activated by the prime, it does not violate the initially generated expectancies. Consequently, the decision making in the categorization task is easier. In the case of incongruent priming, the frame activated by the prime and the frame to which the target words belong are different. Consequently, the initially activated frame-level structure actually hinders decision making in the main task, which results in longer RTs.

Additionally, in congruent priming conditions the mental model constructed based on the content of the priming sentence is semantically related to the target word, consequently affording easier category-membership judgments in this condition. With incongruent priming, on the other hand, there is a mismatch between the constructed mental model and the frame to which the target words belong. Facilitation recorded in the two congruent experimental conditions in all four experiments can be also explained by the mechanism of enhancement, where the relevant information

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activated by the primes is foregrounded, making it easier for participants to make category-membership judgements. In the incongruent condition, the dominant role is most likely played by the suppression mechanism. Namely, the initially activated information is not relevant for decision-making in the main task, and, therefore, needs to be suppressed so that novel, relevant information can be recruited from long-term memory.

5. CONTEXTUAL APTNESS OF METAPHORICAL EXPRESSIONS

In this section we explore contextual aptness of metaphorical expressions from the conceptual key POLITICS IS CONFLICT (Experiment 5), and from the conceptual key POLITICS IS MOTION (Experiment 6). Both experiments included three priming conditions: *congruent metaphorical, congruent literal,* and *incongruent*. The main task in each of the two experiments included judgments of contextual aptness (in a binary *contextually apt/contextually inapt* task) for each target in the three priming conditions. This was realized in a response time paradigm, with online semantic/associative priming. The main aims of Experiments 5 and 6 were to (i) compare the effects of congruent metaphorical and congruent literal priming, (ii) compare the effects of incongruent priming compared to congruent conditions, and (iii) explore whether the relationship between the two congruent priming conditions could reveal anything about the construct of conceptual mappings.

Metaphorical congruent primes were presented as three-sentence-long paragraphs containing homogenous clusters, corresponding to the conceptual key analyzed in each experiment, respectively. These homogenous clusters are expected to introduce metaphorical framing (or metaphorical schemas, in the sense of Allbritton 1995). All priming clusters were constructed based on the clustering tendency and metaphorical expressions identified as members of clusters (section 3). While the analysis of clusters in the small specialized corpus (section 3) revealed the dominance of heterogenous clusters, in order to afford better control of experimental stimuli and procedures, and to reduce *noise*, we opted for the construction of representative homogenous clusters. Namely, homogenous clusters contain metaphorical expressions from a single conceptual key, while with heterogenous clusters metaphorical expressions stem from multiple conceptual keys. All priming clusters were constructed based on the corpus: (i) either their content was filtered out, so that only the homogenous content remained, or (ii) topically related metaphorical expressions were combined in order to construct a cluster. Following the tendency of cluster-sizes identified in the corpus, all priming clusters contained 3 metaphorical expressions[76].

Literal primes were constructed as counterparts of the metaphorical primes, so that all metaphorically used words were replaced with words (or phrases) used in the literal sense. Incongruent primes were constructed so as to afford access to different semantic frames compared to those activated by the target sentences (see Tables 5.10 and 5.22 for details). Target sentences were selected from the corpus and translated into Serbian, following the methodology described in section 3.5. Additionally, before selecting the final list of experimental stimuli, all potential targets were first

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[76] Corpus analysis showed the highest frequency of clusters containing three metaphorical expressions (see section 3 for details).

included in the norming studies, where they were rated by native speakers of Serbian for: *metaphoricity, familiarity, contextual aptness*, *aptness, comprehensibility, and number of possible interpretations*. These pose as important dimensions for metaphor comprehension identified in previous research (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011; Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019).

Such a rigorous approach for the selection of targets, as well as for the selection of metaphorical primes, was adopted in order to ensure a satisfactory level of the ecological validity of the study. In other words, we aimed to ensure that the experimental stimuli used in the study reflect actual instances of language use. Additionally, the experimental setup included contextualized representations of all stimuli. Details concerning the norming studies, experimental setup, methodology, aims, research questions, and the analysis and discussion of the obtained results are described in detail in the forthcoming sections.

5.1 Norming studies

In this section we present the results of the two norming studies dealing with the metaphorical expressions belonging to the conceptual keys POLITICS IS CONFLICT and POLITICS IS MOTION. Both norming studies were conducted via appropriate questionnaires, where participants were required to rate each target item (on 7-point Likert scales) for each of the dimensions relevant for metaphor comprehension. These dimensions were selected based on the previous research in psycholinguistics (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011; Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019), and they included the following items: (i) *metaphoricity,* (ii) *familiarity,* (iii) *contextual aptness*, (iv) *aptness,* (v) *comprehensibility, and* (vi) *number of possible interpretations*. *Metaphoricity* ratings describe how figurative (as opposed to literal) a given target is; *familiarity* can be understood as a rough correlate of the degree of conventionality, insofar as it describes how familiar a given target is (i.e., how frequently the participants encounter such use of language); *contextual aptness* describes how well the target metaphorical expression fits into the optimal context of the sentence in which it is presented; aptness ratings refer to how suitable the given source input is for the description of the corresponding target input in each target metaphorical expression; *comprehensibility* ratings refer to how easy it is to

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understand a target item; finally, *the number of possible interpretations* refers to the number of possible readings (i.e., senses) that can be attributed to each target metaphorical expression presented in optimal context. Additionally, we also analyzed the correlations between the dimensions in order to explore their relationship.

All target metaphorical expressions were extracted from a small specialized corpus of newspaper articles (described in section 3), and translated into Serbian (in line with the methodology outlined in Kostić 2010). All target items were presented in optimal contexts (i.e., sentence-level context, Prćić 1997) also extracted from the corpus. Such a procedure for the selection of target items was employed in order to increase the level of the ecological validity of the study, i.e., to ascertain that the experimental stimuli fully reflect everyday language use. Methodology for the selection of stimuli and translation procedures have been described in section 3.5.

5.1.1 NORMING STUDY: CONFLICT METAPHORS

The norming study included a list of 103 metaphorical expressions from the conceptual key POLITICS IS CONFLICT (Appendix B) in optimal context (i.e., sentence-level context, Prćić 1997), extracted from the corpus (described in section 3) based on the frequency of metaphor keywords. The selected sentences were then translated into Serbian (Appendix B; Table 5.3), in line with the methodology and procedures outlined in section 3.5. The norming study included two sets of questionnaires:

i. the first set included ratings of *metaphoricity, familiarity*, and *contextual aptness*. This part of the norming study included 32 participants, students from the English Department, Faculty of Philosophy, Niš (twelve 3rd-year and twenty 4th-year students), all native speakers of Serbian. There were 23 female and 12 male participants, with the mean average age of 22.22 (SD=1).

ii. the second set included ratings of *aptness, comprehensibility*, and *number of interpretations*. The second part of the norming study included twenty-five participants, 4th-year students from the English Department, Faculty of Philosophy, Niš, all native speakers of Serbian. There were 18 female and 7 male participants, with the average age of 21.56 (SD=0.77). All participants took part in both sets of the norming study for course credits.

Ratings of all dimensions included in the questionnaires were performed on 7-point Likert scales, along the six afore mentioned relevant dimensions extracted from previous research (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011; Roncero

and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019): *metaphoricity, aptness, contextual aptness, comprehensibility, familiarity,* and *number of possible interpretations*. In line with Stamenković, Milenković, and Dinčić (2019), based on the results obtained for individual dimensions, we calculated the overall coefficient presented as the sum of mean ratings of *metaphoricity, aptness, contextual aptness, comprehensibility* and *familiarity*. The final list of target stimuli used in the main experiments included the 7 top-, middle-, and low-rated sentences, making the total of 21 target stimuli (Table 5.3).

Table 5.1. Correlations between the relevant dimensions
for all items from the conceptual key POLITICS IS CONFLICT

		METAPHORICITY	FAMILIARITY	CONTEXTUAL APTNESS	APTNESS	COMPREHENSIBILITY
METAPHORICITY	Pearson Correlation	1	-.363**	-.243*	-.439**	-.299**
	Sig. (2-tailed)		.000	.013	.000	.006
	N	103	102	103	102	95
FAMILIARITY	Pearson Correlation	-.363**	1	.847**	.673**	.690**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	102	102	102	101	95
CONTEXTUAL APTNESS	Pearson Correlation	-.243*	.847**	1	.663**	.564**
	Sig. (2-tailed)	.013	.000		.000	.000
	N	103	102	103	102	95
APTNESS	Pearson Correlation	-.439**	.673**	.663**	1	.466**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	102	101	102	102	94
COMPREHENSIBILITY	Pearson Correlation	-.299**	.690**	.564**	.466**	1
	Sig. (2-tailed)	.003	.000	.000	.000	
	N	95	95	95	94	95

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Based on the obtained data we calculated the mean tendencies for each of the relevant dimensions, and compared their correlations (Table 5.1). We also included the Holm-Bonferroni sequential correction (Gaetano 2013). The results showed negative correlations between metaphoricity on the one hand, and familiarity, contextual aptness, aptness, and comprehensibility, on the other, all of which reached significance. These findings suggest that higher ratings of metaphoricity are associated with lower ratings of familiarity, contextual aptness, aptness, and comprehensibility. In effect, the targets rated as more metaphorical also tend to be less apt in the specific context, less comprehensible, less familiar, and the selected source domains appear not to be the best choice for describing the corresponding targets. Familiarity ratings correlate significantly with ratings of contextual aptness, aptness, and comprehensibility, suggesting that higher degrees of familiarity afford higher degrees of contextual aptness and aptness, as well as better

comprehensibility. Contextual aptness showed high, significant positive correlations with aptness and comprehensibility, suggesting that higher ratings of contextual aptness yield better comprehensibility and higher degrees of aptness between the source and target domains. Finally, aptness and comprehensibility also revealed significant, high positive correlations, which shows that higher ratings of aptness can be associated with better comprehensibility.

We also tested how well a multiple linear regression model *(metaphoricity, familiarity, aptness)* can predict the variance in ratings of *contextual aptness* of target metaphorical expressions. The initially tested model also included comprehensibility; however, owing to the high correlation between familiarity and comprehensibility (.7), and in line with the general methodological guidelines outlined in Pallant (2010: 158), it was omitted in the final model. The linear regression model *(metaphoricity, familiarity, aptness)* was significant for all independent variables ($p<.0005$), and it accounted for 74.5% of variance for contextual aptness ratings. Ratings of familiarity made the largest unique contribution (beta=.746, $p<.0005$), followed by aptness (beta=.215, $p=.004$), and metaphoricity (beta=.122, $p=.036$).

We also tested the multiple linear regression model *(metaphoricity, familiarity, aptness)*, and its potential to predict the ratings of *comprehensibility*. The model was significant ($p<.0005$), and it accounted for 47.8% of variance in comprehensibility ratings. The largest unique contribution was identified for familiarity, which was also significant (beta =.68, $p<.0005$). The contribution of metaphoricity (beta=-.06, $p=.485$) and aptness (beta=-.017, $p=.873$), on the other hand, did not reach significance.

The results obtained from the analyses of correlations between the relevant dimensions, and those obtained from multiple linear regression models offer a possibility for dynamic interaction between the dimensions.

5.1.1.1 COMPARISON OF DIMENSIONS FOR THE SELECTED TARGETS

The list of selected targets as well as the data pertaining to them are available in Table 5.3, and Figures 5.1 and 5.2. Based on the collected data we also compared the correlations of the overall mean tendencies for all five dimensions for the selected targets. The analysis revealed an identical trend discovered in the analysis of all stimuli. Namely, metaphoricity showed consistent negative correlations with all other dimensions, where only the correlation with aptness reached significance (Table 5.2). The comparisons between the remaining dimensions showed positive correlations, and all items showed significance.

Table. 5.2 Correlations between the relevant dimensions for target items
from the conceptual key POLITICS IS CONFLICT used in the experiment

		METAPHORICITY	FAMILIARITY	CONTEXTUAL APTNESS	APTNESS	COMPREHENSIBILITY
METAPHORICITY	Pearson Correlation	1	-.408	-.317	-.595**	-.458*
	Sig. (2-tailed)		.134	.162	.016	.111
	N	21	21	21	21	21
FAMILIARITY	Pearson Correlation	-.408	1	.918**	.783**	.742**
	Sig. (2-tailed)	.067		.000	.000	.000
	N	21	21	21	21	21
CONTEXTUAL APTNESS	Pearson Correlation	-.317	.918**	1	.809**	.739**
	Sig. (2-tailed)	.162	.000		.000	.000
	N	21	21	21	21	21
APTNESS	Pearson Correlation	-.595**	.783**	.809**	1	.671**
	Sig. (2-tailed)	.004	.000	.000		.002
	N	21	21	21	21	21
COMPREHENSIBILITY	Pearson Correlation	-.458*	.742**	.739**	.671**	1
	Sig. (2-tailed)	.037	.000	.000	.001	
	N	21	21	21	21	21

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)
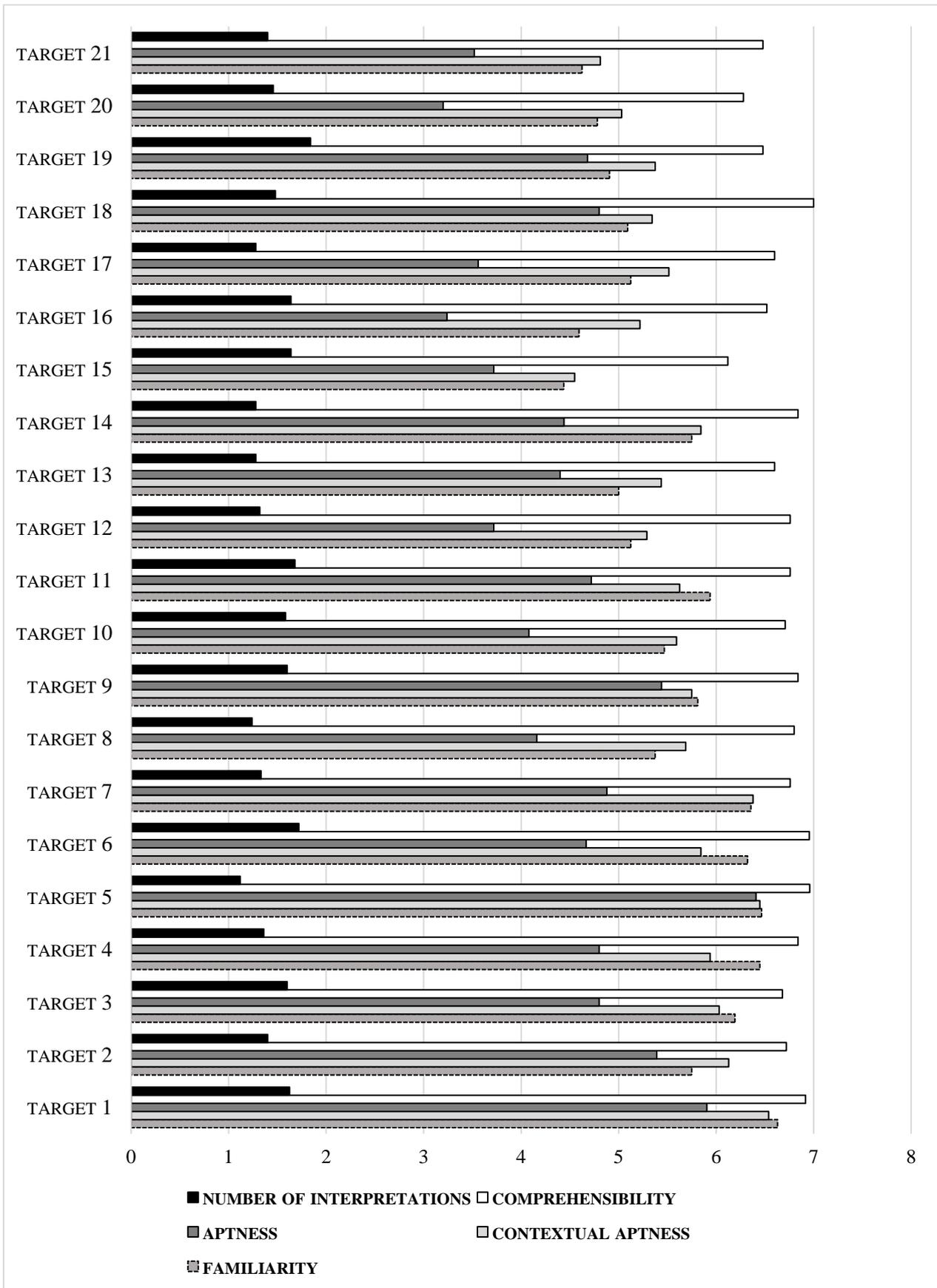
Figure 5.1. Familiarity, contextual aptness, comprehensibility, aptness, and number of interpretations
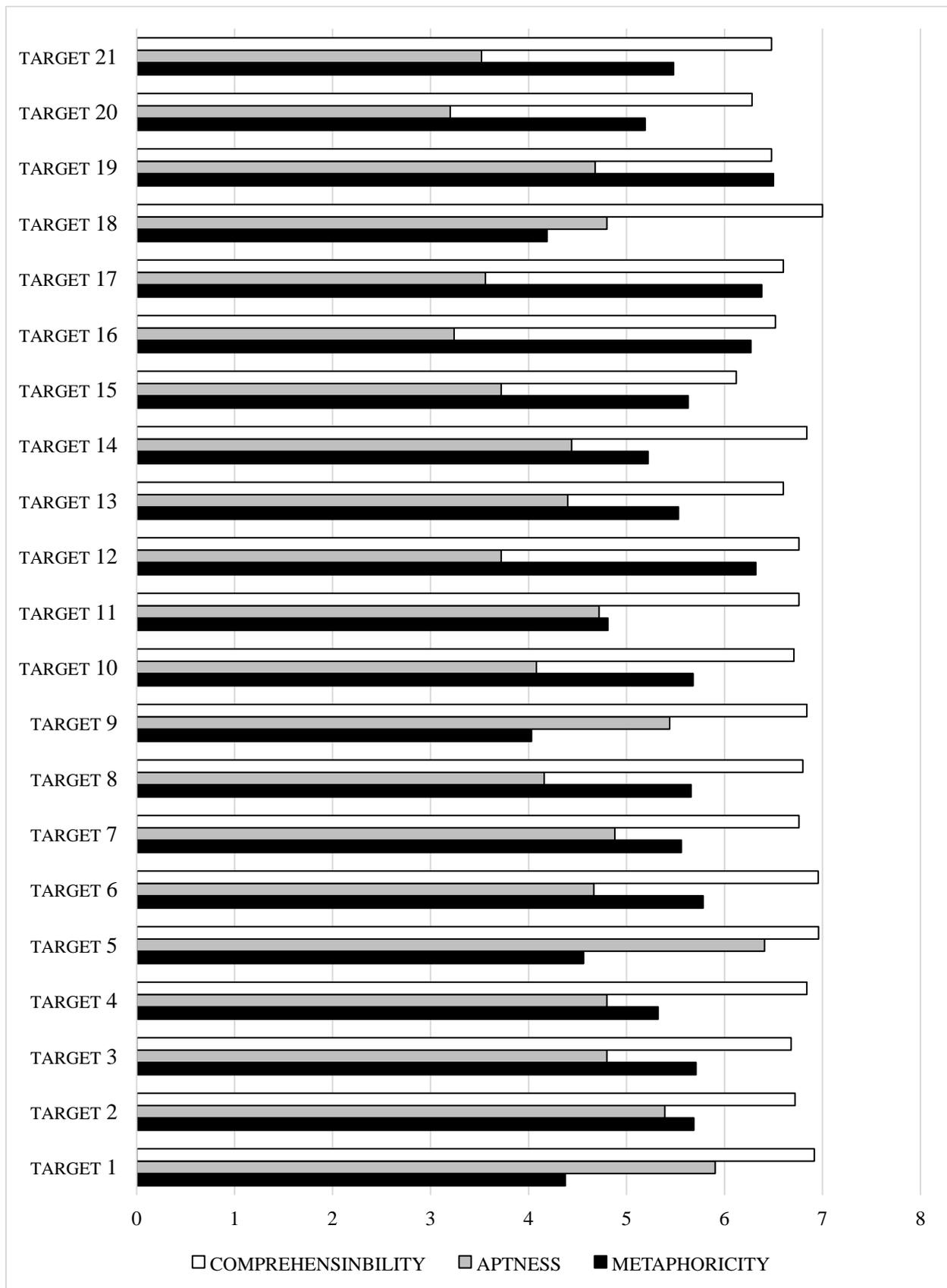
Figure 5.2. Metaphoricity, comprehensibility, aptness

Figure 5.1 shows a fair degree of similarity in ratings of contextual aptness and familiarity, suggesting again that two are mutually related. Namely, for the selected items both familiarity and contextual aptness follow a similar trend. This is supported by the high positive correlation (Pearson Correlation=.918, $p<.01$). Comprehensibility ratings are by far the highest, and show minimal fluctuations. Comprehensibility also showed significant positive correlations with all other dimensions, except for metaphoricity which showed a negative correlation. The number of possible interpretations also shows minimal differences, which was also the tendency identified for all items included in the norming study. In addition, ratings of aptness together with ratings of metaphoricity for the selected targets showed the highest degree of fluctuations, which is evident in Figure 5.2.
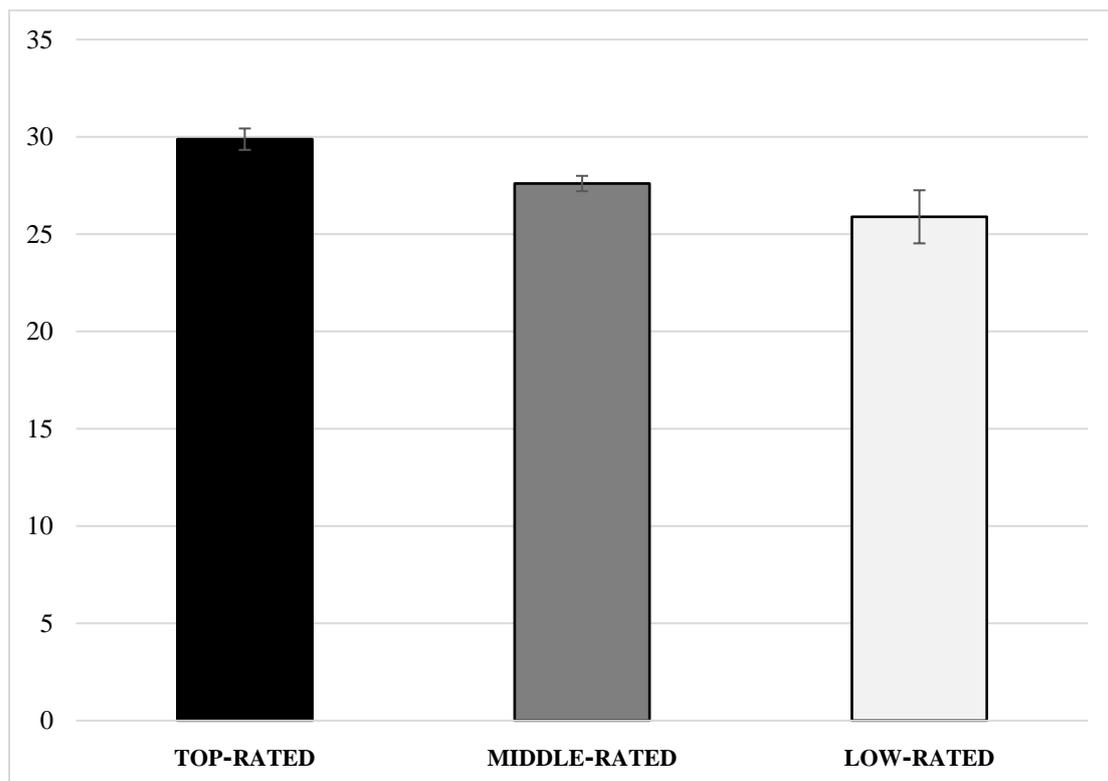
Figure 5.3. Overall coefficient for top-, middle, and low-rated targets

We used one-way ANOVA with Tukey post-hoc comparisons to see whether there were any significant differences in the overall mean ratings for the selected dimensions between the three groups of targets: (i) top-, (ii) middle-, and (iii) low-rated. The analysis showed a significant main effect of metaphor group for all dimensions ($p<.005$) except for metaphoricity ($F(2, 18)=.59$, $p=.564$, $\eta^2=.06$) and number of interpretations ($F(2, 18)=.596$, $p=.562$, $\eta^2=.06$). The analysis of the overall coefficient also showed a significant effect of metaphor group ($F(2, 18)=36.27$, $p<.0005$, $\eta^2=.80$). Additionally, post-hoc comparisons of mean values of the overall coefficient also showed a

significant difference between all three metaphor groups (Figure 5.3): between top- and middle-rated ($p<.0005$), top- and low-rated ($p<.0005$), and middle- and low-rated ($p=.005$).

Table 5.3 gives an overview of target stimuli along with the original items extracted from the corpus. The original items are presented in wider contexts, while the translated targets appear in *filtered out* optimal contexts. This was done in order to accommodate the content of the targets to the congruent priming paragraphs with which they were coupled in the main experiment (see Table 5.10 for details). As outlined in section 3.5, the primary goal was to preserve the range of metaphorical conceptualizations identified in the source language (i.e., English) in their Serbian translations. The main focus was on metaphorically used words, while the remaining context in which these words appeared in the corpus was used as a guideline, and was accommodated as needed. Still, both metaphorically used words and the optimal contexts in which they appear fully reflect the tendencies identified in the corpus. Such minor contextual accommodations in the translation procedure are not expected to violate the ecological validity of the stimuli used in the experiments.

Table 5.3. Norming study, CONFLICT metaphors

Najnovije ankete pokazuju da je predsednik nadjačao svog protivkandidata u marketinškoj kampanji.

Mr. Obama has outgunned Mr. Romney in advertising in critical states (Landler and Baker 2012, October 4).

Target 1

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.38	1.79	6.63	0.56	6.54	0.58	5.90	0.94	7.00	0.00	1.63	0.49	**30.36**

Sigurno je da će oba kandidata na novu debatu doći naoružani dobro uvežbanim replikama.

Both candidates will come to the debate armed with well-practiced one-liners (Zeleny 2012, October 2).

Target 2

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.69	1.33	5.75	1.44	6.13	0.99	5.39	0.94	7.00	0.00	1.40	0.58	**29.68**

Danas stranke imaju armije pristalica koje postavljaju komentare na tviteru.

Now, both campaigns have armies of supporters posting on Twitter as soon as the debate begins (Shear 2012, October 14).

Target 3

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.71	1.22	6.19	0.95	6.03	0.86	4.80	1.73	7.00	0.00	1.60	0.58	**29.41**

Kandidati se pripremaju za završnu rundu predizborne kampanje.

Candidates are preparing for the final round of the campaign[77] (Carr 2012, October 14).

Target 4

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.32	1.56	6.45	0.78	5.94	1.24	4.80	1.44	7.00	0.00	1.36	0.49	**29.35**

Novi kandidat je bio primoran da brani svoje stavove.

Mr. Romney will be forced to defend his plans during the next debate[78] (Rattner 2012, October 14).

Target 5

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.56	1.76	6.47	0.68	6.45	0.69	6.41	0.73	7.00	0.00	1.12	0.33	**30.85**

Nijedan od kandidata nije uspeo da zada smrtonosni udarac koji su svi očekivali.

Neither candidate delivered that knockout blow (Zeleny and Rutenberg 2012, October 3).

Target 6

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.78	1.10	6.32	0.70	5.84	0.92	4.67	0.86	7.00	0.00	1.72	0.54	**29.57**

Predsednik mora da dobije bitku za fiskalni plan.

He's got to win a battle for a fiscal framework that gives him the ability to make the kind of investments that he's out on the campaign trail talking about (Calmes 2012, october 15).

Target 7

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.56	1.37	6.36	0.68	6.38	0.73	4.88	1.69	6.95	0.21	1.33	0.48	**29.94**

Nakon rafalne paljbe kritika koje su usledile nakon debate, predsednik je nastupio jako odlučno.

Under fire from fellow Democrats, Mr. Obama came out swinging (Landler and Baker 2012, October 4).

Target 8

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.66	1.21	5.38	1.64	5.69	1.31	4.16	1.55	6.95	0.21	1.24	0.52	**27.68**

Predstavnik protivničke stranke izjavio je da će povećanje poreza nauditi vlasnicima manjih preduzeća.

Target 9

Mr. Romney said raising taxes on high earners would hurt small-business owners, who create jobs … (Gabriel 2012, October 17).

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[77] Composed from multiple sections of the corpus.
[78] Composed from multiple sections of the corpus.

	METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	4.03	1.62	5.81	1.28	5.75	1.22	5.44	1.45	7.00	0.00	1.60	0.50	**27.87**

Kroz nove planove, predsednik će saseći sve što se tiče ministarstva odbrane.

Mr. Romney has put forward a budget framework that would [...] slash everything else that's not defense (Rattner 2012, October 14).

Target 10

	METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.68	0.90	5.47	1.37	5.59	1.27	4.08	1.58	7.00	0.00	1.58	0.58	**27.53**

Predsednik će u narednoj debati pokušati da pređe u ofanzivu.

The president now finds himself entering the final month of the campaign trying to get off the defensive and regain his footing (Landler and Baker 2012, October 4).

Target 11

	METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	4.81	1.97	5.94	1.44	5.63	1.21	4.72	1.21	7.00	0.00	1.68	0.48	**27.86**

Ona je uskoro postala odani vojnik predsednikove kampanje.

Ms. Cutter has become the chief messenger for the Obama campaign, a loyal soldier who says the things the candidate can't (Chozick 2012, October 12).

Target 12

	METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	6.32	0.61	5.13	1.52	5.29	1.13	3.72	1.70	7.00	0.00	1.32	0.48	**27.22**

Rafalna paljba reklama koju je organizovala protivnička partija je ugrozila predsednika.

Republican advertising will be enough to undo the damage to Mr. Romney's standing from the early barrage of commercials from Mr. Obama (Rutenberg and Peters 2012, October 3).

Target 13

	METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.53	1.34	5.00	1.88	5.44	1.44	4.40	1.91	6.71	0.55	1.28	0.46	**26.97**

Predsednik i novi kandidat su razmenjivali oštre udarce i optužbe.

Under bright lights in a Tarrant County College lecture hall last week, State Senator Wendy Davis, the Democratic incumbent, and her Republican challenger, State Representative Mark Shelton, traded sharp jabs and bitter accusations (Ramshaw 2012, October 18).

Target 14

	METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.22	1.45	5.75	1.44	5.84	1.19	4.44	1.83	7.00	0.00	1.28	0.46	**28.09**

Kandidati su tokom debate sparingovali oko velikog broja važnih pitanja.

Mr. Obama and Mr. Romney repeatedly sparred over whether Mr. Romney has proposed a $5 trillion tax cut (Cooper et al. 2012, October 4).

Target 15

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.22	1.43	4.66	1.89	4.53	1.54	3.60	1.68	6.50	0.74	1.40	0.58	**24.05**

Novi kandidat je tokom debate zabacio mrežu argumenata ka predsedniku.

He aimed an offhand barb at Mr. Obama on Saturday (Gabriel and Kaplan 2012, October 13).

Target 16

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
6.27	0.94	4.59	2.08	5.22	1.56	3.24	1.92	6.52	0.77	1.64	0.49	**25.84**

Pred debatu, oba kandidata su se povukla u svoj ugao biračkog ringa.

President Obama and Mitt Romney retreated to different corners of the electoral ring […], a day [before] going toe-to-toe on Long Island (Landler and Oppel 2012, October 17).

Target 17

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
6.38	0.68	5.13	1.93	5.52	1.26	3.56	1.78	6.60	0.71	1.28	0.46	**27.18**

Glasačima naviknutim na kratke i brze političke borbe debata je delovala veoma dosadno.

It might have made the exchange boring in the eyes of voters who have come to expect short and fast-paced political combat (Shear 2012, October 4).

Target 18

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.19	1.51	5.09	1.51	5.34	1.33	4.80	1.78	7.00	0.00	1.48	0.51	**26.43**

Predsednik je neplanirano zalutao u minsko polje rasističke politike.

Senator Barack Obama waded into the minefield of racial politics (Peters and Rutenberg 2012, October 3).

Target 19

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
6.50	0.64	4.91	1.78	5.38	1.36	4.68	1.75	7.00	0.00	1.84	0.37	**27.94**

Target 20

Novi predsednikovi planovi neće rasporiti Zavode za zdravstveno i socijalno osiguranje.

Mr. Romney has put forward a budget framework that would not eviscerate Medicare and Social Security (Rattner 2012, October 14).

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.19	1.51	4.78	1.75	5.03	1.80	3.20	1.47	6.48	0.79	1.46	0.51	**24.48**

Predsednik je uživao u probadanju suparnikovih argumenata.

The president delighted in skewering not just his opponent's proposals but his use of words (Landler and Oppel 2012, October 17).

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.48	1.21	4.63	1.77	4.81	1.42	3.52	1.56	6.58	0.65	1.40	0.50	**24.92**

Target 21

5.1.1.2 QUALITATIVE DESCRIPTION OF STIMULI

The list of targets (i.e., metaphorical expressions in optimal, sentence-level contexts) along with their corresponding conceptual metaphors and conceptual keys is given in Table 5.4. Based on metaphor keywords and key-phrases, we were able to identify the most probable corresponding conceptual metaphors and their conceptual keys (in the se sense of Charteris-Black 2004). Again, as already discussed (see section 3), we stress the fact that the proposed classification serves as a provisional list, that can be subject to further, more detailed specifications. Namely, identifying conceptual mappings should be addressed in a separate line of research, as typically leads to far more disagreement between researchers (Steen 2007; Steen et al. 2010).

As it can be seen in Table 5.4, all metaphorical expressions and conceptual metaphors can be (provisionally) classified under the overarching conceptual key POLITICS IS CONFLICT, although with slight nuances. Namely, targets 4, 15, and 17 can also be understood to belong to the conceptual key of POLITICS IS BOXING. However, bearing in mind their frequency in the corpus, and the fact that they are predominantly used to foreground the confrontational aspect of boxing, rather than the competitive aspect related to sports alone, this conceptualization of the political process was also classified under the more generalized conceptual key of CONFLICT. Additionally, targets 2, 3, 7–13, 19, and 20, can be seen as representatives of the conceptual key POLITICS IS WAR, where WAR metaphors are particularly common in political discourse (e.g., Charteris-Black 2004; Silaški, Đurović, and Radić-Bojanić 2009; Steinert 2003). Again, this conceptualization also belongs to the more generalized conceptual key of CONFLICT. Target 10 can arguably also be classified as a representative of the conceptual key POLITICS IS FORCE which is directly related to the conceptual key

of CONFLICT. This is owing to the fact that CONFLICT metaphors often appear as metaphorical extensions of the force image schema. The remaining targets were classified as directly stemming from the main conceptual key of CONFLICT.

More specific conceptual metaphors that the selected metaphorical expressions instantiate include the following:

- ARGUMENTS ARE WEAPONS
- COMMERCIALS ARE WEAPONS
- DEBATE IS A BATTLE
- DEBATE IS A BOXING MATCH
- DEBATE IS A FIGHT
- DEBATE IS A SWORD FIGHT
- ELECTION CAMPAIGN IS A BOXING MATCH

- MARKETING/ELECTION CAMPAIGN IS A FIGHT
- POLITICAL ACTION IS A WEAPON/FORCE
- POLITICAL DECISIONS/POLICIES ARE WEAPONS
- POLITICAL PLANS ARE WEAPONS
- POLITICS IS A BATTLE
- POLITICS IS A MINEFIELD
- SUPPORTERS ARE SOLDIERS

Additionally, after translation into Serbian (i.e., the target language, TL), some metaphorical expressions may not sound as natural as in the source language (SL), i.e., in English. Specifically, targets 10, 16, 20, and 21 may pose as potentially problematic. As discussed in section 3.5, we decided to preserve as many metaphorically used words from the SL in their translations. This was done in order to avoid cases of convergence – when multiple words from the SL are translated as a single word in the TL. Additionally, such a procedure was also employed in an attempt to preserve the original frames that served as the organizing frames of source and target inputs in metaphorical expressions in English. More to the point, even though some translations need not sound as natural in the TL, they scored very well in the norming study (see Table 5.3 for details), where they were rated by native speakers of Serbian. The only dimensions with somewhat lower scores were familiarity and aptness. Metaphoricity and comprehensibility, on the other hand, showed relatively high scores. Additionally, we must highlight the fact (i) that all target metaphorical expressions are presented in sentence-level contexts, rather than in isolation, and (ii) that in Experiments 5 and 6 these metaphorical sentences appear as continuations of three-sentence-long paragraphs (two conditions involving congruent semantic content, and one condition with incongruent content).

Consequently, the presence of such extended contexts is expected to *bypass* any potential issues pertaining to how natural some of the targets might seem if viewed in isolation. For instance, previous research has found that even nonsensical narratives (i.e., conceptualizations) begin to make sense, and become contextually apt for participants once sufficient context congruent with the initially

nonsensical representation has been introduced (Nieuwland and Berkum 2006). Based on such findings, it should be expected that the effects of context in the present experimental setup will have an even stronger overriding effect on the targets that might not sound completely natural in the TL. Finally, the by-item analysis (see section 5.3.1.2 for details) did not reveal any idiosyncratic tendencies for any of the items.

Table 5.4. Metaphorical expressions, conceptual metaphors, conceptual keys

(a provisional list for the conceptual key of CONFLICT)

NO.	METAPHORICAL EXPRESSION IN OPTIMAL CONTEXT	CONCEPTUAL METAPHOR(S)	CONCEPTUAL KEY(S)
1.	Najnovije ankete pokazuju da je predsednik **nadjačao svog protivkandidata** u marketinškoj kampanji.	MARKETING/ELECTION CAMPAIGN IS A FIGHT	POLITICS IS CONFLICT
2.	Sigurno je da će oba kandidata na novu debatu **doći naoružani dobro uvežbanim replikama**.	ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
3.	Danas stranke imaju **armije pristalica** koje postavljaju komentare na tviteru.	SUPPORTERS ARE SOLDIERS	POLITICS IS CONFLICT / POLITICS IS WAR
4.	Kandidati se pripremaju za **završnu rundu predizborne kampanje**.	ELECTION CAMPAIGN IS A BOXING MATCH	POLITICS IS CONFLICT / POLITICS IS BOXING
5.	Novi kandidat je bio primoran **da brani svoje stavove**.	CAMPAIGN IS A FIGHT	POLITICS IS CONFLICT
6.	Nijedan od kandidata nije uspeo **da zada smrtonosni udarac** koji su svi očekivali.	DEBATE IS A FIGHT (ARGUMENTS ARE BLOWS)	POLITICS IS CONFLICT
7.	Predsednik mora da dobije **bitku za fiskalni plan**.	POLITICS IS A BATTLE	POLITICS IS CONFLICT / POLITICS IS WAR
8.	Nakon **rafalne paljbe kritika** koje su usledile nakon debate, predsednik je nastupio jako odlučno.	ARGUMENTS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
9.	Predstavnik protivničke stranke izjavio je da će **povećanje poreza nauditi vlasnicima manjih preduzeća**.	TAXES ARE WEAPONS (POLITICAL DECISIONS (POLICIES) ARE WEAPONS)	POLITICS IS CONFLICT / POLITICS IS WAR
10.	Kroz nove planove, **predsednik će saseći** sve što se tiče ministarstva odbrane.	POLITICAL ACTION IS A WEAPON (FORCE)	POLITICS IS CONFLICT / POLITICS IS WAR (POLITICS IS FORCE)
11.	Predsednik će u narednoj debati **pokušati da pređe u ofanzivu**.	DEBATE IS A BATTLE	POLITICS IS CONFLICT / POLITICS IS WAR
12.	Ona je uskoro postala **odani vojnik predsednikove kampanje**.	SUPPORTERS ARE SOLDIERS	POLITICS IS CONFLICT / POLITICS IS WAR
13.	**Rafalna paljba reklama** koju je organizovala protivnička partija je ugrozila predsednika.	COMMERCIALS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
14.	Predsednik i novi kandidat **su razmenjivali oštre udarce i optužbe**.	DEBATE IS A FIGHT	POLITICS IS CONFLICT

15.	Kandidati su tokom debate **sparingovali oko velikog broja važnih pitanja.**	DEBATE IS A BOXING MATCH	POLITICS IS CONFLICT / POLITICS IS BOXING
16.	Novi kandidat je tokom debate **zabacio mrežu argumenata ka predsedniku**.	ARGUMENTS ARE A NET	POLITICS IS CONFLICT
17.	Pred debatu, oba kandidata **su se povukla u svoj ugao biračkog ringa**.	DEBATE IS A BOXING MATCH (ELECTION CAMPAIGN IS A BOXING MATCH)	POLITICS IS CONFLICT / POLITICS IS BOXING
18.	Glasačima **naviknutim na kratke i brze političke borbe** debata je delovala veoma dosadno.	DEBATE IS A FIGHT (POLITICS IS A FIGHT)	POLITICS IS CONFLICT
19.	Predsednik je neplanirano **zalutao u minsko polje rasističke politike**.	POLITICS IS A MINEFIELD	POLITICS IS CONFLICT / POLITICS IS WAR
20.	Novi predsednikovi planovi **neće rasporiti Zavode za zdravstveno i socijalno osiguranje**.	POLITICAL PLANS ARE WEAPONS	POLITICS IS CONFLICT / POLITICS IS WAR
21.	Predsednik je uživao **u probadanju** suparnikovih argumenata.	DEBATE IS A SWORD FIGHT	POLITICS IS CONFLICT

5.1.2 NORMING STUDY, MOTION METAPHORS

The norming study for metaphorical expressions corresponding to the conceptual key POLITICS IS MOTION involved the same procedure and methodology used in the previous norming study. It included a list of 89 metaphorical expressions from the conceptual key POLITICS IS MOTION (Appendix C; Table 5.6) in optimal contexts (i.e., sentence-level contexts), extracted from the corpus based on the frequency of metaphor keywords, and the selected sentences were then translated into Serbian (in line with the methodology and procedures outlined in section 3.5). Participants also performed ratings of the 6 relevant dimensions extracted from previous research in the domain of psycholinguistics (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011; Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019), also used in the previous norming study described above *(metaphoricity, aptness, contextual aptness, comprehensibility, familiarity,* and *number of possible interpretations).* All participants took part in both sets of the norming study for course credits. Ratings were performed on 7-point Likert scales, and the questionnaires were also distributed in two sets:

i. the first set included ratings of *metaphoricity, familiarity*, and *contextual aptness*. This part of the norming study included twenty-nine 4th-year students from the English Department,

Faculty of Philosophy, Niš, all native speakers of Serbian. There were 19 female and 10 male participants, with the mean average age of 22.72 (SD=1).

ii.   the second set included ratings of *aptness, comprehensibility*, and *number of interpretations*. The second part of the norming study included 25 participants, also students from the English Department, Faculty of Philosophy, Niš (ten 1st-year, and fifteen 3rd-year students), all native speakers of Serbian. There were 19 female and 6 male participants, with the average age of 20.68 (SD=1.46).

Again, we calculated the overall coefficient as the sum of overall mean ratings of *metaphoricity, aptness, contextual aptness, comprehensibility*, and *familiarity*, and based on the obtained values we constructed the final list of target stimuli used in the main experiment, which included the 7 top-, middle-, and low-rated sentences, with the total of 21 target stimuli (Table 5.6). We also calculated the overall mean tendencies of the relevant dimensions and compared their correlations (Table 5.5), using the Holm-Bonferroni sequential correction (Gaetano 2013).

Table 5.5. Correlations between the relevant dimensions for items
from the conceptual key POLITICS IS MOTION

		METAPHORICITY	FAMILIARITY	CONTEXTUAL APTNESS	APTNESS	COMPREHENSIBILITY
METAPHORICITY	Pearson Correlation	1	.024	.073	-.123	-.118
	Sig. (2-tailed)		>.05	>.05	>.05	>.05
	N	89	84	86	88	82
FAMILIARITY	Pearson Correlation	.024	1	.846[**]	.463[**]	.456[**]
	Sig. (2-tailed)	.831		.000	.000	.000
	N	84	84	84	83	80
CONTEXTUAL APTNESS	Pearson Correlation	.073	.846[**]	1	.496[**]	.462[**]
	Sig. (2-tailed)	.504	.000		.000	.000
	N	86	84	86	85	81
APTNESS	Pearson Correlation	-.123	.463[**]	.496[**]	1	.537[**]
	Sig. (2-tailed)	.254	.000	.000		.000
	N	88	83	85	88	81
COMPREHENSIBILITY	Pearson Correlation	-.118	.456[**]	.462[**]	.537[**]	1
	Sig. (2-tailed)	.293	.000	.000	.000	
	N	82	80	81	81	82

** Correlation is significant at the 0.01 level (2-tailed)

Metaphoricity did not show any significant correlations with the remaining dimensions. The analysis revealed positive correlations with familiarity and contextual aptness which suggests that higher ratings of the latter two dimensions are associated with higher ratings of metaphoricity. On the other hand, it showed negative correlations with aptness and comprehensibility, suggesting that easier understanding and better goodness-of-fit between source and target domains is associated with lower ratings of metaphoricity. Familiarity showed high positive correlations with contextual aptness,

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aptness, and comprehensibility (*p*<.01). This shows that targets which were more familiar were also rated as more appropriate in the given context, easier to understand, and the selected source domains were more appropriate for the description of their corresponding targets. Contextual aptness showed significant positive correlations with both aptness and comprehensibility (*p*<.01). This suggests that better understanding and higher aptness between source and target domains are associated with better appropriation to the current context. Finally, aptness showed a significant correlation with comprehensibility (*p*<.01), suggesting that easier understanding of targets can be associated with higher ratings of aptness between source and target domains.

A multiple linear regression model *(familiarity, aptness, comprehensibility)* was tested for its ability to predict ratings of contextual aptness. The model was significant (*p*<.0001). and it accounted for 73.1% of variance in ratings of contextual aptness. The largest unique contribution was identified for familiarity (beta =.771, *p*<.0001), and it was also significant; the contribution of the remaining two dimensions, aptness (beta=.112, *p*=.131) and comprehensibility (beta=.05, *p*=.496) did not reach significance. Owing to its low correlation with contextual aptness (r<.3), metaphoricity was excluded from the model.

We also tested the multiple linear regression model (*familiarity, aptness, metaphoricity*), and its potential to predict ratings of comprehensibility. The model reached significance (*p*<.0005), and it accounted for 34.9% of variation in ratings of comprehensibility. Aptness ratings provided the largest unique contribution (beta=.402, *p*<.0005) that was also significant, followed by familiarity ratings (beta=.271, p=.012) which was also significant, and, finally, metaphoricity ratings which did not reach significance (beta=-.075, *p*= 429).

As in the case of CONFLICT metaphors, the identified correlations and the analysis of multiple linear regression models also suggest that the analyzed dimensions might show a certain degree of dynamic interaction.

Table 5.6. Norming study, MOTION metaphors

Deluje da predsednik u potpunosti kontroliše predizbornu trku.

Mr. Obama […] appeared to [have completely taken] command of the race (Zeleny and Rutenberg 2012, October 3)

	METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.66	1.37	6.96	0.20	6.67	0.62	5.75	0.91	6.67	0.56	1.84	0.75	**31.70**

(Target 1)

Smatramo da su i država i ekonomija i dalje na pravom putu.

The way I feel, the country and the economy are on the right track (Saulny 2012, October 17).

(Target 2)

	METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.86	1.21	6.59	0.68	6.41	0.73	5.04	1.81	6.70	0.56	1.76	0.78	**30.59**

Kandidati će pokušati da učvrste svoje položaje u predizbornoj kampanji.

The candidates will attempt to reinforce their positions in the race[79] (Popper 2012, October 16).

Target 3

	METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	4.59	1.90	6.46	0.81	6.30	0.87	6.70	0.57	6.54	0.78	1.84	0.62	**30.59**

Prihvatanje nove pozicije možda deluje kao veliki korak unazad.

Accepting the role as Mrs. Obama's chief of staff could have been seen as a step backward (Chozick 2012, October 12).

Target 4

	METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.24	1.33	6.41	0.84	6.41	0.84	5.83	1.31	6.63	0.65	1.68	0.69	**30.51**

Novi kandidat je u utorak napravio još jedan pogrešan korak u debati.

On Tuesday night, he [Mr. Romney] made another such misstep (Stanley 2012, October 17).

Target 5

	METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.59	0.97	6.56	0.75	6.46	0.71	4.64	1.35	7.00	0.00	1.72	0.61	**30.25**

Kako tvrde kandidati, ovi izbori biće prekretnica za ovu izuzetnu naciju.

According to the candidates [...], this is the most important election in a generation, a crossroads for an exceptional nation (Bruni 2012, October 1).

Target 6

	METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.64	0.91	6.07	1.07	6.19	0.80	5.56	1.69	6.65	0.65	1.60	0.65	**30.11**

Predizborna trka između sadašnjeg predsednika i izazivača se bliži kraju.

The race [between Mr. Romney and Mr. Obama is] now in the home stretch (Shear and Parker 2012, October 1).

Target 7

	METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
	5.72	1.17	6.64	0.62	6.07	1.03	5.08	1.44	6.63	0.65	1.48	0.59	**30.14**

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[79] Composed from multiple sections of the corpus.

Target 8

Rezultat prve debate je i u prošlosti često menjao tok izbora.

The results of the first debate [those kinds of "gotcha" moments] have sometimes changed the course of an election[80] (Shear 2012, October 4).

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.68	1.76	5.96	1.37	5.82	1.31	5.12	1.74	6.73	0.55	1.52	0.65	**28.31**

Target 9

Izazivač je prema rezultatima anketa u velikom zaostatku.

[According to the polls] Mr. Romney was trailing […] by larger margins in some battleground states (Shear 2012, October 4).

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.34	1.52	6.46	0.71	5.93	1.10	5.04	1.57	6.52	0.59	1.64	0.64	**28.30**

Target 10

Kampanja koju je stranka do skoro vodila polako počinje da menja kurs.

Mr. Romney's campaign appears to be shifting course (Shear and Parker 2012, October 1).

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.55	1.40	5.89	1.20	5.62	0.98	4.83	1.74	6.40	0.75	1.84	0.75	**28.29**

Target 11

Kandidat nije objasnio kako će zaobići političke prepreke na putu.

... but he has not described what it would look like or how he would get around the roadblocks in Congress (Cooper et al. 2012, October 17).

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.24	1.38	6.38	1.13	5.86	1.25	4.76	1.81	5.96	1.37	1.92	0.81	**28.21**

Target 12

Predsednik je obećao da će se proizvodnja uskoro vratiti u zemlju.

… Mr. Ryan promis[ed] a return of manufacturing in the industrial northeast (Gabriel and Kaplan 2012, October 13).

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.52	1.66	6.44	0.71	5.59	1.35	4.92	1.35	6.56	0.77	1.63	0.58	**28.02**

Target 13

Ali prema anketama, novi kandidat je napredovao četiri poena.

… in the sort of shift that political operatives dream about, [Mr. Romney] moved four […] points in the polls (Carr 2012, October 14).

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF

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[80] Composed from multiple sections of the corpus.

M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.35	0.78	6.40	0.65	5.74	1.35	4.96	1.62	6.56	0.77	1.48	0.71	**28.01**

Znamo da je put kojim idemo pogrešan i da je vreme za novi put.

We know the path that we're taking isn't working, and it's time for a new path (Zeleny and Rutenberg 2012, October 3).

Target 14

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.48	1.50	6.37	0.79	5.83	1.28	4.48	1.94	5.79	1.67	2.22	0.90	**27.95**

Uskoro će uslediti neizvestan završni sprint pred predsedničke izbore.

A wide-open final sprint to Election Day [is quickly approaching] (Rutenberg and Baker 2012, October).

Target 15

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.75	1.14	4.48	1.81	4.76	1.79	3.45	0.76	6.08	1.08	1.72	0.68	**24.52**

Suparnička stranka pokušava da zauzda predsednikovo napredovanje u kampanji.

Mr. Romney is seeking to hold down the president's numbers (Nagourney and Santos 2012, October).

Target 16

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.93	1.33	4.31	1.65	4.86	1.48	4.17	1.31	6.04	1.08	1.63	0.71	**24.31**

Prema anketama, predsednik održava tesno vođstvo u većini država.

The president [is] holding a narrow lead in enough battleground states (Landler and Oppel 2012, October).

Target 17

METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.31	1.42	4.07	1.73	4.72	1.73	4.52	1.64	6.30	0.76	1.52	0.87	**23.93**

Predsednik je dozvolio svom protivkandidatu da dobije ubrzanje.

Mr. Obama has now let Mr. Romney off the mat and given him momentum (Landler and Baker 2012, October 4).

Target 18

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.28	1.44	3.97	2.10	3.86	1.62	4.04	1.72	6.52	0.68	1.80	0.71	**23.67**

Target 19

Kako će predsednik navigirati po fiskalnoj litici, odrediće ishod izbora.

How the re-elected president navigates this fiscal cliff could determine [the outcome of the election] (Calmes 2012, October 15).

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5.83	1.31	3.55	1.86	4.45	1.70	4.12	1.42	5.00	2.08	1.57	0.79	**22.95**

Poziciju novog kandidata po pitanju ekonomije ne treba shvatiti kao ideološku.

Mr. Romney said his position on the tax-for-revenue deal was because of the state of the economy, not necessarily ideology (Zeleny and Rutenberg 2012, October 3).

Target 20

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
3.97	1.78	5.52	1.60	5.10	1.35	4.84	1.77	5.60	1.44	1.72	0.74	**25.03**

Pozitivne kritike će dati ubrzanje koje će promeniti dinamiku trke.

Mr. Romney will have to find a way to turn the positive reviews from the debate into a sustained push that changes the dynamic of the race (Shear 2012, October 4).

Target 21

METAPHOR.		FAMILIAR.		CONTEXT. APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
4.76	1.70	3.28	1.60	3.48	0.96	3.88	1.76	5.64	1.38	1.84	0.62	**21.03**

Table 5.6 gives an overview of the target sentences, and the original items in English extracted from the corpus. As argued above, we attempted to preserve the range of metaphorical conceptualizations identified in the corpus, and the original contexts in which the metaphorically used words appeared were sometimes modified. This was done in order to accommodate them to the content of the congruent priming paragraphs used in Experiment 6 (see Table 5.22 for details). Again, all materials used in the experiments reflect the general tendencies identified in the corpus.

5.1.2.1 COMPARISON OF DIMENSIONS FOR THE SELECTED TARGETS

We also compared the correlations based on the calculated overall means for each of the five dimensions for the selected targets (Table 5.7). The results showed a similar trend already identified in the analysis of correlations for all items. The only difference is that in this case metaphoricity showed a negative correlation only with aptness, while the previous analysis also revealed a negative correlation with comprehensibility. The remaining comparisons revealed high, positive correlations between all other dimension, all of which were significant ($p<.05$).

Figure 5.4 shows that ratings of comprehensibility are more closely related to ratings of contextual aptness and familiarity than it was the case with targets from the group of CONFLICT metaphors. This is also evident from the high positive correlations between comprehensibility and

contextual aptness (Pearson Correlation=.627, $p<.01$), and comprehensibility and familiarity (Pearson Correlation=.630, $p<.01$). Ratings of familiarity and contextual aptness showed a similar trend identified for conflict metaphors (Pearson Correlation=.941, $p<.01$), suggesting that these two dimensions might be highly related. Figure 5.5 shows somewhat inverted ratings of metaphoricity and aptness, which is evident in the recorded negative correlation (Pearson Correlation=-0.131, $p>.05$); however, the result did not reach significance.

Table 5.7. Correlations between the relevant dimensions for target items
from the conceptual key POLITICS IS MOTION used in the experiment

		METAPHORICITY	FAMILIARITY	CONTEXTUAL APTNESS	APTNESS	COMPREHENSIBILITY
METAPHORICITY	Pearson Correlation	1	0.07	0.201	-0.131	0.049
	Sig. (2-tailed)		>.05	>.05	>.05	>.05
	N	21	21	21	21	21
FAMILIARITY	Pearson Correlation	0.07	1	.941**	.713**	.630**
	Sig. (2-tailed)	0.763		0	0	0.004
	N	21	21	21	21	21
CONTEXTUAL APTNESS	Pearson Correlation	0.201	.941**	1	.761**	.627**
	Sig. (2-tailed)	0.383	0		0	0.004
	N	21	21	21	21	21
APTNESS	Pearson Correlation	-0.131	.713**	.761**	1	.516*
	Sig. (2-tailed)	0.571	0	0		0.034
	N	21	21	21	21	21
COMPREHENSIBILITY	Pearson Correlation	0.049	.630**	.627**	.516*	1
	Sig. (2-tailed)	0.832	0.002	0.002	0.034	
	N	21	21	21	21	21

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)
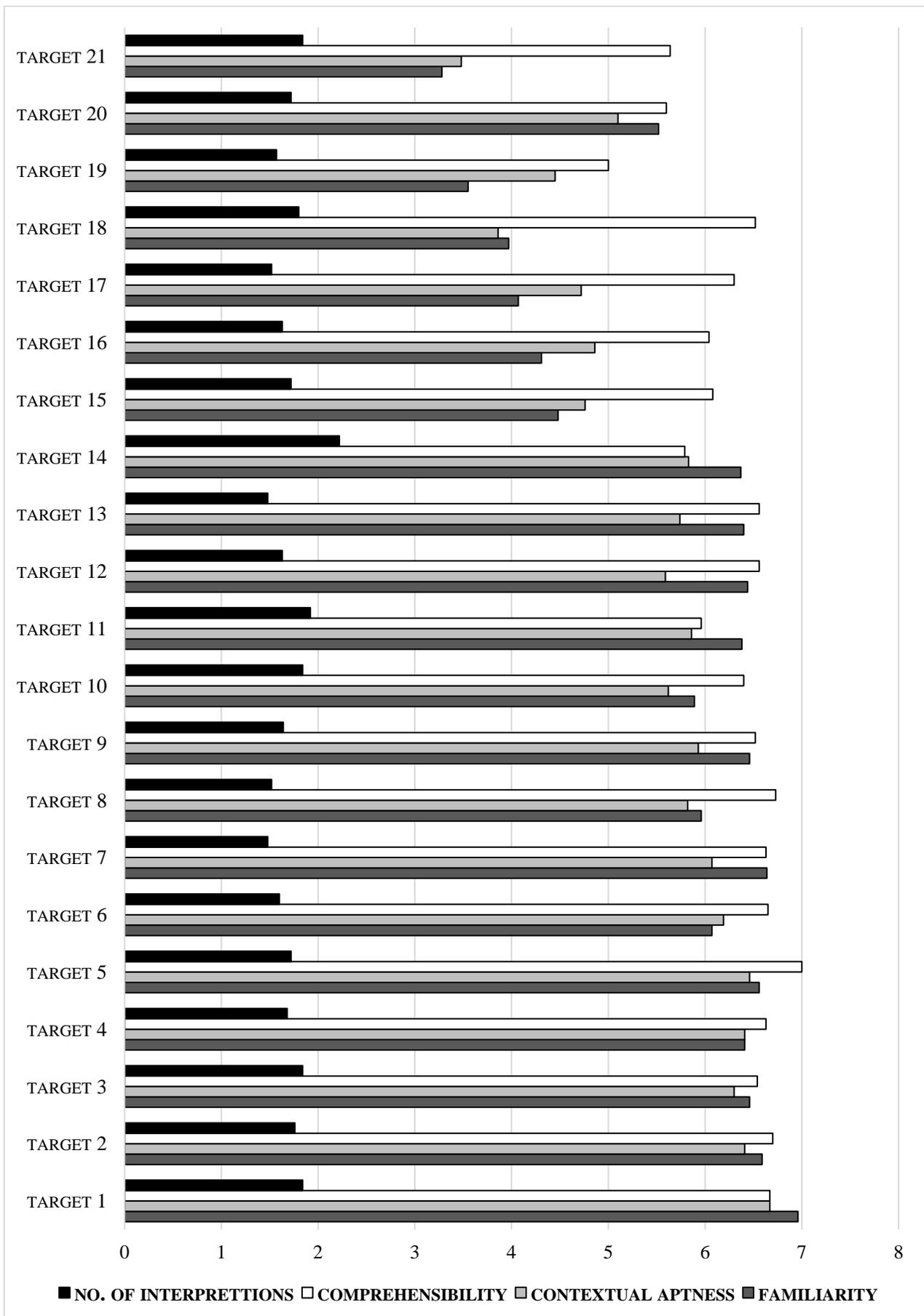
Figure 5.4. Familiarity, contextual aptness, comprehensibility, and number of interpretations

The chart legend reads: ■ NO. OF INTERPRETTIONS ▢ COMPREHENSIBILITY ▨ CONTEXTUAL APTNESS ■ FAMILIARITY
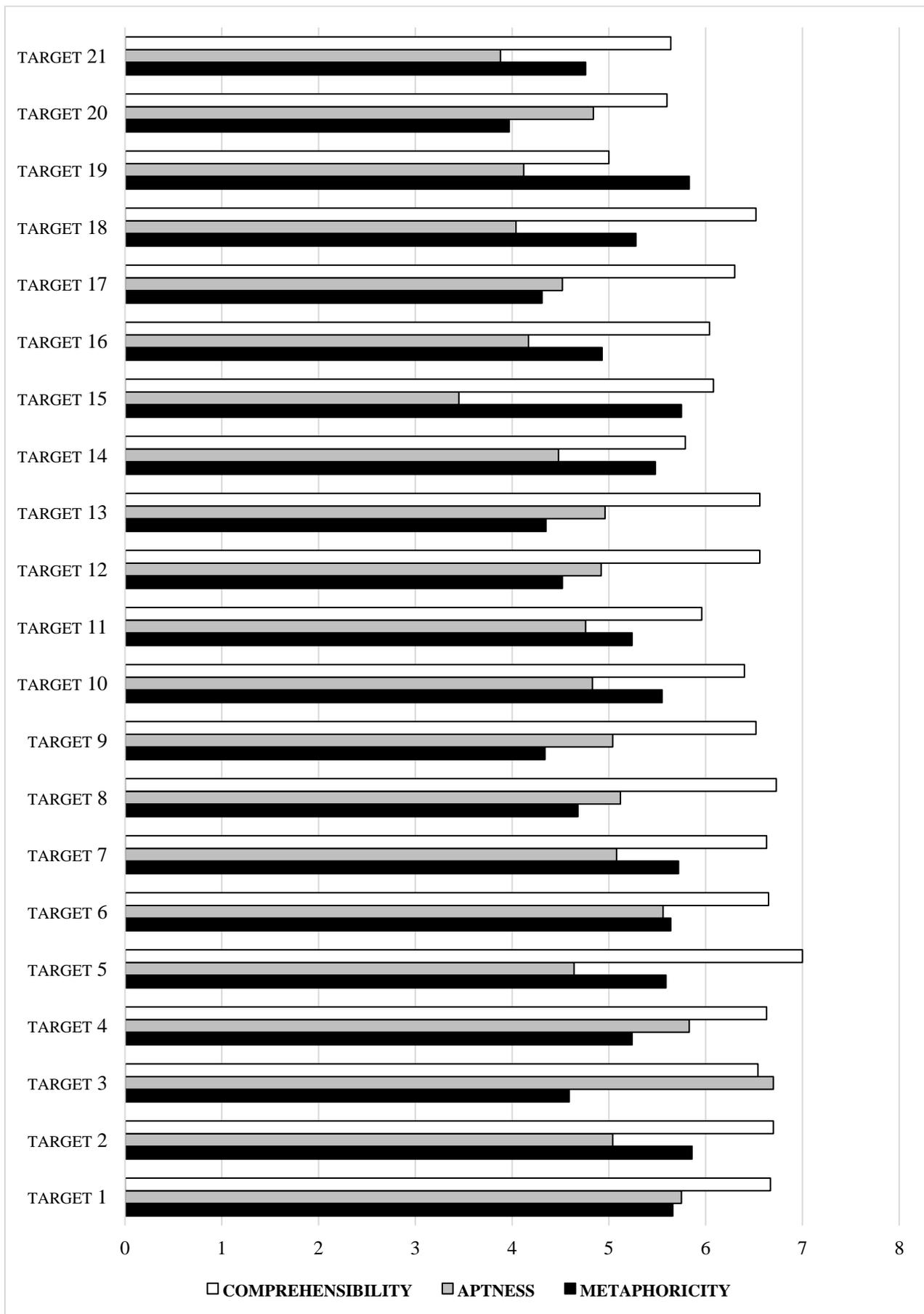
Figure 5.5. Metaphoricity, comprehensibility, aptness

In order to compare the mean ratings of the six relevant dimensions between the top-, middle-, and low-rated targets we performed one-way ANOVA with Tukey post hoc tests. The analysis revealed a significant effect of target group for all dimensions ($p<.005$) except for metaphoricity ($F(2, 18)= 2.22$, $p=.138$, $\eta^2=.20$) and number of interpretations ($F(2, 18)=0.24$, $p=.793$, $\eta^2=.03$). The overall coefficient also showed a significant effect of target group ($F(2, 18)=124.96$, $p<.0005$, $\eta^2=.93$), and subsequent post-hoc comparisons revealed significant differences in all cases ($p<.0005$; Figure 5.6).
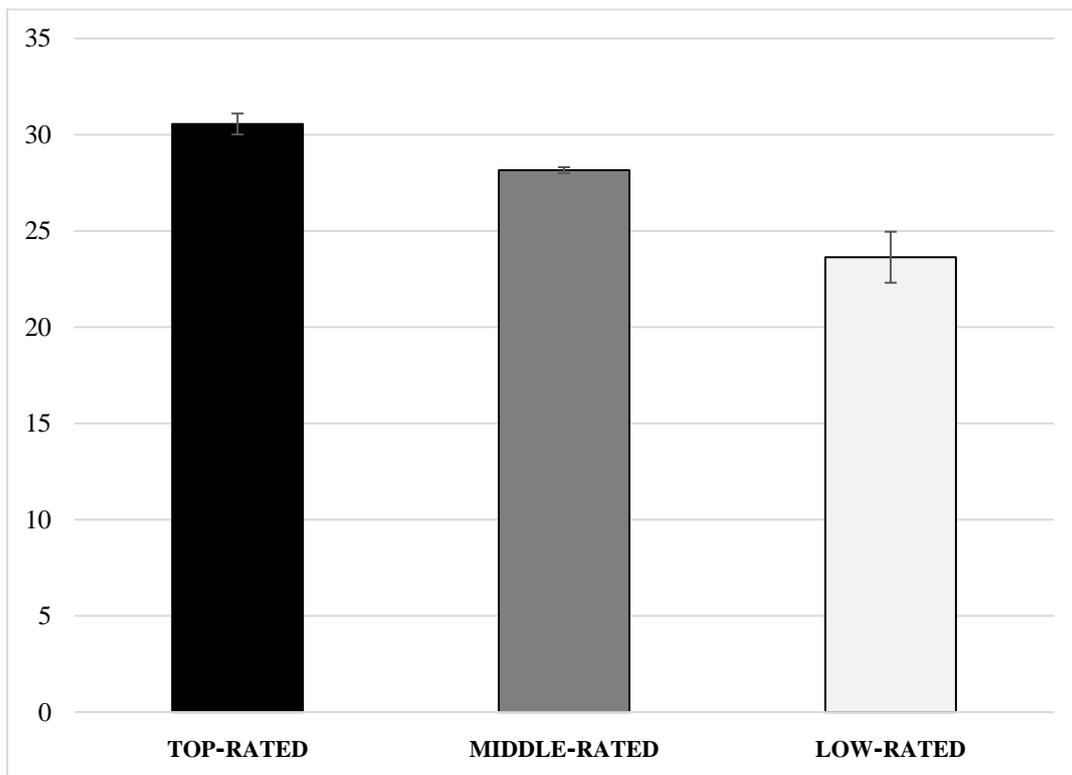
Figure 5.6. Overall coefficient for top-, middle, and low-rated targets

5.1.2.2 QUALITATIVE DESCRIPTION OF STIMULI

The list of targets (i.e., metaphorical expressions in optimal contexts) along with their corresponding conceptual metaphors and conceptual keys is given in Table 5.8. Again, we offer but a provisional classification based on the frames that metaphor keywords are expected to activate, and the classification will in no way be used to discuss the psychological status of the notion of conceptual mappings. The question of the psychological reality of conceptual mapping remains a matter of much controversy (e.g., Jackendoff and Aron 1991; Murphy 1996, 1997; McGlone 1996, 2007, 2011), and

their identification would require additional research. Based on metaphor keywords, we were able to identify the most probable corresponding conceptual metaphors along with their conceptual keys (in the se sense of Charteris-Black 2004). Based on the data presented in Table 5.8, all metaphorical expressions and conceptual metaphors can be classified under the overarching conceptual key POLITICS IS MOTION. However, like in the previous norming study, some of the items showed additional semantic content that afforded more specific (potential) conceptualizations.

Namely, in addition to the generalized conceptual key POLITICS IS MOTION, targets 1, 7, 13, 15, 17, 18, and 21 can also be classified under the conceptual key POLITICS IS A SPORT RACE. However, owing to the fact that a sport race represents a special case of motion, and it can be understood as the hyponym of motion, we decided to include this conceptual key under the more generalize conceptual key of MOTION. Moreover, SPORT RACE metaphors are highly conventional in political discourse, and they are typically used to conceptualize election campaigns, owing to the competitive aspect of their meaning which is also highly dynamic (e.g., Charteris-Black 2004). Based on the lexical content of the metaphorical expression *Predsednik je obećao da će se proizvodnja uskoro **vratiti u zemlju***, target 12 can be classified both under the conceptual key POLITICS IS MOTION and ECONOMY IS MOTION, as the two concepts are closely connected. The remaining targets were classified under the conceptual key POLITICS IS MOTION.

Specific conceptual metaphors that we were able to identify based on the selected metaphorical expressions include the following:

- BAD POLITICAL DECISIONS ARE BACKWARD MOTION
- CAMPAIGN IS A JOURNEY (PROBLEMS ARE IMPEDIMENTS TO MOTION)
- DEBATE IS A JOURNEY (ARGUMENTS ARE STEPS)
- ELECTION CAMPAIGN IS A JOURNEY
- ELECTION IS A JOURNEY
- POLITICAL CAMPAIGN IS A SHIP (POLITICAL PARTY IS A SHIP)
- POLITICAL DECISIONS ARE MOTION ALONG A DANGEROUS PATH
- POLITICAL OPINIONS ARE LOCATIONS
- POLITICS IS A JOURNEY (ECONOMY IS A JOURNEY)
- PRESIDENTIAL ELECTION IS A SPORT RACE

Table 5.8. Metaphorical expressions, conceptual metaphors, conceptual keys

(conceptual key POLITICS IS MOTION)

NO.	METAPHORICAL EXPRESSION IN OPTIMAL CONTEXT	CONCEPTUAL METAPHOR(S)	CONCEPTUAL KEY(S)
1.	Deluje da predsednik u potpunosti **kontroliše predizbornu trku**.	PRESIDENTIAL ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
2.	Smatramo da su i država i ekonomija **i dalje na pravom putu**.	POLITICS IS A JOURNEY (ECONOMY IS A JOURNEY)	POLITICS IS MOTION
3.	Kandidati će pokušati da **učvrste svoje položaje u predizbornoj kampanji**.	POLITICAL OPINIONS ARE LOCATIONS	POLITICS IS MOTION
4.	Prihvatanje nove pozicije **možda deluje kao veliki korak unazad**.	BAD POLITICAL DECISIONS ARE BACKWARD MOTION	POLITICS IS MOTION
5.	Novi kandidat je u utorak napravio **još jedan pogrešan korak** u debati.	DEBATE IS A JOURNEY (ARGUMENTS ARE STEPS)	POLITICS IS MOTION
6.	Kako tvrde kandidati, **ovi izbori biće prekretnica** za ovu izuzetnu naciju.	ELECTION CAMPAIGN IS A JOURNEY	POLITICS IS MOTION
7.	**Predizborna trka** između sadašnjeg predsednika i izazivača se bliži kraju.	PRESIDENTIAL ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
8.	Rezultat prve debate je i u **prošlosti često menjao tok izbora**.	ELECTION IS FLOW	POLITICS IS MOTION
9.	Izazivač je prema rezultatima anketa **u velikom zaostatku**.	PRESIDENTIAL ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
10.	Kampanja koju je stranka do skoro vodila **polako počinje da menja kurs**.	POLITICAL CAMPAIGN IS A SHIP (POLITICAL PARTY IS A SHIP)	POLITICS IS MOTION
11.	Kandidat nije objasnio **kako će zaobići političke prepreke na putu**.	CAMPAIGN IS A JOURNEY (PROBLEMS ARE IMPEDIMENTS TO MOTION)	POLITICS IS MOTION
12.	Predsednik je obećao **da će se proizvodnja uskoro vratiti u zemlju**.	ECONOMIC CHANGES ARE MOTION	ECONOMY IS MOTION / POLITICS IS MOTION
13.	Ali prema anketama, **novi kandidat je napredovao četiri poena**.	PRESIDENTIAL ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
14.	**Znamo da je put kojim idemo pogrešan i da je vreme za novi put**.	POLITICS IS A JOURNEY	POLITICS IS MOTION
15.	Uskoro će uslediti **neizvestan završni sprint** pred predsedničke izbore.	PRESIDENTIAL ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
16.	Suparnička stranka pokušava **da zauzda predsednikovo napredovanje** u kampanji.	ELECTION CAMPAIGN IS A JOURNEY	POLITICS IS MOTION
17.	Prema anketama, **predsednik održava usko vodstvo** u većini država.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE

18.	Predsednik je dozvolio svom protivkandidatu **da dobije ubrzanje**.	ELECTION CAMPAIGN IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE
19.	**Kako će predsednik navigirati po fiskalnoj litici**, odrediće ishod izbora.	POLITICAL DECISIONS ARE MOTION ALONG A DANGEROUS PATH	POLITICS IS MOTION
20.	**Poziciju novog kandidata** po pitanju ekonomije ne treba shvatiti kao ideološku.	POLITICAL OPINIONS ARE LOCATIONS	POLITICS IS MOTION
21.	Pozitivne kritike **će dati ubrzanje koje će promeniti dinamiku trke**.	PRESIDENTIAL ELECTION IS A SPORT RACE	POLITICS IS MOTION / POLITICS IS A SPORT RACE

As it was the case with metaphorical expressions from the conceptual key of CONFLICT, a caveat is in order here as well. Namely, while the translation procedures were primarily focused on dynamic equivalence, we also attempted to avoid any cases of convergence, and we tried to preserve the original metaphorical conceptualizations as much as possible. In effect, some of the target metaphorical expressions might not sound as natural in the target language (TL) as they did in the source language (SL). Again, all items were included in the norming study (see Table 5.6 for details). Also, target metaphorical expressions were not presented in isolation, but rather in sentential contexts, and the experimental setup involved priming with extended contexts. In effect, the presence of context is expected to eliminate any potential issues regarding the naturalness of some of the items. Additionally, the by-item analysis (section 5.4.1.2) did not reveal any unexpected tendencies for any of the items.

5.2 CONTEXTUAL APTNESS OF METAPHORICAL EXPRESSIONS CORRESPONDING TO THE CONCEPTUAL KEYS OF CONFLICT AND MOTION

The main aim of this part of the study was to explore the level of contextual aptness of selected metaphorical expressions belonging to the conceptual keys POLITICS IS CONFLICT and POLITICS IS MOTION, under three different priming conditions: (i) congruent metaphorical, (ii) congruent literal, and (iii) incongruent. All target metaphorical expressions were extracted from the corpus and presented in optimal contexts (sentence-level contexts). The experiments involved a reaction time study, where the two independent variables of interest were reaction times (measured in milliseconds), and judgements of contextual aptness in a binary decision (Yes/No) task. Congruent metaphorical primes were presented as homogenous metaphor clusters, constructed based on the corpus analysis and normalized for length and metaphor keywords based on their frequency, and each priming cluster contained 3 sentences, each with one metaphorical expression. We assumed that more frequent metaphor keywords would afford more efficient priming. Congruent literal primes were designed as counterparts to metaphorical primes, where each metaphorical expression was substituted by a literal expression. Special attention was paid to the overall semantic content and coherence of the prime.

Incongruent (i.e., unrelated) primes were also presented as three-sentence-long paragraphs that were organized by unrelated frames and/or contained different types of schematizations (see Table 5.10 for details). Namely, while with the congruent primes all five situational dimensions of the event indexing model (*time, space, protagonist, causality, and intentionality*; Zwaan, Langston, and Graesser 1995: 292) were clearly defined and were congruent with the semantic content of the target sentences, with incongruent primes this was not typically the case. For instance, while for some incongruent primes all five dimensions were defined, they were semantically incongruent with the target sentences (e.g., one of the incongruent primes described the life of Ernest Hemingway, while the targets typically had to do with politics and presidential election). With other incongruent primes, some dimensions either remained undefined, or very vaguely defined, as they contained some general encyclopedic information that again activated the initial frame-structure semantically unrelated to target sentences (e.g., some metals in the Earth's crust, definition of Wikipedia, etc.). The incongruency effects between dimensions, or the underspecification of certain dimensions are also reinforced by the results from previous research which has identified the import of temporal and causal relations (e.g., Briner, Virtue, and Kurby 2012), as well as the import of actions and situational context (e.g., Chan, Magliano, and O'Brien 2018).

Additionally, we expected that the incongruent priming condition would also be related to the activation of the mechanism of suppression (Gernsbacher 1997), since the incongruent content of target sentences was at odds with the structure constructed based on the information obtained from the prime. In that sense, enhancement at that point was followed by a shift in the main task which entailed the activation of suppression. In other words, the mechanism of suppression should enable the participants to filter out the irrelevant information, or, in our case, filter out the entire target sentence, deeming it contextually inapt. We will address this issue in more detail in the discussion sections below.

Based on the theoretical framework dealing with semantic frames and situation models (event indexing model), we hypothesized that the semantic content of the primes would prompt the activation of the relevant parts of semantic frames, i.e., the relevant situation models. Namely, since individual lexical items are understood as access points to frame-level structure (e.g., Fillmore 1982; Langacker 1987), the content of primes should facilitate the activation of the relevant sections of specific frames, thereby providing contextualization against which the new upcoming information is evaluated online in terms of contextual aptness. The novel information (i.e., target sentences) that contains elements from the already activated frames should be understood as more contextually apt, insofar as the frames by which they are organized are aligned with the expectancy created by the corresponding primes.

With congruent metaphorical primes, paragraph content is organized by two frames which serve as the organizing frames of source and target input spaces in conceptual metaphors. In the case of the conceptual key of CONFLICT these are the frames of CONFLICT and POLITICS, while in the case of the conceptual key of MOTION these are the frames of MOTION and POLITICS. Additionally, all priming paragraphs address the issues of politics and presidential election, which further underlies the role of the frame of POLITICS in the process of online meaning construction. All target sentences contain metaphorical expressions from the two afore mentioned conceptual keys, depending on the experimental condition. Specifically, with CONFLICT metaphors, the frames of CONFLICT and POLITICS are activated both in primes and in target sentences. In effect, the stimuli are congruent not only in terms of semantic content, but also in terms of the frame-level schematic structure. This, in turn, should produce facilitation in participants' judgements of contextual aptness. A similar line of reasoning can be applied to MOTION metaphors that appear in the congruent metaphorical condition, where the frames of MOTION and POLITICS are activated.

With congruent literal primes, paragraphs are organized by the frame of POLITICS. Bearing in mind that the metaphorical expressions present in target sentences are highly conventional, and activate the frames of CONFLICT and POLITICS, or MOTION and POLITICS, respectively, facilitation in contextual aptness judgments is also to be expected. Namely, although individual lexical items related
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directly to the frame of CONFLICT/MOTION are not present in the priming materials, seeing that we are dealing with highly conventionalized metaphorical expressions, we can assume that the frame of POLITICS is flexible enough to accommodate these expressions as well. In other words, the frame of POLITICS already has built into it a plethora of conventional metaphorical representations of the political process. In effect, target metaphorical sentences introduced after literal primes should not be any different in the level of contextual aptness compared to the congruent metaphorical priming condition.

With incongruent (i.e., unrelated) primes, the initial priming materials introduce semantic content that is misaligned with that of target sentences, as discussed above. Such pronounced frame-level incongruency should cause an offset in participants' reaction times in the contextual aptness task. Namely, some studies on semantic priming and lexical access propose that context operates as a pre-decision mechanism (e.g., Swinney and Hakes 1976), whereas according to some other studies context acts as a post-decision mechanism and lexical access takes precedence (e.g., Swinney 1979). However, those studies differ from the present one insofar as they are dealing with multiple senses of an ambiguous word, and the primes consist of a single word, while the main task typically involves a lexical decision task or a naming task for the target that is also a single word. In our case, early onset of contextualization effects should yield shorter RTs, i.e., faster decision making in the main task. On the other hand, post-decision mechanisms should cause an inhibition, since participants would need to access all the available information and make their judgements of contextual aptness only after processing the entire target sentence. Consequently, this should inhibit the decision-making process in the main task, resulting in increased RTs. To summarize, depending on the mechanism that will be dominant, the incongruent (i.e., unrelated) priming condition should either facilitate RTs (if a pre-decision mechanism is activated), or cause a lag in RTs (if a post-decision mechanism is active), compared to the two congruent priming conditions. In effect, this is one of the research questions that the present study will be concerned with. Also, we will explore whether the decision making is supported by the same processes both in congruent and incongruent priming conditions.

Specifics pertaining to the methodology, experimental procedures, participants, stimuli, and main research questions are discussed in detail in the forthcoming sections.

5.2.1 METHODOLOGY, AIMS AND RESEARCH QUESTIONS

Experiments 5 and 6 were designed to test the contextual aptness of metaphorical expressions corresponding to conceptual keys POLITICS IS CONFLICT and POLITICS IS MOTION, extracted from the corpus and described in the two norming studies above. The study was designed as a reaction time

experiment, conducted in *Open Sesame* (Mathôt, Schreij, and Theeuwes 2012), and the relevant dependent variables that we measured included RTs (in milliseconds) and contextual aptness judgements (Yes/No responses in a binary decision task). The experiments were run as a within-subjects design, and participants were randomly assigned to one of the three experimental lists, for each of the two metaphor groups, respectively (Tables 5.10 and 5.22). Each list contained 21 targets, and each target appeared under three priming conditions, in random order across participants: (i) congruent metaphorical, (ii) congruent literal, and (iii) incongruent condition. The same targets were used in all three experimental lists (in each of the two experiments, respectively), while paragraphs used for priming were qualitatively (i.e., semantically) different, but could be classified according to the three types of primes. Like in the previous experiments (Experiments 1–4), this methodology was adopted in order to ensure that the obtained results would not be confounded by the specific semantic content of individual primes, but would rather be a function of the type of prime than the specific content. In plain terms, we wanted to test the possible effects of the generalized types of primes, and eliminate the possible confounding (semantic) effects of individual primes.

All primes were designed as three-sentence-long paragraphs (Tables 5.10 and 5.22). Congruent metaphorical primes were designed as homogenous metaphor clusters extracted from the corpus, translated into Serbian, and normalized for the number of syllables (in accordance with the procedures outlined in section 3.5). This was done in order to ensure that the length of primes did not pose as a confounding variable that would affect participants' RTs. Each sentence in the paragraph contained one metaphorical expression, with a total of three metaphorical expressions per prime. Congruent literal primes were designed as counterparts of congruent metaphorical primes, where all metaphorical expressions were substituted by literal expressions, and they were also normalized for the number of syllables. Finally, incongruent primes were designed so that the semantic frames which they contained were different and unrelated to the frames contained in the target sentences. As discussed above, incongruent primes either contained general, encyclopedic information, where the protagonists and causal and intentional relations were not defined (e.g., the definition of alternating current, helium, etc.), as opposed to congruent primes where these relations were highly pronounced. In cases where these dimensions were defined, they were incongruent with the target sentences, insofar as they were topically misaligned (e.g., while the target sentences dealt with the presidential election, these primes, for instance, described Ernest Hemingway, Wright brothers' invention of the airplane, etc.). An example of prime-target pairs is given in Table 5.9, while a complete list of experimental stimuli is presented in Tables 5.10 and 5.22.

The experiments also contained an additional set of 8 distractor prime-target pairs, half of which appeared in the congruent, and the other half in incongruent conditions. In addition to serving as distracting (unrelated) combinations of stimuli, they were also later used to assess the possible

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difference in recorded RTs in the main task between congruent and incongruent priming conditions. Namely, as these additional distractors were chosen as random literal prime-target pairs (see Table 5.16 for details), we wanted to ensure that the results obtained for the targets were not confounded by some specific underlying processing mechanisms reserved for metaphorical sentences alone.

Table 5.9. Examples of metaphorical, literal, and incongruent primes

CONGRUENT METAPHORICAL PRIMING	CONGRUENT LITERAL PRIMING	INCONGRUENT PRIMING
Predizborne borbe se u velikoj meri odvijaju i u medijima.	Predizborne kampanje se sve više odvijaju i u medijima.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu.
Pri tom, obe stranke ulažu velika sredstva kako bi pobedile u marketinškom ratu.	Pri tom, obe stranke ulažu velika sredstva kako bi dobile više reklamnog vremena.	Razvijaju ga dobrovoljci uz pomoć programa pod nazivom vikisoftver.
Ishod ovih sukoba u medijima mogao bi da odluči pobednika.	Ishod medijske kampanje mogao bi da odluči pobednika.	Članke na Vikipediji može menjati svako sa pristupom internetu.

TARGET: **Najnovije ankete pokazuju da je predsednik nadjačao svog protivkandidata u marketinškoj kampanji.**

The main aim of Experiments 5 and 6 was to test whether congruent metaphorical priming contexts would afford a higher degree of contextual aptness compared to the corresponding congruent literal priming contexts. The difference, if one can be identified, should be reflected in shorter RTs in the priming condition that affords a greater degree of facilitation. Additionally, the experiments also aimed to explore the effects of incongruent contextualization in comparison to congruent priming conditions. In effect, the two experiments were expected to provide answers to the following research questions:

i. Will there be a difference in the level of contextual aptness of targets in the two experiments between congruent metaphorical and congruent literal priming conditions, reflected in the differences in RTs?

ii. Will incongruent priming afford faster or longer RTs in the main task compared to the two congruent priming conditions (i.e., will context work as a pre- or post-decision mechanism in the present experimental setup, and what role might the suppression mechanism play in this process)?

iii. Will there be a difference in participants contextual aptness judgements across the three experimental conditions?

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iv.   Will the RT ratio between congruent-incongruent conditions identified for targets also be preserved in the case of additional distractor prime-target pairs?

v.   Do the obtained results reflect on the construct of conceptual mappings in any way?

5.2.2 EXPERIMENTAL PROCEDURES

Both experiments were designed in *Open Sesame* (Mathôt, Schreij, and Theeuwes 2012) and ran on a standard PC configuration. Participants first read the instructions, after which they proceeded to the experiment. All participants in both experiments were randomly assigned to one of three experimental lists (Tables 5.10 and 5.22), and the order in which the stimuli appeared was also randomized across participants. Once they proceeded to the main experiment, they first needed to read the priming paragraph, which was presented centered on the screen, in black Times New Roman font, 12 pts, against a light grey background. Reading times for priming paragraphs were not limited, but were also recorded and later analyzed. Once the participants read the priming paragraph, the instructions directed them to press the spacebar on the keyboard in order to move on to the target sentence. Before the target sentence, a fixation dot in the duration of 350 ms appeared centered on the screen. This was followed by the target sentence, also centered in the middle of the screen. As instructed, participants read the target sentence and decided as quickly as possible whether it fitted into the context of the priming paragraph or not. Target sentences were also presented in black, Times New Roman font, 12 pts. Responses (Yes/No) were collected from the keyboard and they were counterbalanced between the "A" and "L" keys in order to avoid the possible confounding effect of the dominant hand. The relevant dependent variables that we measured were RTs (measured in milliseconds), and contextual aptness judgements (Yes/No). Once they made the decision, the participants proceeded to the next prime-target pair. Overall, each experimental list in both experiments included a total of 71 prime-target pairs. In addition to the 63 metaphorical prime-target pairs, there were additional 8 distractor-pairs. All distractors were literal sentences, where four distractor-pairs appeared in congruent, and the other half in incongruent priming conditions (Table 5.16).

5.3 EXPERIMENT 5: CONTEXTUAL APTNESS OF METAPHORICAL EXPRESSIONS FROM THE CONCEPTUAL KEY POLITICS IS CONFLICT

Experiment 5 was designed and conducted along the main methodological guidelines and in line with the experimental procedures outlined above. The experiment tested metaphorical targets corresponding to the conceptual key POLITICS IS CONFLICT, in congruent metaphorical, congruent literal, and incongruent conditions (Table 5.10). There was a total of 106 participants, randomly assigned to one of the three experimental lists (33 to List 1, 36 to List 2, and 37 to List 3), all native speakers of Serbian, and all students from the Faculty of Philosophy, Niš. All participants volunteered to take part in the study, and there were 51 students from the English Department, 21 from the Serbian Department, and 34 from the Psychology Department. Overall, there were 22 first-year students, 42 third-year students, and 42 fourth-year students. There were 83 female, and 23 male participants, with the average age of 22.01 (SD=1.92). 94 participants reported their right hand as the dominant one, while 12 reported their left hand.

The stimuli used in this experiment are described in the norming study above. Namely, they include 7 top-, middle-, and low-rated metaphorical sentences from the initial list. Each target sentence appeared under the three priming conditions in each of the three experimental lists. Metaphorical congruent and literal congruent priming paragraphs were different in each of the lists, while all three experimental lists contained the same incongruent primes which were coupled with different target sentences across the three lists of stimuli.

Table 5.10. Stimuli used in Experiment 5			
LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predizborne borbe se u velikoj meri odvijaju i u medijima. Pri tom, obe stranke ulažu velika sredstva kako bi pobedile u marketinškom ratu. Ishod ovih sukoba u medijima mogao bi da odluči pobednika.	Predizborne kampanje se sve više odvijaju i u medijima. Pri tom, obe stranke ulažu velika sredstva kako bi dobile više reklamnog vremena. Ishod medijske kampanje mogao bi da odluči pobednika.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu. Razvijaju ga dobrovoljci uz pomoć programa pod nazivom vikisoftver. Članke na Vikipediji može menjati svako sa pristupom internetu.
LIST 2	Marketinški rat između dve stranke se i dalje nastavlja. Oba tabora iza sebe imaju i čitave vojske birača. Do nedavno je delovalo da su dve sukobljene strane izjednačene.	Obe stranke i dalje nastavljaju veoma intenzivne marketinške kampanje. Obe stranke takođe imaju i veoma veliki broj pristalica. Do nedavno je delovalo da su obe stranke izjednačene.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer. Specijalnu vrstu čini periodična naizmenična struja. U tom slučaju se sve promene napona i jačine struje menjaju periodično.

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Predsednik je pretrpeo brojne napade u marketinškom ratu. Čini se da njegov protivnik trenutno dobija veći deo borbi. Mediji su do sada javljali da su obe stranke za sada pretrpele osetne gubitke.	Predsednika dosta pominju u marketinškim kampanjama. Čini se da druga stranka trenutno dobija mnogo više pažnje u medijima. Mediji javljaju da su obe stranke prilično popularne kod birača.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika. On je bezbojan, inertan, monoatomski gas, prvi u grupi plemenitih gasova. Njegova tačka ključanja je najniža od svih elemenata.

TARGET 1: NAJNOVIJE ANKETE POKAZUJU DA JE PREDSEDNIK NADJAČAO SVOG PROTIVKANDIDATA U MARKETINŠKOJ KAMPANJI.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Ankete pokazuju da predsednik vodi na većem delu predizbornog bojišta. Predstoji nova debata u kojoj će ga protivkandidat žestoko napasti. Ishod ovog novog okršaja između dvojice kandidata i dalje je neizvestan.	Ankete pokazuju da predsednik vodi u predizbornoj kampanji. Međutim, predstoji nova debata u kojoj će protivkandidat pomenuti nove argumente. Ishod predstojeće debate između dvojice kandidata i dalje je neizvestan.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13. U Periodnom sistemu spada u metale III glavne grupe. Aluminijum je treći najzastupljeniji element i najčešći metal u Zemljinoj kori.
LIST 2	Nakon prve debate, usledila je bujica kritika usmerenih ka predsedniku. Njegov protivnik je dobio pohvale za snažne napade na predsednika. Mediji predviđaju da će ishod narednog okršaja biti neizvestan.	Nakon prve debate mnogo kritika bilo je usmereno ka predsedniku. Njegov suparnik je predstavio jako ubedljive argumente. Mediji predviđaju da će i naredna debata biti veoma zanimljiva.	Iverica je naziv za ploču napravljenu od iverja drveta. Prema tipu presovanja, može biti normalno presovana i ekstruziono presovana. Kod normalno presovanih, sila presovanja deluje upravno na površinu ploče.
LIST 3	Medijski rat se do sada odvijao preko TV reklama i interneta. Međutim, sada je došlo i vreme za sukobe uživo, tokom predsedničkih debata. Birači očekuju žestoke duele i rešetanje sa obe strane.	Medijska kampanja je do sada tekla preko TV reklama i interneta. Međutim, došlo je vreme i za susrete uživo, tokom predsedničkih debata. Birači očekuju da čuju ubedljive argumente sa obe strane.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike. Gaji se u umerenim i toplim delovima sveta u velikom broju podvrsta. Kukuruz je postao osnovna hrana u mnogim delovima sveta.

TARGET 2: SIGURNO JE DA ĆE OBA KANDIDATA NA NOVU DEBATU DOĆI NAORUŽANI DOBRO UVEŽBANIM REPLIKAMA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Pre dvadeset godina, predizborne borbe nisu vođene na internetu. Kandidati su se uglavnom sukobljavali u novinama ili u TV duelima. Međutim, savremeni medijski ratovi izgledaju dosta drugačije.	Nekada su se predizborne kampanje vodile na mitinzima i u štampi. Kandidati su se obraćali pristalicama uživo i kroz propagandne materijale. Međutim, savremene predizborne kampanje izgldaju dosta drugačije.	Bor je elemenat trinaeste grupe Periodnog sistema elemenata. To je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa. Bor ima uticaj i na čovekov organizam, pre svega na skelet.
LIST 2	Predizborne borbe su se do sada u velikoj meri odvijale u medijima. Kandidati nisu ulazili u sukobe i svoje stavove izražavali su u intervjuima. Oglašavanje putem interneta postalo je veoma moćno oružje.	Predizborna kampanja se do sada u velikoj meri odvijala u medijima. Kandidati se nisu susretali i mišljenja su izražavali u intervjuima. Međutim, oglašavanje putem interneta postalo je veoma popularno.	Prema udaljenosti od Sunca Zemlja je treća planeta. Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru. Indusi su verovali da Zemlju kao ploču nose na leđima tri slona.

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LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Predizborne bitke više se ne odvijaju samo na organizovanim mitinzima. Vode se i medijske kampanje u kojima se lansiraju stalni napadi. Veliki broj predizbornih okršaja odvija se i na internetu.	Predizborne kampanje više se ne odvijaju samo na organizovanim mitinzima. Vode se i medijske kampanje koje su veoma popularne. Veliki deo predizborne kampanje odvija se i na internetu.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji. On je formulisao specijalnu i opštu teoriju relativnosti. Pored toga, doprineo je napretku kvantne teorije.

TARGET 3: DANAS STRANKE IMAJU ARMIJE PRISTALICA KOJE POSTAVLJAJU KOMENTARE NA TVITERU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Medijski rat obeležio je celokupnu dosadašnju predizbornu kampanju. U prve dve debate viđeni su napadi iz oba ugla izbornog ringa. Javnost sada željno iščekuje i poslednji dvoboj pred izbore.	Celu predizbornu kampanju obeležilo je učestalo oglašavanje putem medija. U prve dve debate čuli su se različiti argumenti sa obe strane. Javnost željno iščekuje poslednju debatu pred izbore.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika. On je bezbojan, inertan, monoatomski gas, prvi u grupi plemenitih gasova. Njegova tačka ključanja je najniža od svih elemenata.
LIST 2	Predizborna kampanja se pretvorila u pravi bokserski meč. Oba kandidata nastavljaju da razmenjuju serije direktnih udaraca. Mediji najavljuju da će okršaj u poslednjoj debati odlučiti pobednika.	Predizborna kampanja polako postaje sve zanimljivija. Oba kandidata nastavljaju da predstavljaju nove argumente tokom kampanje. Mediji najavljuju da će poslednja debata pred izbore odlučiti pobednika.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu. Prečnik planete na ekvatoru nešto je manji od Zemljinog. Za razliku od ostalih planeta, Venera se okreće oko svoje ose u retrogradnom smeru.
LIST 3	Dosadašnju predizbornu kampanju obeležile su oštre razmene udaraca. Na trenutke je delovalo da je svaki od kandidata u nokdaunu. Međutim, ishod predizborne borbe ostaje i dalje neizvestan.	Dosadašnju predizbornu kampanju obeležilo je oglašavanje putem medija. Na trenutke su oba kandidata delovala zbunjeno i nesigurno. Međutim, ishod kampanje i dalje je veoma neizvestan.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju. Dve osnovne grane poljoprivrede su zemljoradnja i stočarstvo. Zajedno sa šumarstvom, lovom i ribolovom spada u primarni sektor privrede.

TARGET 4: KANDIDATI SE PRIPREMAJU ZA ZAVRŠNU RUNDU PREDIZBORNE KAMPANJE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik se pojavio na novoj debati spreman za osvetu. Nakon neočekivanog poraza u prvoj debati, sada je došao spreman za borbu. Žestoko je napao planove protivkandidata o ekonomskoj reformi.	Predsednik se pojavio na debati spreman za diskusiju. Nakon neočekivanih događaja tokom prve debate sada je bio spreman. Diskutovao je o planovima koji su se ticali ekonomije.	Selen je biljka iz familije Apiaceae. Ovo je jedna od omiljenih aromatičnih biljaka. Delovi biljke su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 2	Predsednik je žestoko napadao svog protivnika tokom čitave debate. Pojedinačni argumenti prerasli su u jaku rafalnu paljbu. Ni moderator nije mogao da ublaži agresivan nastup predsednika.	Predsednik je predstavio nove argumente tokom poslednje debate. Svi argumenti delovali su veoma ubedljivo. Moderator se često uključivao u diskusiju kako bi skrenuo pažnju kandidatima na vreme.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis. Veruje se da je njen predak bila afrička divlja mačka. Mačke žive u bliskoj vezi sa ljudima najmanje 9.500 godina

LIST 3	Tokom predsedničke debate došlo je do novog verbalnog sukoba između kandidata. Novi kandidat je gađao predsednika oštrim argumentima. Međutim, predsednik je odgovorio još jačim verbalnim rafalima.	Tokom debate kandidati su predstavili programe svojih stranaka. Novi kandidat je diskutovao o ekonomskim i socijalnim pitanjima. Međutim, predsednik je doveo u pitanje planove suparničke stranke.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu. Razvijaju ga dobrovoljci uz pomoć programa pod nazivom vikisoftver. Članke na Vikipediji može menjati svako sa pristupom internetu.

TARGET 5: NOVI KANDIDAT JE BIO PRIMORAN DA BRANI SVOJE STAVOVE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednička debata se neočekivano pretvorila u pravi mali rat. Kandidati su razmenjivali rafalne paljbe različitih argumenata. Delovalo je da im do kraja debate neće ponestati municije.	Predsednička debata se pretvorila u pravu raspravu. Kandidati su predstavljali veliki broj različitih ideja. Delovalo je da im do kraja debate neće ponestati argumenata za diskusiju.	Đumbir je višegodišnja zeljasta biljka debelog granatog rizoma. Stabljika je obavijena lisnim rukavcima, a cvetovi su sakupljeni. Spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 2	Novi kandidat je napadao predsednika po svim važnim temama. Ali ni predsednik se nije uzdržavao od direktne konfrontacije. Naizmenično su jedan drugog gađali brojnim oštrim argumentima.	Novi kandidat je predstavio svoje argumente tokom debate. Ali predsednik je takođe predstavio neke nove planove svoje stranke. Kandidati su naizmenično dopunjavali već predstavljene programe.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju. Dve osnovne grane poljoprivrede su zemljoradnja i stočarstvo. Zajedno sa šumarstvom, lovom i ribolovom spada u primarni sektor privrede.
LIST 3	Mediji su javili da su debatu obeležili verbalni sukobi. Kandidati su rešetali ekonomske i političke planove suparnika. Niko nije odustajao od žestokih verbalnih napada.	Mediji su javili da su kandidati tokom debate predstavili svoje programe. Kandidati su se bavili i ekonomskim i budžetskim planovima. Niko nije odustajao od promovisanja svojih ideja.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13. U Periodnom sistemu spada u metale III glavne grupe. Aluminijum je treći najzastupljeniji element i najčešći metal u Zemljinoj kori.

TARGET 6: NIJEDAN OD KANDIDATA NIJE USPEO DA ZADA SMRTONOSNI UDARAC KOJI SU SVI OČEKIVALI.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Ekonomska kriza i dalje predstavlja veliku pretnju za državu. Obe stranke imaju konkretne planove za borbu protiv krize. Na narednoj debati uslediće obračun oko pitanja čiji planovi su bolji.	Ekonomska kriza u državi i dalje ne jenjava. Obe stranke imaju konkretne planove za budućnost. Na narednoj predsedničkoj debati videće se čiji su planovi prihvatljiviji.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike. Gaji se u umerenim i toplim delovima sveta u velikom broju podvrsta. Kukuruz je postao osnovna hrana u mnogim delovima sveta.
LIST 2	Predsednik je obećao da će spasiti zemlju od ekonomske propasti. Tokom debate izneo je i detaljan plan za borbu protiv krize. Međutim, njegov protivnik je tokom debate oštro napao njegove predloge.	Predsednik je obećao da će njegova stranka rešiti ekonomske probleme. Tokom debate predstavio je i detaljan plan kako će se to realizovati. Međutim, njegov suparnik je takođe predstavio svoje planove.	Avion je čuvena naprava za letenje čvrste konstrukcije. Prvu uspešnu konstrukciju, sa realizacijom, izvela su braća Vilbur i Orvil Rajt. Na toj svojoj konstrukciji su uspeli da polete 1903. godine.

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List	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Ekonomska kriza je tema oko koje je vođen veliki broj borbi u predizbornoj kampanji. Predsednik je predstavio plan kojim će razbiti krizu. Međutim, protivnička stranka je izrešetala većinu njegovih argumenata.	Ekonomska kriza bila je jedna od čestih tema u predizbornoj kampanji. Predsednik je predstavio plan svoje stranke. Međutim, njegov suparnik je doveo u pitanje neke od argumenata koje je predstavio.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer. Specijalnu vrstu čini periodična naizmenična struja. U tom slučaju se sve promene napona i jačine struje menjaju periodično.

TARGET 7: PREDSEDNIK MORA DA DOBIJE BITKU ZA FISKALNI PLAN.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Novi kandidat bio je jači u prvoj debati. Predsednik nije delovao ubedljivo i propuštao je prilike da napadne svog protivnika. Njegov tim bio je razočaran njegovim nastupom i neočekivanim porazom.	Novi kandidat je delovao ubedljivije u prvoj debati. Predsednik je delovao nezainteresovano i izbegavao je pogled svog suparnika. Njegov tim bio je razočaran nastupom u debati.	Nafta je tečna do polučvrsta prirodna materija. Nalazi se u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika. Uvek sadrži i sumpor i azotna i kiseonikova organska jedinjenja.
LIST 2	Bitku u prvoj debati neočekivano je dobio novi kandidat. Predsednik je shvatio da će morati da se bolje pripremi za naredni dvoboj. Pristalice su bile nezadovoljne jer je propustio dosta prilika za napad.	Prvu debatu je neočekivano dobio novi kandidat. Predsednik je shvatio da će morati bolje da se pripremi za narednu debatu. Birači su bili nezadovoljni jer predsednik nije delovao ubedljivo.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika. On je bezbojan, inertan, monoatomski gas, prvi u grupi plemenitih gasova. Njegova tačka ključanja je najniža od svih elemenata.
LIST 3	Sinoć je održana prva predsednička debata koja je prerasla u pravi rat. Predsednik je tokom okršaja delovao neubedljivo i nemoćno. Njegov tim bio je zbunjen jer nije iskoristio ništa od teške artiljerije.	Sinoć je održana prva predsednička debata koja je bila veoma zanimljiva. Predsednik je tokom debate delovao neubedljivo i nezainteresovano. Njegov tim je bio zbunjen jer se nije ponašao po planu.	Iverica je naziv za ploču napravljenu od iverja drveta. Prema tipu presovanja, može biti normalno presovana i ekstruziono presovana. Kod normalno presovanih, sila presovanja deluje upravno na površinu ploče.

TARGET 8: NAKON RAFALNE PALJBE KRITIKA KOJE SU USLEDILE NAKON DEBATE, PREDSEDNIK JE NASTUPIO JAKO ODLUČNO.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Vladajuća stranka je predstavila novu poresku politiku za borbu protiv krize. Predsednik je naglasio da ova nova platforma nikoga ne ugrožava. Protivnička stranka smatra da novi zakoni štite samo veće kompanije.	Vladajuća stranka je predstavila novu poresku politiku. Predsednik je naglasio da ova nova platforma nikoga ne favorizuje. Protivnička stranka smatra da su novi zakoni prilagođeni velikim kompanijama.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.
LIST 2	Predsednik je sinoć predstavio nacrt nove poreske politike koja će spasiti ekonomiju. Protivkandidat ga je napao argumentima da ova politika favorizuje samo veće kompanije. Mediji sumnjaju da će ovo ugroziti manja preduzeća.	Predsednik je sinoć predstavio nacrt nove poreske politike. Protivkandidat je tvrdio da ova politika favorizuje samo veće kompanije. Mediji sumnjaju da ovo neće biti povoljno za manja preduzeća.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu. Razvijaju ga dobrovoljci uz pomoć programa pod nazivom vikisoftver. Članke na Vikipediji može menjati svako sa pristupom internetu.

| LIST 3 | Vladajuća stranka tvrdi da će nova poreska politika zaštititi sva preduzeća. Međutim, mediji nagoveštavaju da neće sve kompanije biti podjednako pogođene. Protivnička stranka smatra da će na meti biti samo pojedinci. | Vladajuća stranka tvrdi da će nova poreska politika koristiti svim preduzećima. Ali mediji nagoveštavaju da neće imati isti uticaj na sve. Protivnička stranka smatra da će ovo odgovarati samo pojedincima. | Prema udaljenosti od Sunca Zemlja je treća planeta. Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru. Indusi su verovali da Zemlju kao ploču nose na leđima tri slona. |

TARGET 9: PREDSTAVNIK PROTIVNIČKE STRANKE IZJAVIO DA ĆE POVEĆANJE POREZA NAUDITI VLASNICIMA MANJIH PREDUZEĆA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Vladajuća stranka iznela je novi budžetski plan za borbu protiv krize. Jedan od sektora koji će prvi biti na udaru jeste i vojska. Mediji najavljuju da će ministarstvo odbrane pretrpeti veoma teške političke napade.	Vladajuća stranka predstavila je novi budžetski plan. Jedan od sektora koji će najviše biti reformisan jeste i vojska. Mediji najavljuju da će najveće reforme biti sprovedene u ministarstvu odbrane.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji. On je formulisao specijalnu i opštu teoriju relativnosti. Pored toga, doprineo je napretku kvantne teorije.
LIST 2	Reforme koje predviđa vladajuća stranka će ugroziti ministarstvo odbrane. Naime, preveliko trošenje u ovom sektoru učinilo ga je glavnom metom. Zbog toga, ovo ministarstvo će narednih meseci biti stalno na udaru.	Reforme koje predviđa vladajuća stranka ticaće se i ministarstva odbrane. Naime, preveliko trošenje u ovom sektoru ukazalo je na potrebu za reformom. Zato će ovo ministarstvo narednih meseci biti u centru pažnje.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike. Gaji se u umerenim i toplim delovima sveta u velikom broju podvrsta. Kukuruz je postao osnovna hrana u mnogim delovima sveta.
LIST 3	Ministarstvo odbrane trpi teške političke napade. Reforme koje najavljuje predsednik će pogoditi upravo ovaj resor. Analitičari takođe procenjuju da će ovo ministarstvo pretrpeti velike gubitke.	Ministarstvu odbrane predstoji temeljan reforma. Planovi koje je predstavio predsednik tiču se upravo ovog sektora. Analitičari takođe procenjuju da će ovo ministarstvo proći kroz detaljnu reformu.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha. Njime se takođe upravlja snagom motora. U karburatoru se raspršuje benzin i meša sa vazduhom u određenom odnosu.

TARGET 10: KROZ NOVE PLANOVE, PREDSEDNIK ĆE SASEĆI SVE ŠTO SE TIČE MINISTARSTVA ODBRANE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nakon prve debate izazivač je odneo pobedu nad predsednikom. Mediji su bili iznenađeni ovakvim ishodom prve bitke. Predsednikovi savetnici najavili su promenu strategije i oštrije napade.	Nakon prve debate novi kandidat je u boljoj poziciji. Mediji su bili iznenađeni ovakvim ishodom prve debate. Predsednikovi savetnici najavili su određene promene u nastupu.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja. Mužjaci mogu biti visoki od 4,5 do 5,5 metara i težiti do 1.360 kilograma. Rekordna težina jednog mužjaka je iznosila približno 2.000 kg.
LIST 2	Medijski rat kulminirao je tokom prve predsedničke debate. Izazivač je nasrtao, a predsednik se nije branio. Vladajuća stranka bila je razočarana nastupom i najavila ozbiljnije obračune.	Prva predsednička debata bila je veoma zanimljiva. Novi kandidat je predstavio svoj program, dok je predsednik u glavnom ćutao. Predstavnici vladajuće stranke bili su razočarani i najavili promene u nastupu.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.

LIST			
LIST 3	Nakon poraza u prvoj debati predsednik je najavio promenu taktike. Njegov tabor je bio razočaran slabim nastupom i neubedljivim napadima. Birači su razočarani jer nije iskoristio tešku artiljeriju.	Nakon lošeg nastupa u prvoj debati, predsednik je najavio da će promeniti pristup. Njegovi savetnici bili su razočarani ovako lošim nastupom. Birači su razočarani jer nije iskoristio svoje glavne argumente.	Avion je čuvena naprava za letenje čvrste konstrukcije. Prvu uspešnu konstrukciju, sa realizacijom, izvela su braća Vilbur i Orvil Rajt. Na toj svojoj konstrukciji su uspeli da polete 1903. godine.

TARGET 11: PREDSEDNIK ĆE U NAREDNOJ DEBATI POKUŠATI DA PREĐE U OFANZIVU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nova članica stranke je na sastanku iznela svoje ideje za medijske napade. Svi su bili prijatno iznenađeni njenim darom za ratne planove. Počela je da učestvuje u pripremi novih napada.	Nova članica stranke je na sastanku iznela svoje ideje za medijsku kampanju. Svi su bili prijatno iznenađeni njenim talentom i zalaganjem. Počela je da učestvuje i u pripremi daljeg toka kampanje.	Pas je pripitomljeni sisar iz porodice pasa. Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka. Fosilni ostaci pokazuju da su preci modernog psa živeli uz čoveka i ranije.
LIST 2	Nova članica stranke dala je veliki doprinos razvoju strategije za medijske okršaje. Tokom svog istraživanja obezbedila je jako vrednu municiju. Svojim radom zaslužila je i stalno mesto u predsednikovom ratnom timu.	Nova članica stranke je dala veliki doprinos razvoju medijske kampanje. Tokom svog istraživanja otkrila je neke veoma značajne informacije. Svojim radom zaslužila je i stalno mesto u predsedničkom timu.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha. Njime se takođe upravlja snagom motora. U karburatoru se raspršuje benzin i meša sa vazduhom u određenom odnosu.
LIST 3	Stranka je primila novu članicu koja je obezbedila municiju za medijski rat. Uskoro je počela da učestvuje u pripremi planova za napade. Dobila je nadimak *Nindža* jer se neprimetno ubacivala u predizborne bitke.	Stranka je primila novu članicu koja je obezbedila nove informacije za medijsku kampanju. Uskoro je počela da učestvuje i u daljim planovima stranke. Bila je izuzetno efikasna u svom poslu i zaradila poverenje svih.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis. Veruje se da je njen predak bila afrička divlja mačka. Mačke žive u bliskoj vezi sa ljudima najmanje 9.500 godina.

TARGET 12: ONA JE USKORO POSTALA ODANI VOJNIK PREDSEDNIKOVE KAMPANJE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Medijski rat je kulminirao predsedničkom debatom. Vladajuća stranka je okupirala dosta reklamnog vremena na svim portalima. Međutim, protivnička stranka je takođe organizovala ozbiljne medijske napade.	Medijska kampanja kulminirala je u prvoj predsedničkoj debati. Vladajuća stranka je rezervisala dosta reklamnog vremena na svim portalima. Međutim, protivnička stranka je takođe plasirala veliki broj reklama.	Pas je pripitomljeni sisar iz porodice pasa. Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka. Fosilni ostaci pokazuju da su preci modernog psa živeli uz čoveka i ranije.
LIST 2	Predsednik je najavio da će iskoristiti medije za dalji predizborni rat. Njegov suparnik je takođe najavio nove medijske obračune. Protivnička stranka je ubrzo započela i novu borbenu kampanju.	Predsednik je najavio da će iskorstiti medije da prenese svoje ideje. Njegov suparnik takođe je najavio nova obraćanja medijima. Protivnička stranka je ubrzo započela i novu medijsku kampanju.	Aluminijum jeste hemijski elemenat sa simbolom Al i atomskim brojem 13. U Periodnom sistemu spada u metale III glavne grupe. Aluminijum je treći najzastupljeniji element i najčešći metal u Zemljinoj kori.

| LIST 3 | Ankete pokazuju da predsednik dobija bitke na većem delu predizbornog bojišta. Predstoji nova debata u kojoj će ga protivkandidat žestoko napasti. Protivnička stranka takođe planira i nove medijske dvoboje. | Ankete pokazuju da predsednik vodi u predizbornoj kampanji. Predstoji nova debata u kojoj će i novi kandidat predstaviti svoje argumente. Protivnička stranka takođe planira i novu medijsku kampanju. | Nafta je tečna do polučvrsta prirodna materija. Nalazi se u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika. Uvek sadrži i sumpor i azotna i kiseonikova organska jedinjenja. |

TARGET 13: RAFALNA PALJBA REKLAMA KOJU JE ORGANIZOVALA PROTIVNIČKA PARTIJA JE UGROZILA PREDSEDNIKA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nova debata je dovela do novih verbalnih dvoboja. Mediji su očekivali da će doći do jasnije razmene vatre. Ali oba kandidata su nasrtala jedan na drugog nepovezanim argumentima.	U novoj debati izneti su novi argumenti sa obe strane. Mediji su očekivali da će ti argumenti biti jasniji i da će diskusija biti konkretnija. Međutim, oba kandidata zvučala su nepovezano.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju. Dve osnovne grane poljoprivrede su zemljoradnja i stočarstvo. Zajedno sa šumarstvom, lovom i ribolovom spada u primarni sektor privrede.
LIST 2	Tokom debate kandidati su se gađali argumentima i uvredama. Moderator nije mogao da ih obuzda niti da ublaži sukob. Čak su i mediji očekivali umereniju razmenu vatre.	Tokom debate mogli su se čuti različiti argumenti i uvrede. Moderator nije mogao da utiče na kandidate, niti da ih umiri. Čak su i mediji očekivali da će kandidati biti umereniji.	Đumbir je višegodišnja zeljasta biljka debelog granatog rizoma. Stabljika je obavijena lisnim rukavcima, a cvetovi su sakupljeni. Spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 3	Predizborna kampanja donela je dosta sporadičnih medijskih čarki. Mediji su nagoveštavali da će tokom predsedničke debate doći do jasnijih okršaja. Birači su očekivali jasniju i konkretniju borbu.	Tokom predizborne kampanje stranke su predstavljale svoje programe. Mediji su nagoveštavali da će tokom predsedničkih debata ovi programi postati jasniji. Birači su takođe očekivali jasniju razmenu argumenata.	Bor je elemenat trinaeste grupe Periodnog sistema elemenata. To je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa. Bor ima uticaj i na čovekov organizam, pre svega na skelet.

TARGET 14: PREDSEDNIK I NOVI KANDIDAT SU RAZMENJIVALI OŠTRE UDARCE I OPTUŽBE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Birači su željno iščekivali novu bitku između predsedničkih kandidata. Mediji su takođe najavljivali da predstoji žestoka borba. Ovakve okolnosti stvorile su dosta prilika za razmenu udaraca.	Birači su željno čekali novu debatu između predsedničkih kandidata. Mediji su takođe najavili da će debata biti izuzetno zanimljiva. Ovakve okolnosti stvorile su dosta prilika za diskusiju.	Avion je čuvena naprava za letenje čvrste konstrukcije. Prvu uspešnu konstrukciju, sa realizacijom, izvela su braća Vilbur i Orvil Rajt. Na toj svojoj konstrukciji su uspeli da polete 1903. godine.
LIST 2	Predsednička debata se pretvorila u pravi bokserski meč. Kandidati su razmenjivali serije direktnih udaraca i aperkata. Mediji su najavili da će okršaj u poslednjoj rundi odlučiti pobednika.	Predsednička debata postala je veoma neizvesna. Kandidati su razmenjivali dosta različitih argumenata. Mediji su najavili da će ishod poslednje debate odlučiti pobednika na izborima.	Selen je biljka iz familije Apiaceae. Selen je jedna od omiljenih aromatičnih biljaka. Delovi biljke su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

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List	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Predsedničku debatu obeležile su oštre razmene udaraca. Nijedan od kandidata se nije ustručavao od ulaska u klinč. Bilo je dosta taktičkih nadmudrivanja i neprijatnih udaraca ispod pojasa.	Tokom debate kandidati su razmenili različite argumente. Nijedan od kandidata se nije ustručavao da izrazi svoje mišljenje. Bilo je dosta okolišanja i neprijatnih komentara i opaski.	Đumbir je višegodišnja zeljasta biljka debelog granatog rizoma. Stabljika je obavijena lisnim rukavcima, a cvetovi su sakupljeni. Spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.

TARGET 15: KANDIDATI SU TOKOM DEBATE SPARINGOVALI OKO VELIKOG BROJA VAŽNIH PITANJA.

List	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predizborna kampanja je donela česte medijske sukobe između dve stranke. Tokom poslednje debate, delovalo je da novi kandidat počinje da gubi bitku. Predsednik je bio samouveren i napao sve stavove svog protivnika.	Tokom predizborne kampanje bilo je dosta reklamnih poruka. Tokom poslednje debate, novi kandidat je delovao veoma nesigurno. Predsednik je delovao samouvereno i kritikovao je stavove svog suparnika.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu. Prečnik planete na ekvatoru nešto je manji od Zemljinog. Za razliku od ostalih planeta, Venera se okreće oko svoje ose u retrogradnom smeru.
LIST 2	Predsednik vodi na većem delu predizbornog bojišta. Međutim, protivnička stranka ne odustaje od novih medijskih napada. Mediji javljaju da će protivkandidat u narednoj debati pokušati da promeni odnos snaga.	Predsednik vodi u dosadašnjem toku predizborne kampanje. Međutim, suparnička stranka ne odustaje od svoje medijske kampanje. Mediji javljaju da će suparnik u narednoj debati predstaviti nove argumente.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika. Prelazni modeli između automobila i autobusa su kombi i mini-bus. Prvi autobus predstavio je Karl Benc 1895. godine.
LIST 3	Mediji najavljuju da će u narednoj predsedničkoj debati doći do žestokog obračuna. Novi kandidat je došao spreman da zapodene kavgu. Predsednik nije očekivao ovako direktne napade od svog protivnika.	Mediji najavljuju da će u narednoj debati doći do nove razmene argumenata. Novi kandidat je došao spreman za diskusiju. Predsednik nije očekivao da će suparnik biti ovako dobro pripremljen.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu. Prečnik planete na ekvatoru nešto je manji od Zemljinog. Za razliku od ostalih planeta, Venera se okreće oko svoje ose u retrogradnom smeru.

TARGET 16: NOVI KANDIDAT JE TOKOM DEBATE ZABACIO MREŽU ARGUMENATA KA PREDSEDNIKU.

List	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predizborni medijski sukobi su se već neko vreme sve više zaoštravali. Obe stranke najavljivale su žestok obračun prilikom sledećeg susreta. Birači su očekivali novu debatu i nove žestoke razmene udaraca.	Predizborna medijska kampanja postaje sve ozbiljnija. Obe stranke su najavile da će predstaviti nove argumente prilikom sledećeg susreta. Birači su očekivali novu debatu i novu razmenu argumenata.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika. Prelazni modeli između automobila i autobusa su kombi i mini-bus. Prvi autobus predstavio je Karl Benc 1895. godine.
LIST 2	Predizborna kampanja se pretvorila u pravi bokserski meč. Kandidati su razmenjivali serije direktnih udaraca i aperkata. Mediji su najavili da će dvoboj u poslednjoj debati odlučiti pobednika.	Predizborna kampanja je postala jako ozbiljna. Kandidati su razmenjivali manje i više važne argumente. Mediji su najavili da će rezultat poslednje debate odlučiti pobednika na predstojećim izborima.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji. On je formulisao specijalnu i opštu teoriju relativnosti. Pored toga, doprineo je napretku kvantne teorije.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Predizbornu kampanju obeležile su oštre razmene udaraca. Nijedan od kandidata se nije ustručavao od ulaska u klinč. Mediji predviđaju nova taktička nadmudrivanja i udarce ispod pojasa.	Predizbornu kampanju obeležile su ozbiljne razmene argumenata. Nijedan od kandidata nije se ustručavao da izrazi svoje mišljenje. Mediji predviđaju dalje dijaloge i neprijatne komentare.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja. Mužjaci mogu biti visoki od 4,5 do 5,5 metara i težiti do 1.360 kilograma. Rekordna težina jednog mužjaka je iznosila približno 2.000 kg.

TARGET 17: PRED DEBATU, OBA KANDIDATA SU SE POVUKLA U SVOJ UGAO BIRAČKOG RINGA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Sinoć je održana prva debata koja će obeležiti predizborni sukob. Oba kandidata su delovala nespremno za obračun. Verbalni udarci koje su razmenjivali bili su nedefinisani i preopširni.	Sinoć je održana prva debata tokom predizborne kampanje. Oba kandidata su delovala nespremno za diskusiju. Argumenti koje su predstavili bili su nedefinisani, preopširni i bez konkretnog efekta.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha. Njime se takođe upravlja snagom motora. U karburatoru se raspršuje benzin i meša sa vazduhom u određenom odnosu.
LIST 2	Pored medijskog rata, kandidati se se susreli i na prvoj debati. Nijedan od kandidata nije uspeo da zada smrtonosni udarac. Ono što je trebalo da bude kratak i efikasan okršaj pretvorilo se u rovovsku borbu.	Nakon medijske kampanje, kandidati su se susreli i na prvoj debati. Nijedan od kandidata nije predstavio previše ubedljive argumente. Ono što je trebalo da bude kratak razgovor pretvorilo se u beskrajan dijalog.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja. Mužjaci mogu biti visoki od 4,5 do 5,5 metara i težiti do 1.360 kilograma. Rekordna težina jednog mužjaka je iznosila približno 2.000 kg.
LIST 3	Obe stranke su za dvoboj tokom prve debate spremile jasne strategije. Oba kandidata su na trenutke delovala suviše defanzivno. Nisu se upuštali u direktne obračune i više su se međusobno odmeravali.	Obe stranke su imale jasan plan za nastup tokom prve debate. Kandidati su na trenutke delovali previše nesigurno. Nisu se upuštali u direktne diskusije, već su se više držali preduge monologe.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika. Prelazni modeli između automobila i autobusa su kombi i mini-bus. Prvi autobus predstavio je Karl Benc 1895. godine.

TARGET 18: GLASAČIMA NAVIKNUTIM NA KRATKE I BRZE POLITIČKE BORBE DEBATA JE DELOVALA VEOMA DOSADNO.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Tokom kampanje bilo je dosta čarki na temu rasizma. Predsednik je napao svog protivnika optužbama da nije informisan. Želeo je da to upotrebi kao oružje u svoju korist, ali nije sve bilo po planu.	Tokom kampanje često se diskutovalo o pitanju rasizma. Predsednik je izjavio da njegov suparnik nije dovoljno informisan. Želeo je da tu činjenicu upotrebi u svoju korist, ali nije sve bilo po planu.	Prema udaljenosti od Sunca Zemlja je treća planeta. Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru. Indusi su verovali da Zemlju kao ploču nose na leđima tri slona.
LIST 2	Tokom predsedničke debate kandidati su koristili različito oružje. Najpre su se gađali optužbama u vezi sa ekonomskim planovima. Potom su prešli na rasizam i protivkandidat je žestoko napao predsednika.	Tokom predsedničke debate kandidati su predstavljali različite argumente. Najpre su kritikovali ekonomske planove suparnika. Potom su prešli na rasizam, pri čemu je protivnički kandidat kritikovao predsednika.	Bor je elemenat trinaeste grupe Periodnog sistema elemenata. To je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa. Bor ima uticaj i na čovekov organizam, pre svega na skelet.

LIST 3	Predsednik je imao jasan plan za napad tokom prethodne debate. Protivkandidat je neočekivano prešao u ofanzivu. Dosadašnjem arsenalu argumenata pridodao je i pitanje rasizma.	Predsednik je imao jasan plan za nastup u prethodnoj debati. Protivkandidat je tokom diskusije izneo neke neočekivane argumente. Naime, dosadašnjim argumentima pridodao je i pitanje rasizma.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.

TARGET 19: PREDSEDNIK JE NEPLANIRANO ZALUTAO U MINSKO POLJE RASISTIČKE POLITIKE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Vladajuća stranka predstavila je nove planove za predizbornu borbu. Ovim planovima će saseći finansiranje predviđeno za vojsku i policiju. S druge strane, zaštitiće zdravstveno i socijalno ugrožene grupe.	Vladajuća stranka predstavila je novi ekonomski plan. Ovim planovima će se smanjiti finansiranje predviđeno za vojsku i policiju. S druge strane, zdravstveno i socijalno ugrožene grupe biće u boljem položaju.	Iverica je naziv za ploču napravljenu od iverja drveta. Prema tipu presovanja, može biti normalno presovana i ekstruziono presovana. Kod normalno presovanih, sila presovanja deluje upravno na površinu ploče.
LIST 2	Novi plan budžeta će ojačati finansiranje vojske. Protivnička stranka napala je predsednika optužbama da će oslabiti zdravstveno osiguranje. Predsednik je ovo demantovao izjavivši da niko neće biti ugrožen.	Novi plan budžeta predviđa bolje finansiranje za vojsku. Protivnička stranka smatra da će se ovim smanjiti fond za zdravstveno osiguranje. Predsednik je ovo demantovao i izjavio da se tako nešto neće dogoditi.	Nafta je tečna do polučvrsta prirodna materija. Nalazi se u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika. Uvek sadrži i sumpor i azotna i kiseonikova organska jedinjenja.
LIST 3	Vladajuća stranka najavila je nove mere štednje za borbu protiv krize. Prve na udaru biće kompanije koje neredovno plaćaju poreze. Mediji javljaju da reforme neće pogoditi zdravstvenu i socijalnu zaštitu.	Vladajuća stranka najavila je mere štednje kako bi se suzbila kriza. Ovo se najviše tiče kompanija koje neredovno plaćaju poreze. Mediji javljaju da reforme neće uticati na zdravstvenu i socijalnu zaštitu.	Selen je biljka iz familije Apiaceae. Selen je jedna od omiljenih aromatičnih biljaka. Delovi biljke su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

TARGET 20: NOVI PREDSEDNIKOVI PLANOVI NEĆE RASPORITI ZAVODE ZA ZDRAVSTVENO I SOCIJALNO OSIGURANJE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Tokom debate kandidati su mlatili jedan drugoga različitim argumentima. Predsednik je spremno sekao sve protivnikove nasrtaje. Protivkandidat je delovao samouvereno i odlučno kretao u napade.	Tokom debate kandidati su predstavljali različite argumente. Predsednik je imao spreman odgovor na replike svog suparnika. Suparnik je delovao samouvereno i odlučno predstavljao program svoje stranke.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer. Specijalnu vrstu čini periodična naizmenična struja. U tom slučaju se sve promene napona i jačine struje dešavaju periodično.
LIST 2	Predsednik je poslednju debatu pretvorio u ličnu vojnu vežbu. Vešto je probijao retoriku svog protivnika i rešetao ga svojim argumentima. Protivkandidat nije uspevao da se odbrani od svih napada.	Predsednik je bio veoma ubedljiv tokom poslednje debate. Vešto je odgovarao na pitanja svog suparnika i prezentovao svoje argumente. Njegov suparnik nije bio tako spretan u svojim odgovorima.	Pas je pripitomljeni sisar iz porodice pasa. Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka. Fosilni ostaci pokazuju da su preci modernog psa živeli uz čoveka i ranije.

	Nova debata donela je priliku za nove verbalne sukobe. Oba kandidata bila su spremna za žestoku borbu. Protivkandidat je sve vreme dosta neuspešno pokušavao da pređe u ofanzivu.	Nova debata donela je priliku za novu razmenu argumenata. Oba kandidata bila su spremna za novu diskusiju. Novi kandidat je sve vreme dosta neuspešno pokušavao da bude ubedljiviji.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.
LIST 3			
TARGET 21: PREDSEDNIK JE UŽIVAO U PROBADANJU SUPARNIKOVIH ARGUMENATA.			

5.3.1 RESULTS AND DISCUSSION

5.3.1.1 OVERALL MEAN TENDENCIES

Based on the obtained results we calculated the overall mean tendences for each of the three priming conditions. One-way repeated measures ANOVA showed a significant main effect of priming condition (Wilks' Lambda=.63, $F(2, 98)$=28.37, p<.0005, partial η^2=.37), and subsequent pairwise comparisons revealed a significant difference between the incongruent condition and the remaining two priming conditions. This was reflected in significantly shorter RTs in the former condition (M=2271.03 ms, SD=475.30 ms) compared to both the metaphorical (M=3060.76 ms, SD=680.70 ms, p<.0005) and literal condition (M=3111.87 ms, SD=894.43 ms, p<.0005). The comparison of literal and metaphorical conditions did not show significance (p=.599). We also ran one-way between-groups ANOVA to make sure that all three lists produced similar effects and that there were no confounding effects of any of the three lists. The obtained results did not reveal any significant differences (p>.05).

In order to ensure that the reading times for priming materials did not pose as a confounding factor (seeing that reading times were not limited, and assuming that potentially longer reading times may have affected participants response times to targets), we also compared the overall mean reading times for congruent metaphorical and congruent literal primes. The obtained results did not reveal a significant difference between the two priming conditions (Wilks' Lambda=.97, $F(1, 105)$=2.89, p=.092, partial η^2=.027; metaphorical condition: M=8186.94 ms, SD= 2472.91 ms; literal condition: M=7950.46 ms, SD= 2549.80 ms, p=.092).

The obtained results show that congruent metaphorical and congruent literal primes afforded equal degrees of contextualization, insofar as there were no significant differences in RTs when it came to participants' assessments of contextual aptness of target sentences. This suggests that both metaphorical and literal congruent contextualizations used for priming provided equally appropriate,

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i.e., equally apt, contextualizations into which the target metaphorical sentences fitted equally well. In other words, both priming conditions licensed the activation of congruent frames (or the construction of situation models) which were appropriate contextualizations for target sentences. Moreover, such results also suggest that, owing to the congruent structures of prime-target pairs in both congruent conditions, the processes were most likely underlain by the same mechanism of enhancement (Gernsbacher 1997). Namely, the initial structure from the prime was followed by congruent targets, so that no shifting was involved. Incongruent priming, on the other hand, activated incongruent frames; consequently, as the data show, participants were able to make significantly faster decisions concerning contextual aptness of the target sentences in this condition. In effect, the shorter RTs recorded in the incongruent condition also suggest that the contextualization created by the prime immediately interacts with the oncoming information from the target sentence.
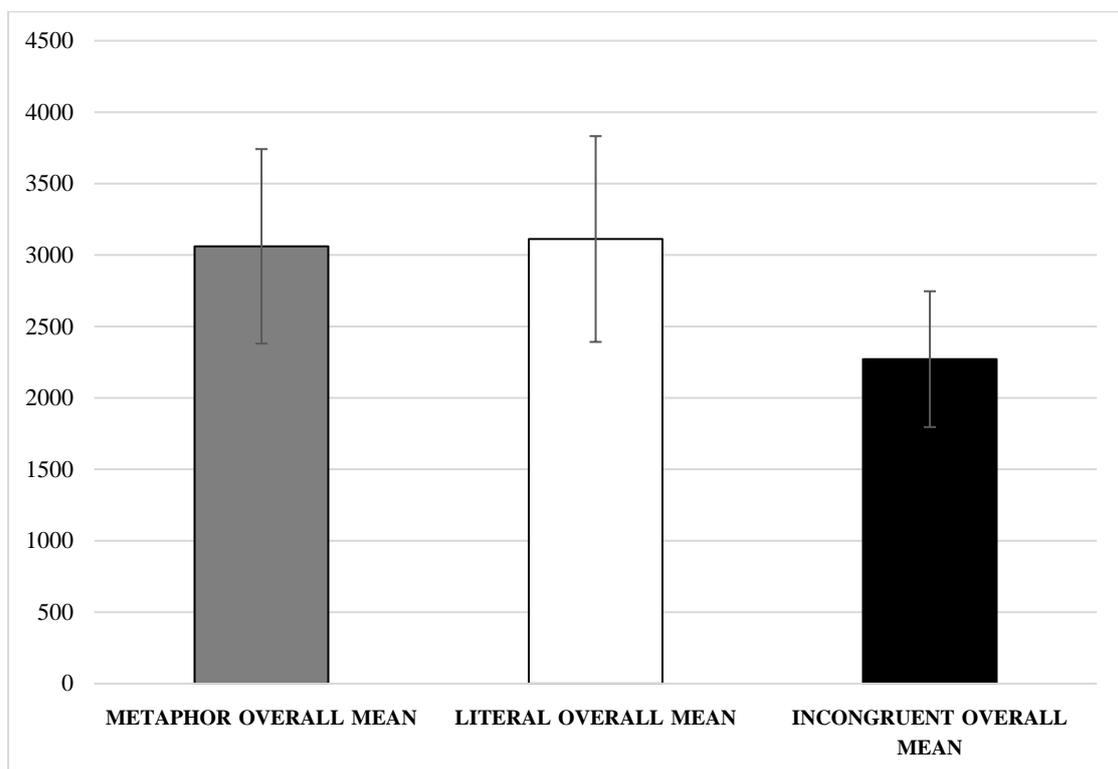
Figure 5.7. Overall mean RTs in the three priming conditions in Experiment 5

On the one hand, the recorded RTs in the main task for the two congruent priming conditions did not show a significant difference, and, by extension, these decision-making times are also conditioned by the reading times for target sentences. On the other hand, RTs in the incongruent condition were significantly shorter, which suggests that participants either also read the target sentences significantly faster, or they simply did not read the entire sentences. The second option seems more plausible, and it suggests that the participants were engaged in incorporating the

information from the target sentence into the integrated situation model (in the sense of the event indexing model which assumes the construction of the current model, integrated model and complete situation model; e.g., Zwaan and Radvansky 1998) immediately upon its onset, and in an *incremental* fashion. In effect, as soon as they realized that the content of the target was incongruent with the content of the prime, they dismissed the target as contextually inapt. Consequently, this afforded significantly shorter RTs in this condition compared to the two congruent conditions. In other words, participants immediately identified the violation of expectancies created by the prime. Based on such results, we can conclude that in the present experimental setup, contextualization afforded by the prime acts as a pre-decision mechanism in the main task that includes judgements of contextual aptness.

In the context of the structure building framework, it is assumed that the incongruent content of the target will shift the process into a substructure and that the mechanism of suppression will facilitate the foregrounding of the information that is relevant, while filtering out the irrelevant data. Based on the obtained results, we can argue that the nature of the main task that entailed a discourse-level understanding and analysis in the decision-making process most likely amplified the effect of suppression. In other words, owing to the high degree of discord in the semantic content between primes and their corresponding targets, participants did not need to read the entire sentence to be able to make contextual aptness judgements. Instead, they could make their decisions quite rapidly, possibly as soon as they identified the shift from the main structure. Congruent priming conditions, on the other hand, were facilitated by the mechanism of enhancement, as the final structures were congruent and coherent. However, owing to the nature of the main task, participants most likely needed to process entire sentences in order to make sure these were contextually apt. Consequently, in spite of the biasing contexts in the congruent conditions, the nature of the task required that more material be processed before the decision had been made. This in turn rendered the incongruent condition more cost effective in terms of processing times.

We also calculated the overall mean tendencies of participants' assessments of target aptness in the binary decision task ("Yes"=the target sentence fits into the context of the priming paragraph, "No"=the target sentence does not fit into the context of then priming paragraph). The results showed a significantly higher mean of "yes" responses compared to "no" responses in both congruent metaphorical (Wilks' Lambda=.083, $F(1, 20)$=220.51, $p<.0005$, partial η^2=.92, M_{yes}=81.14, SD_{yes}=8.68, M_{no}=24.86, SD_{no}=8.68) and congruent literal conditions (Wilks' Lambda=.096, $F(1, 20)$=189.06, $p<.0005$, partial η^2=.90, M_{yes}=79.05, SD_{yes}=9.36, M_{no}=26.10, SD_{no}=8.71). Comparison of "yes" responses between these two priming conditions did not reveal a significant difference (Wilks' Lambda=.91, $F(1, 20)$=2.02, p=.171, partial η^2=.09). The incongruent priming condition showed an inverted trend of responses, with higher means recorded for "no" responses compared to

"yes" responses, and the difference reached significance (Wilks' Lambda=.005, $F(1, 20)$=4188.52, p<.0005, partial η^2=.995, M_{yes}=11.95, SD_{yes}=2.91, M_{no}=94.05, SD_{no}=2.91). Moreover, the number of "yes" responses in the incongruent condition was significantly lower than the number of "yes" responses in the two congruent conditions (Wilks' Lambda=.017, $F(2, 19)$=537.85, p<.0005, partial η^2=.983). In addition to the recorded RTs, these data further reinforce the claim that participants attributed equal degrees of contextual aptness to the selected targets in both congruent metaphorical and congruent literal conditions, whereas the incongruent condition was understood as contextually inapt.

5.3.1.2 BY-ITEM ANALYSES

By-item comparisons between the three priming conditions were also conducted using one-way repeated measures ANOVA. The results are presented in Table 5.11 below. The analyses revealed a consistent significant main effect of priming condition in all cases (p<.05). Subsequent pairwise comparisons also yielded consistent results, insofar as none of the targets showed significant differences between congruent metaphorical and congruent literal priming conditions, while mean RTs recorded in the incongruent condition were significantly shorter in all cases (p<.0005). Based on these data, we can conclude that the results of by-item analyses reinforce the conclusions outlined above; i.e., there were no significant differences in the recorded mean RTs between the metaphorical and literal condition for any of the targets. On the other hand, incongruent priming afforded significantly faster decision making in terms of contextual aptness of targets compared to both of the congruent priming conditions. The implications of the obtained results are explained in the discussion section below.

Table 5.11. By-item analyses, Experiment 5

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 1	Metaph.	3057.51	1133.96	.366	Target 2	Metaph.	2964.45	1116.78	>.05
	Literal	3292.99	1269.35			Literal	2855.86	1317.14	
	Incongr.	2337.54	1052.30	<.0005		Incongr.	1801.86	695.16	<.0005
Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p

Target	Priming condition	M [ms]	SD [ms]	p		Target	Priming condition	M [ms]	SD [ms]	p
Target 3	Metaph.	2714.36	907.68	.982		Target 4	Metaph.	2379.11	915.743	>.05
	Literal	2871.65	1323.43				Literal	2483.57	1088.04	
	Incongr.	2367.42	1355.38	.013			Incongr.	1486.02	696.97	<.0005

Target	Priming condition	M [ms]	SD [ms]	p		Target	Priming condition	M [ms]	SD [ms]	p
Target 5	Metaph.	2293.20	936.66	>.05		Target 6	Metaph.	2735.12	1137.20	>.05
	Literal	2193.49	770.16				Literal	2721.41	1073.94	
	Incongr.	1514.37	644.03	<.0005			Incongr.	1691.19	778.85	<.0005

Target	Priming condition	M [ms]	SD [ms]	p		Target	Priming condition	M [ms]	SD [ms]	p
Target 7	Metaph.	2989.11	1336.68	>.05		Target 8	Metaph.	3441.72	1398.47	>.05
	Literal	2947.14	1438.24				Literal	3320.74	1401.04	
	Incongr.	1458.40	670.77	<.0005			Incongr.	2266.38	1081.40	<.0005

Target	Priming condition	M [ms]	SD [ms]	p		Target	Priming condition	M [ms]	SD [ms]	p
Target 9	Metaph.	4060.94	1905.08	.307		Target 10	Metaph.	3403.34	1723.27	>.05
	Literal	3665.06	1914.34				Literal	3217.86	1597.21	
	Incongr.	2026.59	1151.93	<.0005			Incongr.	2062.43	988.63	<.0005

Target	Priming condition	M [ms]	SD [ms]	p		Target	Priming condition	M [ms]	SD [ms]	p
Target 11	Metaph.	2551.46	1102.78	>.05		Target 12	Metaph.	2859.39	1320.01	>.05
	Literal	2582.40	1077.55				Literal	2972.97	1504.99	
	Incongr.	1634.06	788.60	<.0005			Incongr.	2206.39	911.76	<.0005

Target	Priming condition	M [ms]	SD [ms]	p		Target	Priming condition	M [ms]	SD [ms]	p
Target 13	Metaph.	3255.57	1332.90	.468		Target 14	Metaph.	2747.83	1078.87	.163
	Literal	3003.12	1201.55				Literal	2442.35	1152.53	
	Incongr.	1993.90	983.89	<.0005			Incongr.	1506.67	728.71	<.0005

Target	Priming condition	M [ms]	SD [ms]	p		Target	Priming condition	M [ms]	SD [ms]	p
Targ	Metaph.	2869.46	1242.61	>.05		Targ	Metaph.	3050.36	1328.91	>.05

	Priming condition	M [ms]	SD [ms]	p
	Literal	2909.01	1279.28	
	Incongr.	1909.12	1036.03	<.0005

Target	Priming condition	M [ms]	SD [ms]	p
Target 17	Metaph.	3052.37	1342.72	.411
	Literal	3376.67	1683.43	
	Incongr.	1733.14	807.67	<.0005

	Priming condition	M [ms]	SD [ms]	p
	Literal	2978.42	1314.44	
	Incongr.	1533.58	781.20	<.0005

Target	Priming condition	M [ms]	SD [ms]	p
Target 18	Metaph.	3396.02	1638.27	>.05
	Literal	3446.89	1318.21	
	Incongr.	2195.37	1097.31	<.0005

Target	Priming condition	M [ms]	SD [ms]	p
Target 19	Metaph.	2924.91	1189.48	>.05
	Literal	2838.87	1096.99	
	Incongr.	1798.31	1019.32	<.0005

Target	Priming condition	M [ms]	SD [ms]	p
Target 20	Metaph.	3464.06	1561.58	>.05
	Literal	3510.62	1763.74	
	Incongr.	1766.90	900.42	<.0005

Target	Priming condition	M [ms]	SD [ms]	p
Target 21	Metaph.	2490.22	931.28	>.05
	Literal	2466.27	1038.82	
	Incongr.	1709.08	929.35	<.0005

5.3.1.3 QUALITATIVE ANALYSIS

In light of the theoretical framework introduced above, congruent priming contexts are expected to activate the relevant background knowledge structures, i.e., in this particular case, the relevant parts of the frame of POLITICS (in the sense of Fillmore 1982). On the other hand, based on the event-indexing model (e.g., Zwaan, Langston, and Graesser 1995; Zwaan and Radvansky 1998), we could also argue that the semantic content of the priming paragraphs affords the construction of situation-models, which involves the stages of constructing (i) the current model, (ii) the integrated model, and (iii) the complete model. Additionally, in the context of the structure building framework (Gernsbacher 1997), the structure of the priming paragraph is built primarily via the process of enhancement, as the sentences in these paragraphs are both congruent and coherent. The mechanism of suppression might be active in the background only to a certain extent, insofar as it might aid structure building by facilitating the activation only of those sections of the frames that are necessary

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for comprehension (specific values and roles, their possible interactions, and similar). When the target is introduced, the mechanism of enhancement again allows readers to seamlessly integrate the novel information into the already active structure. Suppression also aids in the process to the extent that it inhibits the activation of elements that are not relevant. The role of suppression becomes more pronounced in the case of incongruent priming, and we address this in more detail below.

In light of semantic frames, lexical items in the priming paragraphs afford access points to specific frames. Metaphorical priming paragraphs used in the experiment actually contain homogenous metaphor clusters with metaphorical expressions corresponding to the conceptual key POLITICS IS CONFLICT. Since conceptual metaphors presumably involve the activation of source and target input spaces, organized by their corresponding frames, congruent metaphorical priming paragraphs are expected to activate both the frames of POLITICS and CONFLICT. For instance, the following paragraph contains a cluster of three CONFLICT metaphors, each of which should activate the frames of CONFLICT and POLITICS:

> Ankete pokazuju da predsednik *vodi na većem delu predizbornog bojišta*. Predstoji nova debata u kojoj *će ga protivkandidat žestoko napasti*. *Ishod ovog novog okršaja* između dvojice kandidata i dalje je neizvestan.

Moreover, the overall lexical-semantic context of the entire paragraph, as well as optimal sentence-level contexts also activate the frame of POLITICS, owing to the individual non-metaphorical lexical items (e.g., *predsednik, protivkandidat, debata*) that serve as points of access (in the sense of Langacker 1987; Fillmore 1982) to the larger frame-structure. Again, the context of the paragraph affords the activation only of those parts of the frame relevant for meaning construction, while the activation of the remaining parts is inhibited (in the sense of Gernsbacher 1997). This congruent metaphorical priming paragraph is then followed by the target sentence which contains another metaphorical expression corresponding to the conceptual key POLITICS IS CONFLICT:

> Sigurno je da će oba kandidata na novu debatu doći *naoružani dobro uvežbanim replikama*.

This constitutes a condition with congruent metaphorical priming, licensed by the fact that identical frames (i.e., frames of POLITICS and CONFLICT) are presumably activated both by the priming paragraph and by the target sentence. Such alignment between the frames facilitates participants' RTs when deciding whether the target sentence is apt under the current contextualization or not, which is also supported by the evidence of by-item analysis (Table 5.11). Moreover, what needs to be taken into account is the overall dominance of the organizing frame of the target input (POLITICS), which

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has been identified in Experiments 1–4. Also, the final discourse structure composed of the prime and target is actually organized by the general context of presidential election and politics, which serve as the background against which the process of meaning construction is taking place online. Moreover, bearing in mind the dynamic and flexible nature of semantic frames, the frame of POLITICS (arguably) also contains schematics for, at least, conventional metaphorical conceptualizations. Consequently, this should also facilitate the contextual alignment between primes and targets in this experimental condition.

In light of the event-indexing model (henceforth EIM), the first sentence of the priming paragraph (Ankete pokazuju da predsednik *vodi na većem delu predizbornog bojišta*) affords the construction of the current situation model, with the main dimensions defined in Table 5.12. This current model is then updated with the second sentence (Predstoji nova debata u kojoj *će ga protivkandidat žestoko napasti*) that introduces congruent and coherent content, and the initial dimensions are updated with the new information obtained in the process of online meaning construction. Finally, the third sentence (*Ishod ovog novog okršaja* između dvojice kandidata i dalje je neizvestan) in the priming paragraph is introduced, and the relevant dimensions are further updated. Overall, all three sentences introduce a congruent, coherent metaphorical contextualization, or a complex metaphor schema (in the sense of Allbritton 1995, and Allbritton, McKoon, and Gerrig 1995). They yield the final stage in the integrated model, followed by the target sentence (Sigurno je da će oba kandidata na novu debatu doći *naoružani dobro uvežbanim replikama*).

Table 5.12. Schematics of the event-indexing model
for the metaphorical congruent priming paragraph

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*The initial referential time in the narrative*	*Time in the near future when the debate will take place*	*Time in the near future when the debate will take place*
SPACE / VENUE	*Election battleground*	*Presidential debate*	*Presidential debate*
CAUSATION	*Competition involved in the election*	*Argument between candidates*	*Argument between candidates*
INTENTIONALITY	*To win the election*	*Win the debate*	*Win the debate*
PROTAGONISTS/ PARTICIPANTS	*The president; voters*	*The president; the opponent; audience*	*The president; the opponent; audience*

Finally, the target sentence introduces congruent metaphorical content (Table 5.13), which is (i) coherent (e.g., in the sense of Hoover 1997), (ii) topically related to the priming paragraph, (iii) the relevant dimensions are sensically aligned, and (iv) the metaphorical expression corresponds to

the conceptual key of metaphorical expressions from the priming cluster (i.e., POLITICS IS CONFLICT). This gives way to the complete model, and the expectancies built by the prime are congruent with the content of the target sentence. Additionally, the importance of coherence in the structure of texts has also been recognized in previous research as an important facilitator in the construction of the semantic representation of discourse (e.g., Hoover 1997).

Table 5.13. Schematics of the event-indexing model for the target sentence

	TARGET SENTENCE
TIME	*Time in the near future when the debate will take place*
SPACE / VENUE	*Presidential debate*
CAUSATION	*Well-prepared arguments*
INTENTIONALITY	*To win the election, i.e., to defeat the opponent*
PROTAGONISTS/ PARTICIPANTS	*The president; opponent; audience*

In broader terms, the online meaning construction is not guided only by the semantic content of the prime-target pair that constitutes the complete model in this case; instead, the relevant background knowledge activated online is also of vital import, to the extent that

> "general world knowledge can have a strong influence on the accessibility of information contained in the episodic memory trace, [so] it is important to understand how these two sources of information interact in determining what information ultimately becomes available to the reader" (Cook and Guéraud 2007: 268).

Based on van Dijk (2006; 2008), this could include, but is not limited to, (i) the individuals' personal histories and experiences that afforded the construction of relevant frames and the associated schematic structures, (ii) the individuals' assessments of relevance and aptness, (iii) the social, cognitive, and cultural factors that are subject to variations both between individuals and between different socio-cultural groups, and (iv) the affective content of the constructed situation which is also potentially present in the background frames (in the sense of Figar 2013a; 2014a). Also, Cook and Guéraud (2007: 273–274) stress the import of script/scenario knowledge which, in our research context, is contained in the schematic structure of semantic frames.

The congruent literal priming condition will function in a similar fashion. The priming paragraph, in this case, should activate only the frame of POLITICS:

Ankete pokazuju da predsednik vodi u predizbornoj kampanji. Međutim, predstoji nova debata u kojoj će protivkandidat pomenuti nove argumente. Ishod predstojeće debate između dvojice kandiadata i dalje je neizvestan.

Again, in terms of frame semantics, individual lexical items serve as access points to the larger frame structure, from which the relevant sections are activated as a function of the paragraph context. For instance, based on the content of the paragraph, elements like *the president, campaign, opponent,* and their corresponding causal and intentional relationship will appear as highly salient. Some other elements, like the campaign rallies, president's wife and family, and election day, will not be activated, as they are not essential for online meaning construction in this specific case. In other words, the activated frame undergoes *contextual filtering* which, in turn, yields the partial frame structure necessary for comprehension. The process, in this case, is further facilitated by the fact that the paragraph is organized by a single frame, and sentences are congruent and coherent. The process of contextual filtering is most likely facilitated by the mechanism of suppression outlined above.

The target sentence is the same as above, and it contains a metaphorical expression that should activate both frames of POLITICS and CONFLICT. Bearing in mind that we are dealing with a highly conventional metaphorical expression, the presence of an additional frame should not cause any processing difficulties that would cause a lag in participants' RTs in the main contextual aptness task, which is evident in the results of by-item analyses. Namely, the difference between the metaphorical and literal congruent priming conditions did not reach significance (Table 5.11).

Table 5.14. Schematics of the event-indexing model
for the literal congruent priming paragraph

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*The initial referential time in the narrative*	*Time in the near future when the debate will take place*	*Time in the near future when the debate will take place*
SPACE / VENUE	*Election campaign*	*Presidential debate*	*Presidential debate*
CAUSATION	*Competition involved in the election*	*Opponent's new arguments*	*Argument between candidates*
INTENTIONALITY	*To win the election*	*Win the debate*	*Win the debate*
PROTAGONISTS/ PARTICIPANTS	*The president; voters*	*The president; the opponent; audience*	*The president; the opponent; audience*

In terms of the EIM, the relevant dimensions, the current model, and the stages of the integrated model are shown in Table 5.14. The values of the relevant dimensions across the initial

three stages are almost identical to those in the metaphorical congruent priming condition. This is followed by the target sentence, which yields the complete model (Table 5.13). Again, the contents of the priming paragraph and the target sentence are semantically congruent, which is reflected both in contextual aptness judgments, and RTs.

The potential discrepancy between frames, since the priming paragraph involves only the frame of POLITICS, whereas the target sentence should introduce an additional frame of CONFLICT, is resolved by the fact that we are dealing with a highly conventional metaphorical expression that can also be understood as part of the frame of POLITICS. Namely, as argued above, the frame of POLITICS should already contain all conventional metaphorical conceptualizations of the political process. In that sense, the structure activated by the priming paragraph is simply updated and the already active frame-structure expanded in order to accommodate the frame of CONFLICT as well. Moreover, if we take into account the results obtained from experiments 1 and 2, where the frame of POLITICS showed a higher degree of activation compared to the frame of CONFLICT, reflected in significantly shorter RTs in the categorization task, such results in the present experiment should be expected. Namely, the higher level of activation of the frame of POLITICS affords seamless integration of the target sentences into the complete model.

The incongruent priming condition involved a priming paragraph whose semantic content was not aligned with that of the target sentence:

Aluminijum je hemijski element sa simbolom Al i atomskim brojem 13. U Periodnom sistemu spada u metale III glavne grupe. Aluminijum je treći najzastupljeniji element i najčešći metal u Zemljinoj kori.

Namely, the priming paragraph activates (at least) the semantic frames of CHEMISTRY (via lexical items like chemical element, periodic table) and GEOLOGY (metal, Earth's crust). The two frames are compatible and the paragraph contains congruent and coherent structure. However, these frames are incongruent in relation to the semantic content of the target sentence:

Sigurno je da će oba kandidata na novu debatu doći *naoružani dobro uvežbanim replikama*.

In other words, the expectancy created by the priming paragraph is violated by the target sentence, owing to the misalignment between the semantic frames. This is reflected in the recorded contextual aptness judgments, as well as in the significantly shorter RTs recorded in this condition (Table 5.11). Structures of the current model of the EIM, and the two stages for the integrated model are presented in Table 5.15. It can be seen that, in addition to the discrepancies between frames, there is also a
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misalignment in the overall structure of the models between the priming paragraph and the target sentence. Namely, the priming paragraph offers general, encyclopedic information, there are no causal relations, nor are there any animate participants. In effect, two dimensions in the current model (causation and protagonists) are empty.

Table 5.15. Schematics of the EIM for the incongruent priming paragraph

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*The referential time in the narrative*	*The referential time in the narrative*	*The referential time in the narrative*
SPACE / VENUE	*Earth*	*Earth*	*Earth*
CAUSATION	*None*	*None*	*None*
INTENTIONALITY	*To provide general (factual) information*	*To provide general (factual) information*	*To provide general (factual) information*
PROTAGONISTS/ PARTICIPANTS	*None*	*None*	*None*

While the final stage of the current model in the priming paragraph is congruent and semantically coherent, introduction of the target sentence and the construction of the complete model yields an incongruent structure with violated expectances generated by the prime. Namely, the situation model constructed by the target sentence alone introduces not only two novel frames (POLITICS and CONFLICT), but also a more elaborate schematic structure, in that it contains causation, protagonists, and more clearly defined intentionality. Such misalignment is reflected in participants' aptness judgments, and in significantly shorter RTs compared to both congruent priming conditions. Such faster dismissals of the target sentence as contextually inapt in this condition can be attributed to the high degree of misalignment between the integrated model of the priming paragraph and the complete model that includes the target sentence (Table 5.13).

In the context of the structure building framework, the significantly shorter RTs recorded in the incongruent condition can also be attributed to the more pronounced role of the suppression mechanism. Namely, seeing that the introduction of the incongruent target involves a shift in the structure, owing to the new information and activation of new frame structures. Due to the nature of the main task which involves judgments of contextual aptness in a binary decision task (Yes/No), the participants were able to make their contextual aptness judgements in the incongruent condition significantly faster compared to the two congruent conditions. This suggests that they were able to suppress the irrelevant information and make their decisions very early, most likely not requiring to process the entire sentence. Instead, the sudden shift in semantic frames between the prime and target seems to have emphasized the role of suppression, thereby affording significantly faster decision-

making times. What needs to be stressed is the fact that such results are also directly constrained by the nature of the main task.

Finally, Figure 5.8 offers a schematic overview of the main stages in the construction of the event indexing model, and the corresponding effects of the mechanisms of suppression and enhancement.
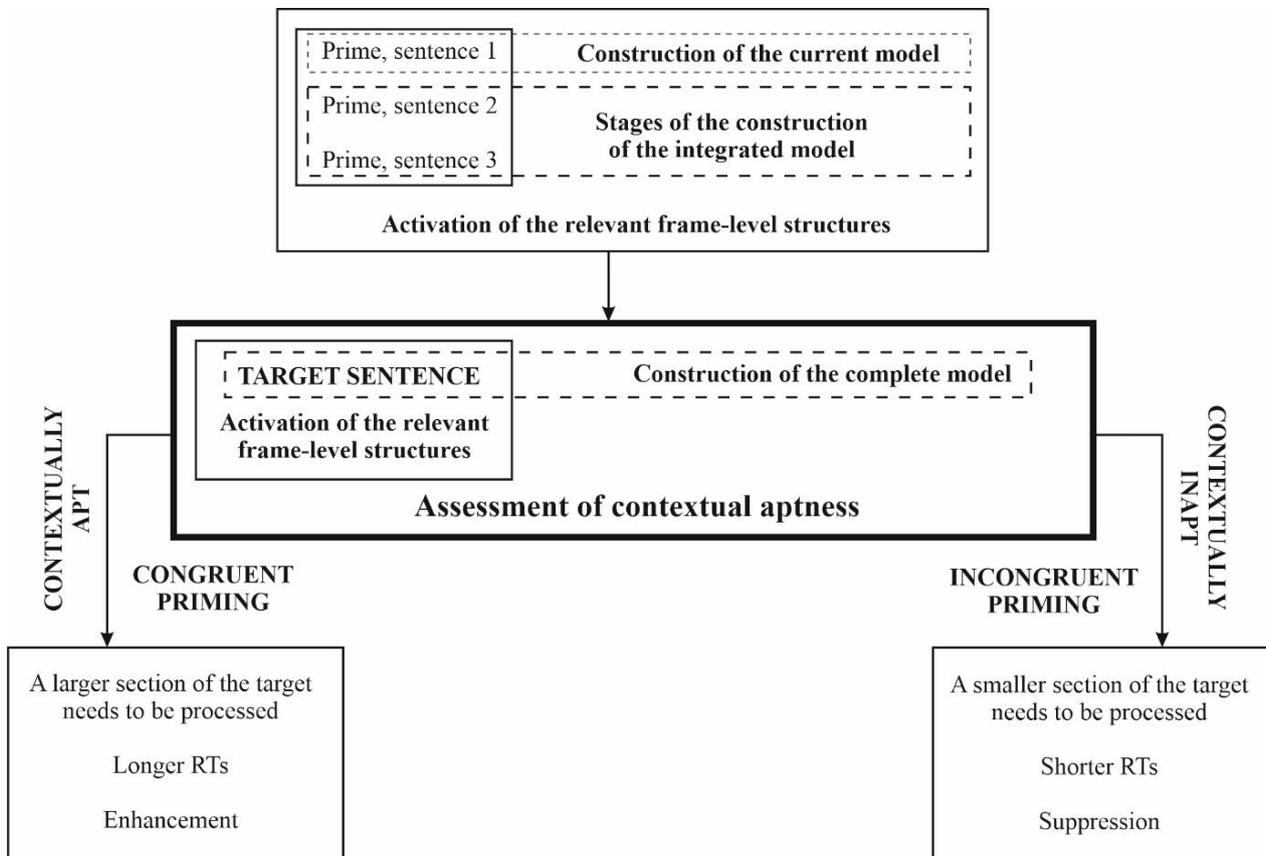
Figure. 5.8. Schematics for the main stages in the construction of the event indexing model

5.3.1.4 ANALYSIS OF DISTRACTOR ITEMS

As mentioned above, the list of stimuli used in the present experiment also included 8 pairs of distractor-targets and distractor-primes, where the first four appeared in the congruent condition, and the remaining four in the incongruent condition (Table 5.16).

Table 5.16. Distractor items

CONDITION	STIMULUS	PRIME-TARGET PAIRS
CONGRUENT	PRIME 1	Brod je plovno sredstvo za transport putnika ili robe. Brodom se smatraju samo veći plovni objekti. Brod ima koritast oblik koji mu daje uzgon da bi plutao po vodi.
	TARGET 1	Titanik je potonuo 14. aprila 1912. godine.
CONGRUENT	PRIME 2	Začin je dodatak jelu koji pojačava ukus. Dodaje se u malim količinama i nema hranljivi značaj. Uglavnom se radi o delovima biljaka ili celim biljkama.
	TARGET 2	Đumbir je višegodišnja začinska biljka poreklom iz Kine.
CONGRUENT	PRIME 3	Vazduhoplovstvo je delatnost vezana za letenje u vazdušnom prostoru. Pojam vazduhoplov uključuje sve letilice s višekratnom upotrebom. Vazduhoplovi mogu biti sa pilotom ili bez pilota.
	TARGET 3	Helikopter predstavlja vazduhoplov sa rotacionim krilima.
CONGRUENT	PRIME 4	Sunčev sistem čine Sunce i sva tela gravitaciono vezana za njega. Ovo je područje u vasioni u kome je gravitaciona sila Sunca dominantna. Sunčev sistem obuhvata planete, njihove satelite i manja tela.
	TARGET 4	Mars je četvrta planeta po udaljenosti od Sunca.
INCONGRUENT	PRIME 5	Demokratija je politički sistem u kome narod ima pravo da bira predstavnike. Ovo pravo je suštinski koncept demokratije. U Evropi se demokratija najpre razvila u Grčkoj.
	TARGET 5	Paradajz se konzumira na različite načine, sirov ili kuvan.
INCONGRUENT	PRIME 6	Politika je način donošenja odluka grupe ljudi. Politika je takođe i proces sticanja političke moći. Komunikacija je izuzetno važna u politici.
	TARGET 6	Bicikl je kopneno prevozno sredstvo na dva točka koje pokreće vozač svojom snagom pomoću pedala.
INCONGRUENT	PRIME 7	Predsednički izbori u SAD 1984. godine održani su 6. novembra. Na izborima je ubedljivo pobedio Ronald Regan. Osvojio je najviše glasova u istoriji predsedničkih izbora.
	TARGET 7	Rim je glavni grad Italije i regije Lacio.

	PRIME 8	Skupština je najviše predstavničko telo u političkim sistemima.
		Danas postoji kao jedan od temelja demokratije i građanske države.
INCONGRUENT		Može biti jednodomna, dvodomna, ili iz više domova.
	TARGET 8	Astronomija je nauka koja proučava objekte i pojave izvan Zemlje i njene atmosfere.

Bearing in mind that the length of distractor-targets was not normalized for the number of syllables, we calculated the normalized mean RTs per syllable (Figures 5.9). Namely, RTs obtained for each target were divided by the number of syllables. This was done in order to avoid the confounding effects of target reading times. Then we calculated the overall mean tendencies in the congruent and incongruent priming conditions and compared them using one-way repeated measures ANOVA (Figure 5.10). The results showed significantly shorter RTs in the incongruent condition (M=99.62 ms, SD= 48.51 ms), compared to the congruent condition (M=161.09 ms, SD=69.81 ms; Wilks' Lambda=.45, $F(1, 107)=95.16$, $p<.0005$, partial $\eta^2=.55$).
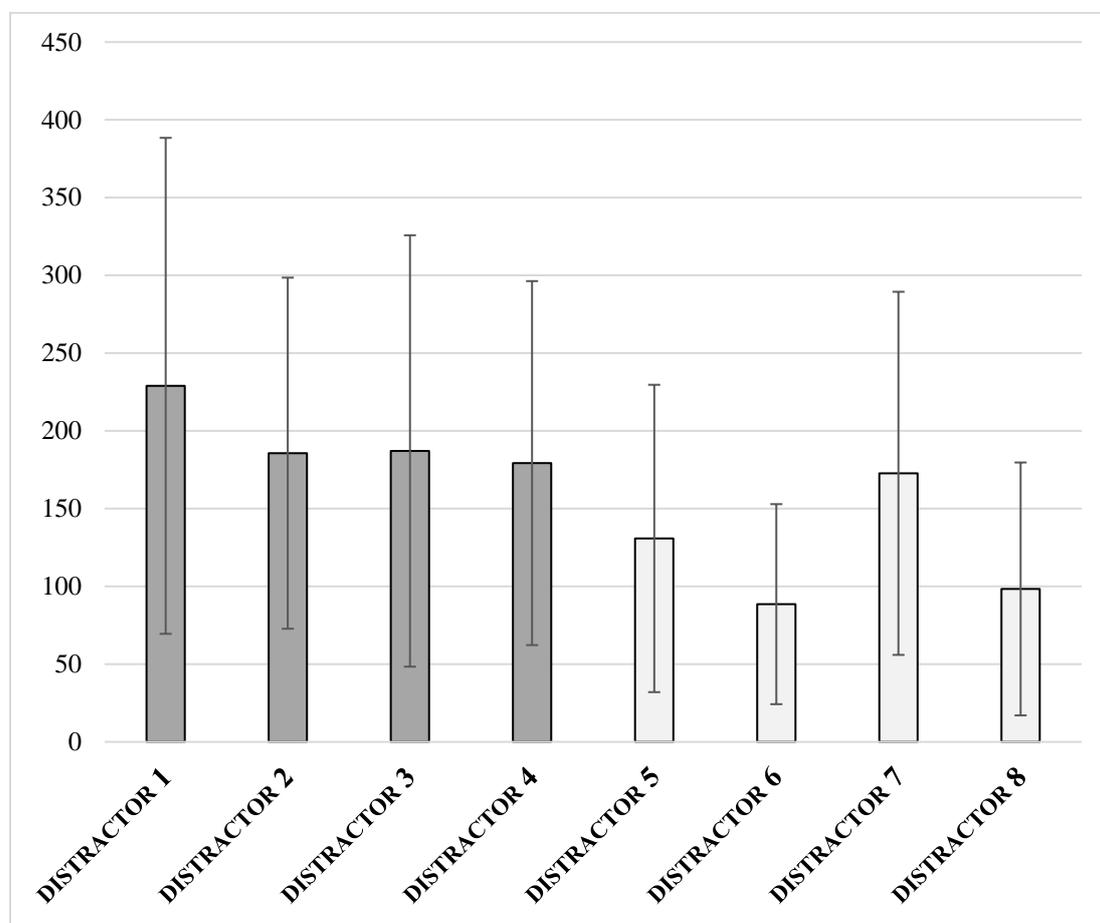
Figure 5.9. Normalized RTs per syllable (by-item overview)
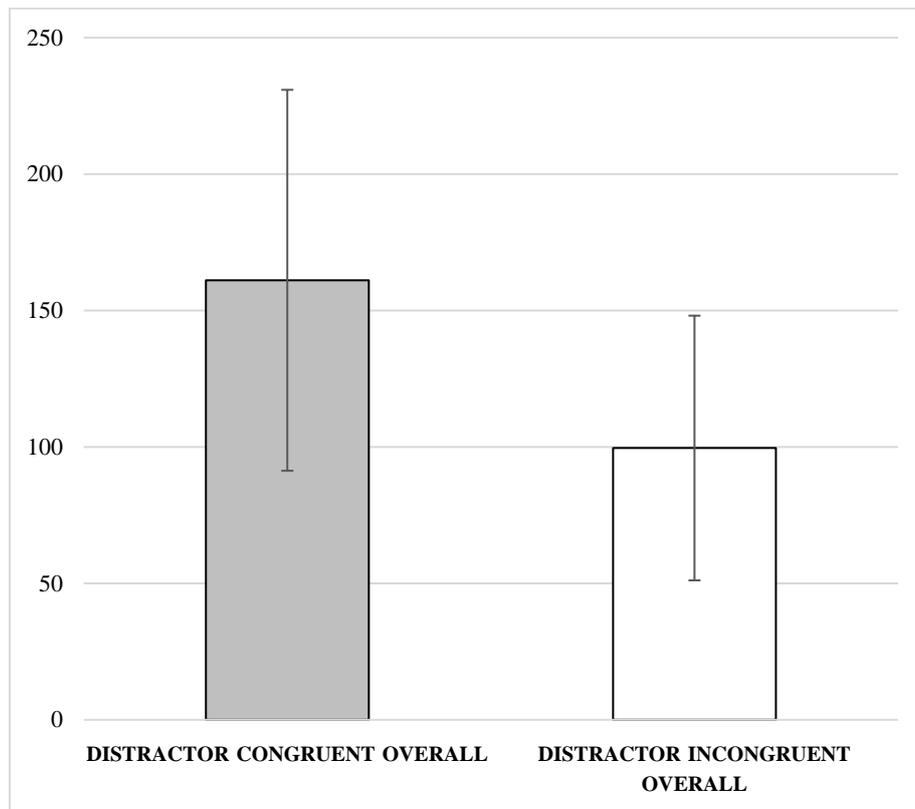
Figure 5.10. Overall congruent vs. incongruent conditions (normalized RTs per syllable)

5.3.1.5 QUALITATIVE ANALYSIS OF DISTRACTOR ITEMS

As shown in Table 5.16, the first four prime-target pairs appear in the congruent literal condition, while the remaining four pairs appear in the incongruent condition. As an example of the congruent condition, we will analyze the third prime-target pair. The lexical-semantic content of the priming paragraph:

> Vazduhoplovstvo je delatnost vezana za letenje u vazdušnom prostoru.
> Pojam vazduhoplov uključuje sve letilice s višekratnom upotrebom.
> Vazduhoplovi mogu biti sa pilotom ili bez pilota.

The prime activates the frame of AIRCRAFT, along with the relevant schematic relations. Structure of the event indexing model for this paragraph is given in Table 5.17. As it can be seen, space, venue, and causation are undefined, arguably as well as time; also, intentionality is only vaguely defined, whereas the protagonist is included but it has not been assigned a specific value. Still, the paragraph is both sensical and coherent, and it affords the activation of the relevant elements of the frame AIRCRAFT, prompted by individual lexical items (e.g., pilot, flying, aircraft, etc.).

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Table 5.17. Schematics of the event-indexing model for the congruent priming condition for distractor prime-target pairs

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*Referential time in the narrative – not explicitly defined*	*Referential time in the narrative – not explicitly defined*	*Referential time in the narrative – not explicitly defined*
SPACE / VENUE	*undefined*	*undefined*	*undefined*
CAUSATION	*undefined*	*undefined*	*undefined*
INTENTIONALITY	*To provide general information*	*To provide general information*	*To provide general information*
PROTAGONISTS/ PARTICIPANTS	*Pilot (without an assigned value)*	*Pilot (without an assigned value)*	*Pilot (without an assigned value)*

The prime is followed by a congruent target sentence which provides an example of an aircraft:

Helikopter predstavlja vazduhoplov sa rotacionim krilima.

Obviously, the target sentence does not activate any new frames, but rather makes reference to an element from the already activated frame. Consequently, the target and prime are organized by the same frame structure, rendering them congruent. Such alignment also licenses the construction of a coherent complete model (in the sense of EIM). Schematic structure of the target sentence is presented in Table 5.18. As it can be seen, the schematics of the target sentence is almost perfectly aligned with the structure of the current situation model up to that point. In effect, the complete model is also organized by the AIRCRAFT frame, with the relevant contextually activated elements and relations.

The remaining three cases of congruent priming involve the frames of SHIP, SPICES, and the SOLAR SYSTEM. Target sentences in all these cases also make use of the already activated frame structures in each of the cases, respectively. In that sense, the expectancies created by the primes are met, and all instances give way to congruent and coherent complete situation models. Moreover, bearing in mind the highly general, encyclopedic information that these stimuli contain, it can also be argued that the meaning construction process is facilitated by the activation of background knowledge structures available from long-term memory (i.e., world knowledge, in the sense of Zwaan and Radvansky 1998; Cook and Guéraud 2007; van Dijk 2006; 2008).

Table 5.18. Schematics of the event-indexing model

for the target sentence for distractors

	TARGET SENTENCE
TIME	*Referential time in the narrative – not explicitly defined*
SPACE / VENUE	*undefined*
CAUSATION	*undefined*
INTENTIONALITY	*To provide general information*
PROTAGONISTS/ PARTICIPANTS	*Undefined; pilot (adopted from the previous stage of the current model)*

Viewed through the prism of the structure building framework, the mechanism of enhancement seems to play the dominant role in the process of meaning construction. All sentences, both those composing the prime, and the target sentence, are organized by the same overarching frame, giving way to a coherent mental representation. In effect, there are no sudden shifts in the process of structure building. The mechanism of suppression remains in the background and facilitates the fine-tuning of the relevant information and relevant frame structures.

Incongruent pairs of distractor-prime-targets were constructed in a systematic fashion, so that all four primes were organized by the frame of POLITICS. Specifically, prime 5 dealt with the democracy and its development in Greece, prime 6 with the definition of politics, prime 7 with the presidential election in the US in 1984, and prime 8 with the structure of the parliament in general. Also, none of the primes contained any metaphorical references. On the other hand, their corresponding targets activated the frames of FRUIT, BICYCLE, ITALY, and ASTRONOMY, respectively.

For instance, prime 7 involved the following paragraph:

Predsednički izbori u SAD 1984. godine održani su 6. novembra.
Na izborima je ubedljivo pobedio Ronald Regan.
Osvojio je najviše glasova u istoriji predsedničkih izbora.

With its schematics presented in Table 5.20. The prime is followed by the unrelated target sentence:

Rim je glavni grad Italije i regije Lacio.

The frame of PRESIDENTIAL ELECTION activated by the prime obviously created expectancies that were violated by the content of the target sentence. Namely, the target sentence introduces novel information about Italy, its capitol, and the region in which it is situated (Table 5.21). As a

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consequence, the temporal reference is no longer clearly defined, there are no protagonists, no causation, and no intentionality. Such misalignment clearly clashes with the contextualization created by the prime, and, in effect, the target sentence is dismissed as contextually inapt. The recorded RTs are significantly shorter compared to those in the congruent condition, which was also the case with target metaphorical sentences discussed above. Such results suggest that the faster dismissals of incongruent targets are not restricted only to metaphorical sentences which arguably contain two frame structures – the organizing frames of source and target inputs of conceptual metaphors. Instead, this appears to be a more general tendency, presumably licensed by identical cognitive mechanisms. The implication of such results will be addressed in more detail in the discussion section below.

Table 5.20. Schematics of the event-indexing model for the congruent priming condition for distractor prime-target pairs

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*1984.*	*1984.*	*1984.*
SPACE / VENUE	*USA, presidential election*	*USA, presidential election*	*USA, presidential election*
CAUSATION	*Political process*	*Competition in the election*	*Competition in the election*
INTENTIONALITY	*Win the election*	*Win the election*	*Win the election*
PROTAGONISTS/ PARTICIPANTS	*Candidates; parties; supporters*	*Regan; voters*	*Regan; voters*

Table 5.21. Schematics of the event-indexing model for the target sentence for distractors

	TARGET SENTENCE
TIME	*Referential time in the narrative – not explicitly defined*
SPACE / VENUE	*Rome, Lazio, Italy*
CAUSATION	*undefined*
INTENTIONALITY	*To provide general information*
PROTAGONISTS/ PARTICIPANTS	*undefined*

Schematics of the event-indexing models for the prime and target are represented in Tables 5.20 and 5.21. It is clear that the target involves a sudden shift in values for all five dimensions. Consequently, it is deemed contextually inapt. In terms of structure building, the mechanism of suppression again appears to take precedence. Namely, the significantly shorter RTs recorded in the incongruent condition again suggest that participants were able to eliminate the irrelevant information very early, assessing the incongruent targets as unsuitable continuations of the structure created by the prime.

5.4 Experiment 6: Contextual aptness of metaphorical expressions from the conceptual key POLITICS IS MOTION

Experiment 6 was also designed and conducted along the main methodological guidelines and experimental procedures outlined above. This experiment tested conceptual aptness of metaphorical expressions from the conceptual key POLITICS IS MOTION in optimal context (sentence-level context), and it also involved the three previously discussed priming conditions (congruent metaphorical, congruent literal, and incongruent). 105 participants, all students at the Faculty of Philosophy, Niš, volunteered to take part in the experiment, and they were randomly assigned to one of three experimental lists (35 per list). Participants' average age was 20.13 (SD=1.39), and there were 76 female and 29 male participants. 51 participants were from the English Department, 32 from the Serbian Department, and 22 from the Psychology Department. There were 84 first-year, and 21 third-year students; 96 participants reported their right hand as the dominant one, while 9 reported their left hand as dominant. The list of experimental stimuli is given in Table 5.22, and they have also been described in the norming study above.

Like in the previous experiment, the stimuli include 7 top-, middle-, and low-rated metaphorical sentences from the initial list. Each target sentence appeared under the three priming conditions in each of the three experimental lists. Metaphorical congruent and literal congruent priming paragraphs were different in each of the lists, while all three experimental lists contained the same incongruent primes which were coupled with different target sentences across the three lists of stimuli. The list of incongruent primes is identical to that used in Experiment 5.

	Table 5.22. Stimuli used in Experiment 6		
LIST	**CONGRUENT METAPHORICAL CONDITION**	**CONGRUENT LITERAL CONDITION**	**INCONGRUENT CONDITION**
LIST 1	Predizborna trka se do sada odvijala u glavnom u medijima. Međutim, bliži se i završni sprint tokom predsedničkih debata. Predsednik je u odličnoj kondiciji i u vođstvu je u odnosu na suparnika.	Predizborna kampanja se do sada odvijala samo u medijima. Međutim, bliže se i predsedničke debate pred same izbore. Predsednikova kampanja je za sada bila odlično organizovana.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu. Razvijaju ga dobrovoljci uz pomoć programa pod nazivom vikisoftver. Članke na Vikipediji može menjati svako sa pristupom internetu.
LIST 2	Dosadašnji tok kampanje obeležila su brojna preticanja. Kandidati su se često smenjivali na vodećoj poziciji. Međutim, poslednjih nekoliko nedelja predsednik uspešno održava prednost.	Kampanju su do sada obeležili brojni TV dueli. Kandidati su razmenjivali različite argumente. Međutim, u poslednjoj debati predsednik je bio mnogo ubedljiviji.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer. Specijalnu vrstu čini periodična naizmenična struja. U tom slučaju se sve promene napona i jačine struje menjaju periodično.

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	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Kandidati su na predizbornom putu nailazili i na brojne prepreke. Novi kandidat je na trenutke bio uspešniji i postizao veće ubrzanje. Međutim, poslednjih nekoliko nedelja predsednik se kreće dosta sigurnije.	Kandidati su tokom kampanje imali nekoliko intenzivnih debata. Platforma koju je predstavio novi kandidat delovala je dosta dobro. Međutim, predsednik i dalje ima mnogo veću podršku birača.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika. On je bezbojan, inertan, monoatomski gas, prvi u grupi plemenitih gasova. Njegova tačka ključanja je najniža od svih elemenata.

TARGET 1: DELUJE DA PREDSEDNIK U POTPUNOSTI KONTROLIŠE PREDIZBORNU TRKU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Analitičari upozoravaju da će ekonomija uskoro naići na prepreke. Međutim, vladajuća stranka tvrdi da je put pred nama čist. Nema razloga za brigu i planira se blago ubrzanje u predstojećem periodu.	Analitičari upozoravaju da bi mogli da se jave ozbiljni ekonomski problemi. Međutim, vladajuća stranka tvrdi da nema razloga za brigu. Pored toga, očekuje se čak i poboljšanje ekonomskog stanja.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13. U Periodnom sistemu spada u metale III glavne grupe. Aluminijum je treći najzastupljeniji element i najčešći metal u Zemljinoj kori.
LIST 2	Ekonomska kriza je do sada prilično usporila napredovanje zemlje ka svom cilju. Privredni rast je do sada bio nizak, ali ekonomisti pronalaze načine da zaobiđu prepreke. Bez obzira na brigu, analitičari smatraju da neće biti daljih zastoja.	Ekonomska kriza je do sada uticala na sve privredne grane u zemlji. Privreda je u lošem stanju, ali ekonomisti smatraju da imaju rešenje za ovaj problem. Bez obzira na brigu, analitičari smatraju da će se stanje ubrzo poboljšati.	Iverica je naziv za ploču napravljenu od iverja drveta. Prema tipu presovanja, može biti normalno presovana i ekstruziono presovana. Kod normalno presovanih, sila presovanja deluje upravno na površinu ploče.
LIST 3	Predsednik je izjavio da će zemlja uskoro izaći iz krize. Analitičari su skeptični i predviđaju da će ovaj put biti veoma dug. Ali ipak se čini da u poslednje vreme taj put postaje ravan, sa sve manje uzbrdica.	Zbog ekonomske krize mnogi su ostali bez radnih mesta. Međutim, ovo počinje da se menja i vlada sprovodi nove reforme. Bez obzira na brigu, analitičari smatraju da će se stanje ubrzo poboljšati.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike. Gaji se u umerenim i toplim delovima sveta u velikom broju podvrsta. Kukuruz je postao osnovna hrana u mnogim delovima sveta.

TARGET 2: SMATRAMO DA SU I DRŽAVA I EKONOMIJA I DALJE NA PRAVOM PUTU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kandidati su se do sada veoma pažljivo kretali i izbegavali prepreke. Međutim, uskoro će stići i do kraja predizborne staze. Kako se bude bližila završnica, obojica će tražiti što bolje pozicije.	Kandidati su do sada bili veoma pažljivi i izbegavali osetljiva pitanja. Međutim, predizborna kampanja će se uskoro završiti. Oba kandidata će se potruditi da dobiju što veću podršku birača.	Bor je elemenat trinaeste grupe Periodnog sistema elemenata. To je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa. Bor ima uticaj i na čovekov organizam, pre svega na skelet.
LIST 2	Predizborna kampanja se sve više ubrzava pred završni sprint. Kandidati su se već više puta smenjivali u vođstvu. Kako trka bude postajala neizvesnija, kandidati će probati da zauzmu što bolje pozicije.	Predizborna kampanja postaje sve uzbudljivija pred izbore. Kandidati su se već više puta susretali i diskutovali o različitim pitanjima. Tokom poslednje debate oni će pokušati da prezentuju što ubedljivije argumente.	Prema udaljenosti od Sunca Zemlja je treća planeta. Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru. Indusi su verovali da Zemlju kao ploču nose na leđima tri slona.

LIST 3	Oba kandidata su kroz kampanju napredovala sigurnim tempom. Uspešno su zaobilazili prepreke i sigurno išli dalje. Kako se bliže izbori, trka se ubrzava i obojica traže što bolju poziciju.	Oba kandidata su se tokom kampanje često obraćala medijima i biračima. Iznosili su planove koji su se ticali privrede i rešavanja ekonomske krize. Kako se bliže izbori, diskusije između njih su sve češće i ozbiljnije.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji. On je formulisao specijalnu i opštu teoriju relativnosti. Pored toga, doprineo je napretku kvantne teorije.

TARGET 3: KANDIDATI ĆE POKUŠATI DA UČVRSTE SVOJE POLOŽAJE U PREDIZBORNOJ KAMPANJI.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kongres je svojim zahtevima predsednika doveo u nezavidan položaj. Kao posledica ovoga, njegovi politički planovi su trenutno u zastoju. Predsednik se pomirio sa ovakvom situacijom i čeka svoju priliku za dalje napredovanje.	Kongres je svojim zahtevima iznenadio predsednika. Kao posledica ovoga, njegovi politički planovi su poremećeni. Predsednik se pomirio sa ovakvom situacijom i čeka povoljniji trenutak.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika. On je bezbojan, inertan, monoatomski gas, prvi u grupi plemenitih gasova. Njegova tačka ključanja je najniža od svih elemenata.
LIST 2	Kandidat je polako počeo da nadoknađuje zaostatak u predizbornoj trci. Međutim, ostalo je premalo vremena i neće moći da razvije potrebno ubrzanje. Kandidat je na kraju odlučio da prihvati ovakvo stanje i sačeka bolju poziciju.	Kandidat je polako počeo sve više da se pojavljuje u medijima. Međutim, ostalo je premalo vremena i neće moći da dobije dovoljno veliku podršku. Na kraju je odlučio da prihvati ovakvo stanje i bolje se pripremi za naredne izbore.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu. Prečnik planete na ekvatoru nešto je manji od Zemljinog. Za razliku od ostalih planeta, Venera se okreće oko svoje ose u retrogradnom smeru.
LIST 3	Predsednik se nakon poslednjih pregovora našao u nezavidnoj poziciji. Iako se nadao da će zaobići sve prepreke, ipak je uleteo u ćorsokak. Ovaj zastoj je ipak bio neminovan, i on će morati da se pomiri sa trenutnom situacijom.	Predsednik je nakon poslednjih pregovora morao da se konsultuje sa članovima stranke. Iako se nadao da će imati spremne odgovore na sva pitanja, to nije bio slučaj. Ovakav rasplet bio je ipak neminovan, i on će morati da se pomiri sa trenutnom situacijom.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju. Dve osnovne grane poljoprivrede su zemljoradnja i stočarstvo. Zajedno sa šumarstvom, lovom i ribolovom spada u primarni sektor privrede.

TARGET 4: PRIHVATANJE NOVE POZICIJE MOŽDA DELUJE KAO VELIKI KORAK UNAZAD.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predizborna kampanja je stigla i do pretposlednje stanice. Predsednik je tokom debate odlučno išao od pitanja do pitanja. Novi kandidat nije uspevao da zaobiđe sve prepreke i nije delovao sigurno.	Juče je održana i druga predsednička debata pred izbore. Predsednik je tokom debate odlučno odgovarao na pitanja. Novi kandidat nije imao odgovore na sve i delovao je nesigurno.	Selen je biljka iz familije Apiaceae. Ovo je jedna od omiljenih aromatičnih biljaka. Delovi biljke su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.
LIST 2	U utorak su kandidati istrčali još jednu deonicu predizborne staze. Novi kandidat je veći deo vremena bio brži i ubedljiviji. Međutim, pred kraj trke ponestalo mu je snage i predsednik ga je pretekao.	U utorak je održana nova debata između kandidata. Novi kandidat je najpre odlično diskutovao i predstavio veoma ubedljive argumente. Međutim, nakon toga nije uspeo da odgovori na neka jednostavna pitanja.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis. Veruje se da je njen predak bila afrička divlja mačka. Mačke žive u bliskoj vezi sa ljudima najmanje 9.500 godina.

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| LIST 3 | U utorak su kandidati pažljivo pristupili još jednoj predsedničkoj debati. Novi kandidat je dosta spretnije navigirao kroz različita pitanja. Međutim, pred kraj debate mu je ponestalo ubrzanja i predsednik ga je sustigao. | Juče je održana i druga predsednička debata pred izbore. Predsednik je tokom debate odlučno odgovarao na pitanja. Novi kandidat nije ima odgovore na sve i delovao je nesigurno. | Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu. Razvijaju ga dobrovoljci uz pomoć programa pod nazivom vikisoftver. Članke na Vikipediji može menjati svako sa pristupom internetu. |

TARGET 5: NOVI KANDIDAT JE U UTORAK NAPRAVIO JOŠ JEDAN POGREŠAN KORAK U DEBATI.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Mediji izveštavaju da je predizborna trka i dalje neizvesna. Obe stranke tvrde da su njihovi trkači u odličnoj formi. Bez obzira ko pobedi, rezultati izbora odrediće put kojim će se država kretati.	Mediji izveštavaju da je predizborna kampanja i dalje neizvesna. Svaka od stranaka tvrdi da je njen kandidat ubedljiviji. Bez obzira na rezultat, ovi izbori će uticati na budućnost države.	Đumbir je višegodišnja zeljasta biljka debelog granatog rizoma. Stabljika je obavijena lisnim rukavcima, a cvetovi su sakupljeni. Spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 2	Još uvek nije jasno ko će izaći kao pobednik predizborne trke. Oba kandidata su predstavila odlične planove za dalje napredovanje. U svakom slučaju, rezultat ovih izbora odlučiće kojim će putem država dalje ići.	Još uvek nije jasno ko će pobediti na predsedničkim izborima. Oba kandidata su predstavila odlične planove za unapređenje privrede. U svakom slučaju, rezultat ovih izbora biće veoma važan za budućnost zemlje.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju. Dve osnovne grane poljoprivrede su zemljoradnja i stočarstvo. Zajedno sa šumarstvom, lovom i ribolovom spada u primarni sektor privrede.
LIST 3	Predizborna kampanja se polako bliži kraju. Oba kandidata deluju spremno za završni sprint. Rezultat izbora odlučiće i u kom će se pravcu država dalje kretati.	Uskoro će biti održani i predsednički izbori. Oba kandidata deluju spremno i zadovoljno programima koje su predstavili. Rezultat predsedničkih izbora imaće veliki uticaj na budućnost zemlje.	Aluminijum jeste hemijski element sa simbolom Al i atomskim brojem 13. U Periodnom sistemu spada u metale III glavne grupe. Aluminijum je treći najzastupljeniji element i najčešći metal u Zemljinoj kori.

TARGET 6: KAKO TVRDE KANDIDATI, OVI IZBORI BIĆE PREKRETNICA ZA OVU IZUZETNU NACIJU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	U utorak je održana i druga debata na predizbornom putu. Tempo se lagano pojačava i nagoveštava neizvesnu završnicu. Kako mediji javljaju, preostaje još samo jedan kratak sprint pred izbore.	U utorak je održana i druga debata tokom predizborne kampanje. Bilo je dosta diskusije i dosta kritika u vezi sa mnogim pitanjima. Kako mediji javljaju, preostaje još samo jedna debata pred izbore.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike. Gaji se u umerenim i toplim delovima sveta u velikom broju podvrsta. Kukuruz je postao osnovna hrana u mnogim delovima sveta.
LIST 2	Predizborna staza dovela je kandidate i do poslednje debate pred izbore. Tempo se pojačava i preticanja su sve češća, a ishod sve neizvesniji. Nakon debate, kandidati će biti na samo par koraka od cilja.	Naredne nedelje biće održana i poslednja debata pred izbore. Kandidati se sve češće obraćaju medijima i biračima. Nakon debate, ostaće još samo nedelju dana do glasanja.	Avion je čuvena naprava za letenje čvrste konstrukcije. Prvu uspešnu konstrukciju, sa realizacijom, izvela su braća Vilbur i Orvil Rajt. Na toj svojoj konstrukciji su uspeli da polete 1903. godine.

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LIST		
LIST 3	Kandidate na predizbornom putu očekuje još jedna stanica – treća predsednička debata. Nakon toga, cilj će biti na vidiku i ostaće još malo vremena za dalja preticanja. Ali oba kandidata su spremna da istrče i poslednji deo predizborne staze.	Naredne nedelje biće održana i poslednja debata pred izbore. U međuvremenu, kandidati se sve češće obraćaju medijima i biračima. Nakon ove debate, ostaće jos samo nedelju dana do glasanja.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer. Specijalnu vrstu čini periodična naizmenična struja. U tom slučaju se sve promene napona i jačine struje menjaju periodično.

TARGET 7: PREDIZBORNA TRKA IZMEĐU SADAŠNJEG PREDSEDNIKA I IZAZIVAČA SE BLIŽI KRAJU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je izgubio prvu trku tokom predizborne kampanje. Suparnička stranka je veoma zadovoljna tempom svog trkača. Očekuju da će uspeti da zadrže prednost i do kraja predizbornog puta.	Predsednik je izgubio prvu debatu tokom predizborne kampanje. Suparnička stranka je veoma zadovoljna nastupom svog kandidata. Očekuju da će im ovaj rezultat pomoći da pobede i na izborima.	Nafta je tečna do polučvrsta prirodna materija. Nalazi se u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika. Uvek sadrži i sumpor i azotna i kiseonikova organska jedinjenja.
LIST 2	Nakon prve debate predsednik se našao u velikom zaostatku. I pored dobre pripreme, protivkandidat ga je prilično lako pretekao. Protivkandidat se sada nada da će ovo promeniti dinamiku čitave kampanje.	Predsednik je tokom prve debate delovao nesigurno i neubedljivo. I pored dobre pripreme, nije imao odgovore na veliki broj pitanja. Protivkandidat se nada da će ovim uspehom dobiti još veću podršku.	Helijum je drugi hemijski elemenat po lakoći, odmah posle vodonika. On je bezbojan, inertan, monoatomski gas, prvi u grupi plemenitih gasova. Njegova tačka ključanja je najniža od svih elemenata.
LIST 3	Nakon prve debate novi kandidat je preuzeo vođstvo u trci za mesto predsednika. Bio je ubedljiviji, lakše se kretao, i lako ostvario dobar rezultat. Nada se da će uspeti da održi rastojanje između sebe i sadašnjeg predsednika.	Nakon prve debate novi kandidat deluje dosta bolje u odnosu na predsednika. Bio je ubedljiviji, bolje diskutovao i imao spreman odgovor na sva pitanja. Nada se da će i ubuduće uspeti da ponovi ovakve nastupe.	Iverica je naziv za ploču napravljenu od iverja drveta. Prema tipu presovanja, može biti normalno presovana i ekstruziono presovana. Kod normalno presovanih, sila presovanja deluje upravno na površinu ploče.

TARGET 8: REZULTAT PRVE DEBATE JE I U PROŠLOSTI ČESTO MENJAO TOK IZBORA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Kandidati su se više puta smenjivali na čelu predizborne trke. Najpre je izazivač delovao spremnije i bolje se kretao. Ali onda je predsednik pojačao tempo i krenuo u preticanje.	Kandidati su tokom kampanje diskutovali o velikom broju pitanja. Najpre je novi kandidat bio ubedljiviji i imao bolje argumente. Ali onda je predsednik predstavio novi plan koji je delovao mnogo efikasnije.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.
LIST 2	Nakon prilično izjednačene trke, situacija se polako menja. Predsednik trči sve brže sprintove, a njegov izazivač ne uspeva da ga prati. Kako vreme odmiče, rastojanje između njih dvojice sve je veće.	Nakon prilično mirne kampanje, situacija se polako menja. Predsednik sve više kritikuje suparnika u medijima, a ovaj nema adekvatan odgovor. Kao posledica ovoga, predsednik ima sve veću podršku.	Vikipedija je enciklopedijski projekat slobodnog sadržaja na internetu. Razvijaju ga dobrovoljci uz pomoć programa pod nazivom vikisoftver. Članke na Vikipediji može menjati svako sa pristupom internetu.

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| LIST 3 | Na početku kampanje, oba kandidata su bila u prilično dobroj poziciji. Ali kako kampanja odmiče, taj odnos počinje da se menja. Predsednik sve više pojačava tempo i tako polako menja dinamiku trke. | Pri prvim medijskim susretima oba kandidata su delovala ubedljivo. Međutim, nakon toga situacija se izmenila i novi kandidat se sve ređe pojavljuje. Predsednik ima sve veću podršku birača i prisutniji je u medijima. | Prema udaljenosti od Sunca Zemlja je treća planeta. Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru. Indusi su verovali da Zemlju kao ploču nose na leđima tri slona. |

TARGET 9: IZAZIVAČ JE PREMA REZULTATIMA ANKETA U VELIKOM ZAOSTATKU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Od dolaska na vlast, vladajuća stranka držala se starih planova. Predsednik je delovao ubedljivo, i preduzimao odlučne korake. Međutim, zbog novih političkih kretanja, stranka je primorana da uvede promene.	Vladajuća stranka je dugo radila prema već spremnim planovima. Predsednik je delovao ubedljivo i uspešno rešavao sve probleme. Međutim, zbog neočekivanih događaja, stranka uvodi promene.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji. On je formulisao specijalnu i opštu teoriju relativnosti. Pored toga, doprineo je napretku kvantne teorije.
LIST 2	Vladajuća stranka je imala jasno definisanu rutu za budućnost zemlje. Politika koju je vodila bila je jasna i kretala se ustaljenim tempom. Međutim, zbog velike ekonomske krize, stranka će morati da razmisli o novom putu.	Vladajuća stranka je imala jasne planove za budućnost zemlje. Politika koju je vodila bila je jasna i ustaljena. Međutim, zbog ekonomske krize, stranka će morati da promeni planove.	Kukuruz je velika jednogodišnja biljka poreklom iz Srednje i Južne Amerike. Gaji se u umerenim i toplim delovima sveta u velikom broju podvrsta. Kukuruz je postao osnovna hrana u mnogim delovima sveta.
LIST 3	Vladajuća stranka je do nedavno sigurno krstarila političkim vodama. Imala je veliku podršku i nije bilo nikakvih prepreka na putu. Međutim, zbog velike krize moraće da uplovi u nepoznate vode.	Vladajuća stranka se do nedavno držala svoje ustaljene politike. Imala je veliku podršku i nije bilo previše velikih problema. Međutim, zbog velike ekonomske krize moraće da pripremi novi plan za dalji rad.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha. Njime se takođe upravlja snagom motora. U karburatoru se raspršuje benzin i meša sa vazduhom u određenom odnosu.

TARGET 10: KAMPANJA KOJU JE STRANKA DO SKORO VODILA POLAKO POČINJE DA MENJA KURS.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Država se polako kreće ka ivici ekonomske provalije. Novi kandidat smatra da je predsednik odgovoran za ovakav smer kretanja. Takođe, izjavio je da ima plan kojim će državu izvesti iz krize.	Ekonomska kriza u državi je prisutna već duže vreme. Novi kandidat smatra predsednika odgovornim za ovo. Takođe, izjavio je da on ima rešenje za trenutno stanje u zemlji.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja. Mužjaci mogu biti visoki od 4,5 do 5,5 metara i težiti do 1.360 kilograma. Rekordna težina jednog mužjaka je iznosila približno 2.000 kg.
LIST 2	Novi kandidat je izjavio da ima plan kojim će izvesti zemlju iz krize. Kritikovao je predsednika da zemlju već duže vreme vodi lošim putem. Međutim, ostalo je nejasno kojim bi to novim putem država trebalo da krene.	Novi kandidat je izjavio da ima plan za rešenje ekonomske krize. Kritikovao je predsednika i rekao da je njegova politika potpuno pogrešna. Međutim, ostalo je nejasno kako će se ti novi planovi realizovati.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 3	Novi kandidat je izjavio da ima plan uz pomoć kojeg će izvesti zemlju iz krize. Kritikovao je sadašnju vladu da na svakoj raskrsnici povede zemlju u pogrešnom smeru. Ali ostalo je nejasno kako će se ovaj veliki stepenik preskočiti.	Novi kandidat je izjavio da ima plan za rešenje ekonomske krize. Kritikovao je vladu zbog izuzetno loše i pogrešne politike. Ali ostalo je nejasno kako će se tačno ovaj veliki problem rešiti.	Avion je čuvena naprava za letenje čvrste konstrukcije. Prvu uspešnu konstrukciju, sa realizacijom, izvela su braća Vilbur i Orvil Rajt. Na toj svojoj konstrukciji su uspeli da polete 1903. godine.

TARGET 11: KANDIDAT NIJE OBJASNIO KAKO ĆE ZAOBIĆI POLITIČKE PREPREKE NA PUTU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Zbog nižih poreza, privatne kompanije sele svoju proizvodnju u inostranstvo. Ovakve turbulencije nisu povoljne za razvoj domaće ekonomije. Zato, vlada preduzima korake kojima će poboljšati poresku politiku.	Zbog nižih poreza, privatne kompanije počinju da grade postrojenja u inostranstvu. Ovakvi postupci negativno utiču na domaću ekonomiju. Zbog toga, vlada priprema mere kojima će poboljšati poresku politiku.	Pas je pripitomljeni sisar iz porodice pasa. Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka. Fosilni ostaci pokazuju da su preci modernog psa živeli uz čoveka i ranije.
LIST 2	Kompanije sve više sele proizvodnju u inostranstvo. Ovakva kretanja uzrokovana su previsokim porezima kod kuće. Vlada je obećala da će uvesti novu poresku politiku kojom će se ovaj odliv zaustaviti.	Kompanije sve više otvaraju proizvodna postrojenja u inostranstvu. Ovo je prouzrokovano previše visokim porezima u zemlji. Vlada je obećala novu poresku politiku kojom će ovo sprečiti.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha. Njime se takođe upravlja snagom motora. U karburatoru se raspršuje benzin i meša sa vazduhom u određenom odnosu.
LIST 3	Kompanije sve više sele radna mesta u inostranstvo. Ovakvi potezi posledica su visokih poreza i nepredviđenih turbulencija na domaćoj berzi. Parlament razmatra dalje korake i u pripremi je nova poreska politika.	Kompanije sve više otvaraju svoje fabrike u inostranstvu. Ovo je uzrokovano velikim porezima i stanjem na domaćoj berzi. Parlament bi trebalo da glasa o novoj poreskoj politici koja će ovo promeniti.	Pas je pripitomljeni sisar iz porodice pasa. Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka. Fosilni ostaci pokazuju da su preci modernog psa živeli uz čoveka i ranije.

TARGET 12: PREDSEDNIK JE OBEĆAO DA ĆE SE PROIZVODNJA USKORO VRATITI U ZEMLJU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Trka za mesto predsednika i dalje uveliko traje. Zbog čestih preticanja, rezultat izbora i dalje je neizvestan. Predsednik je i dalje u blagom vođstvu i ima bolju poziciju.	Predizborna kampanja traje već nekoliko meseci. Zbog brojnih TV duela i reklama, oba kandidata deluju dosta uspešno. Predsednik je i dalje malo bolji i ima veću podršku birača.	Mačka, takođe zvana i domaća mačka ili kućna mačka, je vrsta sisara iz roda Felis. Veruje se da je njen predak bila afrička divlja mačka. Mačke žive u bliskoj vezi sa ljudima najmanje 9.500 godina.
LIST 2	Predizborna trka se sve više ubrzava. Oba kandidata su u dobrim pozicijama pred samu završnicu. Predsednik je do nedavno uspevao da održava rastojanje između sebe i protivnika.	Predizborna kampanja postaje sve uzbudljivija. Oba kandidata su bila ubedljiva tokom poslednje dve debate. Predsednik je do nedavno uživao veću podršku u odnosu na suparnika.	Aluminijum jeste hemijski elemenat sa simbolom Al i atomskim brojem 13. U Periodnom sistemu spada u metale III glavne grupe. Aluminijum je treći najzastupljeniji element i najčešći metal u Zemljinoj kori.

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| LIST 3 | Nakon prve debate predsednik je razvio prednost u predizbornoj trci. Mediji takođe javljaju da se nalazi u boljoj poziciji u odnosu na suparnika. Njegove pristalice takođe veruju da će uspeti da održi prednost. | Predizborna kampanja traje već nekoliko meseci. Zbog brojnih TV duela i reklama, oba kandidata deluju dosta uspešno. Predsednik je i dalje malo bolji i ima veću podršku birača. | Nafta je tečna do polučvrsta prirodna materija. Nalazi se u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika. Uvek sadrži i sumpor i azotna i kiseonikova organska jedinjenja. |

TARGET 13: ALI PREMA ANKETAMA, NOVI KANDIDAT JE NAPREDOVAO ČETIRI POENA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Ekonomska kriza dovela je privredu do potpunog kolapsa. Bilo je više pokušaja da se krene u novom smeru, ali bez uspeha. Država je svaki put stizala u novi ćorsokak iz kojeg je morala da se vraća.	Zbog ekonomske krize privreda je u veoma lošem stanju. Bilo je više pokušaja da se ovaj problem reši, ali bez uspeha. Svaki put su se javljali dodatni, još složeniji problemi.	Poljoprivreda je privredna delatnost koja obuhvata biljnu i stočarsku proizvodnju. Dve osnovne grane poljoprivrede su zemljoradnja i stočarstvo. Zajedno sa šumarstvom, lovom i ribolovom spada u primarni sektor privrede.
LIST 2	Vladajuća stranka je na prethodnoj ekonomskoj raskrsnici povela zemlju u lošem pravcu. Svi dosadašnji pokušaju da se promeni smer kretanja bili su neuspešni. Staza kojom se trenutno krećemo prepuna je rupa i prepreka.	Vladajuća stranka već neko vreme vodi veoma pogrešnu politiku. Bilo je više pokušaja da se ovo promeni, ali bez uspeha. Javljaju se sve veći i ozbiljniji problemi.	Đumbir je višegodišnja zeljasta biljka debelog granatog rizoma. Stabljika je obavijena lisnim rukavcima, a cvetovi su sakupljeni. Spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.
LIST 3	Vladajuća stranka je svojom politikom dovela zemlju do same ivice fiskalne provalije. Bilo je pokušaja da se krene u novom smeru, ali bez uspeha. Ukoliko ne dođe do brzih promena, uskoro će sve krenuti nizbrdo.	Vladajuća stranka već duže vreme vodi pogrešnu politiku. Uprkos trudu, nije došlo ni do kakvih značajnih promena. Ukoliko se nešto uskoro ne desi, situacija će postati još gora.	Bor je elemenat trinaeste grupe Periodnog sistema elemenata. To je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa. Bor ima uticaj i na čovekov organizam, pre svega na skelet.

TARGET 14: ZNAMO DA JE PUT KOJIM IDEMO POGREŠAN I DA JE VREME ZA NOVI PUT.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Tempo predizborne kampanje do sada nije bio previše naporan. Oba kandidata su lagano navigirala kroz politički prostor. Ali završnica trke se bliži i obe stranke pripremaju svoje kandidate.	Predizborna kampanja do sada nije bila previše uzbudljiva. Oba kandidata su se na mitinzima obraćala medijima i biračima. Ali sada obe stranke uveliko pripremaju kandidate za same izbore.	Avion je čuvena naprava za letenje čvrste konstrukcije. Prvu uspešnu konstrukciju, sa realizacijom, izvela su braća Vilbur i Orvil Rajt. Na toj svojoj konstrukciji su uspeli da polete 1903. godine.
LIST 2	Dinamika predizborne trke do sada nije bila previše jaka. Oba kandidata su lagano krstarila kroz politički prostor. Ali završnica trke se bliži i obe stranke pripremaju svoje kandidate.	Predizborna kampanja do sada nije bila previše uzbudljiva. Oba kandidata su se na mitinzima obraćala medijima i biračima. Ali sada obe stranke uveliko pripremaju kandidate za same izbore.	Selen je biljka iz familije Apiaceae. Selen je jedna od omiljenih aromatičnih biljaka. Delovi biljke aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

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LIST 3	Dosadašnji tok kampanje obeležila su brojna preticanja. Kandidati su se često smenjivali na vodećoj poziciji. Oba kandidata su odlično pozicionirana i cilj je već na vidiku.	Kampanju su do sada obeležili brojni TV dueli. Kandidati su dosta diskutovali i razmenjivali različite argumente. Ali sada obe stranke uveliko pripremaju kandidate za same izbore.	Đumbir je višegodišnja zeljasta biljka debelog granatog rizoma. Stabljika je obavijena lisnim rukavcima, a cvetovi su sakupljeni. Spada u najstarije orijentalne začine koji su stigli u Evropu početkom srednjeg veka.

TARGET 15: USKORO ĆE USLEDITI NEIZVESTAN ZAVRŠNI SPRINT PRED PREDSEDNIČKE IZBORE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predsednik je nametnuo žestok tempo u predizbornoj kampanji. Za sada sigurno napreduje i mediji javljaju da je u vođstvu. Njegov protivnik je u nezavidnom položaju, i pokušava da sustigne predsednika.	Predsednik je jako odlučno započeo svoju predizbornu kampanju. Za sada ima punu podršku birača i mediji javljaju da je kampanja uspešna. Njegov protivnik će promeniti taktiku i pokušati da poboljša svoju kampanju.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu. Prečnik planete na ekvatoru nešto je manji od Zemljinog. Za razliku od ostalih planeta, Venera se okreće oko svoje ose u retrogradnom smeru.
LIST 2	Predsednik je do sada uspešno zaobilazio sve prepreke na predizbornoj stazi. Prema anketama, njegova pozicija u predizbornoj kampanji je odlična. Takođe, predviđa se i dalje napredovanje i još jači tempo u završnici.	Predsednik je do sada bio veoma uspešan u predizbornoj kampanji. Prema anketama, on ima veliku podršku birača. Takođe, očekuje se da će se ova podrška povećati i da će i on biti još ubedljiviji.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika. Prelazni modeli između automobila i autobusa su kombi i mini-bus. Prvi autobus predstavio je Karl Benc 1895. Godine.
LIST 3	Novi kandidat se do sada prilično sigurno kretao po predizbornoj stazi. Međutim, predsednik je iskusniji i brže zaobilazi prepreke na putu. Sada počinje da nameće i jači tempo, dok novi kandidat pokušava da ga sustigne.	Novi kandidat je do sada bio prilično ubedljiv u kampanji. Međutim, predsednik je iskusniji i bolje se snalazi u diskusijama. Takođe je i sve prisutniji u medijima i čini se da ima sve veću podršku.	Venera je druga planeta u Sunčevom sistemu a posle Sunca i Meseca najsjajniji je objekat na nebu. Prečnik planete na ekvatoru nešto je manji od Zemljinog. Za razliku od ostalih planeta, Venera se okreće oko svoje ose u retrogradnom smeru.

TARGET 16: SUPARNIČKA STRANKA POKUŠAVA DA ZAUZDA PREDSEDNIKOVO NAPREDOVANJE U KAMPANJI.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Predizborna kampanja polako ulazi u samu završnicu. Predsednik je do nedavno bio u boljoj poziciji, ali to se polako menja. Novi kandidat pokušava da se vrati u trku i za sada je jako uspešan.	Tokom predizborne kampanje kandidati su se susreli više puta. Predsednik je u glavnom bio uspešniji, ali to se polako menja. Novi kandidat je predstavio nove planove svoje stranke, što je prihvaćeno veoma dobro.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika. Prelazni modeli između automobila i autobusa su kombi i mini-bus. Prvi autobus predstavio je Karl Benc 1895. godine.

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 2	Kako javljaju mediji, oba kandidata održavaju dobre pozicije u predizbornoj kampanji. Predsednik je uspevao da održava stalno rastojanje između sebe i suparnika, ali to se sada menja. Novi kandidat polako nadoknađuje zaostatak i vraća se u trku.	Kako javljaju mediji, oba kandidata su veoma uspešna u predizbornoj kampanji. Predsednik je do sada bio ubedljiviji i češće se obraćao medijima. Ali to se sada menja, jer novi kandidat polako pojačava svoju kampanju.	Albert Ajnštajn bio je teorijski fizičar i jedan od najvećih umova u istoriji. On je formulisao specijalnu i opštu teoriju relativnosti. Pored toga, doprineo je napretku kvantne teorije.
LIST 3	Polako se bliži završnica predizborne kampanje. Oba kandidata su u dobroj poziciji i imaju veliku podršku. Prednost koju je predsednik do skoro održavao se smanjuje i suparnik ga polako sustiže.	Kako javljaju mediji, oba kandidata su veoma uspešna u predizbornoj kampanji. Predsednik je do sada bio ubedljiviji i češće se obraćao medijima. Ali to se sada menja, jer novi kandidat polako pojačava svoju kampanju.	Autobus je motorno putničko vozilo koje služi za javni prevoz većeg broja putnika. Prelazni modeli između automobila i autobusa su kombi i mini-bus. Prvi autobus predstavio je Karl Benc 1895. godine.

TARGET 17: PREMA ANKETAMA, PREDSEDNIK ODRŽAVA USKO VOĐSTVO U VEĆINI DRŽAVA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nakon prve debate, novi kandidat je razvio vođstvo u predizbornoj trci. Predsednik nije bio ubedljiv i nesigurno je navigirao kroz debatu. Novi kandidat je to iskoristio i krenuo u preticanje.	Nakon prve debate, novi kandidat deluje dosta bolje. Predsednik nije bio ubedljiv i zvučao je dosta nesigurno. Novi kandidat je ovo iskoristi i predstavio veoma čvrste argumente.	Karburator je uređaj na benzinskom motoru koji priprema mešavinu benzina i vazduha. Njime se takođe upravlja snagom motora. U karburatoru se raspršuje benzin i meša sa vazduhom u određenom odnosu.
LIST 2	Predsednik je uspešno kontrolisao veći deo predizborne trke. Međutim, tokom poslednje dve nedelje je usporio i suparnik ga polako sustiže. Prema najnovijim izveštajima, do kraja kampanje suparnik bi mogao i da ga pretekne.	Predsednik je do sada bio uspešniji u predizbornoj kampanji. Međutim, napravio je nekoliko velikih grešaka koje suparnik koristi. Prema najnovijim izveštajima, predsednik bi mogao i da izgubi na izborima.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja. Mužjaci mogu biti visoki od 4,5 do 5,5 metara i težiti do 1.360 kilograma. Rekordna težina jednog mužjaka je iznosila približno 2.000 kg.
LIST 3	Predizborna kampanja pretvorila se u trku sa preponama. Predsednik je tokom većeg dela kampanje bio brži i održavao prednost. Međutim, tokom poslednje debate spotakao se o prepreku i suparnik ga je pretekao.	Predizborna kampanja je do sada bila veoma naporna za oba kandidata. Predsednik je u glavnom bio ubedljiviji i imao veću podršku. Međutim, tokom poslednje debate napravio je nekoliko velikih grešaka.	Žirafa je afrički sisar iz reda papkara, najviši od svih kopnenih životinja. Mužjaci mogu biti visoki od 4,5 do 5,5 metara i težiti do 1.360 kilograma. Rekordna težina jednog mužjaka je iznosila približno 2.000 kg.

TARGET 18: PREDSEDNIK JE DOZVOLIO SVOM PROTIVKANDIDATU DA DOBIJE UBRZANJE.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Ekonomska kriza predstavlja veliku prepreku na putu daljeg razvoja. Predsednik je pred izbore izjavio da će zemlja morati da krene u novom smeru. Međutim, već smo se previše približili samoj ivici provalije.	Ekonomska kriza predstavlja veliki problem za dalji razvoj zemlje. Predsednik je pred izbore izjavio da njegova stranka ima rešenje za ovo. Međutim, kriza u državi traje već previše dugo.	Prema udaljenosti od Sunca Zemlja je treća planeta. Zemlja nije potpuno pravilnog oblika, već je malo spljoštena na polovima a ispupčena na ekvatoru. Indusi su verovali da Zemlju kao ploču nose na leđima tri slona.

	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 2	Jedna od glavnih prepreka na predizbornom putu bilo je pitanje ekonomije. Naime, svi dosadašnji planovi vodili su zemlju u novu slepu ulicu. Predsednik je pred izbore izjavio da će povesti državu i ekonomiju u novom smeru.	Ekonomska kriza predstavlja veliki problem za dalji razvoj zemlje. Predsednik je pred izbore izjavio da njegova stranka ima rešenje za ovo. Međutim, kriza u državi traje već previše dugo.	Bor je elemenat trinaeste grupe Periodnog sistema elemenata. To je metaloid s pretežno nemetalnim osobinama i dva stabilna izotopa. Bor ima uticaj i na čovekov organizam, pre svega na skelet.
LIST 3	Još jedan veliki stepenik koji zemlja mora da preskoči je ekonomska kriza. Dosadašnja politika bila je neuspešna i nije uspela da izvede zemlju iz krize. Predsednik je pred izbore rekao da ima plan kojim će zemlju udaljiti od ekonomske propasti.	Još jedan veliki problem koji treba rešiti je pitanje ekonomske krize. Dosadašnja politika bila je neuspešna i nije dala rezultate. Predsednik je pred izbore izjavio da ima plan kojim će se ovaj problem lako rešiti.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.

TARGET 19: KAKO ĆE PREDSEDNIK NAVIGIRATI PO FISKALNOJ LITICI, ODREDIĆE ISHOD IZBORA.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Protivkandidat je izložio plan za izlazak zemlje iz ekonomske krize. U ovom planu predstavljena je strategija za premošćavanje svih većih prepreka. Mnogi smatraju da su metode koje predlaže zastarele i da će sve biti previše sporo.	Protivkandidat je predstavio plan za ekonomsku reformu zemlje. U ovom planu predstavljena je strategija za rešavanje svih većih problema. Mnogi smatraju da su metode koje predlaže zastarele i prevaziđene.	Iverica je naziv za ploču napravljenu od iverja drveta. Prema tipu presovanja, može biti normalno presovana i ekstruziono presovana. Kod normalno presovanih, sila presovanja deluje upravno na površinu ploče.
LIST 2	Novi kandidat je predstavio plan kojim će državu izvesti iz krize. Ovo podrazumeva stroge mere štednje koje javnost vidi kao novu prepreku na putu. Analitičari smatraju da će nas ovi planovi odvesti u novi ćorsokak.	Novi kandidat je predstavio plan za rešenje ekonomske krize u zemlji. Ovo podrazumeva stroge mere štednje kojima se javnost protivi. Analitičari smatraju da su ovi planovi previše zastareli i nepovoljni.	Nafta je tečna do polučvrsta prirodna materija. Nalazi se u Zemljinoj kori i sastavljena je pretežno od smeše brojnih ugljovodonika. Uvek sadrži i sumpor i azotna i kiseonikova organska jedinjenja.
LIST 3	Novi kandidat je predstavio plan kojim će državu izvesti iz krize. Ovo podrazumeva stroge mere štednje koje javnost vidi kao novu prepreku na putu. Analitičari smatraju da će nas ovi planovi odvesti u novu slepu ulicu.	Protivkandidat je predstavio plan za ekonomsku reformu zemlje. U ovom planu predstavljena je strategija za rešavanje svih većih problema. Mnogi smatraju da su metode koje predlaže zastarele i prevaziđene.	Selen je biljka iz familije Apiaceae. Selen je jedna od omiljenih aromatičnih biljaka. Delovi biljke su aromatičnog ukusa i njihovo etarsko ulje koristi se u prehrambenoj industriji.

TARGET 20: POZICIJU NOVOG KANDIDATA PO PITANJU EKONOMIJE NE TREBA SHVATITI KAO IDEOLOŠKU.

LIST	CONGRUENT METAPHORICAL CONDITION	CONGRUENT LITERAL CONDITION	INCONGRUENT CONDITION
LIST 1	Nakon neuspeha u prvoj predizbornoj trci, predsednik je promenio taktiku. Pojačao je tempo, i počeo da sustiže svog protivkandidata. Takođe, stigle su i pozitivne kritike nakon kojih je predsednik pojačao tempo.	Nakon neuspeha u prvoj debati, predsednik je promenio taktiku. Pripremio je nove argumente i delovao je mnogo ubedljivije. Takođe, dobio je i pozitivne kritike od birača i članova svoje stranke.	Naizmenična struja je protok naelektrisanja kroz provodnik tako da ono povremeno menja smer. Specijalnu vrstu čini periodična naizmenična struja. U tom slučaju se sve promene napona i jačine struje dešavaju periodično.

LIST 2	Nakon lošeg nastupa u prvoj debati, predsednik je rešio da promeni smer kretanja. Naime, pripremio je nove argumente i krenuo u lagano preticanje. Takođe, dobio je i pozitivne kritike koje su ga motivisale da se još više ubrza.	Nakon lošeg nastupa u prvoj debati, predsednik je promenio taktiku. U skladu s tim, pripremio je nove argumente i organizovao konferenciju za štampu. Nakon toga, dobio je pozitivne kritike od svojih pristalica.	Pas je pripitomljeni sisar iz porodice pasa. Arheološki nalazi dokazuju da pas najmanje 9.000 godina živi uz čoveka. Fosilni ostaci pokazuju da su preci modernog psa živeli uz čoveka i ranije.
LIST 3	Nakon neuspeha u prvoj predizbornoj trci, predsednik je promenio taktiku. Pojačao je tempo, i počeo da sustiže svog protivkandidata. Takođe, stigla je i podrška nakon koje je predsednik pojačao tempo.	Nakon lošeg nastupa u prvoj debati, predsednik je promenio taktiku. U skladu s tim, pripremio je nove argumente i organizovao konferenciju za štampu. Nakon toga, dobio je još veću podršku svojih pristalica.	Ernest Miler Hemingvej bio je američki pisac i novinar. Dobio je Pulicerovu nagradu 1953. godine za svoj roman *Starac i more*. Takođe je dobio i Nobelovu nagradu za književnost 1954. godine.
TARGET 21: POZITIVNE KRITIKE ĆE DATI UBRZANJE KOJE ĆE PROMENITI DINAMIKU TRKE.			

5.4.1 RESULTS AND DISCUSSION

5.4.1.1 OVERALL MEAN TENDENCIES

Based on the obtained data we calculated the average tendencies in each of the three priming conditions and compared them (Figure 5.11). One-way repeated measures ANOVA showed a significant effect of priming condition (Wilks' Lambda=.39, $F(2, 96)$=74.41, p<.0005, partial η^2=.61), while subsequent pairwise comparisons showed a significant difference between the incongruent condition (M=2213.49 ms, SD=464.87 ms) and congruent literal condition (M=3335.93 ms, SD=715.24 ms, p<.0005), and the incongruent condition and congruent metaphorical condition (M=3242.27 ms, SD=640.75191 ms, p<.0005); the difference between the two congruent conditions did not reach significance (p=.081). One-way between groups ANOVA did not reveal any significant effects of experimental lists (p>.05).

Also, we calculated the overall mean reading times for primes in the two congruent conditions. Again, this was done in order to ascertain that the length of exposure to primes did not pose as a confound. One-way repeated measures ANOVA did not reveal a significant effect of priming condition (Wilks' Lambda=.96, $F(1, 95)$=3.60, p=.061, partial η^2=.04) between the congruent metaphorical (M=8384.45 ms, SD=2507.54 ms) and congruent literal condition (M=8072.50 ms, SD=2713.58 ms).

Like in the previous experiment, we also calculated the overall mean tendencies of participants' assessments of target aptness in the binary decision task ("Yes"=the target sentence fits

into the context of the priming paragraph, "No"=the target sentence does not fit into the context of then priming paragraph). The results showed a significantly higher mean of "yes" responses compared to "no" responses in both congruent metaphorical (Wilks' Lambda=.12, $F(1, 20)=141.62$, $p<.0005$, partial $\eta^2=.876$, $M_{yes}=78.14$, $SD_{yes}=9.86$, $M_{no}=26.81$, $SD_{no}=9.91$) and congruent literal conditions (Wilks' Lambda=.23, $F(1, 20)=68.69$, $p<.0005$, partial $\eta^2=.774$, $M_{yes}=72.90$, $SD_{yes}=15.80$, $M_{no}=29.24$, $SD_{no}=11.30$). Comparison of "yes" responses between these two priming conditions did not reveal a significant difference (Wilks' Lambda=.87, $F(1, 20)=2.90$, $p=.104$, partial $\eta^2=.127$). The incongruent priming condition showed an inverted trend of responses, with higher means recorded for "no" responses compared to "yes" responses, and the difference reached significance (Wilks' Lambda=.002, $F(1, 20)=12726.82$, $p<.0005$, partial $\eta^2=.998$). Moreover, the number of "yes" responses in the incongruent condition was significantly lower than the number of "yes" responses in the two congruent conditions (Wilks' Lambda=.022, $F(2, 19)=429.38$, $p<.0005$, partial $\eta^2=.978$). Such results also show that participants attributed equal degrees of contextual aptness to the selected targets in both congruent metaphorical and congruent literal conditions, whereas the incongruent condition was dubbed contextually inapt.
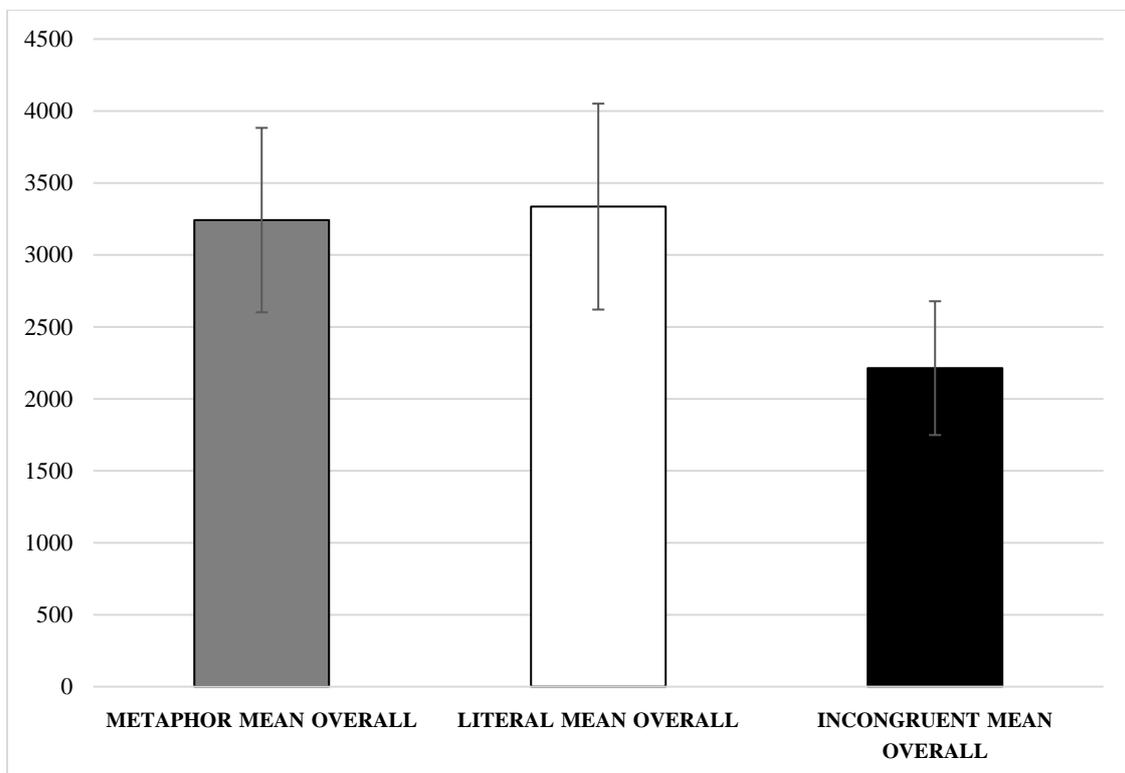
Figure 5.11. Overall mean RTs in the three priming conditions in Experiment 6

These results again show that both congruent conditions afforded similar degrees of contextual aptness for all targets, also reflected in similar mean RTs in each of the two conditions

discussed above. In other words, both congruent metaphorical and congruent literal framings (i.e., contextualization) produced similar effects not only in terms of the recorded mean RTs, but also in terms of participants' assessment of targets' contextual aptness in the binary decision task (Yes/No responses). The incongruent condition, on the other hand, showed an inverted trend of Yes/No responses, and significantly shorter RTs compared to both congruent conditions. This suggests that the framing activated by the incongruent primes afforded expectancies that were obviously violated by the targets; in turn, the obvious violation of expectancies yielded shorter RTs. In other words, based on the contextualization introduced by the incongruent primes, participants could easily classify the subsequent targets as contextually inapt. On the other hand, congruent contextualizations activated in the other two congruent conditions afforded expectancies with which the targets were aligned, thereby yielding similar RTs in these two conditions. The obtained results suggest that the violation of expectancies affords faster decision-making in the main task, a result already obtained in the case of CONFLICT metaphors.

Like in Experiment 5, the discrepancy in RTs between the two congruent conditions on the one hand, and the incongruent condition on the other, can also be explained by the pronounced role of the suppression mechanism. Namely, due to the nature of the main task, participants in this experiment also most likely did not need to read the entire target sentences in order to understand that they were misaligned with the contextualization introduced by the incongruent prime. In fact, the data suggest that they were able to make the decision concerning contextual aptness very early, most likely owing to the suppression of the irrelevant elements of the target sentence. Again, in that sense, suppression here seems to operate on a meta-pragmatic level.

On the other hand, the lack of a significant difference between the two congruent conditions shows that the two conditions were underlain by similar decision-making strategies. More specifically, due to the nature of the main task, participants needed to process larger sections of discourse (most likely entire target sentences) in order to ensure that there were no incongruencies between the prime and its corresponding target. As a result, RTs in the two congruent conditions are longer compared to the incongruent condition. Moreover, based on the structure building framework (Gernsbacher 1997), the process of meaning construction in congruent conditions is facilitated primarily by enhancement, seeing that there were no shifts from the initial structure in none of the stages of structure building. Suppression in this case probably operated in the background, with the purpose of filtering out the irrelevant elements from the activated frames.

By-item comparisons between the three priming conditions were also conducted using one-way repeated measures ANOVA. The results are presented in Table 5.23 below. The analyses revealed a consistent significant main effect of priming condition in all cases ($p<.05$). Subsequent pairwise comparisons yielded consistent results; namely, only targets 7 and 14 showed a significant difference between the two congruent conditions, with shorter RTs recorded for congruent metaphorical priming. On the other hand, mean RTs recorded in the incongruent condition were significantly shorter in all cases ($p<.0005$). Based on these data, we can conclude that the results of by-item analyses reinforce the conclusions outlined above; i.e., there were almost no significant differences in the recorded mean RTs between the metaphorical and literal conditions, except with two items. Incongruent priming showed significantly faster decision making in terms of contextual aptness of targets compared to both congruent conditions. Again, the implications of the obtained results are explored in the discussion section below.

Table 5.23. By-item analyses, Experiment 6

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 1	Metaph.	2771.60	1184.15	.486	Target 2	Metaph.	3038.35	1388.46	>.05
	Literal	2558.19	1003.13			Literal	2894.31	1215.99	
	Incongr.	1864.48	823.54	<.0005		Incongr.	2014.04	850.74	<.0005
Target 3	Metaph.	2920.36	1211.86	>.05	Target 4	Metaph.	3138.87	1297.27	>.05
	Literal	3056.90	1325.38			Literal	3168.24	1390.94	
	Incongr.	1998.64	942.455	<.0005		Incongr.	2319.57	1064.28	<.0005
Target 5	Metaph.	2750.63	1158.34	.679	Target 6	Metaph.	3373.27	1793.03	.830
	Literal	2584.47	1087.35			Literal	3147.49	1583.39	
	Incongr.	2196.54	1246.40	.045		Incongr.	2017.78	854.88	<.0005

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 7	Metaph.	2700.43	976.23	.023	Target 8	Metaph.	3307.88	1579.63	>.05
	Literal	3004.95	1143.27			Literal	3423.83	1584.79	
	Incongr.	1798.00	696.39	<.0005		Incongr.	1934.10	879.01	<.0005

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 9	Metaph.	3020.97	1275.85	>.05	Target 10	Metaph.	3097.83	1212.28	>.05
	Literal	3156.32	1471.13			Literal	3026.32	1373.52	
	Incongr.	2203.87	1084.81	<.0005		Incongr.	2248.83	1277.87	<.0005

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 11	Metaph.	2989.88	1412.90	.297	Target 12	Metaph.	3546.53	1776.31	>.05
	Literal	2733.04	1065.93			Literal	3780.00	1989.61	
	Incongr.	1951.17	924.98	<.0005		Incongr.	1833.65	795.40	<.0005

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 13	Metaph.	2587.31	876.40	>.05	Target 14	Metaph.	2838.48	1210.42	.029
	Literal	2658.46	976.57			Literal	3296.08	1540.75	
	Incongr.	2029.09	941.81	<.0005		Incongr.	2689.00	1340.73	<.0005

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 15	Metaph.	3096.21	1355.46	.119	Target 16	Metaph.	2938.88	1129.99	.067
	Literal	3426.19	1551.77			Literal	3364.30	1652.97	
	Incongr.	2445.27	1150.56	<.0005		Incongr.	1887.67	868.46	<.0005

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 17	Metaph.	3369.71	1496.40	>.05	Target 18	Metaph.	2756.11	1415.99	>.05
	Literal	3450.13	1422.91			Literal	2813.98	1143.13	
	Incongr.	1965.38	944.74	<.0005		Incongr.	1989.41	858.10	<.0005

Target	Priming condition	M [ms]	SD [ms]	p	Target	Priming condition	M [ms]	SD [ms]	p
Target 19	Metaph.	3848.04	1953.73	.561	Target 20	Metaph.	3452.77	1440.37	>.05
Target 19	Literal	4166.69	1914.54	.561	Target 20	Literal	3440.97	1586.60	>.05
Target 19	Incongr.	2021.8554	880.41950	<.0005	Target 20	Incongr.	2231.10	1071.50	<.0005

Target	Priming condition	M [ms]	SD [ms]	p
Target 21	Metaph.	2901.08	1193.43	>.05
Target 21	Literal	3024.06	1525.95	>.05
Target 21	Incongr.	2528.41	1229.04	.036

5.4.1.3 QUALITATIVE ANALYSIS

Again, following the theoretical framework introduced above, the two congruent priming contexts are expected to activate the relevant background knowledge structures, i.e., in this particular case the relevant parts of the frame of POLITICS (in the sense of Fillmore 1982). More specifically, in the sense of the event-indexing model (e.g., Zwaan and Radvansky 1998), we could also argue that the semantic content of the priming paragraphs licenses the construction of situation-models, which involves the stages of constructing (i) the current model, (ii) the integrated model, and (iii) the complete model. The structure building framework entails the construction of coherent mental representations (e.g., Gernsbacher, Varner, and Faust 1990). This is facilitated by the processes of enhancement, where the existing structure is updated by the new information, and as long as that information is associated with the already activated structures, the process proceeds seamlessly. Once this part of the process has been completed, the suppression mechanism eliminates the irrelevant elements, thereby creating a more coherent structure containing only the relevant components. However, if new, or unexpected information appears, either as a result of a logical digression, or for experimental purposes, a shift occurs, which in turn prompts the construction of a substructure. Typically, this causes a lag that can be manifested in prolonged decision-making times.

In terms of frame semantics, and the broader encyclopedic view of meaning construction, lexical items in the priming paragraphs afford access points (in the sense of Langacker 1987) to larger knowledge structures. Metaphorical paragraphs actually contain homogenous metaphor clusters with

metaphorical expressions corresponding to the conceptual key POLITICS IS MOTION, thereby affording the construction of metaphorical schemas (in the sense of Allbritton 1995). Since conceptual metaphors presumably involve the activation of source and target input spaces, congruent metaphorical priming paragraphs are expected to activate both the frames of POLITICS and MOTION. For instance, the following paragraph contains a cluster of three MOTION metaphors, each of which should activate the frames of MOTION and POLITICS:

> *Tempo predizborne kampanje* do sada nije bio previše naporan. Oba kandidata su *lagano navigirala kroz politički prostor*. Ali *završnica trke se bliži* i obe stranke pripremaju svoje kandidate.

Additionally, optimal sentence-level contexts and the overall context of the priming paragraph also activate the frame of POLITICS, owing to the individual non-metaphorical lexical items (e.g., candidates, political parties) that serve as points of access to the larger frame-structure. Again, the context of the paragraph affords the activation only of those parts of the frame relevant for meaning construction, whereas the remaining parts are filtered out, i.e., suppressed. This congruent metaphorical priming paragraph is then followed by the target sentence which contains another metaphorical expression corresponding to the conceptual key POLITICS IS MOTION:

<p style="text-align:center;">Uskoro će uslediti neizvestan završni sprint pred predsedničke izbore.</p>

Congruent metaphorical priming in this condition is licensed by the fact that identical frames (i.e., the frames of POLITICS and MOTION) are presumably activated both by the priming paragraph and by the target sentence. Such alignment between the frames facilitates participants' RTs when deciding whether the target sentence is apt in the current context or not, which is also supported by the evidence of by-item analysis (Table 5.23).

Like in Experiment 5, we also stress the fact that what needs to be taken into account is the higher level of activation of the organizing frame of the target input (POLITICS), which has been identified in Experiments 1–4. Also, the final discourse structure composed of the prime and target is actually contextualized against the general frame of POLITICS that serves as the arena in which the process of meaning construction is taking place online. Additionally, bearing in mind the dynamic nature of semantic frames, the frame of POLITICS should also contain the schematics for entrenched metaphorical conceptualizations. In effect, this should facilitate the contextual alignment between primes and targets in cases involving congruent priming.

Table 5.24. Schematics of the event-indexing model for the metaphorical congruent priming paragraph

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*The initial referential time in the narrative referring to the ongoing election campaign*	*The initial referential time in the narrative referring to the ongoing election campaign*	*Time in the near future when the final part of the race will take place*
SPACE / VENUE	*Election race*	*Political space of the election campaign*	*Election race*
CAUSATION	*Competition involved in the election*	*Motion through political space*	*"Interaction" between participants*
INTENTIONALITY	*Move through the campaign*	*Navigate the political space*	*Win the race*
PROTAGONISTS/ PARTICIPANTS	*Campaign participants*	*The president; the opponent*	*The president; the opponent; party members*

Table 5.25. Schematics of the event-indexing model for the target sentence

	TARGET SENTENCE
TIME	*Time in the near future when the final part of the race will take place*
SPACE / VENUE	*Election race*
CAUSATION	*Race between the two candidates*
INTENTIONALITY	*Win the race*
PROTAGONISTS/ PARTICIPANTS	*The president; the opponent*

In light of the EIM, the first sentence of the priming paragraph (*Tempo predizborne kampanje* do sada nije bio previše naporan) affords the construction of the current situation model, with the main dimensions defined in Table 5.24. This current model is then updated with the content from the second sentence (Oba kandidata su *lagano navigirala kroz politički prostor*) that introduces congruent and coherent content, and the initial dimensions are updated with the new information. Finally, the third sentence (*Ali završnica trke se bliži* i obe stranke pripremaju svoje kandidate) in the priming paragraph is introduced, and the model is updated. All three sentences introduce congruent, coherent

metaphorical context, and they yield the final stage in the integrated model, followed by the target sentence (Uskoro će uslediti *neizvestan završni sprint* pred predsedničke izbore).

In this case, the target sentence introduces congruent metaphorical content, that is (i) coherent, (ii) topically related to the priming paragraph, (iii) the relevant dimensions are sensically aligned, and (iv) the metaphorical expression corresponds to the conceptual key of MOTION. Finally, this affords the construction of the complete model, and the expectancies built by the priming content are congruent with the content of the target sentence. In broader terms, the online meaning construction is not guided by the semantic content of the prime-target pair that constitutes the complete model in this case; instead, the relevant background knowledge activated online is also of vital import (Cook and Guéraud 2007: 268). This could include, but is not limited to, (i) individuals' personal histories and experiences that afforded the construction of relevant frames and the associated schematic structures, (ii) individuals' assessments of relevance and aptness, (iii) social, cognitive, and cultural factors that are subject to variations both between individuals and between different socio-cultural groups, (iv) affective content of the constructed situation which is also potentially present in the background frames (van Dijk 2008; Figar 2014a).

The congruent literal condition will function similarly. The priming paragraph, in this case, should activate only the frame of POLITICS:

Predizborna kampanja do sada nije bila previše uzbudljiva. Oba kandidata su se na mitinzima obraćala medijima i biračima. Ali sada obe stranke uveliko pripremaju kandidate za same izbore.

Again, in terms of frame semantics, individual lexical items serve as access points to the larger frame structure; however, as a function of the paragraph context, only the relevant parts of the frame are activated. For instance, based on the content of the paragraph, elements like *the president, opponent, political parties* and their corresponding causal and intentional relationship will appear as highly salient. Some other elements, like the president's wife and family, president's early days in politics, opponent's favorite food, etc., will not be activated as they are not essential for online meaning construction in this specific case. In other words, contextual filtering yields the partial frame structure necessary for understanding. The process, in this case, is further facilitated by the fact that the paragraph is organized by a single frame, and sentences are congruent and coherent. Additionally, the mechanism of suppression discussed above also plays a role in inhibiting contextually irrelevant information.

The target sentence is the same as above, and it contains a metaphorical expression that should activate the frames of POLITICS and MOTION. Bearing in mind that this is a highly conventional

metaphorical expression, the presence of an additional frame should not cause any processing difficulties. This is evident in the results of by-item analysis, in that the difference between the metaphorical and literal congruent priming condition did not reach significance (Table 5.23).

In the context of the EIM, the relevant dimensions of the current model, and the following two stages of the integrated model are shown in Table 5.26. The values of the relevant dimensions across the initial three stages are similar (or at least analogous) to those in the metaphorical congruent priming condition. This is followed by the target sentence (see Table above), which makes up the complete model. As was the case in Experiment 5, the contents of the priming paragraph and the target sentence are semantically congruent, which is reflected both in judgements of contextual aptness, and recorded RTs.

Table 5.26. Schematics of the event-indexing model
for the literal congruent priming paragraph

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*The initial referential time in the narrative referring to the ongoing election campaign*	*Time when rallies took place*	*Time in the near future when the election will take place*
SPACE / VENUE	*Election campaign*	*Campaign rallies*	*Presidential election*
CAUSATION	*Competition involved in the election*	*Arguments presented to the media and voters*	*Arguments presented to the media and voters*
INTENTIONALITY	*To win the election*	*Gain support*	*Win the election*
PROTAGONISTS/ PARTICIPANTS	*Opposing parties*	*The president; the opponent; media; voters*	*The president; the opponent; political parties; voters*

At first there appears to be a discrepancy between the prime, organized by the frame of POLITICS, and the target sentence which introduces an additional frame of MOTION. Like in Experiment 5, with CONFLICT metaphors, this is resolved by the fact that we are dealing with highly conventional metaphorical expressions that can also be understood as part of the frame of POLITICS. As a consequence, the structure activated by the priming paragraph is simply updated and the already active frame-structure expanded in order to accommodate the frame of MOTION as well. Moreover, the results obtained from Experiments 3 and 4 showed a higher level of activation recorded for the organizing frame of the target input – i.e., the frame of POLITICS. Consequently, the salience of the frame of POLITICS facilitates the integration of target sentences into the complete model. From the

perspective of structure building, the overall contextual alignment between the primes and targets was most likely facilitated by the enhancement mechanism, insofar as the relevant elements of the activated frames were foregrounded.

Finally, the incongruent priming condition involved a priming paragraph whose semantic content and frame-level structure were not aligned with the target sentence:

Avion je čuvena naprava za letenje čvrste konstrukcije. Prvu uspešnu konstrukciju, sa realizacijom, izvela su braća Vilbur i Orvil Rajt. Na toj svojoj konstrukciji su uspeli da polete 1903. godine.

In this case, the priming paragraph activates (at least) the semantic frames of AIRPLANE (via lexical items like *flying, Wright brothers*) and ENGINEERING (*solid construction, flying*). These frames are compatible and the paragraph contains congruent and coherent structure. Yet, these frames are incongruent in relation to the content of the target sentence:

Uskoro će uslediti *neizvestan završni sprint* pred predsedničke izbore.

Namely, the expectancy created by the priming paragraph is violated by the target sentence, owing to the misalignment between the semantic frames. This is reflected in the recorded contextual aptness judgments, as well as in the significantly shorter RTs recorded in this condition (Table 5.23).

Table 5.27. Schematics of the EIM for the incongruent congruent priming paragraph

	SENTENCE 1	SENTENCE 2	SENTENCE 3
TIME	*The referential time in the narrative*	*The time when Wright brothers constructed the first airplane*	*1903, when the first successful flight took place*
SPACE / VENUE	*Undefined*	*America*	*America*
CAUSATION	*Undefined*	*Successful engineering*	*Successful engineering*
INTENTIONALITY	*To provide general (factual) information*	*To be able to fly*	*To be able to fly*
PROTAGONISTS/ PARTICIPANTS	*None*	*Wright brothers*	*Wright brothers*

In the context of EIM, structures of the current model, and the two stages for the integrated model are presented in Table 5.27. It can be seen that, in addition to the discrepancies between frames, there is also a misalignment in the overall structure of the models between the priming paragraph and

the target sentence (Table 5.25). Although the final stage of the current model in the priming paragraph is congruent and semantically coherent, the target sentence and the construction of the complete model creates an incongruent structure with violated expectances initially created by the priming paragraph. Namely, the target sentence introduces not only two novel frames (POLITICS and MOTION), but also a different schematic structure underlying the two frames. Such misalignment is also evident in participants' aptness judgments, and in significantly shorter RTs compared to both congruent priming conditions. Faster decision-making and dismissing the target sentence as contextually inapt in the incongruent priming condition can be explained by the high degree of misalignment between the integrated model of the priming paragraph and the complete model that includes the target sentence.

When the obtained results are analyzed in the context of the structure building framework, the significantly shorter RTs recorded in the incongruent condition can also be understood as the result of the pronounced role of suppression. Namely, new information and frame structure introduced by the target causes a shift in the structure that requires the construction of an additional substructure. Owing to the nature of the main task which involves judgments of contextual aptness, the participants were able to make their decisions in the incongruent condition significantly faster compared to the two congruent conditions. This suggests that they were able to suppress the irrelevant information and make their decisions very early. What is more, most likely they did not need to process the entire sentence. Instead, the sudden shift in semantic frames between the prime and target seems to have emphasized the role of suppression on a meta-pragmatic level, resulting in significantly shorter decision-making times. Again, such results are directly conditioned by the nature of the main task.

5.4.1.4 ANALYSIS OF DISTRACTOR ITEMS

Experiment 6 also included 8 pairs of distractor-primes and distractor-targets which were identical to those used in Experiment 5 (Table 5.16). Since the length of distractor-targets was not normalized for the number of syllables, we calculated the normalized mean RTs per syllable so as to avoid the confounding effects of target reading times. Namely, RTs obtained for each target were divided by the number of syllables. Then we compared the overall mean tendencies of distractor items in congruent and incongruent conditions. One-way repeated measures ANOVA showed a significant effect of priming condition (Wilks' Lambda=.54, $F(1, 106)=91.62$, $p<.0005$, partial $\eta^2=.46$), while subsequent pairwise comparisons showed significantly shorter RTs per syllable recorded in the incongruent condition (M=80.59 ms, SD=21.89 ms, $p<.0005$) compared to the congruent condition (M=144.50 ms, SD=43.57 ms).
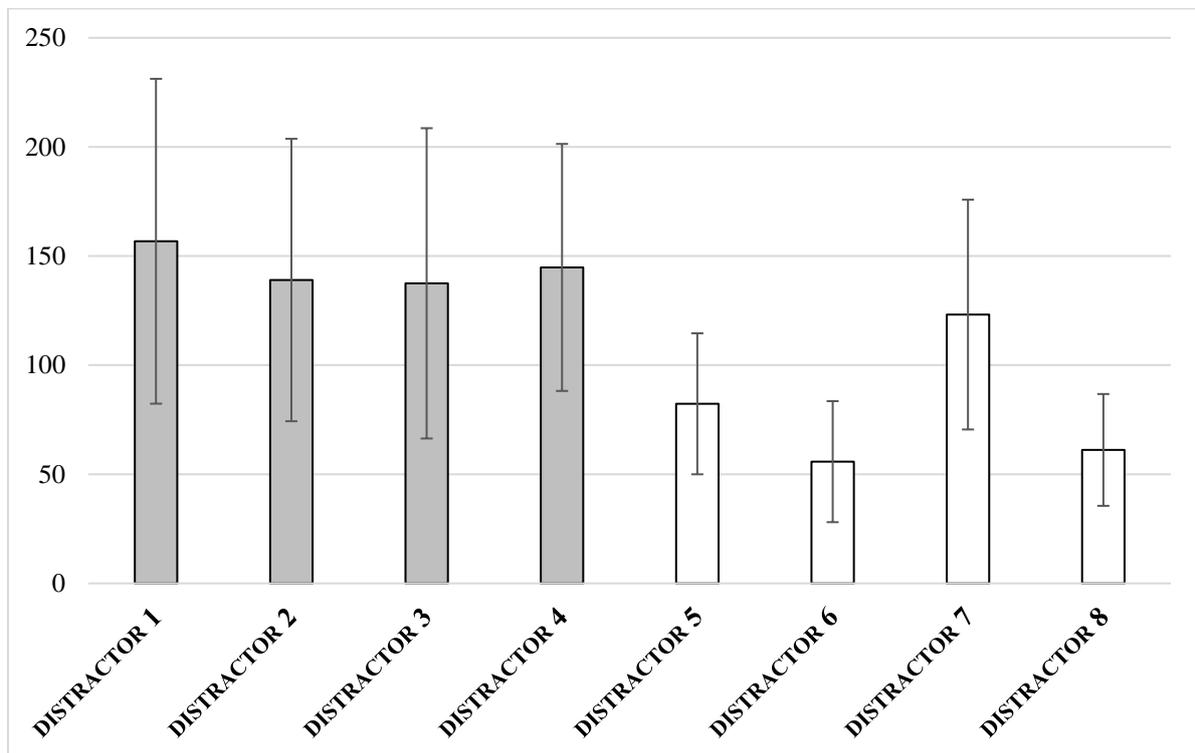
Figure 5.12. Normalized RTs per syllable (by-item overview)
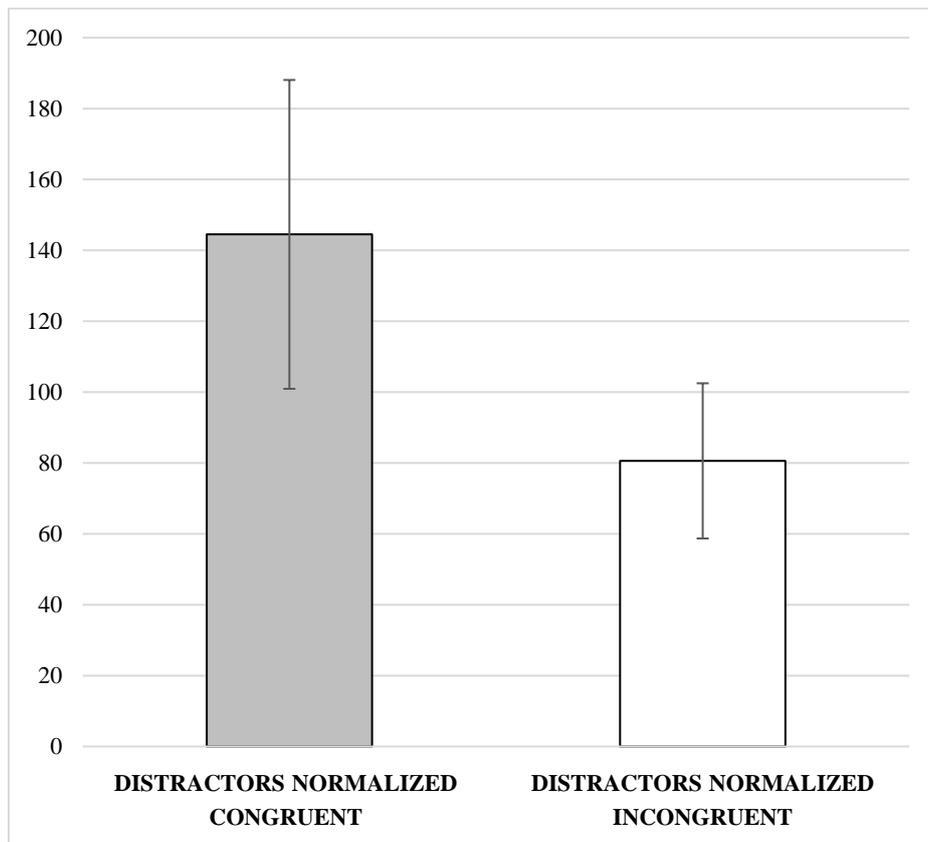
Figure 5.13. Overall congruent vs. incongruent conditions (normalized RTs per syllable)

5.5 DISCUSSION

In this section we summarize the most important findings from Experiments 5 and 6, and offer answers to the main research questioned outlined above.

5.5.1 EXPERIMENT 5

Experiment 5 was designed to explore the judgements of contextual aptness of target metaphorical sentences containing metaphorical expressions from the conceptual key POLITICS IS CONFLICT, in three priming conditions. These involved *(i) congruent metaphorical, (ii) congruent literal*, and *(iii) incongruent conditions*. The obtained results are discussed here in relation to the four main research questions outlined above.

RQ1: Will there be a difference in the level of contextual aptness of targets in the two experiments between congruent metaphorical and congruent literal priming conditions, reflected in the differences in RTs?

The obtained results did not reveal differences in the recorded RTs between the two congruent priming conditions, and this was confirmed both in the analysis of the overall mean tendencies, and in by-item analyses. Such results suggest that both metaphorical and literal primes afforded equally good contextualizations, so that the targets were assessed as being equally apt. In other words, the expectancies generated by the primes were met in both priming conditions, thereby allowing for equal degrees of facilitation in aptness judgements. Moreover, the analysis of participants' responses in the binary decision task also did not reveal any differences in judgments of contextual aptness.

As discussed above, despite the fact that target metaphorical expressions from the present experiment included the organizing frames of both source and target inputs, i.e., the frames of CONFLICT and POLITICS, respectively, this did not pose as a constraint in the congruent literal condition. Namely, literal primes were organized by the frame of POLITICS, with different specific elements and relations (see Table 5.10 for details). Moreover, metaphorical expressions from target sentences also appeared in the optimal context organized by the frame of POLITICS. In addition, results from Experiments 1 and 2 have already revealed a higher degree of activation of the frame of POLITICS in the categorization task discussed above (see section 4 for details). The frame of POLITICS is also flexible enough to incorporate the conventional metaphorical conceptualizations of the election campaign and political processes in general, so the additional frame of CONFLICT introduced by the

targets in the congruent literal condition should not present an issue, especially in judgements of contextual aptness. This is also due to the fact that the interaction of the two frames is quite common in political discourse (e.g., Figar 2014a, 2019). In effect, the dominance of the frame of POLITICS seems to have overridden the potential discrepancy between the prime and target in the congruent literal condition, rendering the targets equally contextually apt following the literal contextualization as was the case with the initial metaphorical contextualization. Therefore, it can be concluded that both metaphorical and literal framings offer equally suitable contexts for all targets.

RQ2: Will incongruent priming afford faster or longer RTs in the main task compared to the two congruent priming conditions (i.e., will context work as a pre- or post-decision mechanism in the present experimental setup, and what role might the suppression mechanism play in this process)?

The incongruent condition, on the other hand, led to significantly faster dismissals of target sentences as contextually inapt compared to both congruent conditions. As already mentioned above, bearing in mind that the recorded RTs for targets in addition to decision-making times also include sentence reading times, and all three priming conditions involved the same type of decision making, we hypothesize that participants did not actually need to read the entire sentences in the incongruent condition in order to realize that targets were contextually inapt. This suggests that context serves as a pre-decision mechanism and it is included in the contextual aptness judgment task from the very onset of the target sentence. However, it needs to be stressed that such conclusions are highly biased by the nature of the main task (in this case, assessments of contextual aptness in a binary decision task). The results also imply that the information is processed incrementally, and not all information is needed to make *a semantic meta-decision* (concerning contextual aptness which, essentially, operates on a pragmatic plain) when there is an obvious misalignment between the organizing frames of prime and target materials, which is also revealed by their corresponding lexical-semantic content.

Moreover, such nature of the main task seems to have afforded a very pronounced role of the mechanism of suppression in the incongruent condition. Namely, a shift in the process of structure building might be primarily associated with lags in RTs. The misalignment and incongruency between the previously constructed structure in the prime, and the new information in the target should lead to processing difficulties and increased RTs. However, our results show the opposite. Namely, significantly shorter RTs were recorded precisely in the incongruent condition. Seeing that there were no significant differences in RTs in the two congruent conditions, and bearing in mind that the recorded RTs essentially reflect both reading times and decision-making times, the most plausible explanation is that participants did not actually read the entire target sentences in the incongruent condition. Crucially, the nature of the main task most likely did not require them to do so, insofar as

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there was a high degree of incongruity between primes and targets. Consequently, recognizing targets in this condition as contextually inapt was actually facilitated by the suppression of the irrelevant sentence content; in that sense, we can assume that the mechanism of suppression in this case operated on *a meta-pragmatic plain*.
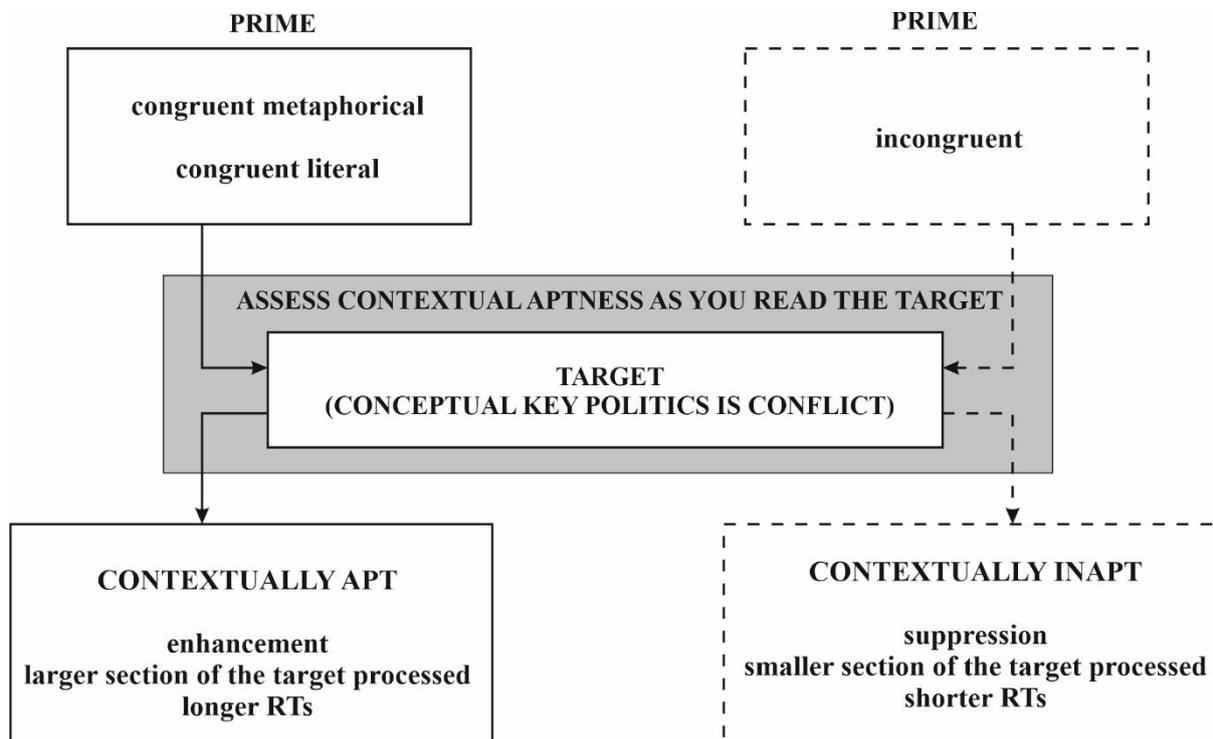
Figure 5.14. Generalized schematics for congruent and incongruent priming conditions

On the other hand, in congruent conditions participants most likely needed to process the entire target sentence (or at least a greater portion of the sentence compared to the incongruent condition) in order to make sure that no incongruencies would appear. Consequently, this resulted in significantly longer RTs in the two congruent priming conditions. Additionally, the fact that the comparison of mean RTs between the two congruent conditions did not yield significance suggests that they were underlain by similar decision-making strategies and, most likely, by similar mechanisms. In the context of structure building, the fact that primes and targets were aligned in terms of frame structure and semantic content suggests that the mechanism of enhancement facilitated the construction of the entire structure. Suppression, on the other hand, most likely had a background role in fine-tuning the relevant elements and relations from the already congruent frames. Although there were no sudden shifts, and no new substructures that could be created by such shifts, which might cause a lag in processing, participants seem to have required to process a larger amount of information compared to the incongruent condition. Again, we stress the fact that this aspect of

participants' decision-making strategy revealed by the obtained results is highly confounded by the nature of the main task.

RQ3: Will there be a difference in participants' contextual aptness judgements across the three experimental conditions?

As already noted above, no significant differences in contextual aptness judgements in the binary decision task could be identified between the two congruent priming conditions. Additionally, the number of 'apt' responses was significantly higher compared to the number of 'inapt' responses in both conditions. The incongruent condition, on the other hand, showed an inverted trend, in that the number of 'inapt' responses was significantly higher compared to the number of 'apt' responses.

RQ4: Will the RT ratio between congruent-incongruent conditions identified for targets also be preserved in the case of additional distractor prime-target pairs?

The results obtained for distractor-primes and distractor-targets pairs in the incongruent priming condition further support the initially obtained findings pertaining to the pattern of RTs in congruent and incongruent priming conditions. Namely, this subset of stimuli also showed significantly shorter RTs recorded in the incongruent condition, meaning that the incongruent literal targets were also dismissed as contextually inapt more quickly in the incongruent condition than the congruent targets were assessed as contextually apt in the congruent condition. This suggests that both metaphorical targets and the literal distractor-targets are analyzed via similar strategies and processed in a similar fashion. The proposed role of the mechanism of suppression in facilitating RTs in the incongruent condition also applies here.

RQ5: Do the obtained results reflect on the construct of conceptual mappings in any way?

Another important conclusion that can be derived based on the obtained findings relates to the construct of conceptual mappings. Namely, if we accept the hypothesis that conceptual mappings between the source and target inputs activated by the entrenched conceptual metaphors indeed exist, we should expect that these mappings will be present in the metaphorical primes (constituted by the homogenous metaphor clusters), as well as in the corresponding metaphorical expressions in the target sentences. Congruent literal primes, on the other hand, should activate only a single, literal frame of POLITICS, as they do not contain any instances of metaphorical language. Consequently, if

conceptual mappings between the source and target input spaces are indeed active, we should expect easier integration of the target sentence containing a similar set of conceptual mappings already activated by the homogenous cluster from the priming paragraph. On the other hand, all other types of primes, including the congruent literal prime, should not afford the same level of facilitation as the metaphorical primes. However, the obtained results do not seem to support such a hypothesis. As argued above, no significant differences in RTs could be identified between the two congruent priming conditions.

If we were to adopt a *strong* position in the interpretation of the obtained data, we could argue that conceptual mappings do not exist as a psychologically plausible construct. However, the present experimental setup also contains certain constraints that require a note of caution. Namely, the effect of contextualization (i.e., framing) afforded by the priming paragraphs appears to have had a very strong effect on subsequent decision making when assessing the targets as contextually apt/inapt. This effect is also evident from the results obtained in the incongruent priming condition, where the decision-making speed was actually increased due to the misalignment of frames between primes and targets. Combined with the higher level of activation of the frame of POLITICS compared to the frame of CONFLICT, identified in Experiments 1 and 2 (section 4), these findings suggest that the overarching context of politics might have, in fact, overridden any other conceptual operations that were activated – including the conceptual mappings. Therefore, we must opt for a more *moderate* interpretation of the obtained data. Namely, the present experimental setup could not be used to identify the presence of conceptual mappings, and it suggests that it was the overarching context of politics (essentially introduced by both types of congruent primes) that played the dominant role in decision-making in the main task. Still, while the present findings do not offer evidence that would conclusively dismiss the construct of conceptual mappings as psychologically implausible, they do seem to cast some doubt on the construct and its true nature. This particular issue, however, remains to be addressed in future research.

5.5.2 EXPERIMENT 6

Experiment 6 was designed to explore the judgments of contextual aptness of target metaphorical sentences containing metaphorical expressions from the conceptual key POLITICS IS MOTION, in three priming conditions. These also involved *congruent metaphorical, congruent literal,* and *incongruent* conditions. The obtained results are discussed here in relation to the five main research questions outlined above.

RQ1: Will there be a difference in the level of contextual aptness of targets in the two experiments between congruent metaphorical and congruent literal priming conditions, reflected in the differences in RTs?

The obtained results did not reveal differences in the recorded RTs between the two congruent conditions, and this was confirmed both in the analysis of the overall mean tendencies, and in by-item analyses (apart from targets 7 and 14, outlined in the by-item analysis above). Such data suggest that both metaphorical and literal primes afforded equally good contextualizations; as a result, almost all targets were assessed as equally apt under the corresponding contextualizations. In other words, the expectancies generated by the primes were satisfied in both congruent priming conditions. Consequently, this yielded equal degrees of facilitation in contextual aptness judgements. The analysis of participants' responses in the binary decision tasks also did not reveal any differences in judgments of contextual aptness.

In spite of the fact that target metaphorical expressions from the present experiment included the organizing frames of both source and target inputs, i.e., the frames of MOTION and POLITICS, respectively, this did not pose as a constraint in the congruent literal condition. Literal primes were organized by the frame of POLITICS, with different specific elements and relations (see Table 5.22 for details). Moreover, metaphorical expressions from target sentences also appeared in the optimal context organized by the frame of POLITICS. In addition, results from Experiments 3 and 4 (section 4) already revealed a higher degree of activation of the frame of POLITICS. Presumably, this frame also contains the conventional metaphorical conceptualizations of politics in general, so the additional frame of MOTION introduced by the targets should not present an issue, especially with meta-pragmatic judgements of contextual aptness. In effect, the overarching frame of POLITICS appears to have rendered the targets equally contextually apt following both literal and metaphorical contextualizations. In effect, it can be concluded that both metaphorical and literal framings offer equally suitable contexts for all targets.

RQ2: Will incongruent priming afford faster or longer RTs in the main task compared to the two congruent priming conditions (i.e., will context work as a pre- or post-decision mechanism in the present experimental setup, and what role might the suppression mechanism play in this process)?

The incongruent condition afforded significantly faster dismissals of target sentences as inapt compared to both congruent conditions. As already mentioned above, bearing in mind that the recorded RTs for targets reflect a combination of sentence reading times and decision-making times, and all three priming conditions involved the same type of decision making, we hypothesize that
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participants did not actually need to read the entire sentences in the incongruent condition in order to realize that targets were contextually inapt. This suggests that context serves as a pre-decision mechanism, included in the contextual aptness judgment task from the very onset of the target sentence. However, it needs to be stressed that such conclusions are confounded by the nature of the main task. The results also imply that the information is processed incrementally, and the semantic meta-decision does not require that the entire target sentence be processed first.
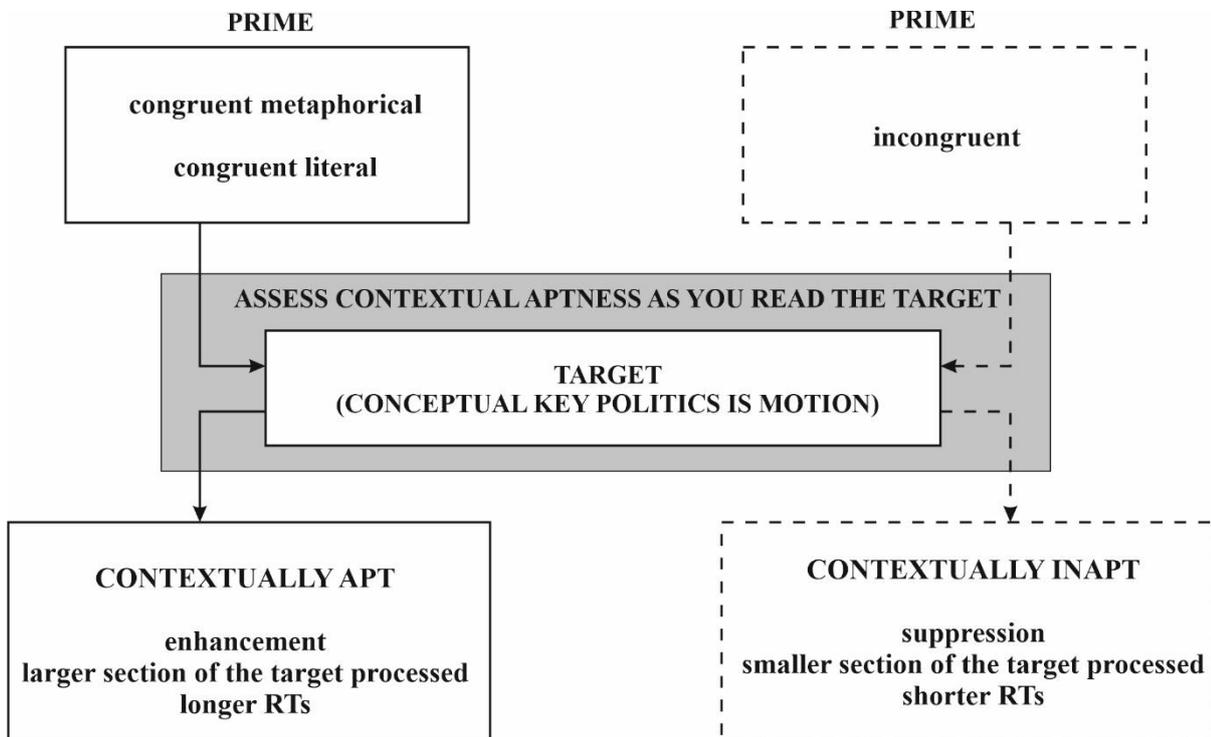
Figure 5.15. Generalized schematics for congruent and incongruent priming conditions

The nature of the main task also seems to have afforded a very pronounced role of the mechanism of suppression in the incongruent condition. A shift in the process of structure building might be primarily associated with processing lags. The incongruency between the previously constructed structure in the prime, and the incongruent information in the target should lead to processing difficulties. However, our data revealed an opposite trend. Namely, significantly faster decision making was recorded precisely in the incongruent condition. As there were no significant differences in RTs in the two congruent conditions, and bearing in mind that the recorded RTs essentially reflect both reading times and decision-making times, like in Experiment 5, the most plausible explanation here also is that participants did not actually read the entire target sentences in the incongruent condition. This was most likely owing to the fact that there was a high degree of incongruity between primes and targets in the incongruent condition. As a result, decision making

was actually facilitated by the suppression of the irrelevant sentence content. Therefore, we can assume that the mechanism of suppression in this case operated on a meta-pragmatic plain.

In congruent priming conditions, however, participants most likely needed to process the entire target sentence in order to make sure that no incongruencies would appear. This led to significantly longer RTs in the two congruent priming conditions. The fact that the comparison of mean RTs between the two congruent conditions did not yield significance suggests that they were underlain by similar decision-making strategies and, most likely, by similar mechanisms. When viewed from the perspective of structure building, the fact that primes and targets were aligned in terms of frame structure and semantic content suggests that the mechanism of enhancement facilitated the construction of the entire structure. Suppression most likely had a background role in selecting all the relevant elements and relations from the already aligned frames. Although there were no sudden shifts that might have caused delays in processing, participants seem to have required to process a larger amount of information compared to the incongruent condition. Finally, the obtained results should also be understood as highly conditioned by the nature of the main task.

RQ3: Will there be a difference in participants' aptness judgements across the three experimental conditions?

Contextual aptness judgements in the binary decision task did not reveal any significant differences between the two congruent priming conditions. The number of 'apt' responses was significantly higher compared to the number of 'inapt' responses in both conditions. The incongruent condition, on the other hand, showed an inverted trend. Namely, the number of 'inapt' responses was significantly higher compared to the number of 'apt' responses.

RQ4: Will the RT ratio between congruent-incongruent conditions identified for targets also be preserved in the case of additional distractor prime-target pairs?

The results obtained for distractor-primes and distractor-targets pairs in the incongruent priming condition are aligned with the results obtained for targets in the incongruent condition (similar to the trend identified in Experiment 5). Namely, this subset of stimuli also showed significantly shorter RTs recorded in the incongruent condition, which shows that incongruent literal targets were also dismissed as inapt more quickly in the incongruent condition than the congruent targets were assessed as apt in the congruent condition. The proposed role of the mechanism of suppression in facilitating RTs in the incongruent condition also applies here.

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RQ5: Do the obtained results reflect on the construct of conceptual mappings in any way?

The results obtained in Experiment 6 showed a similar trend identified in the previous experiment. Consequently, the conclusions pertaining to the nature and psychological reality of conceptual mappings outlined above also apply here. Namely, the results from Experiment 6 again suggest that the effects of the overarching context of politics that can be identified in both of the two congruent priming conditions seem to override all other effects (including the effects of conceptual mappings if they indeed exist). No facilitation could be identified in the congruent metaphorical priming condition compared to the congruent literal priming condition. Still, we again adopt the *moderate* interpretation of the obtained findings, insofar as the present experimental setup could not offer conclusive evidence against the existence of conceptual mappings due to the afore mentioned override of the general context. Consequently, the psychological status of conceptual mappings should be addressed in more detail in future research.

6. GENERAL DISCUSSION

The present section offers a summary of the most important results obtained in this study, and highlights their connection to the main elements of the theoretical framework. Answers to the main research questions outlined in the three main parts of the study – (i) corpus analysis, (ii) investigation of semantic frame activation and frame interaction via a categorization task, and (iii) investigation into the contextual aptness of metaphorical expressions in congruent and incongruent priming conditions – are also highlighted.

6.1 CORPUS ANALYSIS

As outlined in section 3, the primary purpose of corpus analysis was to ensure the ecological validity of the study. Namely, to circumvent a common fault of psycholinguistic research, where stimuli often do not undergo any norming, are not presented in context, and tend to be artificially constructed (e.g., Cardillo et al. 2010; Hartung et al. 2020; Boeynaems 2017), stimuli (targets and primes) used in Experiments 1–6 were selected from a small specialized corpus of newspaper articles. Such an approach was adopted in order to increase the degree of ecological validity of the study (in the sense of Gouvier, Barker, and Musso 2010; Schmuckler 2001; Diehl, Wall, and Freund 2017; Wilkinson, Ferraro, and Kemp 2017). This entails that the experimental stimuli pose as reliable representatives of instances of actual language use.

Corpus analysis involved a quantitative and qualitative analysis of a small specialized corpus of newspaper articles extracted from the online archives of *The New York Times*. Articles were topically related and dealt with the three presidential debates that took place between Barrack Obama and Mitt Romney during the presidential election campaign in 2012. In the first part of the analysis, individual metaphorically used words were identified. The methodology used in this procedure relied on the MIP (Pragglejaz Group 2007), and MIPVU (Steen et al. 2010). Additionally, we also included the potential image-schematic base of metaphorically used words as an important element in the construal of their potential metaphorical extensions of meaning. The corpus was tagged and prepared for the subsequent quantitative analyses in *WordSmith Tools 6.0* (Scott 2010, 2014; Tribble 2010). The *search over tags* and *dispersion plots* provided an overview of target densities (number of occurrences per 1,000 words) and distributions, both within individual corpus units, and in the entire corpus.

Based on the data obtained in the first part of the analysis, we proceeded to the identification of metaphor clusters. These are understood as groups (of at least three) topically related metaphorically used words. The cluster identification methodology was adopted from Koller (2003), Figar and Antović 2015), and Figar (2019). In brief, the dispersion plots facilitated the identification of article sections with increased target density; in the subsequent step, each potential cluster candidate was explored for topical relatedness of the identified targets to ensure that the section indeed constituted a cluster. Both parts of the analysis involved quantitative and qualitative approaches, and the main aims of this part of the study have been summarized in the following research questions:

RQ1. Which conceptual key showed the highest frequency and the highest density (i.e., count per 1,000 words) in the corpus for individual metaphorical expressions?

RQ2. Which group of metaphor clusters was the most frequent in terms of cluster size?

RQ3. Which group of metaphor clusters was the most frequent in terms of the metaphorical expressions with the highest count in the cluster (i.e., in terms of the dominant conceptual key)? Were there any significant differences in the average cluster size for each metaphor group based on the dominant conceptual key in the cluster?

RQ4. Were there any instances of metaphorical projections of image schemata? How can individual metaphorical expressions be described in qualitative terms?

RQ5. How can the identified clusters be described in qualitative terms in relation to metaphorical framing, mental models, and possible functions of individual metaphorical expressions in the cluster?

The analysis showed that the most frequent metaphorically used words identified in the corpus could be classified as instances of conceptual keys of POLITICS IS CONFLICT, POLITICS IS MOTION, and POLITICS IS A CONTAINER. The identified metaphor clusters showed the highest count of 3-metaphor clusters. Clusters of the size between 3 and 6 metaphorically used words showed a linear decline in the number of occurrences, while larger clusters showed an exponential decline. In terms of the dominant conceptual key, the highest count could be attributed to the conceptual key of CONFLICT/FORCE, followed by the conceptual keys of MOTION, and CONTAINMENT. Additionally,

clusters in which the conceptual key of MOTION was dominant were significantly larger compared to clusters where the conceptual keys of CONFLICT/FORCE, or CONTAINMENT were dominant.

The corpus also showed a pronounced tendency for metaphorical projections of the image schemata of path, containment and force. Path schemata were associated with MOTION metaphors, containment schemata with the conceptualization of events or objects as containers, while force schemata were associated with a range of CONFLICT (and FORCE) metaphors. All these metaphorical projections also exhibited a clustering tendency. It can also be argued that both individual metaphorically used words, and metaphor clusters license metaphorical framings of events. This can also include the proposed construct of metaphorical schemas (Allbritton 1995; Allbritton, McKoon, and Gerrig 1995). Namely, building on the idea of the encyclopedic view of meaning (e.g., Langacker 1987) and frame semantics (Fillmore 1982), individual lexical items should serve as proxies that afford access to larger knowledge structures – in our case semantic frames. In the case of metaphor clusters, multiple metaphors present in the cluster should afford potentially multi-layered metaphorical structuring (i.e., framing) of events (in the sense of Koller 2003). We distinguished between *homogenous clusters* (containing metaphorically used words that belong to the same conceptual key) and *heterogenous clusters* (with metaphorically used words from multiple conceptual keys). Both types of clusters contain highly compatible metaphorical conceptualizations of events, seeing that they are connected by the general context of the political process which they are used to describe.

It needs to be emphasized that our classifications of metaphorically used words according to conceptual metaphors and conceptual keys is not used to confirm the existence of conceptual mappings, but rather as an *operational artefact of analysis*, and a descriptive rather than an explanatory tool (as outlined in section 3.3.2). Namely, linguistic patterns identified in the corpus cannot be extrapolated into evidence that confirm the existence of any underlying conceptual mappings, as this would necessitate additional experimental investigation. Moreover, the psychological reality of such mappings has been questioned in previous research (e.g., Jackendoff and Aron 1991; Murphy 1996, 1997; McGlone 1996, 2007, 2011). Steen (2007) and Steen et al. (2010) also argued that the investigation of conceptual mappings should be conducted separately from the identification of metaphorically used words, as the former inquiry can often cause disagreement between researchers.

Finally, selected metaphorical expressions from the corpus (in sentential contexts), corresponding to the conceptual keys POLITICS IS CONFLICT and POLITICS IS MOTION were used in Experiments 1–6. In the first four experiments these were used as primes in the congruent metaphorical condition, while in the final two experiments they were used both as targets, and as primes in the congruent metaphorical condition. As described in section 3.5.2, all stimuli were first

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translated into Serbian (in line with the general methodology of psycholinguistic research outlined in Kostić 2010). Such an approach bears an important caveat. Namely, our primary goal was to preserve the range of metaphorical conceptualizations identified in English (SL) in their translations into Serbian (TL). In that sense, we focused on dynamic equivalence (in the sense of Nida 2000[1964]) and functional-communicative translation equivalence (Đorđević 2004; Prćić 2005). In some cases, this resulted in the violation of naturalness (Newmark 1988) in the translated sentences. However, all of the initially selected items were subjected to norming procedures before the final selection of experimental stimuli was made. Norming was performed across six dimensions (i.e., *metaphoricity, familiarity, contextual aptness, aptness, comprehensibility,* and *number of possible interpretations*) identified in previous research as relevant for metaphor comprehension. Details about the norming procedures are presented in the following section. Therefore, we feel that despite the certain violations of naturalness, the selected stimuli still satisfy the criterion of ecological validity, as all items were included in the subsequent norming studies where they were assessed by native speakers of Serbian.

6.2 EXPERIMENTS 1–4: SEMANTIC FRAME ACTIVATION, AND FRAME INTERACTION

Experiments 1–4 were designed to tests the activation of semantic frames and to explore the levels of activation of semantic frames that serve as the organizing frames of source and target inputs corresponding to the metaphorically used words selected from the corpus and used as experimental stimuli. Experiments 1 and 2 dealt with metaphorical expressions corresponding to the conceptual key POLITICS IS CONFLICT, while experiments 3 and 4 dealt with metaphorical expressions from the conceptual key POLITICS IS MOTION. Participants were required to perform categorization judgements for target words which appeared after the priming sentences. The experimental setup involved three priming conditions – *congruent metaphorical, congruent literal*, and *incongruent.*

Targets in Experiment 1 were from the semantic frame of CONFLICT, targets in Experiment 3 from the frame of MOTION, while targets in Experiments 2 and 4 were from the frame of POLITICS. All targets were selected after the initial norming procedures where they were rated for prototypicality in relation to their corresponding frames. Additionally, all targets were in Serbian (Table 5.3 and Table 5.6). Priming sentences for the metaphorical congruent conditions were selected from the corpus and translated into Serbian. The sentences (translated into Serbian) were also first included in a norming study, where they were rated (by native speakers of Serbian) along the following six dimensions selected from previous research (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee

2017; Thibodeau and Durgin 2011; Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019): *metaphoricity, familiarity, contextual aptness*, *aptness, comprehensibility, and number of possible interpretations*. The total coefficient for each item was calculated as the sum of overall mean ratings for *metaphoricity, familiarity, contextual aptness*, *aptness,* and *comprehensibility* (in line with the methodology from Stamenković, Milenković, and Dinčić 2019). The first four experiments included sixty top-rated metaphorical sentences from the conceptual keys of CONFLICT and POLITICS, respectively.

Literal primes were constructed as counterparts of their corresponding metaphorical primes. Namely, all metaphorically used words were replaced by words or phrases used in the literal sense. Incongruent primes contained literal statements designed to activate frame-level structures different from the frames to which the targets belonged. The experimental setup also contained an additional set of distractor items (distractor-targets and distractor-primes), all of which appeared in the incongruent condition.

The primary aims of the first four experiments were the following: (i) to compare the effects of metaphorical and literal congruent primes on participants' decision-making speed in the categorization task; (ii) to explore the difference in the effects of congruent and incongruent priming; and (iii) to explore whether priming with identical metaphorical sentences would show any differences in the activation between the organizing frames of the presumed source and target inputs in each of the conceptual keys (i.e., the comparison of the activation levels of the frames of CONFLICT and POLITICS in Experiments 1 and 2, and the frames of MOTION and POLITICS in Experiments 3 and 4).

As a result of such an approach, Experiments 1 and 2 were designed to provide answers to the following research questions:

RQ1. Will there be a significant difference in the overall mean tendencies of RTs recorded in the categorization task between the metaphorical and literal conditions for targets from each of the two respective frames (i.e., CONFLICT and POLITICS)?

RQ2. How will the incongruent priming condition affect participants' decision-making in the main task? Will there be any notable differences compared to the two congruent priming conditions?

RQ3. Will there be a significant difference in RTs in the categorization task for targets from the frames of CONFLICT and POLITICS, respectively, when primed by the same metaphorical sentences?

RQ4. Do the obtained results offer support for any of the metaphor processing models in the domain of psycholinguistics described in section 2.5.2?

RQ5. How can the obtained results be explained in terms of (i) semantic priming, (ii) semantic frames and mental models, and (iii) structure building framework?

The obtained data showed equal degrees of facilitation in decision-making times in both congruent priming conditions. So, even though the metaphorical sentences presumably activate two semantic frames (the organizing frames of the source and target input), this did not lead to processing lags. Most likely, this was due to the conventional nature of the metaphorical expression, as politics is often metaphorically framed as some sort of conflict. Incongruent priming, on the other hand, caused consistent processing lags, revealed in significantly longer decision-making times compared to both of the congruent priming conditions.

Priming with identical metaphorical sentences showed a higher activation of the POLITICS frame compared to the CONFLICT frame, which was revealed by the comparison of the recorded RTs in Experiments 1 and 2. Namely, the recorded RTs were significantly longer for elements from the CONFLICT frame. Such results seem to go in favor of the interaction view of metaphor processing (Richards (1965[1936]; Black 1962; Tourangeau and Sternberg 1981, 1982; Sternberg and Nigro 1983; Trick and Katz 1986; Kelly and Keil 1987). Namely, the identified differences in RTs in our experiments are understood as correlates of the level of activation, insofar as the frame with the higher level of activation should afford easier access. In effect, different activation levels imply that there should be a certain degree of interaction between the frames as well. While the obtained data suggest that the two frames (CONFLICT and POLITICS) indeed seem to be activated by the metaphorical priming sentences, they do not reflect on the psychological plausibility nor the nature of the construct of conceptual mappings proposed by the conceptual mapping view of metaphor processing.

In the context of semantic priming, the priming sentences are expected to activate the relevant frame-level structures to which the individual lexical items from the sentences belong. Consequently, when target words are congruent with the primes, decision-making in the categorization task is facilitated, compared to the incongruent condition. Namely, incongruent primes most likely require that the initially activated traces be first deleted from working memory so that the relevant background structures, against which a categorization decision can be made, can be accessed. This, in turn, leads to a processing lag reflected in significantly longer RTs. Also, the primes give way to coherent mental models. The subsequently presented information is integrated into the initial model more easily. If the subsequently presented target is incongruent, this leads to a processing lag. In terms of the structure building framework, decision-making in congruent conditions is facilitated by

the enhancement mechanism. On the other hand, in incongruent conditions, the suppression mechanism appears to be more dominant, and it first pushes the irrelevant content constructed based on the prime into the background. This, in turn, explains the longer decision-making times in the incongruent condition.

Experiments 3 and 4 aimed to provide answers to the following research questions:

RQ1. Will there be a significant difference in the overall mean tendencies of RTs recorded in the main task between the two congruent priming conditions for targets from each of the two respective frames (i.e., MOTION and POLITICS)? Will the results differ from those obtained in Experiments 1 and 2?

RQ2. How will the incongruent priming condition affect participants' decision-making in the main task? Will incongruent priming cause a similar processing lag like in the first two experiments?

RQ3. Will there be a significant difference in RTs in the categorization task for targets from the frames of MOTION and POLITICS, respectively, when primed by the same metaphorical sentences? Will the difference in the level of activation between the organizing frames of source and target inputs identified for the conceptual key POLITICS IS CONFLICT also be identified here?

RQ4. Will there be a difference in the level of activation of the semantic frame of POLITICS between the condition of metaphorical priming with metaphorical expressions from the conceptual key POLITICS IS CONFLICT (Experiment 2) and those from the conceptual key POLITICS IS MOTION (Experiment 4)?

RQ5. Will the obtained results also offer support for the interaction view of metaphor processing (similar to Experiments 1 and 2)?

RQ6. How can the obtained results be explained in terms of (i) semantic priming, (ii) semantic frames and mental models, and (iii) structure building framework?

The trend identified for the two types of congruent primes in the first two experiments was confirmed in Experiments 3 and 4. Namely, both metaphorical and literal congruent primes produced similar effects, and the difference in the recorded RTs in the two conditions did not reach significance. Incongruent priming also caused a consistent processing lag in the main task, reflected in significantly

longer decision-making times. In terms of the level of activation of the organizing frames of the source (MOTION) and target inputs (POLITICS) in conceptual metaphors, a higher level of activation was identified for the frame of POLITICS. This also replicates the results obtained for metaphorical expressions that instantiate the conceptual key of CONFLICT, analyzed in the first two experiments.

Also, the comparison of results obtained from Experiments 2 and 4, both of which included the categorization task for elements from the frame of politics with primes belonging to the conceptual key of CONFLICT (Experiment 2) and MOTION (Experiment 4), did not reveal any differences in the recorded response times. This suggests that both types of metaphorical expressions afford equal degrees of activation of the organizing frame of the target input (i.e., POLITICS). Once again, both types of metaphorical expressions also showed a higher level of activation of the organizing frame of the target input. Similar to the first two experiments, the obtained results appear to support the interaction view of metaphor processing. Again, the activation of semantic frames does not entail the construction of conceptual mappings.

Finally, the congruent primes produced facilitation in the main task as the expectancies generated by the primes were aligned with the frame-membership of the subsequently presented targets. The significantly longer RTs recorded for incongruent primes, on the other hand, can be understood as the result of the violation of expectancies. Again, incongruent conditions also most likely prompted the mechanism of suppression which deleted the irrelevant content that halted decision-making. In congruent conditions, the enhancement mechanism foregrounded the relevant content, thereby affording faster decision-making.

6.3 EXPERIMENTS 5 AND 6: CONTEXTUAL APTNESS OF METAPHORICAL EXPRESSIONS

Experiments 5 and 6 were designed to test the contextual aptness of metaphorical expression in optimal contexts in three experimental conditions: congruent metaphorical priming, congruent literal priming, and incongruent priming. In order to ensure the ecological validity of the study, targets were selected from a small specialized corpus of newspaper articles dealing with the presidential debates in the US in 2012. All targets were selected from the corpus, translated into Serbian, and included in the norming procedures. Norming was performed on six dimensions identified in previous research (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011;

Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019): *metaphoricity, familiarity, contextual aptness*, *aptness, comprehensibility, and number of possible interpretations*. Based on the obtained mean values for each dimension, we also calculated the total coefficient for each item, as the sum of overall mean ratings for *metaphoricity, familiarity, contextual aptness*, *aptness,* and *comprehensibility.* Experiment 5 included 7 top-, middle, and low-rated items from the conceptual key POLITICS IS CONFLICT. Targets used in Experiment 6 were selected following the same procedure, and they represented instances of the conceptual key POLITICS IS MOTION.

Congruent metaphorical primes represented homogenous metaphor clusters, and they were constructed based on the overall clustering tendency identified in the corpus. In order to reduce *noise*, we opted for homogenous clusters – i.e., clusters in which all metaphorical expressions correspond to the same conceptual key. In Experiment 5, that was the conceptual key of CONFLICT, whereas in Experiment 6, it was the conceptual key of MOTION. All clusters were represented as three-sentence-long paragraphs. Their literal counterparts were designed by replacing the metaphorically used words with items used in the literal sense. Incongruent priming paragraphs contained literal, factual information, and they were designed to activate different semantic frames from those activated by the target sentences. The primary aims of Experiments 5 and 6 were to compare the effects of congruent metaphorical and congruent literal priming, as well as the effects of incongruent priming in relation to the congruent condition. Consequently, Experiments 5 and 6 were designed in an attempt to provide answers to the following research questions:

> **RQ1:** Will there be a difference in the level of contextual aptness of targets in the two experiments between congruent metaphorical and congruent literal priming conditions, reflected in the differences in RTs?

> **RQ2:** Will incongruent priming afford faster or longer RTs in the main task compared to the two congruent priming conditions (i.e., will context work as a pre- or post-decision mechanism in the present experimental setup, and what role might the suppression mechanism play in this process)?

> **RQ3:** Will there be a difference in participants' contextual aptness judgements across the three experimental conditions?

> **RQ4:** Will the RT ratio between congruent-incongruent conditions identified for targets also be preserved in the case of additional distractor prime-target pairs?

RQ5: Do the obtained results reflect on the construct of conceptual mappings in any way?

Results obtained in Experiments 5 and 6 did not reveal any differences in contextual aptness of target metaphorical sentences in the two congruent conditions. Namely, the difference in the overall mean RTs recorded in the metaphorical congruent priming condition and the literal congruent conditions was not significant. In cases of metaphorical congruent priming, primes represented homogenous metaphor clusters in context, and each prime consisted of a three-sentence-long paragraph. In Experiment 5, the homogenous clusters included metaphorical expressions from the conceptual key of CONFLICT, and the subsequently presented targets also contained metaphorical expressions from the same conceptual key. In effect, the complete model (in the sense of the event indexing model, EIM) can also be understood as a homogenous metaphor cluster. Owing to the alignment of metaphorical framings (or metaphorical schemas, in the sense of Allbritton 1995), the target could be easily incorporated into the structure of the integrated model constructed based on the priming paragraph. Moreover, the process was most likely facilitated by the mechanism of enhancement, in the sense that the relevant information was foregrounded. This, in turn, facilitated participants' assessment of the targets as contextually apt. A similar trend was identified in Experiment 6, for metaphorical expressions from the conceptual key of MOTION.

In the case of literal congruent priming, primes were also three-sentence-long paragraphs, but they contained only literal references to the frame of POLITICS. The same targets were used in all priming conditions. Again, the mental models constructed based on the content of the primes were coherent, and dealt with the topic of politics, and they gave way to the integrated model. Targets contained metaphorical conceptualizations of the political process, but, essentially, they also dealt with the general topic of politics. Consequently, literal primes provided equally good congruent framings into which the target sentences could be easily incorporated, and the recorded decision-making times in this condition did not differ from those recorded for metaphorical priming. In other words, the expectancies generated by the priming paragraphs in the two congruent priming conditions were not violated by the content of the targets. The fact that both congruent conditions provided similar facilitation in the main task can be attributed to the overarching context of politics that operated on a meta-pragmatic level. Additionally, all metaphorical expressions were highly conventional, and they represented common metaphorical conceptualizations of the political process. Importantly, they all referred to the same (or similar) target inputs.

The incongruent condition, on the other hand, showed significantly shorter decision-making times in both experiments. Namely, paragraphs used in the incongruent priming conditions were

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designed to activate different semantic frames compared to those activated by the target sentences. The integrated model constructed based on the content of incongruent primes was coherent, but the subsequently introduced targets gave way to an incoherent complete model. Judging by the significantly shorter decision-making times in this condition, it was most likely the suppression mechanism that afforded faster dismissals of targets as contextually inapt. Moreover, bearing in mind the nature of the main task (i.e., judgments of contextual aptness), the participants most likely did not need to process the entire target sentences to be able to assess whether they were appropriate in the given contexts. Namely, since the primes afforded sufficient contextualization, and since the sentences are processed incrementally, the participants could decide quite early, having processed only the initial sections of the target, that it was contextually inapt. In congruent priming conditions, on the other hand, the participants needed to process larger sections of targets in order to make sure that the sentence was indeed contextually apt. This led to longer decision-making times.

The same difference in the recorded RTs between congruent and incongruent conditions recorded for target items was also identified for the pairs of distractor-primes and distractor-targets. Namely, RTs in the congruent conditions were significantly longer. All conclusions presented in the analysis of the main target items also apply here. The analysis of apt/inapt responses showed significantly higher counts of apt responses in the two congruent conditions, while the incongruent conditions showed an opposite trend. Additionally, there were no differences in the assessment of contextual aptness between the two congruent conditions.

Finally, one important research question concerns the psychological status of conceptual mappings. If conceptual mappings indeed exist, and are activated by metaphorical expressions found in ongoing discourse, then the homogenous clusters contained in congruent metaphorical primes should enhance the activation of such mappings. In turn, the target sentences should be more easily integrated into such structures, since the targets, too, presumably contain similar mappings. This is due to the fact that in each of the two experiments targets and primes instantiated the same conceptual key (CONFLICT in Experiment 5, and MOTION in Experiment 6). Congruent literal primes, on the other hand, did not contain any instances of metaphorical language use, and, consequently, the targets should not be integrated as easily as in the case of priming with homogenous metaphor clusters – assuming that conceptual mappings are indeed activated by metaphorical expressions, and that they indeed influence human thought and reasoning. However, as discussed above, both congruent priming conditions produced similar effects – i.e., the expected facilitation in the metaphorical condition compared to the literal condition could not be identified.

Still, as discussed in section 5.3, we have adopted a more moderate interpretation of the obtained data. Namely, while the present experimental setup could not be used to identify the existence of conceptual mappings, it could neither be used to offer a conclusive argument that the

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mappings do not exist and that they do not operate under some more specific conditions. In our case, specifically, the overarching role of context might have served as an override, insofar as semantic priming, contextualization, and access to the relevant semantic frames might have been sufficient for making the contextual aptness decision in the main task. The dominant role of the frame of POLITICS has already been identified in the first two experiments, where priming with identical metaphorical sentences showed higher levels of activation of the frame of POLITICS for both conceptual keys (POLITICS IS CONFLICT and POLITICS IS MOTION). In turn, higher activation of the POLITICS frame in the homogenous clusters used as primes in Experiment 5 and 6, coupled with the dominant role of the overarching context of politics could have easily rendered all other conceptual operations (including the presumed conceptual mappings) redundant. However, without conclusive evidence, we still understand the proposed classification of metaphorical expressions in terms of conceptual metaphors and conceptual keys as an *operational artefact of analysis*, and as a *descriptive*, rather than an *explanatory* tool.

For instance, McCabe (1983) also argues that the experimental setup and the manner in which the stimuli are presented can affect the outcome of the experiment. Gong and Ahrens (2007) share a similar view, in that they propose that the nature and type of the main experimental task can affect the obtained results. Specifically, Gong and Ahrens (2007) showed that the presentation of stimuli affected the activation of conceptual mappings. However, their study showed that the presentation of materials as complete paragraphs facilitated the activation of conceptual mappings, while line-by-line presentation did not reveal such activation. In our case, the priming paragraphs were presented as complete, not in a line-by-line fashion, but we could not identify the activation of conceptual mappings. As argued in section 2.6, Nayak and Gibbs (1990) and the follow-up study by Gong and Ahrens (2007) compared only the effects of congruent and incongruent priming, while they failed to compare the effects of metaphorical and the corresponding literal primes, which should actually reveal the activation of conceptual mappings if these indeed exist. Our experimental setup remedied that methodological fault by including the condition with congruent literal priming. However, as already shown, the comparison with metaphorical priming did not reveal any differences.

Additionally, the difference in the nature of the main task and how it can structure the results is also evident in our study. In the first four experiments, incongruent priming produced a processing lag, reflected in significantly longer RTs recorded in that condition. In the final two experiments, on the contrary, the incongruent priming afforded significantly shorter decision-making times. The difference can be attribute to the (i) type of target stimuli, and (ii) the nature of the main task.

The first four experiments included a categorization task, with single words as targets. Additionally, primes were single sentences, and after reading the prime, participants (most likely) needed to read the entire target word before making a judgement whether it was a good representative

of the category in question or not. In the incongruent condition, the incongruent prime afforded the activation of frames unrelated to the target word. This created traces in working memory which needed to be deleted so that the appropriate background knowledge structure, against which the goodness-of-membership comparison was made, could be accessed. In turn, this was reflected in longer decision-making times. In Experiments 5 and 6, the main task included a meta-pragmatic decision concerning contextual appropriateness of target items in relation to the antecedent context. As argued above, the incongruent priming paragraph provided sufficient context, so that participants could assess the subsequent target as contextually inapt very early. What is more, they most likely did not need to process the entire target sentence. With congruent priming, on the other hand, although the process was facilitated by the enhancement mechanism and no additional substructures needed to be constructed, the participants still needed to process a larger section of the target sentence (if not the entire sentence) in order to make sure that it did not contain any unexpected semantic anomalies. This resulted in significantly longer RTs in the two congruent conditions. Consequently, even similar experimental setups with similar priming conditions can reveal different effects due to the difference in the nature of the main task, and types of stimuli used. Also, in an earlier study (Figar 2020), we showed that the nature of the main task can also affect the identification of the activation of semantic frames. Namely, the results obtained in Figar (2020) suggested that the categorization task was a more suitable task for testing the activation of semantic frames in a response-time paradigm that included semantic priming, compared to the lexical decision task.

7. CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

One of the primary methodological goals of the present study was to ensure the appropriate level of ecological validity (in the sense of Gouvier, Barker, and Musso 2010; Schmuckler 2001; Diehl, Wall, and Freund 2017). To achieve that, all metaphorical sentences were extracted from a corpus of newspaper articles, as newspaper language reflects everyday language use. Additionally, all items were included in the norming studies which involved ratings on Likert scales for the following six dimensions: *metaphoricity, familiarity, contextual aptness*, *aptness, comprehensibility, and number of possible interpretations* (Tourangeau and Sternberg 1981; Katz et al. 1988; Tourangeau and Rips 1991; Blasko and Connine 1993; Torreano, Cacciari, and Glucksberg 2005; Jones and Estes 2006; Pierce and Chiappe 2009; Cardillo et al. 2010; Cardillo, Watson, and Chatterjee 2017; Thibodeau and Durgin 2011; Roncero and de Almeida 2015; Stamenković, Milenković, and Dinčić 2019). Since all participants were native speakers of Serbian, all items were first translated into Serbian, following the methodological guidelines presented in section 3.5.2. To ensure that there was minimal convergence between the source (SL) and target language (TL), we tried to preserve all individual instances of metaphorically used words from English as much as possible. In some cases, such an approach rendered some of the sentences not as natural as they should sound; however, all of the items were included in the norming study where they were assessed by native speakers of Serbian, and it was only after norming that they were included in the lists of experimental stimuli. Consequently, we feel that any potential violations of naturalness in TL have been remedied in the norming procedures. Still, the translation procedure poses as a limitation of the present study, which can be remedied in future research by selecting stimuli from a corpus of materials written in Serbian. Individual words used as targets in the first four experiments were also first included in the norming studies where they were rated for prototypicality in relation to their corresponding categories. Overall, such an approach to the selection of experimental stimuli should afford a satisfactory level of ecological validity.

Another important point has to do with the classification of metaphorical expressions as instances of the corresponding conceptual metaphors and conceptual keys. As pointed out on several occasions, the annotation that we adopted should be understood as an operational artefact of analysis, and as a mere descriptive tool. Such a position is in line with Steen (2007) and Steen et sl. (2010) who highlight the difficulties in the identification of conceptual mappings, which should be addressed as a separate line of research. Also, the psychological validity of the construct of conceptual mappings is still under debate (Jackendoff and Aron 1991; Murphy 1996, 1997; McGlone 1996, 2007, 2011). As a result, the metaphorically used words identified in the corpus have not been used to validate the

existence of any underlying conceptualizations, as this would constitute the case of circular reasoning. Namely, such an approach would entail that we start with the idea that conceptual mappings (and conceptual metaphors) exist as psychologically real entities, use those conceptual patterns to identify the corresponding metaphorical expressions, and then rely on the existence of those expressions and present them as proof for the existence of the presumed mappings. To avoid this *trap*, we adopted a bottom-up approach (Pragglejaz Group 2007; Steen et al. 2010) where first all instances of metaphorically used words are identified. Recognizing the fact that our corpus did in fact reveal a set of linguistics patterns (reflected both in individual metaphorically used words and in the overall clustering tendency), we decided to classify the identified items into groups. However, the overarching conceptualizations that we used served a mere descriptive purpose, as they represented provisional, operational classifications of the identified items. As such, they do not have any explanatory value, nor can they be used to confirm the existence of conceptual mappings.

Such a position is further supported by the data obtained in Experiments 5 and 6, where priming with congruent, homogenous metaphor clusters and priming with corresponding literal paragraphs did not show any differences in participants' decision-making speed in the main task. If conceptual mappings had been activated, the participants would have, most likely, experienced facilitation in the condition with metaphorical priming (seeing that both the prime and the target contained metaphorical expressions from the same conceptual key). Still, as argued above, we also recognize the possibility that the activation of the mappings might not have been identified owing to the dominant role of discourse context, or the nature of the main task. Without conclusive evidence, we adopt a more moderate stance and conclude that our experimental setup could not reveal the activation of conceptual mappings, and that we cannot offer any evidence that would increase the degree of explanatory value of the construct.

The first four experiments, on the other hand, did offer evidence that suggest that the lexical-semantic content of the metaphorical sentences used as primes indeed seems to activate the semantic frames corresponding to the organizing frames of source and target input spaces. Moreover, the analysis showed a higher level of activation attributed to the frame of POLITICS, both for metaphorical expressions from the conceptual key POLITICS IS CONFLICT (Experiments 1 and 2), and for metaphorical expressions from the conceptual key POLITICS IS MOTION (Experiments 3 and 4). Incongruent priming in these experiments caused consistent processing lags, and the difference in response times compared to the congruent conditions reached significance. Such results offer evidence in favor of the interactional models of metaphor processing (Richards 1965[1936]; Black 1962; Trick and Katz 1986; Kelly and Keil 1987; Tourangeau and Sternberg), insofar as different levels of activation of the two frames should entail at least a certain degree of interaction.

Based on the obtained data we can also conclude that the precise effects of incongruent priming pose as a function of the nature of the main task and the type of experimental stimuli used. In the first four experiments the main task included categorization judgments after priming with metaphorical congruent, literal congruent, and incongruent sentences. The results showed processing lags that caused significantly longer decision-making times in the incongruent condition compared to congruent priming. Additionally, in the first four experiments participants needed to process the entire target words before making a categorization judgement. In the final two experiments, the main task included pragmatic assessments of contextual appropriateness of target metaphorical expressions after priming with metaphorical congruent, literal congruent, and incongruent paragraphs. Decision-making times in the incongruent condition in Experiments 5 and 6 were significantly shorter compared to conditions with congruent priming. This was most likely due to the fact that main task that involved contextual aptness judgments did not require the participants to process entire target sentences. Instead, the contextualization created by the prime allowed them to dismiss targets as inapt very early.

One of the possible directions for future research could include the investigation of novel metaphors. Namely, the level of conventionality poses as an important constraint for metaphor processing, and it may prove to be a more successful arena for the identification of conceptual mappings. With entrenched metaphors, conceptual patterns (if they are psychologically real) most likely function as automated gestalts that are simply recruited from long-term memory and do not require any additional computations, nor the construction of the mappings (Coulson and Oakley 2005). Novel metaphors, on the other hand, should be less familiar, perceived as more metaphorical, possibly less apt, while their contextual aptness could be assessed against different types of primes with different levels of congruency.

Future research could also include participants from different age groups (both younger and older). This could reveal any possible differences in categorization judgements and understanding of contextual aptness between the age groups. Also, a study could be conducted completely in English, and the findings would serve as a base for improving and adapting materials and methodologies for teaching English as a foreign language. In addition, the online study that has been conducted could be coupled with an offline questionnaire-based study in which participants would rate the goodness-of-category-membership and degree of contextual aptness on Likert scale. Results obtained in the two setups would then be compared in order to determine the degree of convergent validity of findings.

The present study could also be expanded in order to include additional experimental conditions that would involve literal target sentences. In that way, we could also compare the degree of contextual aptness of literal targets in the conditions with metaphorical and literal congruent

priming, and see whether they exhibit any differences compared to metaphorical targets. Also, another line of research could include a novel methodology involving an eye tracking paradigm. In addition to measuring participants' response times, such experimental setup could reveal the lexical elements or text segments on which participants spend the most time. Such data could serve to identify section of the text associated with either processing difficulties, or high import for meaning construction and decision making in the experimental task.

Overall, we can conclude that the methodology and procedures applied for the selection and norming of experimental stimuli have afforded a high level of ecological validity of the study. In turn, this also increases the explanatory value of the presented conclusions. This primarily pertains to the comparison of the effects of congruent metaphorical and literal priming, incongruent priming, and the potential to identify the levels of activation of semantic frames in an online semantic priming paradigm with a categorization task. However, certain concepts, i.e., conceptual mappings, remain at the level of a descriptive tool, and should be addressed in future research. Finally, the effects of framing and contextualization seem to operate on a meta-pragmatic level, providing at the same the background against which decision-making is taking place, and the substrate for that very same decision making. While the notion of context still appears as elusive as ever, primarily owing to its dynamic, multi-faceted, and multi-layered structure that seems to avoid any rigid definitions, the constructs of contextualization and framing seem to work as a Trojan horse, offering a back door through which certain aspects of context can be approached and studied in more detail. This should offer more comprehensive understanding of the notion of context, and clearer insight into the process of contextualized meaning construction in general.

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NORMING STUDY, CATEGORIZATION **CONFLICT**

No.	TARGET	M	SD	No.	TARGET	M	SD
1.	sukob	6.00	0.00	36.	udar	4.00	1.20
2.	konflikt	5.64	0.54	37.	metež	3.97	1.22
3.	rat	5.56	0.67	38.	osvajanje	3.94	1.15
4.	bitka	5.55	0.62	39.	nasrtaj	3.92	1.27
5.	boj	5.50	0.67	40.	pucanj	3.92	1.38
6.	borba	5.42	0.71	41.	oružje	3.92	1.44
7.	svađa	5.34	0.70	42.	neprijatelj	3.92	1.42
8.	okršaj	5.27	0.72	43.	pucnjava	3.86	1.33
9.	dvoboj	5.11	0.92	44.	agresija	3.83	1.28
10.	obračun	5.06	0.89	45.	kolizija	3.81	1.24
11.	kavga	4.89	0.98	46.	ratobornost	3.78	1.05
12.	ratište	4.86	0.99	47.	protivnik	3.75	1.48
13.	tuča	4.86	1.17	48.	mržnja	3.72	1.16
14.	rasprava	4.83	1.06	49.	borbenost	3.67	1.26
15.	bojište	4.72	0.97	50.	žrtva	3.64	1.61
16.	prepirka	4.70	0.98	51.	juriš	3.58	1.20
17.	spor	4.66	0.97	52.	uzurpator	3.57	1.36
18.	megdan	4.62	1.07	53.	pobeda	3.56	1.59
19.	zavada	4.60	1.09	54.	rafal	3.56	1.27
20.	napad	4.58	1.32	55.	agresor	3.56	1.42
21.	raskol	4.57	1.01	56.	nasilnik	3.53	1.38
22.	atak	4.54	1.17	57.	vojska	3.50	1.63
23.	rivalstvo	4.47	1.00	58.	prepad	3.47	0.98
24.	nasilje	4.47	0.95	59.	razornost	3.45	0.97
25.	nesporazum	4.34	1.08	60.	vojnik	3.39	1.55
26.	koškanje	4.33	0.82	61.	prevara	3.39	0.84
27.	nesloga	4.29	0.94	62.	armija	3.36	1.48
28.	razdor	4.26	1.15	63.	ratnik	3.36	1.53
29.	razmirica	4.25	1.13	64.	strategija	3.33	1.39
30.	razaranje	4.19	1.37	65.	slom	3.33	1.47
31.	agresivnost	4.11	1.09	66.	streljanje	3.31	1.39
32.	udarac	4.08	1.23	67.	bojišnica	3.31	1.43
33.	front	4.06	1.17	68.	navala	3.28	1.28
34.	napadač	4.03	1.18	69.	izdaja	3.28	1.26
35.	ofanziva	4.03	1.03	70.	poraz	3.26	1.42

No.	Target	M	SD	No.	Target	M	SD
71.	oprečnost	3.26	1.42	110.	starešina	2.26	0.90
72.	nadmoc	3.22	1.22	111.	umiranje	2.25	1.11
73.	trvenje	3.21	1.32	112.	izdisanje	2.08	0.91
74.	otimač	3.19	1.33				
75.	nož	3.17	1.23				
76.	makljaža	3.14	1.44				
77.	arsenal	3.11	1.41				
78.	sila	3.08	1.34				
79.	gubitak	3.06	1.49				
80.	krah	3.03	1.10				
81.	municija	3.03	1.48				
82.	pešadija	3.00	1.43				
83.	koplje	3.00	1.07				
84.	taktika	2.94	1.29				
85.	primirje	2.94	1.71				
86.	uništenje	2.94	1.17				
87.	metak	2.94	1.45				
88.	diverzija	2.94	1.07				
89.	bajonet	2.92	1.38				
90.	puška	2.91	1.46				
91.	mač	2.89	1.39				
92.	strelac	2.89	1.17				
93.	četa	2.89	1.35				
94.	smrt	2.69	1.53				
95.	zatišje	2.67	1.41				
96.	pukovnik	2.62	1.04				
97.	najamnik	2.61	0.99				
98.	konjica	2.61	0.97				
99.	porucnik	2.59	1.05				
100.	trupa	2.58	1.03				
101.	zapovednik	2.58	1.00				
102.	odred	2.55	1.00				
103.	mir	2.53	1.46				
104.	major	2.50	1.05				
105.	propast	2.50	1.05				
106.	general	2.46	1.12				
107.	oficir	2.45	1.00				
108.	kapetan	2.40	1.06				
109.	vodja	2.37	1.00				

No.	Target	M	SD	No.	Target	M	SD
36.	putovanje	5.51	0.63	110	skretanje	3.78	1.19
37.	putnik	5.40	0.76	111	obilazak	3.76	1.32
38.	hodanje	5.33	0.75	112	lutanje	3.69	1.24
39.	kretanje	5.13	1.11	113	puzanje	3.68	0.99
40.	šetnja	4.88	0.86	114	kotrljanje	3.68	0.91
41.	korak	4.86	0.85	115	saobraćaj	3.67	1.79
42.	šetanje	4.83	1.14	116	gmizanje	3.65	1.45
43.	let	4.67	1.28	117	trka	3.65	1.49
44.	put	4.65	1.46	118	cilj	3.63	1.48
45.	vožnja	4.63	1.00	119	ćopanje	3.62	0.99
46.	transport	4.59	1.04	120	smucanje	3.62	0.96
47.	prevoz	4.52	1.30	121	tumaranje	3.61	1.07
48.	staza	4.48	0.94	122	strujanje	3.61	0.89
49.	plovidba	4.45	0.98	123	prelazak	3.61	1.37
50.	krstarenje	4.40	1.20	124	hramanje	3.61	1.31
51.	pravac	4.28	0.88	125	okretnost	3.61	0.97
52.	brzina	4.11	1.37	126	šepanje	3.60	1.08
53.	prevoženje	4.11	1.40	127	žurba	3.59	1.50
54.	jurcanje	4.07	1.06	128	klizanje	3.58	1.28
55.	pomak	4.00	1.25	129	mrdanje	3.58	0.96
56.	pokret	3.98	1.51	130	geganje	3.55	1.02
57.	odredište	3.98	1.47	131	ubrzanje	3.54	0.90
58.	poletanje	3.96	1.23	132	ples	3.52	1.70
59.	preletanje	3.95	1.14	133	izlazak	3.50	1.43
60.	ruta	3.93	1.39	134	maršuta	3.50	1.04
61.	putanja	3.91	1.56	135	okret	3.47	1.29
62.	smer	3.89	1.54	136	okretanje	3.43	0.94
63.	pokretljivost	3.86	0.98	137	hitrost	3.43	0.93
64.	dolazak	3.85	1.37	138	tok	3.41	1.07
65.	odlazak	3.84	1.40	139	puteljak	3.39	1.53
66.	sletanje	3.84	1.40	140	prolazak	3.35	1.32
67.	majanje	3.82	1.34	141	obrtanje	3.32	0.96
68.	odmicanje	3.82	0.90	142	vucaranje	3.30	0.96
69.	kruženje	3.80	1.22	143	krivina	3.28	1.52
70.	polazak	3.80	1.24	144	transfer	3.28	1.17

NO.	TARGET	M	SD	NO.	TARGET	M	SD
145.	daljina	3.26	1.50	110.	batrganje	2.41	0.95
146.	promenada	3.26	1.51	111.	punkt	2.41	1.27
147.	vrtenje	3.24	1.34	112.	pozicija	2.40	1.03
148.	turneja	3.20	1.31	113.	trag	2.18	1.21
149.	lunjanje	3.17	1.27	114.	tačka	2.00	1.30
150.	prelaz	3.17	1.20				
151.	migoljenje	3.15	1.17				
152.	vrzmanje	3.15	1.33				
153.	tura	3.13	1.31				
154.	krivuljanje	3.11	1.13				
155.	protok	3.09	1.35				
156.	ševrdanje	3.07	1.21				
157.	koridor	3.07	1.32				
158.	hodočašće	3.07	1.50				
159.	udaljenost	3.07	1.36				
160.	rotacija	3.07	1.14				
161.	zaokret	3.04	1.23				
162.	gaženje	3.04	1.23				
163.	safari	3.00	1.63				
164.	lelujanje	2.96	1.37				
165.	njihanje	2.96	1.25				
166.	lokacija	2.96	1.56				
167.	prolaz	2.96	1.09				
168.	magistrala	2.93	1.50				
169.	agilnost	2.93	1.45				
170.	guranje	2.91	1.36				
171.	cunjanje	2.87	1.17				
172.	zanošenje	2.87	1.20				
173.	vijorenje	2.85	1.23				
174.	mesto	2.83	1.52				
175.	stajanje	2.80	1.51				
176.	raskršće	2.67	1.32				
177.	prostor	2.67	1.40				
178.	bauljanje	2.65	1.09				
179.	položaj	2.59	1.34				
180.	potucanje	2.59	1.33				
181.	šaranje	2.54	1.26				
182.	prilaz	2.49	1.03				
183.	zastoj	2.48	1.22				

No.	TARGET	M	SD	No.	TARGET	M	SD
71.	demokratija	6.00	0.00	184	ustav	5.10	1.14
72.	političar	6.00	0.00	185	desnica	5.10	1.27
73.	politika	6.00	0.00	186	liberalizam	5.06	1.24
74.	premijer	5.96	0.19	187	glasanje	5.03	1.11
75.	parlament	5.84	0.37	188	pregovori	4.97	1.05
76.	referendum	5.82	0.39	189	demonstracije	4.94	1.12
77.	ministar	5.67	0.61	190	režim	4.87	1.31
78.	politizacija	5.66	0.61	191	birokratija	4.84	1.29
79.	poslanik	5.65	0.55	192	ambasada	4.81	1.25
80.	partija	5.63	0.61	193	akt	4.79	0.99
81.	potpredsednik	5.62	0.73	194	sekretarijat	4.77	1.26
82.	predsednik	5.61	0.76	195	glasači	4.77	1.48
83.	koalicija	5.60	0.56	196	glasač	4.77	1.36
84.	socijalizam	5.59	0.64	197	birači	4.77	1.57
85.	republika	5.57	0.69	198	kandidat	4.74	1.15
86.	politikant	5.54	0.74	199	uređenje	4.71	0.90
87.	skupština	5.54	0.69	200	miting	4.71	1.16
88.	kandidovanje	5.53	0.68	201	aktivista	4.68	1.05
89.	diplomatija	5.53	0.82	202	zakonodavstvo	4.68	1.40
90.	ministarstvo	5.52	0.63	203	sekretar	4.68	1.11
91.	vlast	5.50	0.69	204	imperijalizam	4.65	1.70
92.	stranka	5.50	0.73	205	veće	4.64	0.95
93.	ambasador	5.48	0.69	206	konzul	4.61	1.05
94.	izbori	5.47	0.73	207	protest	4.61	1.15
95.	diplomata	5.43	0.77	208	konzulat	4.61	0.96
96.	opozicionar	5.39	0.69	209	pravosnažnost	4.58	1.34
97.	totalitarizam	5.39	0.96	210	pokrajina	4.52	0.89
98.	opozicija	5.31	0.76	211	delegacija	4.48	1.23
99.	liberalizacija	5.31	0.89	212	sporazum	4.48	1.48
100.	levica	5.23	1.09	213	zakon	4.42	1.41
101.	amandman	5.23	1.06	214	sistem	4.42	1.67
102.	deklaracija	5.18	0.82	215	odbor	4.40	1.22
103.	ustavnost	5.17	1.00	216	anarhija	4.39	1.50
104.	predsedavajući	5.10	1.30	217	država	4.39	1.50
105.	predsedavanje	5.10	1.08	218	delegat	4.39	1.56

NO.	TARGET	M	SD	NO.	TARGET	M	SD
71.	nezavisnost	4.38	1.05	106.	sud	3.65	1.40
72.	prevlast	4.35	1.23	107.	savet	3.61	1.73
73.	fašista	4.32	1.45	108.	ostavka	3.60	1.71
74.	državljanstvo	4.29	1.62	109.	narod	3.58	1.41
75.	opština	4.27	1.48	110.	rat	3.55	1.77
76.	sindikat	4.26	1.48	111.	vojska	3.55	1.57
77.	amnestiranje	4.23	1.78	112.	kralj	3.52	1.75
78.	kolokijalizam	4.19	1.82	113.	bojkot	3.48	0.92
79.	administracija	4.19	1.38	114.	predstavnik	3.45	1.59
80.	sednica	4.16	1.46	115.	himna	3.45	1.69
81.	državljanin	4.16	1.57	116.	nadmoć	3.42	1.57
82.	kabinet	4.13	1.59	117.	despot	3.42	1.73
83.	lider	4.10	1.64	118.	primirje	3.42	1.82
84.	upravljanje	4.06	1.46	119.	sila	3.42	1.69
85.	monarhija	4.03	1.62	120.	nadležnost	3.42	1.34
86.	štrajk	4.03	1.68	121.	konflikt	3.32	1.66
87.	bezakonje	4.03	1.54	122.	okrug	3.32	1.54
88.	uprava	4.00	1.37	123.	otpor	3.29	1.40
89.	policija	3.97	1.30	124.	kruna	3.27	1.87
90.	pravo	3.97	1.35	125.	sudija	3.27	1.60
91.	amnestija	3.97	1.69	126.	ratište	3.26	1.95
92.	savez	3.94	1.44	127.	duel	3.23	1.71
93.	komitet	3.94	1.46	128.	spor	3.23	1.67
94.	moć	3.90	1.87	129.	sukob	3.23	1.71
95.	kraljevina	3.84	1.73	130.	carstvo	3.20	1.88
96.	despotizam	3.81	1.92	131.	car	3.19	1.94
97.	legalnost	3.81	1.58	132.	sastanak	3.19	1.54
98.	uzurpator	3.81	1.83	133.	kontraš	3.16	1.55
99.	kraljica	3.81	1.70	134.	granica	3.16	1.24
100.	disident	3.81	1.33	135.	princeza	3.16	1.59
101.	ocepljenje	3.77	1.78	136.	trijumf	3.16	1.51
102.	nacija	3.77	1.31	137.	rasprava	3.13	1.63
103.	provincija	3.71	1.57	138.	front	3.06	1.71
104.	vođa	3.68	1.78	139.	princ	3.06	1.90
105.	kolonija	3.65	1.78	140.	udar	3.00	1.77

APPENDIX B – NORMING STUDY, METAPHORICAL EXPRESSIONS FROM THE CONCEPTUAL KEY POLITICS IS CONFLICT

TARGET	METAPHORICITY		FAMILIARITY		CONTEXTUAL APTNESS		APTNESS		COMPREHENS.		NO. OF INTERPRETATIONS		OVERALL COEFFICIENT
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
1. Tokom čitave diskusije novi kandidat je **žestoko napadao** sadašnjeg predsednika.	4.00	1.57	6.52	0.72	6.46	0.64	4.79	0.71	7.00	0.00	1.96	0.35	28.77
2. Delovalo je da predsednik kontroliše veći deo **predizbornog bojišta**.	5.68	0.91	4.44	1.87	4.84	1.37	4.00	1.94	6.45	0.74	1.40	0.58	25.41
3. Tokom debate, nijedan od kandidata **nije uspeo da zada smrtonosni udarac** koji su svi očekivali.	5.78	1.10	6.32	0.70	5.84	0.92	4.67	0.86	7.00	0.00	1.72	0.54	29.57
4. Nakon prve debate, **usledila je bujica kritika** usmerenih ka predsedniku.	5.25	1.41	5.50	1.39	5.94	1.16	5.28	1.54	7.00	0.00	1.36	0.64	28.97
5. Glasačima naviknutim **na kratke i brze političke borbe** debata je delovala veoma dosadno.	4.19	1.51	5.09	1.51	5.34	1.33	4.80	1.78	7.00	0.00	1.48	0.51	26.43
6. Predsednik u debati nije iskoristio neke od **napada koji su već izvršeni u medijskom ratu**.	4.84	1.48	4.78	1.83	5.16	1.51	5.46	0.98	6.61	0.66	1.56	0.58	26.60

7.	Predsednik se skoncetrisao **na pitanja koja su ga pritiskala** tokom prethodnih meseci.	4.75	1.52	6.48	0.64	5.78	1.48	4.77	0.69	7.00	0.00	1.40	0.58	28.63
8.	Nakon **rafalne paljbe kritika** koje su usledile nakon debate, predsednik je nastupio jako odlučno.	5.66	1.21	5.38	1.64	5.69	1.31	4.16	1.55	6.95	0.21	1.24	0.52	27.68
9.	**Predsednik je napao novog kandidata** tvrdnjama da su njegovi ekonomski planovi obična laž.	4.56	1.88	6.55	0.69	6.16	1.07	5.28	1.72	7.00	0.00	1.68	0.48	29.56
10.	**Žestoki medijski napadi na predsednika** pokazuju stepen zabrinutosti u suparničkom taboru.	4.56	1.54	6.23	1.02	5.94	1.16	5.08	1.32	7.00	0.00	1.36	0.49	28.65
11.	Predsednik je izgubio debatu jer **nije izvršio dovoljan pritisak** na svog protivnika.	4.59	1.58	6.19	1.20	5.77	1.09	4.65	0.88	6.95	0.21	1.80	0.71	28.01
12.	Poslednja izjava je predsednika učinila kratkoročno efikasnim, ali dugoročno **ranjivim**.	4.34	1.64	5.91	1.23	5.66	1.31	4.17	1.69	6.60	0.71	1.80	0.65	26.67
13.	Novi kandidat za predsednika često **izbegava lične konfrontacije**.	3.88	1.66	5.50	1.34	5.25	1.52	4.67	1.55	6.95	0.22	1.56	0.58	25.93

14.	**Izazivač** će se večeras prvi put pojaviti na pozornici, rame uz rame sa sadašnjim predsednikom.	3.84	1.78	5.66	1.52	5.62	1.12	4.88	1.64	6.95	0.22	1.84	0.69	26.68
15.	Predsednik **je nadjačao** svog protivkandidata u marketinškoj kampanji.	4.38	1.79	6.63	0.56	6.54	0.58	5.90	0.94	7.00	0.00	1.63	0.49	30.36
16.	Predsednik je nadmašio svog protivkandidata **u marketinškom ratu**.	5.54	1.14	5.91	1.20	6.10	0.91	4.88	1.74	7.00	0.00	1.08	0.28	29.22
17.	Predsednik će pokušati **da pređe u ofanzivu**.	4.81	1.97	5.94	1.44	5.63	1.21	4.72	1.21	7.00	0.00	1.68	0.48	27.86
18.	Mediji predviđaju da će protivkandidat **nadjačati predsednika uz pomoć svojih saveznika**.	4.50	1.97	5.84	1.61	5.72	1.25	5.58	1.14	6.96	0.21	1.56	0.51	28.53
19.	Predsednik je nakon **žestokog medijskog napada na svog protivnika** ponovo u prednosti.	4.63	1.62	6.03	1.06	6.03	0.90	5.73	0.77	7.00	0.00	1.12	0.44	29.17
20.	Dinamika **u političkom medijskom ratu** zabrinula je stratege u obe stranke.	4.97	1.58	5.69	1.38	5.66	1.31	4.76	1.51	7.00	0.00	1.08	0.40	27.63
21.	Predstavnici stranke se nadaju **da će privući** veliki broj glasača.	3.66	1.86	6.72	0.53	6.41	0.68	5.96	1.08	7.00	0.00	1.72	0.68	29.71
22.	**Zakasnela plima** u medijskoj kampanji	5.91	1.30	4.34	1.89	5.19	1.35	3.64	1.66	5.40	1.78	1.72	0.79	24.48

	Republikanaca bi mogla da donese promene.													
23.	**Rafalna paljba reklama** koju je organizovala protivnička partija je ugrozila protivnike.	5.53	1.34	5.00	1.88	5.44	1.44	4.40	1.91	6.71	0.55	1.28	0.46	26.97
24.	Broj reklama je bolji pokazatelj stanja **u marketinškom ratu** nego količina potrošenog novca.	5.00	1.44	5.56	1.27	5.37	1.16	5.36	0.90	7.00	0.00	1.16	0.37	28.05
25.	Senator **je zalutao u minsko polje** rasističke politike.	6.50	0.64	4.91	1.78	5.38	1.36	4.68	1.75	7.00	0.00	1.84	0.37	27.94
26.	Predsednik na trenutke nije uspevao **da se odbrani od verbalnih napada** drugog kandidata.	3.84	1.83	6.10	1.33	5.90	1.33	6.04	1.07	7.00	0.00	1.12	0.33	28.85
27.	Predsednički kandidati **su sparingovali** oko pitanja poreske politike.	5.63	1.50	4.44	2.21	4.55	1.41	3.72	1.86	6.71	0.56	1.64	0.57	24.45
28.	Predsednički kandidati **su se borili** oko pitanja poreske politike.	4.09	1.84	5.88	1.24	5.52	1.29	4.88	1.76	7.00	0.00	1.80	0.58	27.32
29.	Predsednik **nije uzvraćao vatru** i nije iskoristio nijedan od ključnih protivargumenata.	5.63	1.31	5.38	1.81	5.13	1.72	4.16	1.93	7.00	0.00	1.88	0.53	27.13

№	Tvrdnja													
30.	Debata će se satojati iz šest petnaestominutnih segmenata, sa dosta prilika **za žestoke napade**.	4.81	1.57	5.84	1.39	5.72	1.28	4.68	1.55	7.00	0.00	1.84	0.55	27.90
31.	Cilj novog kandidata **nije da uništi predsednika**, već da pridobije poverenje javnosti.	4.66	1.84	6.21	0.98	5.58	1.31	4.33	1.81	7.00	0.00	1.84	0.62	27.70
32.	Oba kandidata će na debatu doći **naoružani dobro uvežbanim replikama**.	5.69	1.33	5.75	1.44	6.13	0.99	5.39	0.94	7.00	0.00	1.40	0.58	29.68
33.	Biće zanimljivo videti koliko će kandidati čekati pre nego što **krenu u napad**.	5.06	1.66	6.57	0.69	6.07	0.87	5.36	1.19	6.96	0.21	1.92	0.49	29.94
34.	Novi kandidat **je vršio veliki pritisak** na predsednika.	4.47	1.83	6.60	0.56	6.43	0.63	5.12	1.42	6.96	0.21	1.72	0.54	29.50
35.	**Tokom borbe** u sredu uveče nijedan od kandidata nije ustuknuo.	4.75	1.85	5.97	1.38	5.68	1.47	4.38	1.84	7.00	0.00	2.00	0.50	27.48
36.	Kandidati su tokom debate **sparingovali oko velikog broja važnih pitanja**.	5.22	1.43	4.66	1.89	4.53	1.54	3.60	1.68	6.50	0.74	1.40	0.58	24.05
37.	Kandidati su se tokom debate **sukobljavali**	3.91	1.80	5.94	1.32	5.38	1.56	5.28	1.43	7.00	0.00	1.44	0.71	27.18

	oko veličine vlade i njene uloge.												
38.	Izazivač planira **da napadne Belu kuću nizom argumenata**.	5.53	1.39	5.72	1.65	5.52	1.63	4.48	1.71	7.00	0.00	1.52	0.82	28.17
39.	Izazivač planira **da napadne spoljnu politiku predsednika**.	5.00	1.70	6.03	1.28	5.88	1.39	4.68	1.55	7.00	0.00	1.33	0.48	28.35
40.	Savetnici kažu da je izazivač **naoružan litanijom argumenata za svoj obračun sa predsednikom**.	5.78	1.31	3.72	2.14	5.25	1.27	5.00	1.66	4.88	1.88	1.16	0.37	24.63
41.	**Predizborne borbe** vode se na predsednikovom terenu.	4.94	1.63	6.13	1.07	6.46	0.79	4.56	1.76	6.95	0.21	1.44	0.51	28.89
42.	Stranka naglašava da će nastaviti **da vrši pritisak na predsednika** po pitanju ekonomije.	4.28	1.76	6.29	1.04	5.97	1.25	5.16	1.37	7.00	0.00	1.60	0.50	28.62
43.	Predsednik nije istakao kako novi zakon **ograničava korozivne prakse koje su dovele do sloma berze 2008. godine**.	4.38	1.95	4.25	1.95	5.33	1.15	3.76	1.76	5.50	1.50	1.08	0.28	23.04
44.	Pred debatu, oba kandidata **su se povukla u svoj ugao biračkog ringa**.	6.38	0.68	5.13	1.93	5.52	1.26	3.56	1.78	6.60	0.71	1.28	0.46	27.18

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45.	Kandidati su i nakon debate nastavili **da se gađaju uvredama**.	5.50	1.30	5.87	1.43	5.38	1.66	3.92	1.87	7.00	0.00	1.32	0.48	27.59
46.	Kandidati se pripremaju **za završnu rundu predizborne kampanje**.	5.32	1.56	6.45	0.78	5.94	1.24	4.80	1.44	7.00	0.00	1.36	0.49	29.35
47.	Stranka je **žestoko napala** protivničkog kandidata u najnovijim televizijskom oglasima.	4.63	1.74	6.40	0.89	5.88	1.34	5.61	0.99	7.00	0.00	1.84	0.47	29.43
48.	Predsednik **je primio udarac tokom diskusije i nije se branio**.	5.59	1.41	5.78	1.50	5.65	1.36	4.68	1.49	7.00	0.00	1.84	0.47	28.42
49.	Glasovi latinoameričke populacije mogli bi **da gurnu predsednika do pobede**.	5.06	1.16	5.59	1.34	5.58	1.23	4.16	1.62	7.00	0.00	1.40	0.50	27.24
50.	Izazivač **je sasekao predsednikovu prednost** u mnogim državama.	5.60	1.22	5.47	1.52	5.72	1.35	3.15	0.99	6.95	0.22	1.40	0.50	26.58
51.	Obe stranke **imaju armije pristalica** koje postavljaju komentare na tviteru.	5.71	1.22	6.19	0.95	6.03	0.86	4.80	1.73	7.00	0.00	1.60	0.58	29.41
52.	Simpatizeri **su naoružani sarkastičnim komentarima** kojima	5.38	1.41	5.78	1.36	5.72	1.30	4.68	1.65	7.00	0.00	1.12	0.33	28.40

	se trude da utiču na reakcije šire javnosti.													
53.	Rezultati anketa pokazuju da je predsednik razvio vođstvo u trci **na većem delu bojišta**.	5.38	1.58	5.38	1.45	5.43	0.97	3.64	1.75	6.95	0.22	1.72	0.46	26.50
54.	Izazivač je prema rezultatima anketa u velikom zaostatku **na većem delu bojišta**.	5.38	1.52	5.44	1.37	5.34	1.10	3.68	1.89	6.95	0.22	1.76	0.44	26.56
55.	2004. godine je njena blistava karijera gotovo **izbačena iz šina**.	6.58	0.56	4.91	2.01	5.25	1.68	3.62	0.97	7.00	0.00	1.60	0.50	27.00
56.	Kandidat je morao **da nosi svu krivicu na svojim ramenima**.	6.10	1.19	6.07	1.46	5.94	1.36	5.08	1.73	6.95	0.21	1.52	0.51	30.05
57.	Prihvatanjem uloge šefa predsednikovog kabineta **zacementirala je svoje mesto u stranci**.	5.88	1.29	5.81	1.51	5.63	1.54	4.92	1.41	7.00	0.00	1.40	0.50	29.11
58.	Predsednik je napokon osetio **vetar u leđa**.	6.50	0.73	6.59	0.63	6.40	0.72	5.63	1.53	7.00	0.00	1.72	0.46	31.91
59.	Iako je okoreli Republikanac, novi kandidat **ne talasa** po pitanju prava na abortus.	5.94	1.13	5.16	1.95	5.13	1.54	4.35	0.79	6.63	0.49	1.64	0.57	27.20
60.	Upotreba društvenih mreža **ne odvlači publiku**.	4.03	1.45	5.16	1.74	4.81	1.53	3.88	1.62	6.96	0.21	1.56	0.51	24.76

61.	Upotreba društvenih mreža predstavlja **magnet koji privlači publiku**.	5.81	1.11	5.59	1.58	5.72	1.37	4.64	1.73	7.00	0.00	1.42	0.50	28.72
62.	Predsednik je uživao **u probadanju suparnikovih predloga**.	5.48	1.21	4.63	1.77	4.81	1.42	3.52	1.56	6.58	0.65	1.40	0.50	24.92
63.	Predsednikov vatreni nastup u debati **podigao je moral simpatizera**.	4.56	1.48	5.68	1.45	5.52	1.23	4.38	1.79	6.60	0.65	1.16	0.37	26.73
64.	Cilj stranke bio je **da oblikuje priče** koje će biti objavljivane u novinama.	4.91	1.47	5.66	1.31	5.65	1.25	3.68	1.38	6.95	0.22	1.38	0.49	26.64
65.	Predsednikov nastup **je uzburkao medije**.	4.84	1.61	5.88	1.24	6.00	1.14	4.88	1.67	6.95	0.21	1.16	0.37	28.36
66.	Stranke će pokušati **da oblikuju utiske javnosti** o poslednjoj debati.	4.81	1.57	5.34	1.58	5.47	1.11	4.76	1.42	6.63	0.71	1.20	0.50	26.90
67.	Mnogi stratezi smatraju da informacije o berzi mogu **da pomeraju mišljenje javnog mnjenja**.	4.31	1.62	5.34	1.68	4.88	1.54	3.76	1.67	6.50	0.74	1.16	0.37	24.45
68.	**Kada su ga pritisli** da da odgovor na pitanje, novi kandidat je predstavio svoj plan budžeta.	4.97	1.77	6.50	0.58	5.84	1.30	4.52	1.56	7.00	0.00	1.76	0.52	28.75

69.	Novi predsednikovi planovi **neće rasporiti** zavode za zdravstveno i socijalno osiguranje.	5.19	1.51	4.78	1.75	5.03	1.80	3.20	1.47	6.48	0.79	1.46	0.51	24.48
70.	Kroz nove planove, **predsednik će saseći** sve što se ne tiče ministarstva odbrane.	5.68	0.90	5.47	1.37	5.59	1.27	4.08	1.58	7.00	0.00	1.58	0.58	27.53
71.	Predsednik bi u debati trebalo **da pritisne svog protivkandidata**.	4.91	1.49	5.84	1.39	5.59	1.34	4.52	1.66	7.00	0.00	1.64	0.49	27.74
72.	Novi kandidat će morati **da brani svoje stavove**.	4.56	1.76	6.47	0.68	6.45	0.69	6.41	0.73	7.00	0.00	1.12	0.33	30.85
73.	Tri agresivne razmene tokom debate **uklesale su** jasne razlike između stranaka.	5.69	1.09	5.09	1.73	5.31	1.40	4.12	1.67	6.59	0.80	1.44	0.51	26.51
74.	Voditeljka je bila puna razumevanja kada je novi kandidat izjavio da će povećanje poreza **nauditi vlasnicima manjih preduzeća**.	4.03	1.62	5.81	1.28	5.75	1.22	5.44	1.45	7.00	0.00	1.60	0.50	27.87
75.	Kada od nekoga tražite da stvori mentalnu sliku o glasanju, to pomaže **da se pokrene** sama navika.	4.13	1.48	4.97	1.67	4.88	1.52	4.44	1.89	7.00	0.00	1.60	0.65	25.09
76.	2008. godine je došlo **do erupcije** globalne ekonomske krize.	6.30	0.70	5.81	1.47	5.94	1.29	4.36	1.93	7.00	0.00	1.76	0.52	29.17

No.	Text												
77.	Da država nije intervenisala, **vrednost valute bi opala**.	3.81	1.93	6.13	1.18	6.19	0.95	5.84	1.34	7.00	0.00	1.08	0.28	28.93
78.	Sa svakim novim pitanjem u debati **usledio je i novi napad**.	4.91	1.69	5.81	1.33	5.81	1.15	5.73	0.98	6.96	0.21	1.76	0.44	29.14
79.	Kandidati su izuzetno zadovoljni **dok sparinguju** tokom debate.	5.55	1.21	4.34	1.94	4.66	1.58	3.56	1.85	6.77	0.43	1.58	0.50	24.43
80.	Novi kandidat **je argumentima premlatio** sadašnjeg predsednika tokom debate.	5.75	1.27	4.88	2.01	4.75	1.78	3.28	1.86	7.00	0.00	1.12	0.33	25.46
81.	Rejtinzi po nekad porastu **tokom druge i treće runde** debatnog ciklusa.	5.03	1.84	5.41	1.70	5.81	1.33	4.48	1.64	6.96	0.21	1.68	0.75	27.61
82.	Prva debata **privukla je** više od 70 miliona gledalaca.	3.88	1.93	6.37	0.96	6.52	0.64	5.36	1.47	7.00	0.00	1.68	0.63	29.12
83.	Predsednikove poruke **odjekuju** među glasačima mlađim od 30 godina.	4.69	1.67	5.56	1.46	5.69	1.55	4.12	1.86	6.95	0.21	1.56	0.51	26.78
84.	Činilo se da izbori **izmiču predsedniku iz ruku**.	5.41	1.43	5.81	1.38	5.91	1.35	5.08	1.32	7.00	0.00	1.72	0.68	29.13
85.	Predsednik mora **da dobije bitku** za fiskalni plan.	5.56	1.37	6.36	0.68	6.38	0.73	4.88	1.69	6.95	0.21	1.33	0.48	29.94

#														
86.	Predsednik ne može ići **iz jedne bitke koja šteti budžetu u drugu**.	5.50	1.37	5.72	1.35	5.56	1.34	4.44	1.58	6.95	0.21	1.52	0.51	28.02
87.	Novi kandidat je jasno stavio do znanja da ne samo da je došao **spreman na borbu, već je spreman i da je zapodene**.	5.41	1.46	4.94	1.74	5.53	1.29	4.92	1.93	6.57	0.79	1.68	0.56	27.16
88.	Predsednik je svojom izjavom **zadao direktan udarac novom kandidatu**.	5.56	1.32	6.00	1.14	5.94	1.13	5.00	1.61	7.00	0.00	1.80	0.50	29.38
89.	Tokom debate, oba kandidata su pokušavala **da rane jedan drugog**.	5.88	1.24	5.35	1.45	5.16	1.32	3.56	2.20	6.95	0.21	1.48	0.51	26.75
90.	Ona je uskoro postala **odani vojnik predsednikove kampanje**.	6.32	0.61	5.13	1.52	5.29	1.13	3.72	1.70	7.00	0.00	1.32	0.48	27.22
91.	Ona je zaradila nadimak Nindža, jer se **neprimetno ubacivala u predizborne bitke**.	5.06	1.74	5.25	1.41	5.38	1.24	3.16	1.97	6.54	0.78	1.92	0.28	25.25
92.	Novi kandidat je **pretrpeo brutalan udarac**.	5.80	1.00	5.91	1.23	5.63	1.21	4.36	1.87	7.00	0.00	1.72	0.46	28.61
93.	Novi kandidat je **zauzeo odbrambeni stav**.	4.88	1.77	6.22	1.04	6.13	0.99	5.55	0.86	7.00	0.00	1.84	0.37	29.73
94.	Tokom poslednje debate, **kandidati su**	5.71	1.19	6.06	1.05	5.94	1.05	4.44	1.69	7.00	0.00	1.44	0.58	29.07

	razmenjivali **udarac za udarcem**.												
95.	Kandidati su napravili predah od **žestokih predizbornih bitki**.	5.55	1.27	5.75	1.27	5.78	1.07	4.17	1.71	6.95	0.22	1.68	0.48	28.05
96.	Predsednik i novi kandidat su **razmenjivali oštre udarce i optužbe**.	5.22	1.45	5.75	1.44	5.84	1.19	4.44	1.83	7.00	0.00	1.28	0.46	28.09
97.	Novi kandidat **je zabacio mrežu argumenata ka predsedniku**.	6.27	0.94	4.59	2.08	5.22	1.56	3.24	1.92	6.52	0.77	1.64	0.49	25.84
98.	Stranka će se uskoro suočiti sa **novom bitkom tokom kampanje**.	5.06	1.52	5.63	1.26	5.81	0.93	4.20	1.55	7.00	0.00	1.56	0.58	27.50
99.	Kandidati će morati **da se izbore sa najvećom pretnjom**: tzv. fiskalnom liticom.	4.53	1.59	5.88	1.24	5.78	1.13	5.21	1.67	7.00	0.00	1.52	0.59	28.20
100.	Predsednik tvrdi da nema potrebe za uzdržavanjem jer je **trgovinski rat** već u toku.	5.13	1.77	5.90	0.96	5.80	1.03	4.70	1.06	6.63	0.65	1.40	0.50	28.04
101.	Mnogi ekonomisti tvrde **da su trenutne bitke obične čarke**.	5.31	1.35	5.19	1.71	5.59	1.24	4.20	1.83	6.57	0.60	1.68	0.56	26.25
102.	Čak i pored **vetra u grudi**, predsednički	6.00	1.34	4.69	2.21	5.16	1.89	3.20	1.89	6.73	0.55	1.12	0.33	25.28

	kandidat je u dobroj poziciji.												
103.	Predsednički kandidati preduzimaju oprezne korake kako bi **privukli neopredeljene birače**.	3.91	1.78	6.06	1.19	5.97	1.15	4.72	1.49	7.00	0.00	1.56	0.17	27.58

APPENDIX C – NORMING STUDY, METAPHORICAL EXPRESSIONS FROM THE CONCEPTUAL KEY POLITICS IS MOTION

TARGET	METAPHOR.		FAMILIAR.		CONTEXTUAL APTNESS		APTNESS		COMPREH.		NO. OF INTREPRET.		OVERALL COEFF.
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
1. Predsednik je optužen da nije uspeo **da izvede zemlju iz ekonomske krize**.	4.36	0.79	6.75	0.44	6.43	0.57	5.40	1.73	7.00	0.00	1.60	0.82	**29.94**
2. Predsednik je upozorio građane da da bi **promena kursa kojim se država kreće** poremetila ekonomsku situaciju.	5.10	1.70	5.86	1.01	5.96	1.00	4.12	1.74	6.32	0.84	2.00	0.76	**27.36**
3. Predsednik je upozorio građane da da bi **promena kursa kojim se država kreće zaustavila dalji ekonomski napredak**.	4.93	1.60	5.86	1.43	5.79	1.21	5.08	1.61	6.42	0.72	1.54	0.72	**28.08**
4. Tokom debate, predsednički kandidati **su često skretali s puta**.	5.52	1.21	6.59	0.64	5.68	1.09	4.44	2.02	6.57	0.73	2.24	0.97	**28.79**
5. **Predizborna kampanja je iznenada promenila pravac** pred prvu predsedničku debatu.	5.00	1.28	6.36	0.78	5.83	1.14	4.96	1.27	6.61	0.78	2.12	0.73	**28.75**
6. Delovalo je da predsednik u potpunosti kotroliše **predizbornu trku**.	5.66	1.37	6.96	0.20	6.67	0.62	5.75	0.91	6.67	0.56	1.84	0.75	**31.70**
7. Novi kandidat je izjavio da smatra da vlada treba **da se skloni s puta ekonomiji**.	5.00	1.39	4.97	1.61	4.79	1.32	4.36	1.75	6.50	0.60	2.04	1.07	**25.62**
8. Novi kandidat je izjavio da **njegovu poziciju po pitanju ekonomije** ne treba shvatiti kao ideološku.	3.97	1.78	5.52	1.60	5.10	1.35	4.84	1.77	5.60	1.44	1.72	0.74	**25.03**

9.	Novi kandidat je naglasio da njegovi planovi za zdravstveno osiguranje neće ugroziti one koji su **na korak od ulaska u sistem.**	4.97	1.59	5.62	1.47	5.62	1.37	4.28	1.79	5.71	1.52	1.79	0.66	**26.20**
10.	**Znamo da je put kojim idemo pogrešan i da je vreme za novi put**.	5.48	1.50	6.37	0.79	5.83	1.28	4.48	1.94	5.79	1.67	2.22	0.90	**27.95**
11.	Obe stranke su priznale da je **predsednička trka veoma neizvesna**.	5.57	1.10	6.24	1.09	6.32	0.77	4.72	1.90	6.68	0.57	1.71	0.62	**29.54**
12.	Obe stranke su priznale da bi prva debata mogla da utiče na ishod **predsedničke trke**.	5.63	1.01	6.59	0.57	6.36	0.68	5.41	0.59	6.65	0.57	1.83	0.64	**30.64**
13.	Predsednik je tokom čitave debate često **uletao u ćorsokak** i delovalo je kao da ne zna kako je završio tamo.	5.93	1.16	5.62	1.42	5.14	1.48	4.60	2.00	6.59	0.59	1.96	0.68	**27.88**
14.	**Ukoliko budemo nastavili ovim putem** ekonomska situacija će se samo pogoršati.	5.24	1.55	6.62	0.64	6.03	1.05	4.92	1.82	6.78	0.42	1.88	0.67	**29.59**
15.	Odmah nakon debate kandidati se vraćaju **na predizbornu stazu**.	5.10	1.42	5.07	1.39	5.00	1.07	4.52	1.90	6.35	0.78	1.84	0.62	**26.04**
16.	Predsednik će morati da pretvori pozitivne komentare **u ubrzanje koje će promeniti dinamiku trke**.	4.76	1.70	3.28	1.60	3.48	0.96	3.88	1.76	5.64	1.38	1.84	0.62	**21.03**
17.	Rezultat prve debate je često menjao **tok izbora**.	4.68	1.76	5.96	1.37	5.82	1.31	5.12	1.74	6.73	0.55	1.52	0.65	**28.31**
18.	Prema anketama, predsednik je **u malom zaostatku na većem delu bojišta**.	5.62	1.27	4.62	1.66	4.59	1.38	4.60	1.96	6.20	1.22	1.80	0.82	**25.63**
19.	Prema anketama, predsednik je **u malom zaostatku u većini država**.	4.17	1.93	5.17	1.51	5.17	1.54	4.60	1.78	6.50	0.67	1.48	0.71	**25.62**
20.	Kandidat za predsednika je morao da iskoristi debatu kako bi **promenio dinamiku trke**.	5.48	1.05	4.90	1.70	5.21	1.24	5.12	1.51	6.52	0.67	1.92	0.86	**27.23**

21.	Stranke su iskoristile debatu kako bi prikupile novac za **poslednji mesec predizborne trke**.	4.24	1.81	5.41	1.55	5.45	1.18	5.44	1.26	7.00	0.00	1.40	0.65	**27.54**
22.	Predsednik je dozvolio svom protivkandidatu **da dobije ubrzanje**.	5.28	1.44	3.97	2.10	3.86	1.62	4.04	1.72	6.52	0.68	1.80	0.71	**23.67**
23.	Ostaje da se vidi da li će poslednja debata **promeniti dinamiku predizborne trke**.	5.14	1.22	5.68	0.99	5.59	0.93	4.62	0.92	6.50	0.51	1.84	0.90	**27.53**
24.	Kandidati polako **ulaze u poslednji mesec predizborne kampanje**.	4.28	1.91	6.39	0.79	6.15	0.82	5.32	1.41	6.82	0.39	1.24	0.52	**28.96**
25.	Oba kandidata će pokušati da učvrste **svoje položaje** u predizbornoj kampanji.	4.59	1.90	6.46	0.81	6.30	0.87	6.70	0.57	6.54	0.78	1.84	0.62	**30.59**
26.	Predsednik je **vratio ekonomiju nazad sa ivice provalije**.	6.03	1.09	5.79	1.26	5.59	1.05	5.20	1.78	6.86	0.36	1.64	0.86	**29.48**
27.	Predsednik i dalje ima **veliku prednost u medijima**.	4.48	2.01	5.86	1.30	5.55	1.40	5.48	1.50	7.00	0.00	1.44	0.92	**28.38**
28.	Nakon duge kampanje, usledila je i **završnica predizborne trke**.	4.93	1.44	6.26	0.66	6.23	0.71	5.64	0.85	7.00	0.00	1.56	0.65	**30.06**
29.	Predizborna kampanja **je ušla u završnu fazu**.	4.34	1.86	6.50	0.69	6.41	0.64	5.61	1.31	6.95	0.22	1.28	0.54	**29.81**
30.	Uskoro će uslediti **neizvestan završni sprint pred izbore**.	5.75	1.14	4.48	1.81	4.76	1.79	3.45	0.76	6.08	1.08	1.72	0.68	**24.52**
31.	Savetnici su upozorili kandidata da je **predizborna trka** daleko od dobijene.	5.58	1.14	6.57	0.69	6.07	1.03	5.00	1.35	6.65	0.49	1.68	0.69	**29.88**
32.	Nakon debate, moral u stranci je porastao i odagnao ideju **da im predizborna trka izmiče**.	5.00	1.39	5.28	1.67	5.58	1.10	4.41	0.73	6.41	0.73	1.76	0.72	**26.67**
33.	Na trenutke su oba kandidata **zalazila u pitanja** koja je trebalo da izbegnu.	4.61	0.94	6.10	1.23	5.83	1.17	5.60	1.41	6.78	0.42	1.56	0.58	**28.92**

#		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
34.	Ostalo je još manje od mesec dana **do kraja predizborne trke**.	4.90	1.74	6.41	0.73	6.37	0.74	5.38	1.41	6.90	0.30	1.44	0.51	**29.96**
35.	Debata će stvoriti priliku da predsednički kandidat **povuče svoj potez u predizbornoj trci**.	5.55	1.27	5.66	1.20	5.78	0.85	4.54	1.06	6.08	1.32	1.92	0.57	**27.61**
36.	**Predizborna trka** između sadašnjeg predsednika i izazivača se bliži kraju.	5.72	1.17	6.64	0.62	6.07	1.03	5.08	1.44	6.63	0.65	1.48	0.59	**30.14**
37.	Protivkandidat može da se suprotstavi predsedniku i tako **povrati kontrolu nad predizbornom trkom**.	5.82	0.86	5.90	0.94	5.86	0.93	5.86	0.83	6.42	0.72	1.88	0.73	**29.86**
38.	Predsednikov izazivač je tvrdio da je njegov najveći cilj **da se skloni s puta narodu** i oslobodi američki preduzetnički duh.	5.31	1.26	5.54	1.03	5.71	0.91	4.42	0.77	6.68	0.48	1.88	0.93	**27.66**
39.	Kandidat je **naišao na veliku prepreku** kada je morao da predstavi detalje svog ekonomskog plana.	5.07	1.39	6.41	0.78	6.21	0.73	4.96	1.54	6.63	0.65	2.04	0.98	**29.27**
40.	Kandidat je morao da ubedi birače **da on predstavlja bolji put za zemlju** od sadašnjeg predsednika.	5.17	1.10	5.76	1.53	5.17	1.58	4.88	2.01	6.61	0.58	1.84	0.80	**27.59**
41.	**Predizborna trka je u završnoj fazi**.	5.21	1.68	6.64	0.62	6.32	0.72	5.52	1.39	6.75	0.44	1.52	0.71	**30.44**
42.	Kampanja koju je stranka do skoro vodila polako počinje **da menja kurs**.	5.55	1.40	5.89	1.20	5.62	0.98	4.83	1.74	6.40	0.75	1.84	0.75	**28.29**
43.	Predsednik je optužen **da se udaljio** od starih saveznika.	4.41	1.59	6.41	0.64	5.76	1.12	4.88	1.56	6.43	0.73	1.88	0.73	**27.89**
44.	**Predizborna trka** se pretvara u izbor između politika i ličnosti dva kandidata.	4.86	1.60	6.41	0.69	5.68	1.16	4.72	1.24	6.54	0.66	1.67	0.64	**28.21**
45.	Rezultati anketa pokazuju da birači veruju da se **država kreće u pravom smeru**.	5.83	1.01	6.39	0.83	6.00	1.16	5.04	1.83	6.45	0.74	1.80	0.71	**29.72**

46.	Kako tvrde kandidati, **ovi izbori će biti prekretnica** za ovu izuzetnu naciju.	5.64	0.91	6.07	1.07	6.19	0.80	5.56	1.69	6.65	0.65	1.60	0.65	**30.11**
47.	Debata je **vratila predizbornu kampanju na tačku** na kojoj su predstavnici stranke i očekivali da će biti.	5.00	1.36	5.00	1.44	4.83	1.69	4.84	1.82	6.45	0.74	1.72	0.68	**26.12**
48.	Predsednik **održava usko vođstvo u većini država**.	4.31	1.42	4.07	1.73	4.72	1.73	4.52	1.64	6.30	0.76	1.52	0.87	**23.93**
49.	Predsednik **održava tesno vođstvo u većini država na većem delu bojišta**.	4.79	1.84	3.41	1.76	3.90	1.70	4.44	1.56	5.58	1.28	1.76	0.72	**22.13**
50.	Suparnička stranka pokušava **da zauzda predsednikovo napredovanje u kampanji**.	4.93	1.33	4.31	1.65	4.86	1.48	4.17	1.31	6.04	1.08	1.63	0.71	**24.31**
51.	Izazivač se našao **u poziciji sa koje je retko koji kandidat uspeo da se vrati**.	4.52	1.57	5.59	1.32	5.45	1.33	5.08	1.41	6.39	0.72	1.76	0.78	**27.02**
52.	Republikanci su zabeležili **mali napredak u nekim od trka za Senat**.	4.62	1.45	5.48	1.38	5.41	1.35	3.72	1.84	5.96	1.37	1.68	0.63	**25.20**
53.	Rezultati anketa pokazuju da je predsednik **razvio vođstvo u trci** u većem broju država.	4.76	1.53	4.79	1.61	4.76	1.84	4.84	1.80	6.38	0.71	1.80	0.71	**25.53**
54.	Izazivač je prema rezultatima anketa **u velikom zaostatku** u većini država.	4.34	1.52	6.46	0.71	5.93	1.10	5.04	1.57	6.52	0.59	1.64	0.64	**28.30**
55.	Prihvatanje uloge šefa predsednikovog kabineta možda deluje kao **korak unazad**.	5.24	1.33	6.41	0.84	6.41	0.84	5.83	1.31	6.63	0.65	1.68	0.69	**30.51**
56.	Zastoj u Kongresu predstavlja **prepreku koja predsedniku stoji na putu**.	5.56	1.05	6.00	1.13	6.00	1.00	5.62	0.92	6.48	0.67	1.88	0.74	**29.65**
57.	U Kongresu je došlo **do zastoja**.	5.10	1.59	6.48	0.75	6.00	1.34	5.60	1.35	6.55	0.60	1.79	0.93	**29.73**
58.	Predsednik **je naišao na prepreku na putu**.	5.21	1.37	6.52	0.64	5.90	1.26	4.72	1.67	6.67	0.58	2.04	0.79	**29.01**
59.	Čak i pored vetra u grudi, predsednički kandidat je **u dobroj poziciji**.	4.66	1.59	6.59	0.64	5.96	1.13	5.16	1.72	6.39	0.72	1.72	0.68	**28.76**

60.	Kandidat nije objasnio kako će **zaobići prepreke na putu** koje je postavio Kongres.	5.24	1.38	6.38	1.13	5.86	1.25	4.76	1.81	5.96	1.37	1.92	0.81	**28.21**
61.	Predsednik je svoj slab nastup u poslednjoj debati **ostavio iza sebe**.	4.93	1.41	6.63	0.65	5.79	1.54	5.55	0.80	6.65	0.57	1.80	0.87	**29.55**
62.	Kandidat je **pokrenuo medijsku kampanju** kako bi ojačao svoje glavne ideje.	4.21	1.74	6.33	0.78	5.97	1.05	5.79	1.25	6.60	0.58	1.38	0.58	**28.90**
63.	Zoštravanje **predsedničke trke** u poslednje dve nedelje uzrokovalo je nove razgovore o uticaju koji izbori imaju na berzu.	4.83	1.39	6.42	0.76	5.81	0.88	4.76	1.27	6.38	0.77	1.60	0.71	**28.20**
64.	Događaji u poslednje dve nedelje **doveli su do novih razgovora** o uticaju koji izbori imaju na berzu.	3.69	1.51	5.97	1.27	5.89	0.92	4.88	1.83	7.00	0.00	1.36	0.91	**27.43**
65.	Ekonomska kriza **navela je** predsednika da potpiše novi zakon.	4.24	1.77	6.48	0.85	6.03	1.09	4.72	2.09	6.58	0.58	1.64	0.86	**28.06**
66.	**Kineska ekonomija je prošle godine usporila**.	5.17	1.39	5.66	1.49	5.79	1.26	4.44	1.76	5.96	1.49	1.52	0.77	**27.02**
67.	Kandidat je u utorak **napravio još jedan pogrešan korak** u debati.	5.59	0.97	6.56	0.75	6.46	0.71	4.64	1.35	7.00	0.00	1.72	0.61	**30.25**
68.	Prošle godine, **on je uskočio na mesto predsednikovog savetnika**.	5.68	0.99	5.93	1.33	5.86	1.38	4.80	1.50	6.60	0.58	1.68	0.75	**28.87**
69.	Tradicionalna večera privlači pažnju svake četiri godine kao **usputna stanica** za predsedničke kandidate.	5.64	0.95	5.41	1.55	5.63	1.04	4.56	1.29	5.60	1.35	1.64	0.64	**26.84**
70.	Predsednički kandidati **preduzimaju oprezne korake** kako bi privukli neopredeljene birače.	5.31	1.34	5.83	1.51	5.90	1.14	4.83	1.23	6.65	0.59	1.79	0.66	**28.51**
71.	Predsednik se našao **u novoj poziciji**.	4.52	1.64	6.41	0.80	5.72	1.36	4.56	1.71	6.59	0.50	2.00	0.71	**27.80**

#	Stavka													
72.	**Kandidat se pozicionirao** za predsedničke izbore.	4.59	1.59	5.21	1.78	4.79	1.97	4.84	1.62	6.48	0.68	1.88	0.73	**25.90**
73.	**Dok je njegov mandat napredovao**, mediji su pratili njegove aktivnosti.	4.41	1.59	5.66	1.29	5.78	0.89	5.70	0.86	5.84	1.46	1.40	0.58	**27.39**
74.	Novi kandidat **je napredovao** 4 poena u anketama.	4.35	0.78	6.40	0.65	5.74	1.35	4.96	1.62	6.56	0.77	1.48	0.71	**28.01**
75.	Nivo podrške za novog kandidata **popeo se na 36 procenata**.	4.41	1.82	6.04	1.20	5.74	1.38	5.48	1.08	7.00	0.00	1.44	0.58	**28.67**
76.	Predsednik je poručio da je njegova vlada **ostvarila stabilan napredak**.	4.66	1.42	6.40	0.71	5.66	1.34	5.57	1.03	6.50	0.72	1.60	0.76	**28.78**
77.	Smatramo da su država i ekonomija **na pravom putu**.	5.86	1.21	6.59	0.68	6.41	0.73	5.04	1.81	6.70	0.56	1.76	0.78	**30.59**
78.	Predsednik je obećao **da će se proizvodnja vratiti** u severoistočni deo zemlje.	4.52	1.66	6.44	0.71	5.59	1.35	4.92	1.35	6.56	0.77	1.63	0.58	**28.02**
79.	Prethodne predizborne kampanje **kretale su se sličnom putanjom**.	5.50	1.07	6.32	0.69	6.27	0.60	4.59	0.96	6.60	0.65	1.64	0.57	**29.28**
80.	Sledeća predsednička debata je **odmah iza ugla**.	6.07	1.13	6.56	0.65	5.68	1.39	4.86	0.83	6.71	0.46	1.68	0.56	**29.88**
81.	Vezivanje **kretanja na berzi** samo za izbore je teško i opasno.	4.62	1.40	5.03	1.68	4.76	1.50	4.80	1.61	6.04	1.08	1.64	0.49	**25.26**
82.	Berza je ponovo **promenila putanju**.	5.31	1.28	5.89	1.20	4.97	1.66	4.90	0.89	6.43	0.66	1.84	0.55	**27.51**
83.	Ima više načina na koje se mogu objasniti najnovija **kretanja na berzi**.	5.03	1.50	5.62	1.54	5.67	0.96	4.76	1.54	6.30	0.70	1.63	0.58	**27.39**
84.	**Smer u kome se kreću ekonomija i berza** utiču na uspeh kandidata.	5.14	1.46	5.76	1.33	5.66	1.23	5.65	1.03	6.33	0.64	1.68	0.75	**28.54**
85.	Predsednički izbori i stavovi kandidata mogu imati ulogu u **kretanju određenih delova berze**.	4.97	1.27	5.28	1.39	4.93	1.36	4.76	1.39	6.18	0.66	1.70	0.93	**26.11**

#														
86.	Način na koji će predsednik **navigirati po fiskalnoj litici** mogao bi da odredi koliko će političke moći i budžetskih resursa imati na raspolaganju.	5.83	1.31	3.55	1.86	4.45	1.70	4.12	1.42	5.00	2.08	1.57	0.79	**22.95**
87.	Novi plan će predsedniku omogućiti da realizuje investicije o kojima je pričao tokom **izbornog puta**.	4.93	1.33	4.55	1.66	4.90	1.63	4.45	1.00	6.61	0.58	1.64	0.57	**25.44**
88.	**Predsednička trka ulazi u poslednji mesec**.	5.10	1.47	5.86	1.41	5.72	1.33	5.74	1.39	6.67	0.56	1.56	0.77	**29.09**
89.	Rezultati anketa pokazuju da je predsednik **razvio vođstvo u trci** u većem delu zemlje.	5.07	1.36	5.55	1.33	4.97	1.72	4.96	1.95	6.67	0.56	1.72	0.74	**27.21**

Биографија аутора

Владимир, Н. Фигар рођен је 30. априла 1981. године, у Нишу. 2011. године дипломирао је на Департману за англистику, Филозофског факултета у Нишу, а 2013. године успешно је завршио и *мастер академске студије англистике* на истој иснтитуцији, одбранивши мастер рад под називом „Analysis of Conceptual Metaphors in the Political Discourse of Daily Newspapers: Structure, Function and Emotional Appeal" („Анализа појмовних метафора у политичком дискурсу дневних новина: структура, функција и емоционални ефекат"). Тренутно је студент завршне године *докторских академских студија филологије*, такође на Филозофском факултету у Нишу. Владимир, Н. Фигар запослен је на Департману за англистику, Филозофског факултета у Нишу, у звању *лектор*.

Главне области научног рада аутора обухватају истраживања на пољу анализе дискурса, когнитивне лингвистике, когнитивне семантике, и психолингвистике. Најзначајнији радови које је аутор до сада објавио тичу се превасходно улоге појмовне метафоре у политичком дискурсу из перспективе анализе дискурса, као и из емпиријске перспективе где се аутор бавио интеракцијом појмовних метафора у гроздовима и могућношћу да се посредством појмовних метафора изазове емоционална реакција код публике. Такође, аутор се бавио и активацијом и питањем психолошке реалности семантичких оквира, као и питањем психолошке реалности граматичких структура.

ИЗЈАВА О АУТОРСТВУ

Изјављујем да је докторска дисертација, под насловом

Semantic Frame Activation and Contextual Aptness

of Metaphorical Expressions

(Активација семантичких оквира и прилагођеност

метафоричких израза контексту)

која је одбрањена на Филозофском факултету Универзитета у Нишу:

- резултат сопственог истраживачког рада;
- да ову дисертацију, ни у целини, нити у деловима, нисам пријављивао на другим факултетима, нити универзитетима;
- да нисам повредио ауторска права, нити злоупотребио интелектуалну својину других лица.

Дозвољавам да се објаве моји лични подаци, који су у вези са ауторством и добијањем академског звања доктора наука, као што су име и презиме, година и место рођења и датум одбране рада, и то у каталогу Библиотеке, Дигиталном репозиторијуму Универзитета у Нишу, као и у публикацијама Универзитета у Нишу.

У Нишу, 22. 04. 2021. године

Потпис аутора дисертације:

Владимир, Н. Фигар

ИЗЈАВА О ИСТОВЕТНОСТИ ЕЛЕКТРОНСКОГ И ШТАМПАНОГ ОБЛИКА ДОКТОРСКЕ ДИСЕРТАЦИЈЕ

Наслов дисертације: **Semantic Frame Activation and Contextual Aptness of Metaphorical Expressions (Активација семантичких оквира и прилагођеност метафоричких израза контексту)**

Изјављујем да је електронски облик моје докторске дисертације, коју сам предао/ла за уношење у **Дигитални репозиторијум Универзитета у Нишу,** истоветан штампаном облику.

У Нишу, ___22. 04.___ 2021. године

Потпис аутора дисертације:

Vladimir Figar
Владимир, Н. Фигар

ИЗЈАВА О КОРИШЋЕЊУ

Овлашћујем Универзитетску библиотеку „Никола Тесла" да у Дигитални репозиторијум Универзитета у Нишу унесе моју докторску дисертацију, под насловом:

Semantic Frame Activation and Contextual Aptness

of Metaphorical Expressions

(Активација семантичких оквира и прилагођеност
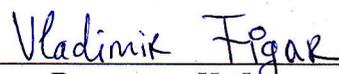
метафоричких израза контексту)

Дисертацију са свим прилозима предао/ла сам у електронском облику, погодном за трајно архивирање.

Моју докторску дисертацију, унету у Дигитални репозиторијум Универзитета у Нишу, могу користити сви који поштују одредбе садржане у одабраном типу лиценце Креативне заједнице (Creative Commons), за коју сам се одлучио/ла.

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У Нишу, _22.04._ 2021. године

Потпис аутора дисертације:

Vladimir Figar

Владимир, Н. Фигар