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Universality versus variation in the conceptualization of ANGER: A question of methodology

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Abstract
Cognitive linguistic investigations into the metaphorical conceptualization of ANGER suggest that languages are remarkably similar on a schematic level, with intensity and control as two, possibly universal dimensions underlying the metaphorical conceptualization of ANGER. These dimensions, however, can manifest themselves in language-specific metaphors. Yet arriving at a definitive answer to the question of universality versus variation is hindered by (a) a relatively limited number of systematic, contrastive analyses; and (b) varied methodologies, with some papers adopting a type-based account, while others following a token-based analysis. We take up both challenges in the present paper with the aim of offering a more definitive answer to the question of the universality and variation of ANGER metaphors. We investigate the ANGER metaphors of a type-based analysis, focusing on dictionary data of ANGER-related idioms, and a token-based analysis, focusing on data collected from online corpora, in three languages: (American) English (2,000 random instances of the lemma *anger* from the Corpus of Contemporary American English), Hungarian (1,000 instances of the lemma *düh* from the Hungarian National Corpus) and Russian (1,000 instances of the lemma *gnev* from the Russian National Corpus). The lexical data were analyzed with the well-established Metaphor Identification Procedure (MIP). Our results indicate that there is a great deal of congruence relative to shared metaphors in both approaches, but this derives from specific-level metaphors in the lexical approach, whereas it derives from more schematic, generic-level metaphors in the corpus-based approach. The study shows that the full picture of the metaphorical conceptualization of a complex emotion concept such as ANGER can only emerge with the combination of the type- and token-based approach.
Keywords: *ANGER metaphors, universality, variation, American English, Hungarian, Russian*

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Универсальность и вариативность в концептуализации эмоции ГНЕВ: проблемы методологии

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Аннотация
В работах, выполненных в русле когнитивной методологии, неизменно отмечаются общие схематические черты, типичные для метафорической концептуализации гнева в различных языках, причем основу метафорических репрезентаций этой эмоции составляют два универсальных параметра – интенсивность и контроль. Тем не менее, те же параметры типичны и для метафор, специфичных для определенного языка. Решению вопроса об универсальности или вариативности метафор со сферой-мишенью ГНЕВ препятствуют: (а) относительно ограниченное количество сопоставительных работ; (б) использование различных методологических основ: типизации или токенизации. Цель работы – разъяснить вопрос об универсальности и вариативности метафорической концептуализации гнева, принимая во внимание обе проблемы. Исследование проводится на материале американского варианта английского языка, венгерского языка и русского языка с привлечением данных словарей (идиомы, связанные со сферой-мишенью ГНЕВ), и онлайн-корпусов: 2000 лемм *anger* из Корпуса современного американского языка (COCA), 1000 лемм *düh* из Венгерского национального корпуса и 1000 лемм *гнев* из Национального корпуса русского языка. Для сбора и обработки материала исследования применяются процедуры случайной выборки и идентификации метафор (MIP) соответственно. В результате анализа лексикографических и корпусных данных выявлены общие метафоры со сферой-мишенью ГНЕВ; отмечено, что специфичные метафоры более характерны для идиоматической лексики, универсальные – для корпусных данных. Исследование показывает, что сочетание подходов, основанных на типизации и токенизации, позволяет получить более полное представление о метафорической концептуализации такой сложной эмоции как ГНЕВ.
Ключевые слова: *метафорическая концептуализация, ГНЕВ, универсальность, вариативность, американский вариант английского языка, венгерский язык, русский язык*

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1. Introduction and background

ANGER is one of the basic emotions of human emotional experience, informing and guiding many of our choices and actions; it has also played an evolutionary role for promoting survival (Williams 2017). As such, it has received considerable scholarly attention in a number of disciplines, such as cognitive and developmental psychology, psychopathology, neurobiology, psychiatry, etc. ANGER has also prompted research within cognitive linguistics; the very first exploration into the metaphorical basis of ANGER in American English by Lakoff and Kövecses (1987)

is now considered to be a classic study on how the cognitive model of ANGER is constructed through language. This paper has paved the way for a number of similar investigations in other languages (see, e.g., Alazazmeh & Zibin 2022, Kövecses et al. 2015, Maalej 2004, Matsuki 1995, Taylor & Mbense 1998, Tran 2022, to name but a few). Results suggest that languages are remarkably similar on a schematic level, with intensity and control as two, possibly universal, dimensions or aspects underlying the metaphorical conceptualization of ANGER. These dimensions, however, can manifest themselves in rather different – language-specific – metaphors.

Yet, arriving at a conclusive and definitive answer to the question of universality versus variation is hindered by a) a relatively limited number of contrastive analyses (with Alazazmeh & Zibin 2022, Kövecses et al. 2015, Tran 2022 as more recent exceptions); and b) the varied methodologies that have been applied in the literature, with some papers adopting a type-based account (e.g., Lakoff & Kövecses 1987) while others following a token-based analysis (e.g., Kövecses et al. 2015, Stefanowitsch 2004). We take up both challenges in the present paper by investigating the ANGER metaphors of a type-based *and* a token-based analysis, in three unrelated languages that, however, all belong to the Standard Average European *Sprachbund* (Haspelmath 2001)[1]: (American) English (a Germanic language), Hungarian (a Uralic language) and Russian (a Slavic language). Based on previous research, we expect schematic similarities related to intensity and control across all the three languages, in both approaches. Nevertheless, due to the nature of the two different approaches that we adopt, we also expect differences in what language-specific metaphors will elaborate these schematic similarities. Such results would implicate that divergences among languages in the conceptualization of ANGER are only partially language-specific, as differences might be attributed to the methodology adopted. Our paper thus highlights the necessity of cross-cultural studies that rest on identical methodologies.

The structure of the paper is the following: Section two offers a discussion of our combined methodology that we adopted for the present investigation, which rests on both a lexical approach (working with dictionary data) and a corpus-based approach (working with data retrieved from online corpora). Section three sums up the language-specific findings in American English, Hungarian and Russian, respectively. Section four discusses the results of the language-specific investigations, comparing the results of the two methodologies that were used and their implications for our research question. The last, fifth section concludes the main findings.

[1] Note though that membership within the Standard Average European *Sprachbund* is gradient; all the three investigated languages in the present paper are considered as non-core members by Haspelmath (2001).

2. Lexical- and corpus-based approach – a combined methodology

Following Kövecses et al. (2019), we adopted a combined methodology of the so-called *lexical approach* and the *corpus-based approach* to the analysis of ANGER metaphors in all the three languages under investigation. In the following we will briefly explain both methods.

The lexical approach works with conventionalized expressions related to the concept under analysis, which can include synonyms, related words, idioms, phrases, collocations, etc. This information can be typically found in dictionaries or collections of words/phrases related to a concept (such as WordNet). We used several dictionaries in all three languages to acquire a type-based dataset.[2] The corpus-based approach, as the name suggests, works with corpora – i.e., large collections of texts typically stored on a computer and made accessible online (Deignan 2005). For all the three languages we selected the largest and most representative corpora available for the respective language: the Corpus of Contemporary American English (COCA) for the American English data; the Hungarian National Corpus (HNC) for the Hungarian data; and the Russian National Corpus (RNC) for the Russian data. These corpora necessarily vary in terms of what sources they rely on (what genres the linguistic data come from), which might potentially influence to some degree the results as well. Nevertheless, it is not within the scope of the present paper to analyze the effect of different genres (in different languages) on the metaphorical conceptualization of ANGER. We then conducted a basic search for the respective keywords of ANGER, which resulted in the following: 2,000 random instances of the lemma *anger* in the American English chapter, 1,000 random instances of the lemma *düh* in the Hungarian chapter, and 1,000 random instances of the lemma *gnev* in the Russian chapter. This formed the basis of the token-based dataset. (Justification of the selected keywords can be found in the respective language chapters).

As a next step, the examples in both datasets were analyzed via the MIP procedure (Pragglejaz Group 2007) for metaphoric language, in order to establish a) what types realize the same conceptual metaphor; and b) what mappings the respective conceptual metaphors are based on. This was followed by establishing the *salience* of the identified metaphors in both approaches. As elaborated on in Kövecses et al. (2015), metaphorical salience can be measured on the basis of the following: 1) the number of mappings, or correspondences, in a conceptual metaphor; 2) the type frequency of linguistic expressions belonging to a conceptual metaphor; and 3) the token frequency of linguistic expressions belonging to a conceptual metaphor.

We thus established the salience of a particular ANGER metaphor on its aggregate value (Kövecses et al. 2015), which is the aggregate number of the types and mappings (in the lexical approach) and the aggregate number of the types,

[2] A *type* is understood as a lexeme or a phrase and a *token* is an instantiation of these (in various forms), as these occur in real texts. In other words, tokens are actual occurrences of types.

tokens and mappings (in the corpus-based account). The aggregate values allowed us to create a comparable order of metaphorical salience in both methods, in all the three languages. The exact figures are depicted in the individual tables of the *Appendix*, which can be freely accessed via the Open Science Framework.[3]

3. ANGER in American English, Hungarian and Russian: Language-specific results

In the following three subsections, we will sum up the main findings of the language-specific investigations of American English, Hungarian and Russian, respectively, in a near-identical format for easier comparison. We will first justify the keyword and the sources. Next, we will focus on how many metaphors the respective methods produced, and what the major differences among the top twenty metaphors of the type- and token-based account are. This will be ensued by a discussion of the differences in schematicity and dimension with respect to the two methodologies. Each language section concludes with an interim summary of results. The full list of metaphors for each language – based on the type- and token-based analyses – can be found in the *Appendix*.

3.1. American English

3.1.1. Keyword and data collection

The keywords we have selected for our study are the following: *anger* as noun, *anger* as verb (in two of its major senses), and the adjective *angry*. These are the most general words in (American) English that can cover the entire semantic area of the emotion of ANGER.

For the type-based, lexical approach we used three online dictionaries to collect idioms and phrases that include any of our keywords: *Merriam-Webster Dictionary*[4]; *Macmillan Dictionary*[5]; and *39 Angry Idioms and Phrases*[6]. The first two of these dictionaries are well-known, major sources, while the third one is simply a small but useful collection of American idioms related to ANGER.

As for the token-based analysis, we collected 2,000 random instances of the lemma *anger* as a noun from the *Corpus of Contemporary American English*. Examples were assessed following the MIP procedure (Pragglejaz Group 2007) for metaphoric language. A second coder was trained in the MIP procedure and evaluated 100 random examples; inter-coder agreement was 81% and all differences of opinion were resolved in discussion. In both methods, the salience of the metaphors and metonymies was calculated according to the procedure described in Section 2 of the present paper.

[3] https://osf.io/gt8mb/?view_only=cd5d8b151bce419a878a918b43d51b58
[4] https://www.merriam-webster.com/dictionary/anger
[5] https://www.macmillandictionary.com/dictionary/american
[6] https://englishbyday.com/angry-idioms/

3.1.2. Differences in the number of conceptual metaphors

The full list of the metaphors of both approaches, with aggregate values, can be found in *Appendix 1* (lexical method) and *Appendix 2* (corpus-based method) – full discussion and elaboration of each metaphor can be found in Kövecses and Sullivan (to appear). The most obvious finding is in line with previous studies (e.g., Kövecses et al. 2015, Stefanowitsch 2007); namely, that corpus approaches to ANGER and other emotion concepts tend to produce more source domains for a given emotion than the lexical approach (see also Kövecses 2015, Kövecses et al. 2019). In particular, the present lexical approach produced 20 conceptual metaphors for ANGER in American English, whereas the corpus-based one found 53 distinct metaphors. However, there are also important qualitative differences between the approaches which we will address in more detail in the following sections.

3.1.3. Differences in the top twenty metaphors in the two approaches

All metaphors identified in the lexical approach can be found on the list of metaphors identified by the corpus approach, but many metaphors produced by the corpus approach are missing from the dictionary-based list. This is natural if we consider that the latter list contains 53 conceptual metaphors, whereas the former only 20. More interesting is the issue of which metaphors present on the top twenty corpus list are missing from the dictionary-based list. These include the metaphors ANGER IS AN OBJECT, STATES ARE LOCATIONS, ANGER IS A FLUID, STATES ARE CONTAINERS, ANGER IS A TOOL, CAUSES ARE CONTAINERS, ANGER IS AN OPPONENT, CAUSED CHANGE IS FORCED MOTION, ANGER IS A BURDEN, and ANGER IS A SUPERIOR. Of these, ANGER IS AN OBJECT, ANGER IS A TOOL, ANGER IS AN OPPONENT, ANGER IS A BURDEN, and ANGER IS A SUPERIOR are particularly noteworthy. For example, OBJECT is the most salient source domain for ANGER in the token-based corpus approach, but did not even occur on the list of metaphors produced by the type-based approach. The dimension of the "visibility/expression of ANGER", which speakers tend to express by making use of the OBJECT metaphor, is instead captured by various SUBSTANCE metaphors in dictionaries. It is unclear why this should be the case. It may be that dictionaries, which are intended to provide access to a wide range of expressions, focus on exemplifying usages with a range of different SUBSTANCES, whereas actual speakers prefer simply to reuse the OBJECT metaphor for this purpose.

The source domain of TOOL also does not occur in the lexical dataset. This may have to do with the fact that tools are implements that are commonly used for a purpose, and ANGER does not typically have a purpose associated with it. However, in the corpus data, occasionally ANGER is conceptualized as useful or otherwise positive. Elsewhere in the corpus data, there are other instances of positive framing of ANGER, which are absent in the lexical data. In ANGER IS AN OBJECT, positive mappings such as representing ANGER as a "gift", for which the recipient might be "grateful", were also lacking in the lexical dataset. In ANGER IS A SUPERIOR, there

was an instance of ANGER as a "teacher" which was not found in the type-based analysis. The OPPONENT and BURDEN source domains for ANGER appear as principal metaphors in Lakoff and Kövecses (1987), but they do not show up in the lexical approach. Again, the question arises why this should be the case. We suggest that the reason may be that OPPONENT and BURDEN are general-purpose source domains in the conceptual system that are not specific to a particular concept (such as ANGER) or a small set of concepts. This is a phenomenon that Kövecses (2000a) called the "scope of metaphor." In other words, OPPONENT and BURDEN have a wide scope as metaphorical source domains. The same explanation appears to hold for SUPERIOR. This concept, as a source for ANGER, was not noticed by Lakoff and Kövecses (1987) and was not found in the present lexical approach. However, it was discussed by Kövecses (2000b) as one of the principal source domains for many emotion concepts, including ANGER, and several other domains.

In sum, the token-based analysis of real-world usages suggests that speakers of American English prefer more general-purpose source domains, such as OBJECT and SUBSTANCE IN A CONTAINER, both of which map to numerous target domains related to the emotions, for example. When we look at the top-ranked metaphors in the type-based analysis, on the other hand, these consist mainly of source domains that are characteristic of (though not unique to) ANGER, or that are at least uncommon as source domains for other targets. For example, the most salient domain in the type-based analysis is DANGEROUS ANIMAL, which is ranked far lower in the token-based analysis.

3.1.4. Differences in the schematicity of metaphors in the two approaches

As we have seen, some of the conceptual metaphors that characterize ANGER are highly schematic generic metaphors. *Table 3.1* lists all the schematic metaphors among the 20 conceptual metaphors found in the type-based (lexical) approach and in the first 20 of the 53 conceptual metaphors in the corpus.

Table 3.1. **Schematic metaphors in the first 20 metaphors in the two approaches**

Lexical approach	Corpus-based approach
INTENSITY IS HEAT	INTENSITY IS QUANTITY
INTENSITY IS QUANTITY	STATES ARE LOCATIONS
CONTROL IS POSSESSION	INTERNAL STATE IS SUBSTANCE OUTSIDE
INTERNAL STATE IS CONTAINER OUTSIDE	ATTRIBUTED STATES ARE POSSESSED OBJECTS
INTERNAL STATE IS SUBSTANCE INSIDE	STATES ARE CONTAINERS
EMOTION IS TOUCH	CAUSES ARE CONTAINERS
	CAUSED CHANGE IS FORCED MOTION

Only one conceptual metaphor is shared by the two groups: INTENSITY IS QUANTITY. If we look at all of the conceptual metaphors discovered by the corpus-based approach, we find many more highly schematic metaphors than we obtained via the lexical method, such as INTENSITY IS BRIGHTNESS, MANNER OF ACTION IS WAY OF ACTION, INTENSITY IS HEAT, CAUSATION IS CONNECTION, etc. That is to say,

out of the 53 conceptual metaphors identified by the corpus method, roughly one-third (n=18) are generic metaphors, while the lexical method uncovered 7 generic metaphors (which is also roughly one-third of all metaphors in this group). What this difference in results produced by the two datasets (7 vs. 18 generic metaphors) tells us is that speakers rely on more, and more varied, generic metaphors in the course of natural discourse in real communicative situations than what the conventionalized but decontextualized *types* of the dictionary-based approach suggest. Speakers seem to creatively place the concept of ANGER in novel frames that are unconventional for ANGER, but at the same time they ensure that they are comprehended by their interlocutors with the help of shared context. This kind of creativity is made possible by the flexibility of their conceptual system and its interaction with context.

3.1.5. Dimensions of ANGER focused on in the two approaches

There are also differences in the dimensions of ANGER that the identified source domains of the two approaches focus on. The 20 source domains identified by the lexical method profile, or focus on, 15 dimensions of ANGER in American English, whereas the first 20 source domains (out of the 53) identified by the corpus-based method profile 18 dimensions of the concept. *Table 3.2* reveals the overlaps and absences of a particular dimension in the two datasets.

Table 3.2. **Profiled dimensions of ANGER in the two approaches**

Profiled dimensions of anger based on the lexical data	***Profiled dimensions of anger based on the corpus data***
Danger to target	Danger to target
High degree of loss of control	Major loss of control
Expression / Visibility of anger	Expression / Visibility
Cause displeasing the self	X
Danger of anger	Danger of anger
Intensity of anger	Intensity
Lack of control over anger	X
Causing anger	Causing anger
Undesirability of anger	Undesirability
Loss of control	X
Dangerousness of angry person	Dangerousness of angry person
Existence of anger	Existence of anger
Experiencing anger	Experiencing anger
Tension of anger	X
Action	Action
X	Responsibility for anger
X	Spread of anger
X	Handling anger
X	Purpose of anger
X	Attempt to control anger
X	Anger as cause
X	Danger to angry person

As can be seen, eleven of the dimensions are shared by the two datasets. Four of them identified in the lexical approach are absent from the corpus approach, and eight dimensions found by means of the corpus-based method are missing from the findings of the lexical method. Given these findings, it appears that speakers of American English flexibly add new dimensions to the concept of ANGER that cannot be found when we examine the concept by means of conventionalized lexical expressions alone.

3.1.6. Interim results: American English

We found that in American English the corpus-based approach revealed many more metaphors than the lexical approach did. Certain source domains and metaphors on the top twenty corpus list, such as OBJECT, STATES ARE LOCATIONS, FLUID, STATES ARE CONTAINERS, TOOL, CAUSES ARE CONTAINERS, OPPONENT, CAUSED CHANGE IS FORCED MOTION, BURDEN, and SUPERIOR, were not found on the top twenty dictionary-based list. The presence of more schematic metaphors seems to be more characteristic of the corpus-generated metaphors. Finally, the corpus approach also revealed more dimensions of the concept of ANGER than the lexical approach.

3.2. Hungarian

3.2.1. Keyword and data collection

The Hungarian keyword selected for the analysis of ANGER was *düh* and all its derivatives (e.g., *dühös, dühödt, dühít*). Although *harag*, a synonymous term, has more representations in the *Hungarian National Corpus (HNC, düh:* 13,379 hits, *harag:* 19,662 hits), *düh* was selected as the keyword for the reason that *düh* is a spontaneous emotion that can get highly intense, while *harag*, which can best be translated as 'rage', refers to a long-lasting negative emotion.

The type-based analysis relies on the latest, revised edition of the most comprehensive dictionary available for Hungarian (Pusztai 2003), an online Hungarian synonym dictionary (Tótfalusi 1997), and an idiom dictionary (Kövecses 2003). We collected 256 terms and idioms of the concept of DÜH from the dictionaries mentioned above.

The token-based analysis was mainly based on the *HNC* (Oravecz et al. 2014), which comprises over one billion words. In a randomized search, the first 750 fragments of texts were selected and analyzed from the genres of literature, press, official, scientific, personal forum, and spoken language. Further 250 text fragments were selected from *Arcanum Digitheca*, the largest Hungarian database containing scientific journals, encyclopedias, newspapers, and book series, and the *Corpus of the Academic Dictionary of Hungarian*. Linguistic examples in both datasets were assessed following the MIP procedure (Pragglejaz Group 2007) for metaphoric language.

As Hungarian is an agglutinative language, some crucial decisions had to be made in order to adapt MIP – that has been originally developed for the more analytic English language – to the Hungarian data. These issues include the demarcation of lexical units, the definition of basic meanings, and the comparison of contextual and basic meanings. To be able to make consistent decisions in these questions and adapt the MIP protocol to Hungarian, we relied heavily on the suggestions of Simon et al. (2019).

3.2.2. Differences in the number of conceptual metaphors

The full list of the metaphors of both approaches, with aggregate values, can be found in *Appendix 3* (lexical method) and *Appendix 4* (corpus-based method) – full discussion and elaboration of each metaphor can be found in Szelid and Szabó (to appear). The lexical and corpus-based analyses have uncovered that the Hungarian conceptualization of DÜH is built on a large number of metaphors (altogether 50), many of which (20 metaphors) can be detected in both approaches. The number of metaphors in the corpus-based approach – similarly to the American English results – was significantly higher than that in the lexical analysis; it produced 42 conceptual metaphors for the concept of DÜH in Hungarian, whereas the type-based one yielded 28 metaphors. In the following sections we will reflect on a few qualitative differences between the results of the two approaches.

3.2.3. Differences in the top twenty metaphors in the two approaches

Although a lot more metaphors were identified in the corpus-based data, interestingly enough, there are still a few source domains that are unique to the lexical dataset. In the top 20 metaphors of the salience list yielded by the type-based approach, five such metaphors can be discovered: CANONICAL LOCATION OF A NON-EMOTIONAL SELF IS INSIDE THE BODY CONTAINER, ANGRY PERSON IS A DEVICE, CAUSE OF DÜH IS AN ANNOYANCE, CAUSE OF DÜH IS A FORCEFUL MOTION, and ANGRY PERSON IS A VOLCANO. On the other hand, the number of metaphors (or source domains) that can only be identified in the corpus-based data amounts to eight, these being the following: ATTRIBUTED STATES ARE POSSESSED OBJECTS, HUMAN BEING, OBJECT, EXISTENCE IS PRESENCE HERE, CAUSES ARE FORCES, WEAPON, SOCIAL SUPERIOR, and TOOL.

One of the reasons for the fact that the lexical approach yields unique metaphors can be attributed to classification. Some of the source domains that we identified are at a more specific level in the sense of Kövecses (2020) than the metaphors in the token-based analysis. The CANONICAL LOCATION OF A NON-EMOTIONAL SELF IS INSIDE THE BODY CONTAINER is, for example, a specific instantiation of the STATES ARE LOCATIONS general metaphor, and the uniqueness of the expressions that belong under this metaphor lies in the fact that the mentioned location is specified in them as a container (e.g., *kikel magából* ‘hatch out of oneself’, *kihoz a béketűrésből* ‘bring somebody out of peace tolerance’). Similarly,

the CAUSE OF DÜH IS A FORCEFUL MOTION combines the CAUSES ARE FORCES and the CHANGE IS MOTION general-purpose metaphors (e.g., *magára vonja vki haragját* 'incur someone's anger', *magára haragít* 'enrage someone on oneself'). The DEVICE source domain can also be viewed as a specific instantiation of the OBJECT source domain, in which the focus is on making the device operational (e.g., *felhúzza magát* 'wind up oneself') or dysfunctional (e.g., *kiakad* 'unhook / get angry'), and the ANGRY PERSON IS A VOLCANO is a type of the NATURAL FORCE source domain, which was also represented by several of its other types in the corpus research.

Nevertheless, the reason why the DÜH IS AN ANNOYANCE metaphor is missing from the corpus data is different, and might be related to the limitations of a corpus-based study in general. The terms classified here in the lexical research (e.g., *felborzolja az idegeit* 'rough up one's nerves', *felpaprikázódik* 'get peppered up') do not include the lemma *düh*, which was, however, the keyword for the corpus research.

Regarding the token-based study, several source domains uniquely present in the top 20 metaphors are general metaphors that can also be used to describe a large set of concepts besides DÜH. Three of them have a general target domain and are referred to as "general-purpose metaphors": ATTRIBUTED STATES ARE POSSESSED OBJECTS, EXISTENCE IS PRESENCE HERE, and CAUSES ARE FORCES. The OBJECT and HUMAN BEING source domains exhibit rich mapping systems (15 and 12) and cover most aspects of DÜH, but at the same time can be easily be applied to other concepts as well. The SOCIAL SUPERIOR source domain is a FORCE metaphor (Kövecses 2000b) and therefore it can provide access to the conceptualization of a number of emotions (e.g., *úrrá lett rajta a düh/a szenvedély* 'anger/passion became a lord over him/her', *düh/szeretet vezérelte* 'he/she was driven by anger/love'), and the TOOL metaphor can also be used for a broad range of emotion concepts (e.g., *dühvel/büszkeséggel csinál valamit* 'do something with anger/pride'). The WEAPON source domain is the only one that is more characteristic of DÜH, but it can also be applied to express a small set of other concepts, such as BAD INTENTIONS or CRITICISM (e.g., *ellene irányul a düh/kritika* 'rage/bad intentions/criticism is/are directed against him/her'), or the FOCUS OF ATTENTION (e.g., *ráirányítja vkire dühét/figyelmét* 'directs his/her anger/attention at someone').

Overall, most metaphors in the type-based analysis are more specific to the concept of DÜH than in the token-based approach, and in line with this, general metaphors are more numerous and rank higher in the salience list in the corpus-based study than in the lexical analysis. For example, the source domains at the top of the salience list of the lexical approach, including (1) PRESSURIZED CONTAINER, (2) INSANITY, (3) DANGEROUS ANIMAL, (4) HOT FLUID IN A CONTAINER, and (5) FIRE, are all characteristic of ANGER, whereas most of the top 5 metaphors/source domains of the token-based approach, namely (1) INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY, (2) ATTRIBUTED STATES ARE POSSESSED OBJECTS, (3) HUMAN BEING, (4) INTENSITY IS QUANTITY, and (5) PRESSURIZED CONTAINER, are general metaphors, and only the fifth is specific to the domain of ANGER.

3.2.4. Differences in the schematicity of metaphors in the two approaches

As pointed out in the previous section, many of the metaphors resulting from the research are not only used to construct the target domain of the Hungarian DÜH, but are general-purpose metaphors that contribute to the conceptualization of a wider spectrum of abstract target domains. In the type-based approach, there are ten of these in the total set of 28 metaphors (35.7%), and in the token-based approach there are seventeen out of the 42 metaphors (40.5%). *Table 3.3* provides an overview of the schematic metaphors out of the top twenty metaphors of both approaches.

Table 3.3. **Schematic metaphors in the first 20 metaphors in the two approaches**

Lexical approach	Corpus-based approach
INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY	INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY
INTERNAL STATES ARE CONTAINERS OUTSIDE THE BODY	ATTRIBUTED STATES ARE POSSESSED OBJECTS
INTENSITY IS QUANTITY	INTENSITY IS QUANTITY
CAUSES ARE CONTAINERS	CAUSES ARE CONTAINERS
CANONICAL LOCATION OF NON-EMOTIONAL SELF IS INSIDE THE BODY CONTAINER	INTERNAL STATES ARE CONTAINERS OUTSIDE THE BODY
FUNCTIONALITY IS UP	EXISTENCE IS PRESENCE HERE
	FUNCTIONALITY IS UP
	CAUSES ARE FORCES
	INTERNAL STATES ARE SUBSTANCES OUTSIDE

As can be seen in *Table 3.3*, among the top 20 metaphors we can find six general-purpose metaphors (metaphors with a more general and inclusive target domain than ANGER) in the lexical analysis and nine in the corpus-based study. Five of these metaphors are shared in both approaches, these being INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY, INTERNAL STATES ARE CONTAINERS OUTSIDE THE BODY, INTENSITY IS QUANTITY, CAUSES ARE CONTAINERS, and FUNCTIONALITY IS UP. There is only one schematic metaphor among the top 20 metaphors of the lexical approach that was not detected in the corpus-based study at all, which is the CANONICAL LOCATION OF A NON-EMOTIONAL SELF IS INSIDE THE BODY CONTAINER (e.g., *kikel magából* 'hatch out of oneself', *egészen odavan* 'be completely there/out of one's mind'). On the other hand, in the token-based approach, there are four general-purpose metaphors that are missing from the top 20 metaphors in the lexical approach (ATTRIBUTED STATES ARE POSSESSED OBJECTS, EXISTENCE IS PRESENCE HERE, CAUSES ARE FORCES, INTERNAL STATES ARE SUBSTANCES OUTSIDE), and the first two are completely absent from the dictionary-based analysis. Among the less salient metaphors of the corpus-based approach there are a number of additional metaphors not identified in the type-based study. These include STATES ARE LOCATIONS, CAUSES ARE FOUNDATIONS, INTENSITY IS BLACK, INTENSITY IS HELL, MORAL IS BEAUTIFUL, and INTENSITY IS DRY.

In conclusion, Hungarian speakers rely more on schematic metaphors in their everyday language use than a lexical analysis would suggest, which means that in

addition to the metaphors specific to the DÜH target domain, they creatively develop more schematic metaphors to express this emotion concept. This may be the effect of the changed contextual factors (socio-cultural and/or environmental) that characterize our present-day environment.

3.2.5. Dimensions of DÜH focused on in the two approaches

In the two datasets, 18 dimensions can be identified in Hungarian, and 11 of these are profiled by both the lexical and the corpus data (see *Table 3.4*).

Table 3.4. **Profiled dimensions of DÜH in the two approaches**

Profiled dimensions of anger based on the lexical data	***Profiled dimensions of anger based on the corpus data***
Cause of anger	Cause of anger
Cause displeasing the self	X
Onset of anger	Onset of anger
Existence	Existence
Experience	Experience
Intensity	Intensity
Control	Control
Lack of control	Lack of control
Loss of control	Loss of control
Anger leading to a reaction	Anger leading to a reaction
X	Anger as cause
Showing anger	Showing anger
X	Maintaining anger
Danger to target	Danger to target
X	Danger to the self
X	Utility and value of anger
X	Passing of anger
X	Revival of anger

As can be seen in *Table 3.4*, the 28 metaphors identified in the type-based dataset focus on 12 dimensions of DÜH, and the 42 metaphors of the corpus-based data bring 17 dimensions of the concept to the fore. This also means that six of the identified aspects of ANGER are not profiled in the lexical analysis, and only one dimension is missing from the corpus data.

3.2.6. Interim results: Hungarian

In this research we investigated the metaphors of DÜH in Hungarian by means of two approaches, using dictionary and corpus data. In total, 50 anger metaphors were identified in the two studies, of which 20 were found in both approaches. The corpus research yielded more metaphors (n=42) than the type-based research (n=28), and the former approach resulted in a much higher number and salience of general-purpose metaphors. Furthermore, 18 dimensions of the concept of DÜH

were identified by the two analyses, 11 of which were detected by both approaches. The lexical method identified 11 dimensions, while the corpus method identified 17. In the corpus research, several source domains or metaphors were found that shed light on almost all aspects of the evolving script of DÜH: OBJECT, HUMAN BEING, INTERNAL STATES ARE SUBSTANCES INSIDE A CONTAINER. Some of these dimensions only constitute non-prototypical scenarios of ANGER. The results of the study confirm that the dictionary-based and the corpus-based approaches complement one another, shedding light on two partially different knowledge structures, the comparison of which can provide valuable information on complex abstract concepts.

3.3. Russian

3.3.1. Keyword and data collection

Гнев gnev (‘anger’) was selected as the keyword for examination in this study due to the fact that Russian literature in the field of psychology treats this term as a basic human emotion, as well as many English-Russian dictionaries gloss *anger* as *гнев gnev* (e.g., Falla et al. 1993).

The type-based analysis involved the collection of 199 metaphorical expressions from four online dictionaries: Thesaurus of the Russian language (*Словарь синонимов и сходных по смыслу выражений slovar’ sinonimov i skhodnykh po smyslu vyrzhenii*[7]), Phraseological dictionary of the Russian language (*Фразеологический словарь русского языка Frazeologicheskii slovar’ russkogo yazyka*[8]), Big explanatory dictionary of the Russian language (*Большой толковый словарь русского языка Bol’shoi tolkovyi slovar’ russkogo yazyka*[9]) and Phraseological dictionary of expressions of feelings and emotions (*Фразеологический словарь выражений чувств и эмоций Frazeologicheskii slovar’ vyrzhenii chuvstv i emocii*[10]).

The token-based analysis entailed selecting 1,000 random instances of the lemma *gnev* from the Russian National Corpus (*Национальный Корпус Русского Языка Natsional’nyi Korpus Russkogo Yazyka*) across diverse range of text genres, such as fiction, non-fiction, press, advertisements, spoken language and personal forums. The MIP procedure developed by the Pragglejaz Group (2007) was used to analyze the collected data. In adapting MIP for Russian, insights from works on Polish (Marhula & Rosiński 2019) and Serbian (Bogetic et al. 2019), two other Slavic languages, were considered. Given the linguistic similarities and shared history, some of the strategies employed for these languages were found applicable to Russian, particularly regarding morphology and syntactic constructions.

[7] http://slovari.ru
[8] http://rus-yaz.niv.ru/doc/phraseological-dictionary
[9] http://www.gramota.ru/slovari
[10] https://psylist.net/slovar/aaa.html

3.3.2. Differences in the number of conceptual metaphors

The full list of the metaphors of both approaches, with aggregate values, can be found in *Appendix 5* (lexical method) and *Appendix 6* (corpus-based method) – full discussion and elaboration of each metaphor can be found in Rommel (to appear). Based on our analysis, it is evident that the corpus-based approach produced a greater number of source domains for GNEV as compared to the lexical method. Our results show that the corpus-based analysis identified a total of 41 distinct conceptual metaphors for GNEV, whereas the lexical approach yielded only 28.

This finding is consistent with previous research studies, which have highlighted the benefits of corpus-based approaches in identifying a larger number of source domains for emotion concepts. In particular, studies by Kövecses and colleagues (2015, 2019) and Stefanowitsch (2007) have also shown that corpus-based approaches tend to reveal more source domains than lexical approaches. It is worth noting that the finding of a greater number of conceptual metaphors for GNEV using the corpus-based approach is consistent with the research in other languages, namely American English and Hungarian, as discussed in the present paper.

3.3.3. Differences in the top twenty metaphors in the two approaches

A more detailed comparison of the top 20 metaphors from the lexical and corpus-based approaches reveals significant differences as well as striking similarities, highlighting the benefits of utilizing both methodologies in the analysis of emotion concepts.

As demonstrated in *Table 3.5*, there are notable differences between the two approaches, particularly in the top five metaphors. While the lexical approach emphasizes a specific source domain (DANGEROUS ANIMAL), the corpus approach highlights a relatively general-purpose metaphor (OBJECT). Altogether, general-purpose metaphors outpace more specific ones in the corpus-based approach, as seen in the prominence of the CONTAINER metaphors.

Nonetheless, there are also striking similarities, as the FIRE and STATES ARE LOCATIONS source domains/metaphors rank second and third in both the type-based and the token-based analyses. These shared results suggest that these metaphors play a critical role in the conceptualization and expression of GNEV in Russian culture. Interestingly, the foci of these two metaphors differ in the two approaches. For instance, metaphorical expressions under the FIRE source domain in the lexical dataset highlight the intensity and dangerousness of ANGER, while the expressions from the corpus approach primarily focus on causation. In case of the STATES ARE LOCATIONS metaphor, the lexical approach focusses on "willingly entering the state of anger", while the corpus data highlight causation.

Additionally, the absence of some metaphors in the top twenty list in the lexical approach that were present in the corpus-based approach is noteworthy. For instance, many schematic metaphors, such as ATTRIBUTED STATES ARE POSSESSED

OBJECTS, cannot be found in the top twenty metaphors in the lexical dataset but emerged as salient in the corpus-based approach. Furthermore, it is noteworthy that the CANONICAL LOCATION OF A RATIONAL SELF IS INSIDE THE BODY CONTAINER, which ranked as the fifth most salient metaphor in the lexical dataset, was not among the top twenty identified in the corpus-based approach. Moreover, language-specific source domains such as SOUND and FRIGHTENING AGENT were not present in the type-based account.

Overall, there are fascinating similarities between the results of the two approaches. Although the corpus-based approach identifies more metaphors and establishes general metaphors to be more prominent than specific ones, the lexical approach and corpus-based approach do share some of the most salient metaphors, indicating that certain metaphors are particularly prevalent and significant in the conceptualization and expression of GNEV in Russian culture.

3.3.4. Differences in the schematicity of metaphors in the two approaches

As we delve into the analysis of conceptual metaphors that define the concept of GNEV, it becomes apparent in both the type-based and corpus-based analyses that some of these metaphors are highly schematic in nature (see *Table 3.5*).

Table 3.5. **Schematic metaphors in the first 20 metaphors in the two approaches**

Lexical approach	Corpus-based approach
STATES ARE LOCATIONS	STATES ARE LOCATIONS
THE CANONICAL LOCATION OF A RATIONAL SELF IS INSIDE THE BODY CONTAINER	ATTRIBUTED STATES ARE POSSESSED OBJECTS
INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY AS A CONTAINER	INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY AS A CONTAINER
INTERNAL STATES ARE CONTAINERS OUTSIDE THE BODY	INTERNAL STATES ARE CONTAINERS OUTSIDE THE BODY
CONTROL IS POSSESSION	CAUSES ARE CONTAINERS
	INTENSITY IS QUANTITY

It can be seen that both approaches identified certain shared schematic metaphors in the top twenty metaphor list, including STATES ARE LOCATIONS, INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY AS A CONTAINER and INTERNAL STATES ARE CONTAINERS OUTSIDE THE BODY. At the same time, the top twenty metaphors of the corpus-based approach contain a further schematic metaphor: INTENSITY IS QUANTITY. Although the differences in schematicity may seem minor, it is important to note that the shared schematic metaphors ranked higher in the corpus-based approach.

However, upon examining the complete inventory of conceptual metaphors derived from both approaches, it can be concluded that the lexical approach contains four additional schematic metaphors, namely ATTRIBUTED STATES ARE POSSESSED OBJECTS, INTENSITY IS HARDNESS, CAUSES ARE CONTAINERS, and INTENSITY IS HEAT. On the other hand, the corpus-based approach incorporates eight additional schematic metaphors, specifically CAUSED CHANGE IS FORCED MOTION,

INTENSITY IS HEAT, INTENSITY IS HARDNESS, EMOTION IS TOUCH, BAD IS DARK, THE CANONICAL LOCATION OF A RATIONAL SELF IS INSIDE THE BODY CONTAINER, FUNCTIONALITY IS UP, and CAUSATION IS CONNECTION. This reveals that the corpus-based approach found a larger number of schematic metaphors (n=14) than the lexical approach (n=9), with the corpus-based method also producing a higher ranking for schematic metaphors. Overall, the corpus-based approach demonstrates a higher number of highly schematic metaphors compared to the lexical approach. This finding supports the claim made in the American English and Hungarian sections of the present paper (3.1.4, 3.2.4) and emphasizes that Russian speakers also employ diverse generic metaphors in actual discourse by conceptualizing the concept of GNEV in novel ways, while ensuring mutual comprehension with the help of the shared context. The findings also highlight the flexibility of the conceptual system and its interaction with context.

3.3.5. Dimensions of GNEV focused on in the two approaches

Table 3.6 demonstrates that there are 14 dimensions of GNEV that the identified metaphors of both approaches share. However, the corpus-based analysis does not identify three dimensions that were identified by the lexical approach, namely "cause displeasing the self", "dangerousness of an angry person", and "morality of ANGER". Conversely, the lexical approach misses four dimensions that were identified by the corpus-based approach: "scarcity of ANGER", "handling ANGER", "purpose of ANGER", and "danger to the angry person". These differences in foci can be attributed to the different methods used by each approach. As a result, the corpus-based analysis is better suited for capturing dimensions that may not be explicitly defined in dictionaries or language resources, but are commonly used in natural language. On the other hand, the lexical approach is better suited for capturing dimensions that are well-defined and explicitly stated in language resources.

Table 3.6. **Profiled dimensions of GNEV in the two approaches**

Profiled dimensions of anger based on the lexical data	Profiled dimensions of anger based on the corpus data
Danger to target	Danger to target
High degree of loss of control	High degree of loss of control
Expression / visibility of anger	Expression / visibility of anger
Cause displeasing the self	X
Danger of anger	Danger of anger
Intensity of anger	Intensity of anger
Lack of control over anger	Lack of control over anger
Causing anger	Causing anger
Loss of control	Loss of control
Internalization of anger	Internalization of anger
Dangerousness of angry person	X
Existence of anger	Existence of anger

Profiled dimensions of anger based on the lexical data	Profiled dimensions of anger based on the corpus data
X	Scarcity of anger
Action	Action
Responsibility for anger	Responsibility for anger
X	Handling anger
X	Purpose of anger
Attempt to control anger	Attempt to control anger
Anger as cause	Anger as cause
Morality of anger	X
X	Danger to angry person

3.3.6. Interim results: Russian

The section examined the conceptualization of GNEV via two methods, the type-based and token-based approaches, and subsequently compared their results. In comparison to the lexical approach, the corpus analysis yielded a higher number of metaphors, which were more schematic by nature. On the other hand, the lexical approach identified more specific metaphors. The top metaphors in both approaches highlighted the importance of controlling anger in Russian culture. The top metaphor in the type-based approach, GNEV IS A DANGEROUS ANIMAL, highlighted not only the nature of angry behavior but also its causes and lack of control. Meanwhile, the top metaphor in the token-based approach, GNEV IS AN OBJECT, emphasized the attempt to control the emotion and the visibility of ANGER. The differing rankings and foci of the top metaphors between the two approaches indicate the complexity and multi-dimensionality of the conceptualization of GNEV in Russian. It is important to note that the two knowledge structures derived from the two datasets do not reflect a unified coherent cultural model, but rather represent complex inclusive conceptualizations that have emerged in Russian culture. Overall, it is crucial to use both approaches in analyzing the conceptualization of emotions in a given culture, as they complement each other and offer a more holistic understanding of the complex nature of emotions.

4. General discussion

4.1. General results

The findings of the research show that the corpus-based approach tends to produce significantly more source domains for the concept of ANGER than the lexical approach in all the three languages. In case of American English, 20 metaphors were identified in the lexical dataset and 53 in the corpus-based one. In Hungarian, the type-based analysis yielded 28 metaphors, while 42 were found in the corpus-based approach. Regarding the Russian data, the number of metaphors amounts to 28 in the lexical analysis and 41 in the corpus-based one. These findings are in line with previous research results (e.g., Kövecses et al. 2015, Stefanowitsch 2007). However, a comparative qualitative approach to the metaphor types

identified in the lexical and corpus-based studies in the three languages has new and unexpected outcomes.

Interestingly enough, the corpus-based analysis, which is a data-driven approach and thus examines input from a wide range of text types drawing on real language use, yielded more schematic metaphors than the dictionary-based investigation in all the three languages. Among the top 20 metaphors, in the American English data there were 6 schematic metaphors that are only present in the lexical dataset and 7 that can only be found in the corpus. This number is 6 in the lexical dataset and 9 in the corpus-based study in the Hungarian research, and 5 in the type-based, and 6 in the token-based approach in the Russian investigation.

Furthermore, the higher number of metaphors in the corpus-based approach highlights more dimensions of ANGER than the metaphors of the type-based study (the number of dimensions are as follows: Am. English – lexical: 15, corpus: 18; Hungarian – lexical: 12, corpus: 17; Russian – lexical: 17, corpus: 18). There is one shared dimension that is profiled only by the metaphors revealed in the lexical approach in all the three languages: "cause displeasing the self", and two dimensions highlighted only in the corpus-based approach across the three languages: "danger to the angry person" and "purpose/utility of anger". This latter dimension refers to possible valuable effects of ANGER, which aspect is entirely absent from all the three type-based datasets.

If we compare the most salient metaphors as based on the lexical data, we find some remarkable similarities across the three languages. In particular, the DANGEROUS ANIMAL metaphor figures importantly in all three (1st in American English, 3rd in Hungarian, and 1st in Russian). The FIRE metaphor is second in Russian, fourth in American English, and fifth in Hungarian. The INSANITY source domain also occurs in all three (in 6th, 2nd, and 4th place, respectively). It is worth pointing out that the three source concepts are quite specific in terms of their genericness, which makes their presence in the three languages all the more noticeable. Two source domains rank high in the salience list of two languages (PRESSURIZED SUBSTANCE: 2nd in American English, and 1st in the Hungarian dataset; and HOT FLUID: 5th in American English, and 4th in the Hungarian data). In addition, there are very few source domains among the most salient metaphors that occur singly, that is, only in one language.

The corpus-based analysis reveals a different picture. There are two shared metaphors at the top of the salience list in the three languages: OBJECT and INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY. Several can be found in two languages: ATTRIBUTED STATES ARE POSSESSED OBJECTS (Hungarian, Russian), INTENSITY IS QUANTITY (American English, Hungarian), DANGEROUS ANIMAL (American English, Russian). And some occur in high salience only in a single language: WEAPON, PRESSURIZED SUBSTANCE, OPPONENT, and STATES ARE LOCATIONS. What is remarkable here is that most of the metaphors that can be found in all the three or in two languages are highly generic ones (STATE IS AN OBJECT, INTERNAL STATES ARE SUBSTANCES IN THE BODY, ATTRIBUTED STATES ARE

POSSESSED OBJECTS, INTENSITY IS QUANTITY), whereas the metaphors that occur singly tend to be specific ones, such as WEAPON, PRESSURIZED SUBSTANCE, OPPONENT (except for STATES ARE LOCATIONS). This situation is the converse of the previous case, that of the results of the lexical analysis, where the shared source concepts at the top of the salience list were specific ones (DANGEROUS ANIMAL, FIRE, INSANITY).

In sum, taking into account the results of the two approaches, there seems to be a considerable degree of congruence across the three languages as regards the metaphors they share. One may wonder what the reason is for such degree of congruence. Clearly, it cannot be the language family (Hungarian is Uralic, not Indo-European). It cannot be the geographical location either: relatively speaking, Russian is geographically distant from English, and yet it shares many metaphors with it. No matter how trivial, the reasonable answer seems to be that the three languages belong to the same European cultural sphere that has been shaped historically in more or less the same way, the main contributing elements being Greek and Roman antiquity, the Judeo-Christian tradition, the humoral view of emotions, all the way to the Industrial Revolution and the Enlightenment. Most of the shared metaphors in the three languages can be accounted for by one or several of these historical factors. And even the more unique ones may be products of the same factors (FLUID IN A CONTAINER, WEAPON, OPPONENT). Some others, though, come directly from universal bodily experience (such as INTENSITY IS QUANTITY).

However, on the flip side of the coin there is also the complementary question of what accounts for the many, more detailed differences in the metaphorical conceptualization of ANGER in the three languages. To investigate this issue in a systematic way, one would have to examine all the context types and contextual factors (see Kövecses 2015) in metaphorical conceptualization and see how they apply to the conceptual metaphors in the three languages. For lack of space, this cannot be done in a study of the kind presented here.

4.2. Methodological implications for ANGER research

Finally, we take up the issue mentioned in the introduction of what role the two methodologies play in judging which conceptual metaphors figure most importantly in the three languages. We have seen that in the type-based lexical approach it was the DANGEROUS ANIMAL, FIRE, and INSANITY metaphors that are shared by all three and the PRESSURIZED CONTAINER and HOT FLUID metaphors by two languages. In the token- and corpus-based approach it was the OBJECT and INTERNAL STATES ARE SUBSTANCES INSIDE THE BODY metaphors that were found in all three languages, while ATTRIBUTED STATES ARE POSSESSED OBJECTS, INTENSITY IS QUANTITY, FIRE, and DANGEROUS ANIMAL were found in two. We can also observe that in the corpus-based approach the four generic metaphors (OBJECT, SUBSTANCE, POSSESSED OBJECT, QUANTITY) rank higher in their rank order placement than the more specific ones (FIRE and DANGEROUS ANIMAL). This indicates that we find a great deal of congruence relative to shared metaphors in

both approaches, but in the lexical approach the high degree of congruence derives from specific level metaphors, whereas in the corpus-based approach it derives from more schematic, generic-level metaphors. In other words, the overall congruence of metaphors is high in both approaches, but it is based on different types of metaphors (specific vs. generic).

What the comparative study of the two approaches across the three languages has thus revealed is that the metaphor systems that play a role in meaning-making are very different both quantitatively and qualitatively depending on the method applied. The list of metaphors uncovered by the corpus-based approach is not only substantially longer, but also different and more schematic in nature than the metaphors of the lexical study. This schematicity reveals the flexibility of the speaker's conceptualization insofar as they find novel, unconventional frames for ANGER, which are understood by their interlocutors based on the same shared general metaphors and the help of the context. With this strategy, different and more diverse dimensions of ANGER can be unveiled than by looking at conventionalized, idiomatic expressions solely.

On the whole, the results of the study confirm that the two approaches complement one another, insofar as they shed light on two partially different knowledge structures, the comparison of which can provide valuable information on complex abstract concepts. To put it simply, if we wish to explore the metaphor system specific to a certain concept, we should choose to work with the lexical method. If, however, we wish to examine the creative potential of metaphors, we should opt for a corpus-based analysis. Nevertheless, as the present study has demonstrated, the full picture of the metaphorical conceptualization of a complex emotion concept such as ANGER can only emerge with the combination of the type- and token-based approach.

5. Conclusions

This study is the first of its kind to offer a combined methodology of a lexical approach and a corpus-based approach to systematically compare the metaphorical conceptualization of ANGER across three unrelated languages. As there is a relatively limited number of contrastive analyses in the field of metaphor studies and the methodology applied in them is rather varied regarding the type- and token-based accounts of metaphors, we took up both of these challenges with the aim of offering a more definitive answer to the question of the universality and variation of ANGER metaphors. To this end, we have chosen to study three unrelated languages: a Germanic language (American English), a Uralic language (Hungarian), and a Slavic language (Russian). Based on previous research, we expected schematic similarities in the dimensions of "intensity" and "control" across all the three languages, in both approaches, and differences in what language-specific metaphors will elaborate these schematic similarities. However, our results have placed the emphasis elsewhere. The metaphors revealed by the two approaches are very different regarding both their quantity and quality. First, the

corpus-based approach provided access to a much larger set of metaphors in all the three languages than the lexical one. Second, in the token-based approach, schematic metaphors played a greater role in all the three investigated languages, as compared to the type-based account that yielded more metaphors specific to ANGER. Third, despite the fact that the majority of the dimensions – including "intensity" and "control" – of ANGER were shared by the metaphors in both of the approaches, there are a number of new dimensions that were revealed by only one of the methodologies.

Therefore, our major result is that the two methodologies offer different, yet complementary results. When it thus comes to the question of universality vs. variation, the outcome of any comparative research depends to a great extent on the kind of methodology that is employed: a type-based or a token-based approach.

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