EXPLORING *SMELL* FROM A COGNITIVE PERSPECTIVE IN ENGLISH AND BULGARIAN (A CORPUS STUDY)

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Abstract*: Perception is universal for human beings but linguists are interested whether it is conceptualized the same way in different languages. The focus of this article is the concept of smell and how it is linguistically coded in English and Bulgarian. Such cross-linguistic meanings have not been systematically investigated when they appear in context. This study is corpus-based to capture, on the one hand, the conceptual organization of smell and, on the other hand, the structure of more abstract concepts. The study applies the cognitive perspective to interpret the conceptual metaphors in the domain of smell. The interplay of senses is used to enhance the "linguistic codability" of perceptions. Smell, which is on the whole understudied, together with touch and taste, offers a wide variety of metaphoric interpretations not only within one language but also across languages. The range of usage that is readily observable in the corpus reveals that this type of data must form the basis for empirically grounded studies of semantics. Moreover, these data suggest that cross-linguistic analogy in polysemous meanings may rely not only on universal cognition, but also on the universal experiences of social interaction.*

Key words*: smell metaphors, conceptual structure of smell, smell vs. other senses*

Introduction

Perception is fundamental to human experience and it provides people with valuable cognitive knowledge which they can express through language. Speakers' ability to reveal what they see, hear, feel, smell, and taste is one of the most crucial capacities of language. *Sensory Linguistics* is the interdisciplinary field which studies how language relates to the senses. The main idea proposed by sensory analysis is that the use of perceptual metaphors is governed by a cognitively motivated "hierarchy of the senses", which relies on the fact that some perceptions are easier to encode, while others are "ineffable". Lexical typologists consider some universal constraints imposed on the organization of perception words across languages, reflecting the psychophysical fact about the ranking of different senses (Evans & Wilkins 2000; Viberg 1983, 2001). Recent studies of other lexical domains, however, give evidence of much more cultural

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diversity in the codability of the senses than the universalist approach suggests (Majid & Levinson 2011).

As this article is narrower in scope, we focus on one of the sensory aspects of linguistics – *smell* – and how it is encoded in English and Bulgarian. We use the cognitive approach to analyze the metaphorical uses of both the noun *smell* and the verb *to smell*, and their Bulgarian equivalents *мирис, миризма, мириша*, as well as some of their synonyms. Our objective is to demonstrate what characterizes *smell* vocabularies in both languages and to outline what they have in common and how they are different. Even if there is an overlap in using translation equivalents, it is not sure whether the *smell* terms are used and understood in the same way by representatives of both languages. Our analysis is based on data collection of words used in everyday life as well as on sensory lexicons.

Literature review and methodology

The hypothesis that words, grammar, and metaphors in a language lead to our differing perceptions of experiences have long been a topic of discussion for linguists. However, it is problematic to determine the degree of influence language has on the way we think. Other aspects, such as culture, presented by the traditions and habits we grasp from the people around us, also shape the way we communicate, the things we talk about, and in this respect, changes the way we think or even how we remember things. If we refer to the realm of colour, in Bulgarian *sky blue*, *sea blue*, *dark blue* and *Turkish blue* lead speakers to think of these four as different colors but they never *feel blue* as the English do[2]. Some studies say that people do not actually see a color unless there is a word for it.

The traditional five modes of perception: *touch*, *taste*, *smell*, *sight*, and *hearing*, are interrelated and have metaphorical connections. Based on traditional research into synesthetic[3] metaphors, scholars in cognitive linguistics (e.g., Kövecses, 2010; Lakoff & Johnson, 1980, 1999) display a transfer of conceptual metaphors between domains of perception and more abstract domains (see Evans & Wilkins, 2000; Sweetser, 1990). Transfers are systematic and move from the "less

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2. It is an interesting fact that the Dani of New Guinea categorize colors as "dark"– which includes blue and green – and "light"– which includes yellow and red. But the speakers of the Dani language can distinguish between yellow and red although they have only one word for them. https://theconversation.com/the-way-you-see-colour-depends-on-what-language-you-speak-94833

3. In linguistics, the term synaesthesia refers to a metaphorical transfer from one sensory modality (source) to another (target), namely the perception related to one sense is described by lexical means related to a different sense (e.g., the expression cold colours describes the domain of vision in terms of touch, or temperature) (Strik Lievers, 2015)

differentiated" (*smell*, *taste*) to the more differentiated senses (*hearing*, *vision*). Sensory modalities have been ranked also in studies concerning the semantics of single lexemes. Viberg (1983, p. 136) proposes some broad similarities with the hierarchy of sense modalities based on the extension of meaning from one sense modality to another: *sight > hearing > touch > smell/ taste*.

Table 1. *The basic paradigm of the verbs of perception (adapted from Viberg, 1984, p. 125)*

Sense modalities ↓	Activity	Experience	Copulative
Vision	P. *looked* at the birds.	P. *saw* the birds.	P. *looked* happy
Hearing	P. *listened* to the birds.	P. *heard* the birds.	P. *sounded* happy.
Feeling	P. *felt* the cloth /to see how soft it was/.	P. *felt* a stone under his foot.	The cloth *felt* soft.
Taste	P. *tasted* the food / to see if he could eat it/.	P. *tasted* garlic in the food.	The food *tasted* good / bad / of garlic.
Smell	P. *smelled* the cigar /to see if he could smoke it/.	P. *smelled* cigars in the room.	P. *smelled* good / bad / of cigars.

Viberg labels the three "dynamic systems" (see Table 1) – "activity", "experience" and "copulative", and uses them to cross-cut the five sense modalities. He defines activities as unbounded processes that are initiated consciously by a human agent, while experiences are defined as involuntary states. In Viberg's study, activities and experiences are both considered to be "experiencer-based", i.e. the experiencer is realized as the grammatical subject. Copulative expressions are defined as "source-based" states, with the source realized as the subject. Therefore, Viberg's classification is a combination of semantic and grammatical criteria. In the present analysis *smell* is considered as a perceptive event which is an activity or experience. Copulatives are not discussed separately but they are interpreted as expressions of perceptive states or achievements in which the experiencer is not overtly expressed.

Studying synaesthesia in language allows defining patterns of association of sensory modalities that are even more revealing if approached from a linguistic or cognitive point of view. Hence, this study is corpus-based, although metaphors are not automatically recognized in context (Stefanowitsch & Gries, 2006). Focusing on *smell* as a specific case of synesthesia, we look at both source and target domain lexical items which belong to the field of perception.

The picture is quite different depending on whether we look at each perception category as the source or target of a metaphor. All categories except *smell* enter into a larger number of metaphorical relationships as the source (Speed et al., 2019, p. 72). *Sight* and *touch* as source categories rank highly, while *hearing*,

noise and especially *smell* rank low. The importance of *sight* and *touch* is in accordance with the Aristotelian hierarchy of senses, in which *sight* is defined as the most highly developed and *touch* as the primary sense (for empirical evidence see Szwedek, 2000). Although the number of instances of the *smell* category is low, it proves a broader metaphorical scope than has been recognized earlier (Ibarretxe-Antunano, 1999). When we consider perception categories as the target of a metaphor, *smell* again ranks low as it is regarded as one of the proximal senses together with *touch* and *taste*. Those representing the distal senses, namely *hearing*, *noise* and *sight*, rank highly (Speed & Majid, 2017).

Based on the assumptions of corpus linguistics and contrastive studies, the proposed method can be presented in three stages: 1) Compiling a list in English and Bulgarian (as exhaustive as possible) of smell-related lexemes, with the help of existing lexical resources, 2) Using the lexemes in the list to collect a corpus, 3) Studying the corpus data from cognitive perspective, in order to extract contexts including metaphorical mappings and comparing them cross-culturally. In this study, the collected data are from English and Bulgarian, but the methodology can be applied in future work to other languages. If some uniformity in the *smell* synaesthetic patterns is found, this could open a fascinating window into human perception and language.

Data analysis

The choice of the concept of *smell* as an object of analysis is due to the fact that *smell* is considered as a quite "ineffable percept and concept" (Kövecses, 2018, p. 4), i.e. it is hard to describe it (at least in relation to some other percepts, like *sight* in the case of *colours*). Levinson and Majid (2014, p. 407) see ineffability as "the degree to which percepts or concepts resist linguistic coding". Following Levinson and Majid (2014) and Kövecses (2018), in order to "measure" the linguistic codedness off *smell*, (a) we need to describe its linguistic expression in one language (say, in English), (b) then in another language (say, in Bulgarian), and (c) compare their "codedness". We approach these tasks with the help of the methodology of cognitive semantics, starting with the lexical approach. We check various lexical items related to the perceptual category of *smell*. The best sources for these are all kinds of dictionaries and any collections associated with the concept.

In order to consider the meaning of *smell* both as a noun and as a verb, we use WordNet developed by Princeton University[4] as a large lexical database of English. The lexical items are organized in sets of cognitive synonyms, called 'synsets', each expressing a distinct concept. These synsets are grouped

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4. WordNet https://wordnet.princeton.edu/

due to conceptual-semantic and lexical relations. Correspondingly, BulNet[5] is used to study the Bulgarian noun *мирис* 'smell' and the Bulgarian verb *мириша* 'smell'. As a rich lexico-semantic database, BulNet is developed by the Department of Computational Linguistics at the Bulgarian Academy of Sciences within the project BalkaNet[6] – a multilingual semantic network of the Balkan languages, which aims at building synchronized semantic databases for the following Balkan languages – Bulgarian, Greek, Romanian, Serbian, Turkish, and expanding the Czech lexical-semantic network. Each synonymous set – 'synset', encodes a relation of equivalence between several units (at least one must be present explicitly in the set), which have a unique lexical meaning, belong to the same part of speech, and express the same meaning.

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5. Bulgarian WordNet (BulNet) https://dcl.bas.bg/bulnet/ contains more than 80,000 synonymous sets divided into nine parts of speech – nouns, verbs, adjectives, adverbs, pronouns, prepositions, conjunctions, particles and interjections. The words included in the Bulgarian WordNet are selected according to different criteria. The frequency analysis of the occurrences of the words in large corpora of texts was dominant (not word forms, which would lead to an error in the analysis, but to basic forms), as well as the inclusion of those synonymous sets already appearing in databases in other languages, and synonymous sets corresponding to meanings that occur with high frequency in parallel corpora.

6. BalkaNet http://www.dblab.upatras.gr/balkanet/ tries to explore the less studied Balkan languages and combine and compare them cross-linguistically. The project aims at developing a multilingual lexical database which contains the individual WordNets for the Balkan languages. "The most ambitious feature of the BalkaNet is its attempt to represent semantic relations between words in each Balkan language and link them together in order to develop an on line multilingual semantic network. The main objective is the development of each's languages WordNet from available resources covering the general vocabulary of each language. Semantic relations will be classified in the independent WordNets according to a shared ontology. Then, all individual WordNets will be organized into a common database providing linking across them".

Table 2. *WordNet senses of smell (n)/*
BulNet senses of мирис 'smell' (n)

WordNet: SMELL *(noun)*	*BulNet:* мирис *'smell' (noun)*
S: (n) smell, odor, odour, olfactory sensation, olfactory perception (the sensation that results when olfactory receptors in the nose are stimulated by particular chemicals in gaseous form) "she loved the smell of roses" S: (n) olfactory property, smell, aroma, odor, odour, scent (any property detected by the olfactory system) S: (n) spirit, tone, feel, feeling, flavor, flavour, look, smell (the general atmosphere of a place or situation and the effect that it has on people) "the feel of the city excited him"; "a clergyman improved the tone of the meeting"; "it had the smell of treason" S: (n) smell, sense of smell, olfaction, olfactory modality (the faculty that enables us to distinguish scents) S: (n) smell, smelling (the act of perceiving the odor of something)	bg - n: миризма; мирис; дъх en - any property detected by the olfactory system; olfactory property; smell; aroma; odor; odour; scent bg - n: мирис; обонятелно възприятие; миризма en - the sensation that results when olfactory receptors in the nose are stimulated by particular chemicals in gaseous form; smell; odor; odour; olfactory sensation; olfactory perception; "she loved the smell of roses" bg - n: вонливост; смрадливост; зловонност en - the attribute of having a strong offensive smell; malodorousness; stinkiness; foulness; rankness; fetidness bg - n: аромат; благоухание; ухание en - a distinctive odor that is pleasant; aroma; fragrance; perfume; scent bg - n: мирис; дъх; миризма en - an odor left in passing by which a person or animal can be traced; scent

The contrasting arrangement of the senses in English and Bulgarian (see Table 2) is conditioned by the frequency of their occurrences of the large corpora used by WordNet and BulNet. With WordNet the definitions of the noun senses reveal that *smell* in English is conceptualized as a sensation, a property, a faculty, and an act. These are literal senses of the word, and they together build a frame in the sense of Fillmore (1982). The third sense, "general atmosphere", is metaphorical and is not part of this frame. The list of the Bulgarian senses of the analyzed noun all belong to the same frame as they express non-metaphorical senses. The figurative meaning of the Bulgarian noun is not designated on the list but it is semantically related to the last sense, which has as an equivalent the English noun *scent*. The large number of relations included in the Bulgarian WordNet illustrates the linguistic richness at the semantic and word-forming levels – this also implies the possibilities for numerous practical applications of the multilingual database. The Bulgarian Electronic Semantic Database offers

solutions at the semantic level – ability to choose synonyms, ability to refer to the semantic relations of a word in relation to the system of other words in the language (antonyms, hyponyms, derivatives, part-whole relationships, etc.), opportunity to consult the thesaurus and parallel translations.

Table 3. *WordNet senses of smell (v)/*
BulNet senses of мириша 'smell' (v)

WordNet: smell (verb)	**BulNet: мириша 'smell' (verb)**
S: (v) smell (inhale the odor of; perceive by the olfactory sense) S: (v) smell (emit an odor) "The soup smells good" S: (v) smell (smell bad) "He rarely washes, and he smells" S: (v) smack, reek, smell (have an element suggestive (of something)) "his speeches smacked of racism"; "this passage smells of plagiarism" S: (v) smell, smell out, sense (become aware of not through the senses but instinctively) "I sense his hostility"; "I smell trouble"; "smell out corruption"	bg - v: мириша en - inhale the odor of; perceive by the olfactory sense; smell bg - v: мириша en - emit an odor; smell "The soup smells good" bg - v: мириша лошо en - smell bad; smell "He rarely washes, and he smells" bg - v: изпълвам с миризма; изпълня с миризма; омирисвам[9]; омириша; вмирисвам; вмириша en - cause to smell or be smelly; odo(u)rize; scent

WordNet presents five senses of the verb *smell* (see Table 3) and glosses them as "inhale the odor of", "emit an odor", "smell bad", "have an element suggestive (of something)", and "become aware of not through the senses but instinctively". The senses of the equivalent Bulgarian verb enlisted by BulNet are four. The first three glosses suggested by WordNet and BulNet match (see Table 3). These three senses, like the senses of the noun, are also elements of a frame connected to *smell*, as well as the fourth sense of the Bulgarian verb glossed as "cause to smell or be smelly". Outside the frame but tangent to it remain the last two WordNet senses which are metaphorical.

Considering the definitions in Table 3, we can distinguish two types of construals associated with *smell*: an active and a passive one (Ibarretxe-Antunano, 1999; Kövecses, 2018). Lexically, the two types are based on the verbs *smell* (inhale an odour) and *emit* (smell). The active type involves an agent who is able to perceive a smell and an object that has the property to emit that smell. With the passive model we have an organism with the faculty of smell which is the origin of that smell. In this situation the organism functions rather in the role of patient or experiencer. The *smell* caused involuntarily by the organism occurs to it as an experience.

We regard these two types of the *smell* frame, active and passive, as belonging to one prototype as is usually the case with one category (see, e.g., Rosch, 1978). Kövecses (2018) makes a distinction between passive and active smell and argues that the passive version is more prototypical, while the active one should be viewed as derivative.

Table 4. *The basic paradigm of мирис, миризма, мириша 'smell', following Viberg (1984, p. 125)*

	Activity	**Experience**	**Copulative**
(n) *мирис, миризма* 'smell' (v) *мириша* 'smell'	(1) *Подуши* сладкия мирис на победата.	(2) *Усети* остра миризма	(3) Обувките бяха с *мирис* на пот и гума.

Table 4 shows that Viberg's (1984) basic paradigm of *smell* correlates to the paradigm of the Bulgarian verb *мириша* and the cognate nouns *мирис, миризма*. The Bulgarian corpus presents examples of the three "dynamic systems": the two "experiencer-based" Activity (see Table 4_Ex. 1) and Experience (see Table 4_Ex. 2) and the "source-based" Copulative (see Table 4_Ex. 3).

The corpora show a relationship between *smell* and some other sense modalities like *feel* and *taste*, on the one hand, and *emotion*, on the other (see Section 4). In some metaphors *smell* is conceptualized as the source domain, in others as the target domain.

Smell as a source domain

Based on the previous data and the metaphorical expressions found in the corpus, we can identify the following four different conceptual metaphors:

1. SUSPICION IS SMELLING

2. BAD IS SMELLY

3. BECOMING INSTINCTIVELY AWARE OF/GUESSING SOMETHING IS SMELLING SOMETHING

4. THE GENERAL ATMOSPHERE OF SOMETHING IS AN OLFACTORY PERCEPTION

The first three are conceptual metaphors discussed in extant literature (see, e.g., Ibarretxe-Antunano, 1999; Neagu, 2013; Sweetser, 1990). The last one is introduced by Kövecses (2018) to refer not only to *smell* but also to *sound, touch,*

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7. According to the Dictionary of Bulgarian Language, the correct spelling is *умириша/ умирисвам* *https://rechnik.chitanka.info/w/%D1%83%D0%BC%D0%B8%D1%80%D0 %B8%D1%81%D0%B2%D0%B0%D0%BC*, however BulNC contains two examples of омирисва.

taste, vision and *spiritual perception*. He points out that "spiritual perception" is a term coined in analogy to "spiritual vision" (Sweetser, 1990). Although spirituality is not a basic sense perception, it can be treated metaphorically as such, since it matches the model of perception-related metaphors. Conceptualizing abstract notions like the general atmosphere of a situation or event is challenging and we make use of sense perceptions as appropriate vehicles.

The general metaphor EMOTION IS PERCEPTION/ЕМОЦИЯТА Е УСЕЩАНЕ includes all major emotion metaphors, namely EMOTION IS TOUCH/ЕМОЦИЯТА Е ДОКОСВАНЕ, EMOTION IS TASTE/ЕМОЦИЯТА Е ВКУС, EMOTION IS SMELL/ЕМОЦИЯТА Е МИРИС. Lakoff and Johnson (1980) identify the EMOTION IS TOUCH conceptual metaphor as EMOTIONAL EFFECT IS PHYSICAL CONTACT/ЕМОЦИОНАЛНИЯТ ЕФЕКТ Е ФИЗИЧЕСКИ КОНТАКТ and Kövecses (1990) indicates it as EMOTION IS FEELING/ ЕМОЦИЯТА Е ЧУВСТВО. This conceptualization can be exemplified by lexical units such as *feeling/ чувство*, e.g.,

COCA corpus	BulNC	Gloss
(4) A terrible feeling *hit* her.	(5) *Жегна* я чувството за вина.	'A feeling of guilt stung her.'

Both *hit* (4) and *sting* (5) express the construal of *feeling* as a kind of physical touch. The lexemes *touch/ докосвам/ докосване* convey the metaphor EMOTION IS TOUCH/ ЕМОЦИЯТА Е ДОКОСВАНЕ.

COCA corpus	BulNC	Gloss
(6) Ms. Prewitt, your article really *touched* me.	(7) Значи най-накрая успях да *докосна* сърцето ти.	'So finally I was able to touch your heart.'

Apart from the *touch* metaphor, in Bulgarian a metonymic relation is also involved as it is specified in (7) that the emotion touches the heart of the recipient[8], giving rise to the metaphor EMOTION IS TO TOUCH SOMEONE'S HEART based on the definition that the *heart* is "the place within a person where feelings or emotions are considered to come from"[9].

Unlike the other perceptions, *smell* is not a very common way of conceptualizing emotions although this is what we find in the examples (8-11):

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8. A couple of instances were found in the Bulgarian corpus in which the heart is not mentioned but all of them are translation variants of originally English texts, therefore we hypothesize that these examples are a result of negative translation transfer, e.g., Един от тях ме докосна с мръсното си съзнание. 'One of them touched me with his dirty thoughts.'; Закачката ме докосна по чувствително място. 'The joke touched me in a sensitive place.' The English corpus also exhibits a few examples referring to the heart of the recipient, e.g., It will touch your heart as much as it has touched mine, but they are not so frequent as those referring to the recipients themselves.

9. Cambridge dictionary https://dictionary.cambridge.org/dictionary/english/heart

COCA corpus	BulNC	Gloss
(8) …a modest *smell* of success was in the air.	(10) *Мирис* на страх нямаше, само на възбуда.	'There was no smell of fear, only excitement.'
(9) Does everyone, like me, love the *smell* of victory in the morning!	(11) …още можеше да усети характерния *мирис* на… магия.	'He could still catch the characteristic smell of… magic.'

Showing very low levels of frequency, these examples (8-11) should be considered more as an exception to the rule than as representative instances. The correlation between *smell* and *emotion* can be found in translation equivalents, as in the movie title *Scent of a woman*[10] and its Bulgarian counterpart *Усещане за жена*. The source language employs the conceptual metaphor EMOTION IS SMELL, while the target language applies the conceptual metaphor EMOTION IS TOUCH to express the same meaning. This example provides evidence for the pervasive use of perception metaphors not only in a single language but also cross-linguistically and cross-culturally.

Further, *emotion* is also conceptualized as *taste* in the example *the rancid smell of politics*… Although the word *rancid* apparently modifies *smell*, it actually qualifies an EMOTION 'feeling' (the target domain of *smell* in the example, part of the implicit meaning of the phrase). Since the property of *rancidness* is a characteristic of *taste*, the ensuing conceptual metaphor we can suggest is EMOTION IS TASTE (see 12-15).

COCA corpus	BulNC	Gloss
(12) I can get the bad *taste* of this loss out of my mouth.	(14) Той спря, усетил горчивия *вкус* на поражението.	'He stopped, feeling the bitter taste of the defeat.'
(13) A faint *taste* of his performance style might be had at http…	(15) Имаше *вкус* на триумф.	'It tasted like triumph.'

Kövecses (2000, 2010) suggests that there is a difference between *taste* and *smell* as sources of conceptual metaphors. He believes that *taste*, especially when modified (*pleasant, bitter, bad*) is wider in scope than *smell*. *Bad* does not only qualify feelings (cf. *that bad feeling of guilt is still there*) but also particular emotions (*there's good anger and bad anger*). A broader metaphor than EMOTION IS TASTE, would be UNPLEASANT IS BITTER/ BAD TASTING and it can apply to unpleasant experiences in general, e.g., *bad luck, bitter shame, лош късмет, горчива загуба, лош спомен*, etc. The literal senses of *bitter* and *bad* are generalized to refer to something largely 'unpleasant' and not limited to *smell* and *taste*.

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10. Scent of a Woman (1992) is an American drama movie directed by Martin Brest.

Sweetser (1990, p. 37) also acknowledges the use of *bad smell* in English "to indicate bad character or dislikeable mental characteristics". The COCA corpus exhibits examples of the verb *stink* (18) and the derivative *stinker* (17) to denote unpleasant qualities. The neutral verbs *sniff* (16) and *smell* (19) are collocated with negative adverbs such as *contemptuously* and *fishy*, respectively, to express hateful traits. In particular, *to smell fishy* has developed an idiomatic meaning to refer to situations arousing feelings of doubt or suspicion. Obnoxious features such as contempt, hatred and hostility are correlating with bad smells in Bulgarian as well, as is the case with examples 20-23. The verbs *вони* 'reek' and *смърди* 'stink' suggest a greater degree of bad smell than *намирисва* 'smell (lightly)'.

The SUSPICION IS SMELLING metaphor is illustrated in the English idiom *I smell a rat*, used 'to recognize that something is not as it appears to be or that something dishonest is happening'[11]. Analogically, the Bulgarian expression *Надушвам нещо гнило* is applied in similar situations of doubt, uncertainty and distrust.

COCA corpus	BulNC	Gloss
(16) "What a burden!' and you *sniff* at it *contemptuously*," says the LORD Almighty.	(20) Чувствуваше, че хрумването му *намирисва* на глупост, по-лоша от риска.	'He sensed that his idea smelled of stupidity worse than the risk'.
(17) Be a thinker not a *stinker*.	(21) Това *намирисва* на недоверие, на пълна липса на увереност — да, *вони* по-лошо дори от мен.	'It smelled like distrust, a complete lack of confidence – yes, it stank worse than me'.
(18) That idea *stinks*.	(22) Но въздухът *вони* на магия.	'But the air stinks of magic'.
(19) I *smell* something *fishy* about this deal.	(23) *Смърдеше* на отчаяние и безнадеждност, на изгубено бъдеще.	'It smelled of despair and hopelessness, of a lost future.'

Being a basic sense, *smell* is a productive source domain as humans use it to gather information about reality. The concept of suspicion, mentioned earlier, is conventionally conceived of as *smell*, hence the conceptual metaphor SUSPICION IS SMELLING, e.g., (24) Освен това тук ми *намирисва* на мошеничество! 'What is more, it *smells* like fraud here!'). More generally, bad qualities and immoral behavior are conceptualized as (bad) smell (e.g., (25) Около Ирулан направо *вони* на тайни намерения 'Irulan *reeks* of secret decisions'. (26) Той през цялото време *смърди* на страх. 'He *stinks* of fear all the time.'), from which the metaphor BAD IS SMELLY originates. Apart from *воня* 'stink, reek' and *смърдя* 'stink' which denote 'perceiving bad smell', in Bulgarian the prefix *na-*

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11. https://dictionary.cambridge.org/dictionary/english/smell-a-rat

when attached to the verb *мириша* 'smell' brings an additional characteristic and modifies the meaning of the verb from being neutral as regards the kind of smell to 'perceiving bad smell'. What we consider as 'bad smell' can refer to either literal meaning, e.g., (28) Малкото, с което разполагаха, вече бе започнало да *намирисва* на застояло 'The little they had had already started to *smell* stale' or abstract meaning, e.g., (27) Твоето предложение *намирисва* на лудост! 'Your proposal *smells* like madness!'[12]. The difference between *смърдя, воня* 'stink, reek' and *мириша, намирисвам* 'smell' resides in the opposition passive/ active smell.

Table 5. The active/ passive model of smell and its synonyms

	Active	Gloss	Passive	Gloss
воня 'reek'	-	-	(25) Около Ирулан направо *вони* на тайни намерения	'Irulan *reeks* of secret decisions.'
смърдя 'stink'	-	-	(26) Той през цялото време *смърди* на страх.	'He *stinks* of fear all the time.'
мириша 'smell'	(29) Трябва да пия и *мириша* мента!	'I should drink and *smell* mint!'	(27) Твоето предложение *намирисва* на лудост!	'Your proposal *smells* like madness!'
намирисвам 'smell (lightly)'	(30) *Намирисвам* пушек.	'I can *smell* smoke'	(28) Малкото, с което разполагаха, вече бе започнало да *намирисва* на застояло.	'The little they had already started to *smell* stale.'
помирисвам 'smell, inhale odor'	(31) Сетне взема пакета и го *помирисва*.	'Then he picks up the package and *smells* it'.	-	-
замирисвам 'start smelling'	(32) И изведнъж *замириса* боязливо.	'And he suddenly *smelled* timidly.'	(33) *Замирисва* на плесен.	'It *smells* like mold.'

12. However, another meaning associated with намирисвам 'smell' is related to the conceptual domain of INTENSITY (see below) as it refers to "small quantity". Na- in намирисвам adds the nuance of meaning 'smell slightly/ a little bit' (Nedelcheva 2019, pp. 565-579) as in Освен това определено бе започнало да намирисва на развалено 'Besides, it had definitely started to smell bad'.

	Active	Gloss	Passive	Gloss
размирисвам се 'begin to spread smell'	-	-	(34) Работата наистина започваше да се *размирисва*.	'The business was really starting to get rough.'
вмирисвам се 'begin to smell bad'	-	-	(35) Шунката се *вмириса*.	'The ham *smelled* bad.'

Almost all of the abovementioned verbs (except *помирисвам* 'smell, inhale odor') conform to the passive model in which the subject is an experiencer, e.g., (25-28), (33-35). The active model applies to *мириша, намирисвам* 'smell' and *помирисвам* 'smell, inhale odor', *замириса* 'start smelling' in which the subject is an actor/ instigator who purposefully sniffs at something but also an experiencer who is able to perceive the smell, e.g., (29-32). Each of the prefixed Bulgarian verbs adds a nuance to the meaning of the base form: *намирисвам* 'smell (lightly)', *помирисвам* 'smell, inhale odor', *замирисвам* 'start smelling', *размирисвам се* 'begin to spread smell', *вмирисвам се* 'begin to smell bad'. There is one more verb with a prefix given as an equivalent to 'smell' *омирисвам*, which we consider colloquial as there are only two hits in BulNC, e.g.,

(36) …захвана да *омирисва* около дънера му и си дигна главата нагоре. 'it started to *sniff* around the log and lifted its head up.'

(37) Не му позволявай друг път да идва и да ми *омирисва* офиса. 'Don't let him come again and make my office *smell* bad.'

Although the examples are only two, they reveal different meanings of the verb. In (36) it can be glossed as 'sniff' and is a synonym of the active frame of *мириша, помирисвам. Омирисвам* in (37) is a synonym of *вмирисвам* 'begin to smell bad', when it is not used as a reflexive verb. In this case we have a subject who is the source of the smell and makes it spread, so it is interpreted in the active frame.

The more abstract concept of general atmosphere when interpreted in terms of *smell* leads to the conceptual metaphor THE GENERAL ATMOSPHERE IS SMELL, e.g., (38) Случайността *намирисва* на идеализъм и метафизика – лепват ти шест месеца и край. 'Accidents *smell* of idealism and metaphysics – you are sentenced to six months and that's it'. (39) Били сме подведени, а това *намирисва* на измяна. 'We have been misled, and this *smells* of betrayal'. All of the examples employ the sensory domain of *smell* as a source domain of the discussed conceptual metaphors, which is correlated to a more abstract and complex domain.

Other conceptual metaphors related to SUSPICION IS SMELLING are GUESSING IS SMELLING and INVESTIGATION IS SMELLING, as in (40) *Не подушвам крадец*! 'I

smell no thief!' Speed et al. (2019, p. 78) indicate metaphorical lexis relating to the detection of guessing, suspecting and investigating in English, e.g., knowledge and experience (*smell of*), perception and cognition (*savour, scent*) and enquiry and discovery (*nose, sniff*). Corresponding metaphorical lexis in Bulgarian relates smell to mental detection, e.g., (41-43):

(41) Изведнъж *замириса* на тревога, а Лини – на чисто възмущение. 'He *smelled of alarm*, suddenly, and Lini of pure indignation.'

(42) Намираше у него всичко, за което беше мечтала – тръпка, романтика, *дъх на приключение*. 'He was everything she dreamed of – thrill, romance, *a scent of adventure*.'

(43) Въздухът бе натежал от конска миризма, но той *помириса* още нечие раздразнение. 'Horse-scent was heavy in the air, but he *smelled* someone else who was irritated…'

A large number of more minor metaphors also exploit *smell*, and some of these have not been commonly identified in other works on *smell*. As an illustration, we can observe the connection with moderateness and smallness of quantity (*smack, мирис/ smell, whiff, дъх/ scent*). Large size or large effect corresponds to unpleasant rather than neutral smells, as in sufficiency and abundance (stinkingly), e.g.,

(44) Where did he get the idea that the *stinkingly* wealthy are "job creators"?

(45) But all the fight had gone out of him, leaving him as *stinkingly* droopy as a bartender's rag.

(46) No one wants to watch gifted, *stinkingly* rich golfers play…

The Bulgarian corpus, however, does not exhibit the ABUNDANCE metaphor, rather *смърдящ, смрадлив, вонящ, вонлив* 'stinky' when collocated with nouns appear in their literal meanings referring to disagreeable smells[13].

Presenting a sensory domain relevant to bodily experience, we would not expect *smell* to function as a target domain. Kövecses (2018, p. 17) suggests that it can be conceptualized metaphorically as a target because "like any other concept is characterized by a number of conceptual dimensions".

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13. A couple of counter examples were found in the Bulgarian corpus: *Ти ще ми върнеш всяко **смрадливо** пени, което си чопнал. 'You will give me back every **stinky** penny you have grabbed.'* Нали не допускаш, че Бинго ще има безочието да се опита отново да ме забърка в *някое **смрадливо** начинание*? 'You don't think Bingo will have the impudence to try to get me into some stinky endeavor again, do you?' As these examples are taken from translated texts, the infrequent collocation of *смрадлив* 'stinky' with an abstract notion could be interpreted as a result of a negative transfer (the original text has a negative impact on the respective translation).

Smell as a target domain

In the role of *smell* as the target category of a metaphor it is seen to be conceptualized through lexis from the domain of temperature (e.g., *hot, cold, warm*, etc.), strength (e.g., *strong*) and shape (e.g., acute, *pungent*) (Speed et al., 2019, p. 79). Smell is something that has various degrees of intensity and can be sensed physically by a perceiver, or experiencer, who has no control over whether or not s/he perceives it. In other words, three dimensions can be identified for the concept of smell: EXISTENCE, INTENSITY[14], and LACK OF CONTROL (Kövecses, 2018, p. 18). EXISTENCE, INTENSITY, and (LACK OF) CONTROL, the concepts that we apply in this study, are part of the structure of a number of domains, *smell* being one of them. Levinson and Majid (2014) consider such dimensions in relation to various sense modalities (e.g., *vision, hearing, feeling*, etc.). Other dimensions of concepts are discussed by Lakoff (1993) in regard to EVENT STRUCTURE metaphor. The concept of PLEASANTNESS (or positive evaluation) and that of BADNESS, which was discussed above, are dimensional concepts ranging over many domains (e.g., *hearing, feeling, taste*), not just *smell*.

EXISTENCE

The BulNC corpus reveals a number of collocations:

Verb+*мирис* 'smell, scent' and *мирис* 'smell, scent'+verb:

(47) *има, изпълва, пропива, тегне, натежава* 'be filled with, have, hang', e.g., The air was *filled* with the *smells* of cooked food. The cellar *had* a musty *smell*.

има, изпълва, пропива, тегне, натежава	gloss
a. И катакомбите *се изпълниха с мирис* на ванилия.	And the catacombs *filled with the smell* of vanilla.
b. А тук, в тази претоплена стая *тегне мирис* на пот, на лекарства и на човешка болка...	And here, this warm room *smells* of sweat, medicine, and human pain…
c. Мисля че *трябва да има мирис* на кедрово дърво за повече свежест.	I think there *must be a smell* of cedar wood for more freshness.
d. Въздухът *натежа от* барутен *мирис*.	The air *was heavy with* a gunpowder *smell*.
e. Въздухът бе *пропит от* тежък, сладникав *мирис*.	The air *was soaked with* a heavy, sweet *smell*.
f. Клоните му я скриха от спускащия се мрак, *обгърна я мирис* на бор и смола.	Its branches hid it from the descending darkness, enveloping it with the smell of pine and pitch.

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14. For instance, intensity may be realized as intensity of motion, intensity of pain, intensity of emotion, intensity of light, intensity of exercise, and, of course, intensity of smell. The superordinate concept is intensity.

(48) *издава, идва, лъха, излъчва, носи се, долита* 'give off, come, emanate, drift, float, waft', e.g., She *gives off* a *smell* of rancid cooking oil. I opened the paper, and the *scent* of ginger *wafted out*.

издава, идва, лъха, излъчва, носи се, долита	gloss
a. Подправките *издават* сладък и остър *мирис*.	Spices *give off* a sweet and pungent *odor*.
b. От него *лъхаше мирис* на дим.	It *smelled* of smoke.
c. Подир него *се носеше мирис* на сяра.	*A smell* of sulfur *floated* after him.
d. Вътре *долиташе* дори лек бриз и опияняващ *мирис* на цветя.	Even a slight breeze and the intoxicating *scent* of flowers *drifted* inside.
e. С нея *дойде* и непоносимият *мирис* на плодово масло.	With her *came* the unbearable *smell* of fruit oil.
f. От дъбовите мебели *се излъчваше мирис* на восък.	*The smell* of wax *emanated* from the oak furniture.

(49) *усещам, долавям, улавям, надушвам* 'catch, detect', e.g., He thought he *detected* the *smell* of sherry.

усещам, долавям, улавям, надушвам	gloss
a. *Усетих* пот и по-слаб *мирис* на кръв.	I could *smell* sweat and a faint *scent* of blood.
b. Още по-успокоителен беше фактът, че в дъха на непознатия не се *долавяше* и най-слабият *мирис* на алкохол.	Even more soothing was the fact that even the faintest *odor* of alcohol was not *detected* in the breath of the stranger.
c. По тях още се *улавяше* неговият *мирис*.	The *smell was* still on them.
d. Недалеч оттам видя дим и *надуши мирис* на печено.	Not far away, he saw smoke and *caught the smell* of roast.

The examples show how the existence of *smell* is conceptualized. If the verb *пълня, изпълвам* 'fill' is used, the smell is viewed as a physical substance in a container. In the case of *имам* 'have', the existence of smell corresponds to the possession of an object. In the case of *издавам* 'give off', producing smell is the transfer of an object. Finally, *усещам, долавям* 'catch, detect' can only be used for denoting the existence of smell.

The examples and their construals of the existence of *smell* reveal the following conceptual metaphors:

filled with: SMELL IS A SUBSTANCE IN A CONTAINER

have: SMELL IS AN OBJECT OF POSSESSION

give off: SMELL IS AN OBJECT THAT CAN BE TRANSFERRED

The three cases conceptualize the experience of *smell* as the existence of a state. The state is either a substance or an object. EXISTENCE is viewed as a substance being in a container, as possessing an object, and as transferring an object.

INTENSITY

Another characteristic feature of *smell* is its intensity, but it also refers to all senses. As Levinson and Majid (2014, p. 413) suggest: "Intensity is another candidate cross-modal dimension. Lights, sounds, smells, tactile pressures, tastes, pains, emotions can all have low or high intensities." In the case of *smell*, intensity involves a scale of values from weak to strong. The collocations with *smell* we find in the corpus can be organized in a number of thematic groups:

Adj+*мирис* 'smell, scent':

1. *непреодолим* 'overpowering', *проникващ* 'pervasive', *упоителен, натрапчив* 'pungent', *опияняващ* 'intoxicating', *наситен* 'rich', *остър* 'sharp', *силен* 'strong', e.g., (50) Те изпълваха въздуха с *тегнещ, тръпчив мирис*. 'They filled the air with a *pervasive, pungent odor*.'

2. *слаб* 'slight', *лек* 'faint', *смътен, неуловим, неясен* 'vague', *див* 'wild', *особен* 'distinct', *своеобразен* 'distinctive', *определен* 'particular', *несравним* 'unmistakable', *чуден* 'funny', *специфичен* 'peculiar', *странен* 'strange', *необикновен* 'unusual', e.g., (51) Долових *странен мирис*, сякаш се беше полял с одеколон. 'I could smell a *strange smell*, as if he had put on too much perfume.'

3. *познат* 'familiar', *устойчив* 'lingering', *ароматен* 'aromatic', *очарователен* 'delectable, delicious', *благоуханен* 'fragrant', *свеж* 'fresh', *приятен* 'lovely', *хубав* 'nice', *апетитен* 'savoury', *сладникав* 'sweet', *прекрасен* 'wonderful', e.g., (52) От салфетките лъхал *сладникав, сух мирис* на памук. 'A *sweet, dry scent* of cotton came from the napkins.' (53) Усетих *свежия мирис* на стърготини и боя. 'There was a *fresh smell* of sawdust and paint.'

4. *задушлив* 'choking', *топъл* 'warm', *противен* 'appalling', *отвратителен* 'awful', *лош* 'bad', *страшен* 'horrible', *зловонен* 'nasty', *отблъскващ* 'offensive', *ужасен* 'terrible', *неприятен* 'unpleasant', *гаден* 'vile', *дразнещ* 'acrid', *гнусен* 'nauseating', *воняш* 'putrid', *смрадлив* 'rank', *гаден* 'sickly', e.g., (54) Кабинетът му издаваше *лош, прашен мирис* на стари книги. 'His office gave off a *bad, dusty smell* of old books.'

5. *влажен* 'damp, dank', *солен* 'salty', *гранясал* 'rancid', *възкисел* 'sour', *застоял* 'stale', e.g., (55) Ако се съдеше по *соления мирис*, бяха излезли вече в залива. 'Judging by the *salty smell*, they were already out in the bay.'

6. *животински* 'animal', *металически, метален* 'metallic', *винен* 'wine', *мускусен* 'musky', *мазен* 'oily', *опушен* 'smoky', *пикантен* 'spicy', e.g., (56) Усещаше *мириса* на реката – *кисел, метален мирис* на монети, потопени

в амоняк. 'He could *smell* the river – the *sour, metallic smell* of coins put in ammonia.'

These adjectives predominantly deal with different kinds of smell (*familiar, distinct, funny*), but some of them denote the intensity aspect of smell (*strong, faint, pervasive*). Kövecses (2018, pp. 21-22) organizes the adjectives on the basis of several different conceptual metaphors – in some cases, on etymological grounds:

1. *слаб* 'slight', *лек* 'faint', *силен* 'strong': INTENSITY OF SMELL IS STRENGTH OF EFFECT

2. остър 'sharp', *натрапчив* 'pungent': INTENSITY OF SMELL IS SHARPNESS OF AN OBJECT

3. *неясен* 'vague': INTENSITY OF SMELL IS DEGREE OF BRIGHTNESS OF LIGHT

4. *проникващ* 'pervasive', *опияняващ* 'intoxicating': INTENSITY OF SMELL IS QUANTITY OF A SUBSTANCE

These conceptual metaphors that relate to the intensity aspect of *smell* can be transformed into more generic variants:

1. *слаб* 'slight', *лек* 'faint', *силен* 'strong': INTENSITY IS STRENGTH

2. *остър* 'sharp', *натрапчив* 'pungent': INTENSITY IS SHARPNESS

3. *неясен* 'vague': INTENSITY IS BRIGHTNESS

4. *проникващ* 'pervasive', *опияняващ* 'intoxicating': INTENSITY IS QUANTITY

As the examples of metaphors show, other sense modalities can metaphorically convey the intensity of *smell*, for instance INTENSITY OF SMELL IS SHARPNESS OF AN OBJECT or INTENSITY OF SMELL IS THE DEGREE OF BRIGHTNESS OF LIGHT. These metaphors might be correlated respectively to such cross-modal conceptual metaphors as SMELL IS TOUCH/ FEELING (e.g., (57) Донигър *усети* остър *мирис*, напомнящ миризмата на етер. 'Doniger *felt* a pungent *smell* reminding him of ether.') and SMELL IS VISION (e.g., (58) Посрещна го лек дъх на дамски парфюм. 'A *vague scent* of female perfume came up to him.').

LACK OF CONTROL

Perceiving smells comes to animate creatures as natural as breathing and it is hard to control it (unless you deliberately block your nose). This proves the hypothesis that sense perception is passive (Speed et al., 2019, p. 333), in general. Languages also often render this in metaphorical ways – in the case of smell it is by means of the verbs *удрям, блъсвам* 'hit', e.g., (59-60):

(59) Вътре ни *удари мирис* на дезинфекционни препарати. 'Inside, the *smell* of disinfectants *hit* us.'

(60) *Блъсна я мирис* на брашно, лек и малко задушлив… 'A *smell* of flour, light and slightly suffocating, *hit* her…'

Kövecses (2018, pp. 22-23) analyses the metaphorical use of *hit* as follows:

1. SMELL IS A PHYSICAL FORCE
2. INTENSE SMELL IS A STRONG PHYSICAL FORCE
3. SENSING AN INTENSE SMELL IS COMING INTO CONTACT
   WITH A STRONG PHYSICAL FORCE

The same metaphors apply to the Bulgarian verbs *удрям, блъсвам* when collocated with *smell* and what is more, they correspond to the more generic ones:

1. CAUSES ARE FORCES
2. INTENSITY IS STRENGTH
3. SENSING IS CONTACT

The general metaphors apply to all kinds of perception and allow us to conceptualize various kinds of causes, intensity, and sensation. In other words, although smell is a basic experience, it has aspects apt to metaphorical conceptualization.

Conclusion

This corpus-based study shows that similarly to English Bulgarian exhibits two frames in the conceptualization of *smell*: a passive and an active frame. The passive version exhibits greater frequency and represents the conceptual prototype of *smell*. The metaphorical structure of *мирис, мириша* 'smell, to smell' is quite complex as they can function both as a source domain and a target domain. Using previous research in English, we found that in Bulgarian there is mapping between *smell* and certain abstract concepts, such as suspicion, badness, and guessing. Additionally, two target concepts are understood through *smell*: general atmosphere (of a state or event) and emotion. *Emotion*, however, is rarely conceptualized by *smell* as the corpus showed. Other sense modalities are more considerably applied to the metaphorical conceptualization of emotions. In particular, the Bulgarian verb *усещам* 'feel, sense' is used in common collocations with *touch* and *taste*, as well as *smell*. *Touch* is a basic source domain in conceptualizing emotions and feelings. *Taste* in its turn is more limited, but it is convenient in the construal of negative and positive emotions.

As a basic kind of experience, *smell* is very effective serving as a source domain, but it is surprising from the point of view of the conceptual metaphor theory that it also functions as a target domain in metaphorical conceptualization. It confronts the assumption that basic experiences do not need metaphorical conceptualization to be comprehended. However, some of the characteristics

associated with *smell*, such as existence, intensity, and lack of control are quite abstract to require metaphorical conceptualization. But *smell* is not an exception in the domain of the sense modalities because the related conceptual metaphors, e.g., EXISTENCE IS BEING IN A CONTAINER, INTENSITY IS STRENGTH, CAUSES ARE FORCES refer to the whole conceptual system. Not all metaphors are exhibited cross-culturally, though. In the Bulgarian corpus there are no hits of the ABUNDANCE metaphor, rather *смърдящ, смрадлив, вонящ, вонлив* 'stinky' characterize disagreeable smells literally.

The corpus acknowledges metaphors that characterize not only abstract concepts (such as emotions) but also basic perceptions, such as smell. Due to its rich prefixation system, Bulgarian has a lot of equivalents of 'smell', which code different nuances of the meaning of the base verb: *намирисвам* 'smell (lightly)'; *помирисвам* 'smell, inhale odor'; *замирисвам* 'start smelling'; *размирисвам се* 'begin to spread smell'; *вмирисвам се* 'begin to smell bad', etc.

Studying *smell* not only as a source but also as a target domain in different languages enriches the conceptual status of smell and how it is coded cross-linguistically. Further research on the conceptualization of *smell* in other languages and on other sense modalities will affirm general tendencies and specific variations in their linguistic codedness. The linguistic evidence involving *smell* illustrates how the conceptual metaphor theory can provide more fine-grained investigation than is possible with intuition-based methods. Regarding *smell*, which is a largely unexplored sense, it allows us to elicit how strong, weak, bad, neutral, and pleasant smells are conceptualized and lexicalized in English and Bulgarian.

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