

Conceptual Metaphors and the Smell Perception in English and Arabic

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Abstract

Perception has long been seen as a basis for understanding abstract concepts and experiences and their linguistic encoding. Conceptual metaphor is considered a cognitive link between physical and sensory experiences and abstract mental representations. The olfactory perception has been treated as peripheral in contrast to other sense modalities. The purpose of the study is to establish how the smell sense is conceptually structured in Arabic in comparison with English and to examine conceptual metaphors based on our olfactory perception. Using the theory of conceptual metaphor, the study sought to compare the conception of smell and its metaphorical extensions in both languages. The data collected for this study was Modern written Standard Arabic acquired from online Arabic corpora and the total number of sentences searched is 3400 sentences. The study demonstrated that smell is used as a source domain to express suspicion, knowledge, and emotions. Arabic expresses a few extra metaphors including experiencing and anticipating. The domain of emotions in Arabic is closely connected to the smell sense more than English is. On the other hand, the most prevalent conceptual metaphors that employ smell as their target domain are INTENSITY OF SMELL IS EFFECT STRENGTH and SMELL IS A PHYSICAL FORCE, which exist in both languages equally. Besides, the study demonstrated that the sense of smell is not peripheral to cognition as it was previously believed. It is hoped that this study has contributed to further appreciation of the smell domain and its function in cognition.

Keywords: Conceptual metaphor, Smell modality, Source domain, Target domain, Perception, English, Arabic

1. Introduction

Since the 1970s, sensory perception has captured the interest of linguists from semantic, typological, grammatical, and cognitive perspectives. Scovel (1971), Dixon (1977), Viberg (1983), and Sweetser (1990) are among the initial investigations. Many others followed

henceforth. Since the 1980s, the notion that cognition is fundamentally embodied and that language structure reflects this embodiment grew in popularity (Johnson 1989, 1997, Lakoff and Jonson 1980, 1999, Gibbs 1994 to name a few). Metaphor is a special mental mechanism that significantly has bearings on how individuals think and express their thoughts in their daily lives. This study is particularly interested in the MIND-AS-BODY metaphor which Sweetser (1990) emphasized as source of the metaphorical extensions of perception verbs. Perception verbs are employed constantly to express abstract domains of thought, emotion, and social experience. By comparing the conceptual mappings of the smell sense in Arabic and their English equivalents, this study aims to analyze how the MIND-AS-BODY conceptual metaphor pertaining to the concept of smell in particular is achieved in Arabic. This examination of the olfactory perception and its expression will provide further insights into the conceptual structure of smell and the role of sensory experience in shaping the overall human cognition. This is accomplished by analyzing the semantic domain of smell and by making systematic comparisons of the perception metaphors connected to smell in English and Arabic in order to identify semantic and conceptual similarities and differences. This paper seeks to answer to the following questions.

1. How is smell conceptualized in Arabic?
2. What are the conceptual metaphors related to the smell sense?
3. What are the similarities and/or differences between the conceptual metaphors for smell in English and Arabic?

1.1 Background

1.1.1 Verbs of Perception

The semantic field of perception comprises elements related to the five categories of perception, namely, vision, hearing, touch, smell, and taste. Every language has a way of expressing these sense modalities. In addition to the primary basic meanings of perception verbs in the physical domain, they can also have extended abstract meanings. This phenomenon is the most prominent property verbs of perception as stated by Viberg (1983). Perception verbs are classified into three types based on what Viberg (1983) called dynamicity (p. 123-124). These are activity, experience, and copulative. Activity and experience are semantic components that pertains to the thematic role of these verbs' subjects. Active verbs have a human agent as subject while the subject of stative verbs of perception have an experiencer role. The third type is copulative verbs or source-based verbs in which the subject is the experienced entity itself rather than the experiencer (Viberg 1983). Cognitive linguists believe that verbs of perception are of particular importance because they have developed metaphorical senses through the cognitive process of metaphor.

1.1.2 Conceptual Metaphor Theory

Since language is a mental faculty, cognitive linguists believe that language must be studied as linguistic encodings of the underlying patterns of cognition. According to Lakoff (1990), the interdependence of language and cognition is the core of linguistic study (p. 40). Our

linguistic abilities are grounded in our kinesthetic and sensorimotor capabilities and in our general cognitive faculties. As Barcelona (2012) puts it, "language faculty" is "a reflection, in some cases a specialization, of general-purpose cognitive abilities, and is governed by general neural processes" (p. 2). Thus, cognition, in general, whether body-based, or gained via social and cultural experience is connected to language and its different modes of expression. The meanings of linguistic structures of any length are not based on abstract features or symbols. Rather, they are directly motivated by bodily experience (Barcelona & Valenzuela 2011). According to Lakoff (1990) most of our abstract concepts come from our physical perception through metaphor.

Metaphor is considered as a "cognitive mechanism" used to understand one experiential domain in terms of another experiential domain. Physical domains are typically used as source domains to structure abstract target domains through mental analogies called mappings or correspondences (Lakoff and Johnson, 1980, 1999, Johnson 1987, Turner 1990, and many others). In the renowned metaphor LOVE IS A JOURNEY, the physical domain of travel is mapped onto the domain of love yielding conceptualization such as the ones below quoted from Lakoff and Johnson (1980):

- (1) Look how far we've come.
- (2) We may have to go our separate ways.
- (3) The relationship isn't going anywhere.

This conceptual mapping assigns qualities, aspects, and propositional content from the physical source domain to the abstract target domain (Lakoff 1993: 206–209, Barcelona 2012, p. 3). It is within this conceptual metaphor theory framework that this study undertakes the description of the concept of smell in Arabic.

1.1.3 Image Schemas and the Concept of Smell

Image schemas are among the fundamental conceptual foundations of cognitive linguistics. They are intuitive cognitive structures that project the internal conceptual organization of concepts in the mind (Grady 2005). Image schemas are recurrent experience type whether perceptual or not (Clausner and Croft 1999, p. 22). In cognitive linguistics, the term was introduced by Lakoff and Johnson (1987). Since then, researchers in cognitive linguistics have used image schemas as tools for examining the structure of language as a reflection for the structure of mind (Lakoff and Turner 1989, Turner 1991, Gibbs 1994, Gibbs and Colston 1995, Clausner and Croft 1999, Brady 2005). Image schemas have also a crucial impact in the organization of metaphor (Lakoff 1990, 1993).

Different types of image schemas can be identified based on their content, i.e., what they represent (Grady 2005). Perceptual image schemas are built on everyday bodily experience such as CONTAINER, PATH, FORCE, etc., (Lakoff 1987), PART-WHOLE, CENTER-PERIPHERY, CONTACT, etc., (Johnson 1987). Non-perceptual image schemas represent a greater level of abstraction and are not directly connected to a particular sensory experience such as CYCLE, PROCESS, SCALE, etc., (Johnson 1987). These image schemas

are discussed by Lakoff (1990) as being generic level. What is mapped in some cases is not just an image schema of some sort but a whole knowledge base. Lakoff stressed this idea by defining metaphor as a process by which "topological properties of entities in the source domain of a metaphor are mapped as properties of the corresponding entities in the target domain" (p. 54).

2. Literature Review

An examination of the relevant literature revealed that the use of perception metaphors in general, and the perception of smell in particular, has received a great deal of attention in English and other languages. The primary goal of all research was to investigate the connection between perception and cognition as well as the role of the smell perception in conceptual metaphor. The most influential studies are reviewed below.

Sweetser (1990) offered an extensive description of metaphorical relationships between the physical domain of perception and the mental domains. She further elaborated on the notion of embodiment proposed by Johnson (1987) and explained that the mappings take place from the physical domain of perception, which is concrete and basic, to the abstract mental domains of knowledge, intellect, and imagination. Sweetser (1990) observed that verbs of perception are regularly used to connect these two domains. The table below establishes the metaphorical extensions that Sweetser considered.

Table 1. Metaphoric Mapping in Perception Verbs

Vision	→	Knowledge, intellect
Hearing	→	Heed, obey
Touch	→	Feel (emotion)
Smell	→	Detestable mental qualities Detection of detestable mental qualities
Taste	→	Personal preference

Furthermore, Sweetser confirmed that the metaphorical mappings between concrete and abstract concepts in the perception domain are indeed instances of the conceptual metaphor advocated by Lakoff and Johnson (1980). The specific metaphors for each of the five senses of perception are thus instances of the more general mind-as-body metaphor that unifies all verbs of perception. They also stressed the fact that the mappings between bodily experience and abstract domains are unidirectional, which means perception is always the source domain for conceptual metaphors.

According to Sweetser (1990), smell is connected to "bad behavior or disliking mental defects, such as stench, and the ability to perceive them" (p. 38). This connection is mediated by metaphor, which is based on certain elements in the conceptual structure of smell that is basically image-schematic. The concept of smell forms a basis for understanding other abstract concepts, which will be discussed later.

Ibarretxe-Antunano (1999, 2019) investigated the linguistic encoding of olfactory perception in Basque. She examined the relationship between literal meanings of olfactory constructions

and their metaphorical meanings. Her study indicated that copulative perception verbs are associated with the expression of emotions and qualities, but active and experience perception verbs are associated with cognition, understanding, and knowledge. She also confirmed that cultural differences may be seen in how people conceptualize and use smell.

Kovecses (2019) also elaborated on the conceptual structure of smell in English within the cognitive semantic approach. He explored the encoding of the concept of smell in English on three different levels; the level of conceptual organization, the level of conceptual metaphors based on smell as a source domain to structure other more abstract domains and finally the level conceptual metaphors based on smell as a target domain. He maintained that the conceptual structure of smell has both a passive and an active frame. He found out that smell is employed in the organization of various abstract domains, including suspicion, general atmosphere, and emotion. The perception of smell has also been used as the target domain for other conceptual metaphors such as intensity and control. He concluded by saying that smell is very well-established concept in English.

In Arabic, however, works such as Jumaah et al. (2020) and Al-Ameedi & Mayuuf (2016) have addressed visual perception and touch perception respectively. Another more comprehensive study was performed by Gad (2017) who analyzed all Arabic verbs of perception from a lexical-semantic standpoint. It was the first study to address all Arabic perception verbs. Each of the five sections of the book, including the one on smell, examined the physical and metaphoric extensions of the five senses. Her research was based on Standard Arabic written data from contemporary sources. Nevertheless, the author presented her work in a dictionary-like fashion. The book's lexicographic nature brings it closer to a dictionary than to a theoretical investigation.

3. Method

3.1 The Corpus

The study collected textual linguistic data from online corpora, namely the Sketch Engine website, which has more than ten billion Arabic words from the Arabic Web 2012 database (arTenTen, Stanford tagger). Some examples are drawn from ArabiCorpus, a database which has 173,600,000 words. All corpora included in this research contain contemporary written data from a variety of sources, including newspapers and literary texts. The time restriction ranges from 2000 to 2012. The English sentences were selected from the corpus of contemporary American English (COCA).

3.2 Data Collection

The data was acquired from online English and Arabic corpora accessible over the internet. As stated earlier, the selected material consists of written Arabic from around the Arab world. A total of 200 sentences are analyzed for each of the verb and noun senses within the semantic field of smell to establish the metaphorical meanings and collocations within the concept. The total number 3400 Arabic sentences. The search would begin with the verb, followed by the noun and their collocations. The time span of the obtained sample is similar for all examples as mentioned before and data is indicative of modern Arabic.

3.3 Data Analysis

The theoretical framework for data analysis adopted in this research is the CMT. First, dictionaries and reference books were used to establish the senses of the concept of smell and the lexical items it comprises. Then, appropriate metaphor identification techniques were employed to identify metaphorical mappings found in the data. The analysis followed the MIP developed by the Pragglejaz Group in 2007 which is considered a reliable and trustworthy technique for identifying metaphorical meanings (Steen, 2007, p. 12). The procedures include the followings steps:

1. To read the whole text and recognize the topic.
2. To identify the lexical units within this text
3. To identify both the basic and contextual meanings of the lexical items.
4. Then, to determine the relation between the two types of meaning, the basic and the contextual, in terms of contrast and comparison. If the contextual meaning differs from the core meaning but can be comprehended by reference to it, the lexical unit is metaphorically employed.

3.4 Expert Review Evaluation Information

An expert evaluation was sought to verify the metaphorical mappings presented in this study. This is achieved through the verification procedures in which an expert verifies the correctness of the metaphorical meanings in the analyzed data. The sample of 60 Arabic sentences comprising metaphorical meanings related to olfactory perception were reviewed. The assessors were two PhD holders with 30 and 25 years of teaching experience in Arabic linguistics. The translations of the Arabic data were also reviewed by a colleague specialized in translation in the department of English, College of languages and Translation.

4. The Conceptual Structure of Smell in Arabic

The first step in comprehending the concept of smell is to examine all the meanings expressed by the major linguistic elements within the semantic domain of smell. Reference books and dictionaries were consulted for this section with the purpose of identifying the shared semantic properties of this concept in Arabic. The most common lexical item related to olfaction in Arabic is the *verb shamma* (smell) with its various morphological variants (Gad 2017, p.324) The other verb is *nashaqa* (sniff) which comes second. It is worth mentioning that both verbs have other morphological variants which show additional meanings but these meaning are not different from the senses of the verb itself. The verb *shamma* (smell) has the variants *tashammama* and *?ishtamma* and the verb *nashaqa* can have the variants *tanashshaqa* and *?istanshaqa*. They have basically the same meaning but with slight semantic additions to the original verb as follows.

shamma (smell) { ?ishtamma (to smell quickly)
tashammama (to smell slowly and repeatedly
with intention) }

Thus, the meanings of the two variants of shamma (smell) are in fact included in the senses of the major verb. The meaning of the verb nashaqa (sniff) and its variant tanashshaqa (sniff slowly) can convey both intension and volition. The difference is that the variant may indicate duration. The variant ?ishtashaqa (sniff with intension), on the other hand, always has the additional meaning of intention. Moreover, a different lexical item is used in Arabic to refer to smell as a noun which is raa?iHat (odor). This is the most general and frequent term although some other nouns are used specifically to denote a certain odor such as 9abeer (good smell) and 9abq (classic smell).

A comparison of the meanings of shamma in Arabic dictionaries, with the English verb smell will illustrate some distinctions as table 2 show below. The senses of shamma are listed in several Arabic dictionaries including the Contemporary Arabic Dictionary and the Pioneering Modern Linguistic Dictionary. The senses of "smell" in English are taken from the Merriam-Webster dictionary.

(<https://www.merriam-webster.com/dictionary/smell?src=search-dict-hed>).

Table 2. Different Senses of Smell in English and Arabic

Senses of Smell	
1) to perceive the odor or scent of through stimuli affecting the olfactory nerves	
English Examples	Arabic Examples
I smelled smoke.	shamamtu raa?iHat al-qahwah al-muHammaSa smelled-I scent-of the-coffee the-roasted I smelled roasted coffee.
2) to exercise the sense of smell	
He can smell.	?istaTaa9a ?an yashumma raa?iHat al-samak could-he to smell scent-of al-fish He could smell the fish.
3) to have an odor or scent or to have a characteristic aura or atmosphere	
Fresh salmon smells fresh.	----
4) to have an offensive odor	
The drain smells awful.	----
5) to emit the odor of	
It smells like leather.	----
6) to smell news means to search for it or to seek knowledge of it.	
----	yashummu al-SaHafi al-Xabar 9ala bu9d smells-he the-journalist the-news on distance

	mi?ati keelu hundred kilometers The journalist smells the news a hundred kilometers away.
7) to smell the thing means to experience (feel) it.	
----	yashummu ray?iHat al-Gadr wa -l-makeeda smells-he scent-of treachery and deception He smells treachery and deception.
8) to detect or become aware of to understand something with intuition	
I smell trouble.	?ishtamma al-ka?ib fi Hadeethi-h smelled-he the-lying in speech-his He smelled lies in his speech.
9) to be of bad or questionable quality	
This deal smells.	----

The comparison of the verb smell in English and show that they are similar. Yet, English has two additional meanings that do not exist in Arabic and Arabic has two meanings that do not exist in English.

The above table shows that there are some shared senses between English and Arabic in relation to the conceptual structure of smell. There are also gaps that will be examined in the following lines. First, let's start with similarities. The structure of smell includes the fact that it is a sense, a process which can be intentional or volitional, and it is awareness as well as understanding. The first two senses are literal senses of the verb smell. The third one is a metaphorical sense. This is similar to what Ibarretxe-Antuñano (1999, 2021) found out about the concept of smell in Basque. According to her, the meanings of smell have extended to encompass abstract cognitive domains such as perceiving and suspecting. This idea will be explained further in the subsequent sections.

Now, the differences are related to the ways of linguistic encoding more than to the conceptual organization. The table reveals that there are four missing senses or grammatical gaps in the Arabic representation of smell. These four missing senses are related to the concepts of possessing odor and emitting odor. In fact, these concepts are expressed in Arabic but not through the verb smell. They are encoded using other lexical items as the examples in 2 illustrate.

2. A. al-?azhaar la-ha ra?iHat 9iTryyiah qawiyah

the-flowers has-it smell-of aromatic strong

The flowers have a strong aromatic scent. (Possessing a good smell)

B. al-maaddat al-sham9iyyah al-shafaafah la-ha ra?iHat al-samak

the-substance the-waxy the-clear has-it smell-of the-fish

The clear, waxy substance has a fishy smell. (Possessing a bad smell)

C. tanba9ithu ra?iHat -al-duXaan min al-maSna9

emit smell-of the-smoke from the-factory

The factory smells of smoke. (Emitting a smell)

The examples in 2 demonstrate that it is possible to convey the missing senses in Arabic, but not with the verb *shamma* (smell). They are expressed by combining the noun *ra?iHat* (smell), which is morphologically distinct from the verb *shamma*, with a PP denoting possession. The meaning of emission, on the other hand, is expressed in Arabic though using different lexical items as well. Besides, the one used, above, there are *tanTaliq* (emanate), *tahubbu* (waft), *tantashiru* (spread), and *yu9Tee* (give off) among many others.

These gaps in the meanings of *shamma* in Arabic can be explained semantically by reference to the classification that Viberg (1983) set for perception verbs, i.e., the active, experience and copulative components of perception verbs. Based on this classification, it becomes apparent that the Arabic verb *shamma* (smell) does not have the third copulative function. It is used as an active verb and as an experience verb in which the semantic role of the subject is obligatorily either agent or experiencer but never the experienced contrary to the English verb *smell* which can have all three functions (see table 2, senses 3,4 and 5).

There are also senses in the Arabic verb *shamma* that do not exist in English as in senses 6 and 7 above. The Arabic verb *shamma* (smell) can be used as an agentive verb that means to search for news in particular. This sense is not found in the dictionary definitions of *smell* in English nor in any corpuses of English. Sense 7 which has to do with feeling and experiencing is a metaphorically extended meaning from the domain of perception to the domain of emotions and will be explained later.

The last sense in table 2, above, is understood as an extension of sense 4 or 5 in English where emitting an offensive odor is considered metaphorically as a sign of bad business, corruption, or crime.

Based on the preceding definitions of *smell* as a verb and in accordance with Viberg's categorization of perception verbs (1983), the conceptual structure of *smell* includes these two components of the act of smelling: emitting the smell (focus on the source of the smell) and sniffing the smell (focus on the receiver of the smell). Kovecses (2019) refers to this divide as passive frame versus active frame. In the first case, the person is the experiencer, but in the second case, the person is the agent of the verb. These two components form the conceptual framework of *smell*. Yet, this categorization does not take into account the sense of *smell* as a noun which the Arabic data shows that it stands out as a source for many conceptual metaphors. The noun *smell* is part of this conceptual framework. It might be used alone and be the source for many conceptual metaphors as will be shown later.

The two frames of the concept of *smell* are not separate in conception. Instead, they are two ways of looking at the same process. "Emitting" an odor is one direction of this process. "Inhaling" the odor in the other. So, it is the human mind that chooses to focus on or project

one direction of the process or the other. The noun smell forms an OBJECT image might be projected separately to other abstract domains. OBJECT is an essential image schema that form part of human conceptual system at the level of physical and abstract experiences (Johnson 1987: 23, Grady 2005). The conceptual structure of smell is given below.

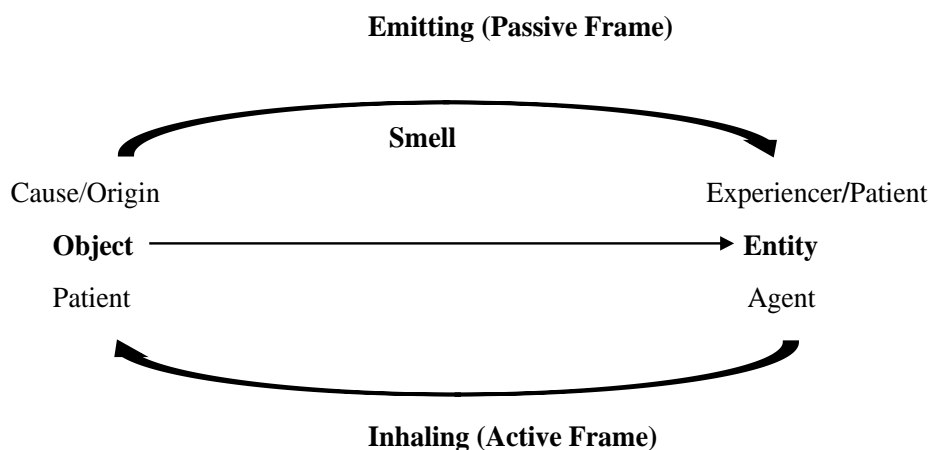


Figure 1. Conceptualization of Smell

Kovecses (2019) identifies the following conceptual elements in the structure of smell according to the frame. In the passive frame, there are the origin/cause, the smell, and the entity with the ability to smell. To these elements he assigns the semantic roles of origin and experiencer (p.332). The experiencer will detect the smell without having any influence over how they do so. In the active frame of smell, he gives the object emitting the smell the role of object, and the entity with the ability to smell the role of agent as the person performs the action of smelling through "looking for" the smell (by sniffing). As a result, there is some influence over how the smell is felt, i.e., intension.

Ibarretxe-Antuñano (2021,1999) referred to this difference in frames as \pm voluntary to show deliberate and conscious control over the process versus lack of conscious control over it. The question of which frame is more basic and frequent than the other is a matter that requires further investigation. Moreover, Ibarretxe-Antuñano recognized a number of other semantic features of the verb smell (p. 76). These features are given in table 3 below. She confirmed that semantic extensions of the concept select only some of these characteristics.

Table 3. Characteristic Features of SMELL

The distinctive features	Their meaning
interior	It requires us to take air into our lungs.
directness	It bypasses any sort of conscious or unconscious filtering.
detection	It is incredibly adapted to rapid picking up on novel smells.

closeness	It works only when the smell is in proximity.
subjectiveness	Its strength varies based on subjective experiences and memories.

These features are inherent in the meaning of smell in Basque and English, and they apply to the senses of smell in Arabic as well. These features form physical motivations for the metaphorical extensions within the domain of smell. Accordingly, the concept of "smell" forms the basis for a number of conceptual metaphors in English. It serves a dual purpose in the formation of metaphors both as a source domain and as a target domain. The next sections will be devoted to the discussion of conceptual metaphors in Arabic in the domain of smell based on the established conceptual metaphors for English. The purpose is to find out whether these metaphors exist in Arabic or not.

5. Smell as a Source Domain for Conceptual Metaphors

Numerous conceptual metaphors in English are established in the domain of olfaction. Kovecses (2019) recognizes four separate conceptual metaphors that can be found in English in relation to smell as follows (p.335).

1. SUSPECION IS SMELLING
2. BECOMING INSTIVTIVELY AWARE OF/KNOWING IS SMELLING
3. BAB IS SMELLY
4. THE GENERAL ATMOSPHEERE OF SOMETHING IS A SMELL

Each group of sentences below represent one type of metaphor.

3. **I smell** the hands of the Federales.
4. **I smell** a new idea for a book.
5. This new service **stinks!**
6. I miss the **smell** of Disney, the colors of the buildings and characters..

The first mapping includes a correspondence between suspecting and smelling. Both are actions. One is physical and the other is abstract. The speaker believes that the situation involves the police in example 3. The second mapping includes a correspondence between the event of becoming aware/knowing and that of smelling. In example 4, the speaker is aware of/knows a new idea on which he/she can write a book. The third mapping includes a correspondence between being bad and emitting a bad smell. Therefore, in example 5, being bad is similar to having or emitting a bad smell which applies to the new service. The fourth mapping is the correspondence between the general atmosphere (usually of a place) and having a special smell. The speaker believes that the atmosphere of Disneyland with its buildings and colors parallels a certain an unforgettable smell in the memory of the speaker. The memory sticks to the mind of the speaker in the same way a smell sticks to a place. The

general atmosphere of a place is the smell of that place. This instance is another example of the passive frame activation since the speaker is not in control of the process.

Going back to figure 1, above, it becomes clear that different portions of the smelling process are being mapped. For the sentences in 3 and 4, the active frame of the concept is activated with the speaker as the agent, the process of smelling as the mental process of suspecting and the object of the sentence as the object of the smelling process. In sentences 5 and 6, however, it is the passive frame that becomes activated. The new service is the source of the bad smell. The smell itself is bad and unpleasant, and the mapping parallels corruption to bad smell. This means that smell has the roles of OBJECT and sometimes the SOURCE.

In Arabic, the subsequent sentences are examples of how the concept of smell is used to make sense of many abstract domains. The Arabic data contained thousands of these sentences containing conceptual mappings and the ones quoted, here, are the most typical cases.

7. A. hunaaka man **yashumm** raa?iHata fashal -l-?iSlaaH al-jadeed
 There is someone smelling odor-of failure-of the-reform the-new
 There new reform **smells** of failure.
- B. yashummu raa?iHat mu?aamarah li-lnayli-min qaDaa?i miSr
 smell-he odor-of a plot to undermine judiciary-of Egypt
 He **smells** a conspiracy to undermine Egypt's judiciary.
8. A. yastaTee9 al-SaHafi al-9arabi ?an yashumma raa?iHata al-tawattur
 can the-journalist the-Arab to smell odor-of the-conflict
 The Arab journalist can **smell** the conflict.
- B. ?innahu yashummu raa?iHat al-Safaqaat fi kull makaan
 that smell-he odor-of the-deals in every place
 He smells good deals everywhere.
9. A. bayna al-?azziqat al-Dayiqah **yashummu** raa?iHata al-ltaareeX
 through the-alleys the-narrow smell-he the-scent-of the-history
 Through the narrow alleys, he **smells** the aroma of antiquity.
- B. alkul fi aljazaa?ir yashummu raa?iHat ramaDaan bi-Tareeqati-hi al-XaaSSaa
 Everyone in Algeria smell cent-of Ramadan in-way-their the-special
 Everyone in Algeria **smells** Ramadan in their own way.
10. A. tafuuHu raa?iHat al-fasaad fi ?akbar al-muHaafaZaat

reek smell-of the-corruption in largest the-provinces

The largest state **smells** of corruption.

B. tafuuHu raa?iHat al-faDaa?iH min seeratihim-l ăaatiyah

reek smell-of the-scandals from biographies-their

Their personal biographies **smell** of scandal.

11. A. yureedu ?an yashumma raa?iHat al-SiHa allati faaraqat-hu mun ău zaman

want-he to smell scent-of the-health that left-him since time

He wants to **smell** the scent of (feel) health that left him long ago.

B. lam yashumm raa?iHat al-marHalat al-thaanawya

not smell odor-of the-stage-of the-high school

He didn't experience or go through (**smell**) the high school period.

12. A. lan yashumma raa?ihat -al-taHarrur min barathin al-quwaat al-musta9mira

not smell odor-of the-liberation from clutches-of the-powers the-colonial

He will not **smell** liberation from the clutches of colonial power.

B. yashummu raa?ihat al-iqtiraab min marHalat al-tahdi?a

smell-he odor-of the-approach from phase-of the-calming down

He **smells** the approaching peace phase.

The same conceptual metaphors found in English sentences above, are also found in Arabic. The first four groups of sentences represent multiple abstract domains being mapped onto the smelling domain. The target domains are SUSPICION in 7, BECOMING AWARE OF/KOWING in 8, THE GENERAL ATMOSPHERE OF SOMETHING in 9, and BAD IS SMELLY in 10.

This indicates that there is a precise correspondence between English and Arabic in relation to these four conceptual metaphors. However, the conceptual metaphors found in examples 11 and 12 are not observed in English. The sentences in 11, reveal that conceptual metaphors are crucial to comprehend their meaning. The abstract domain of experience is understood in terms of the domain of olfactory perception. The correspondences that can be inferred to between the two domains are as follows:

5. EXPERIENCING IS SMELLING

6. STATES ARE SMELL (such as health, sickness, adolescence, etc.)

The sentences in 12, above show yet a different conceptual metaphor. The correspondences between the source and the target domains can be paraphrased in this way.

7. EVENTS ARE SMELLS (such as Being liberated and approaching peace)

8. EXPECTING AN EVENT IS SMELING

By taking into account the semantic features of smell outlined by Ibarretxe-Antuñano (1999, 2021), the motivations for using the olfactory sense as a source domain become apparent. "Intuitive knowledge" is identified by Ibarretxe-Antuñano as part of the senses of smell. It is certainly an extended meaning and a major semantic component of the conceptual structure of smell. It may account for the conceptual metaphors identified in the preceding lines, especially those of SUSPICION, DETECTING or BECOMING AWARE OF above. Since one of the semantic properties of smell is its being internal, thus breath, life, experience, and knowledge are internal by analogy. When we inhale a smell, it fills our nostrils and sometimes our bodies. So, anything that resembles a smell or can be smelled will go into us. We are containers for the smell as well as knowledge, suspicion, anticipation, experience and of course feelings. One additional feature of smell, in my opinion, is that we recognize smells even without seeing or being aware of the source of that smell. Compared to sight, for instance, smell is better at detecting hidden things. Proximity is another motivation. When there is a smell around us, we are definitely going to detect it. So, eminent events are smelled as illustrated by the sentences in 12.

There is another metaphor related to the meaning of detection. It is a very common metaphor we come across in everyday life to the extent that it has the status of an idiom. It is underlined in the subsequent sentences.

13. huwa mawjuud bi-daa?irat al-SiHHa likay yushamshim al-?aXbaar

He located in-department-of the-health to sniff the-news

He is located in the Department of Health to sniff the news.

14. ?iHtaraq al-bayt wa laa ?aHad fi -lmadeenah shamma -l-Xabar

burned the-house and no one in the-city smelled the-news

The house burned down, and no one in the city smelled the news.

These sentences reveal that looking for news and discovering news is similar to sniffing a smell with intension. The lexical item (SMELL + NEWS) is a conventional metaphor that became an idiom. The metaphor itself is no longer recognized because of its recurrent nature. The conceptual metaphor involved in sentences 13 and 14 is SEARCHING FOR NEWS IS SMELLING.

Returning to figure 3, it is clear that the active frame of the concept is triggered in all the previous conceptual metaphors, with the speaker as the agent, and the process of smelling is mapped onto the mental processes of suspecting, becoming aware, experiencing, and finally expecting. The only metaphor that activates the passive frame is BAD IS SMELLY.

Another very important conceptual metaphor related to smell is FEELING IS SMELLING. The relation between emotions and perception are pointed out by Lakoff and Johnson (1980).

They focused, in particular on the conceptual metaphor EMOTIONAL EFFECT IS PHYSICAL CONTACT as in "*He was struck by her attitude*", "*Her mother's death hit her like a tornado*", etc. Furthermore, Kovecses (2012) has identified the conceptual metaphor EMOTION IS TOUCH. He has pointed out that the physical domain of touch is used to express emotions. He also called attention to the fact that smell can be used to conceptualize emotions for which he quoted these example, "*It had the smell of treason*" and "*the sweet smell of success*". The latter is an idiom which describes the emotion created by success as a SMELL. Emotion is an important field for the study of the link between cognition, linguistic expression, and metaphor. Extensive research has been carried out to investigate the connection between metaphor and the expression of emotions (see Emanation 1995, Blanchette & Dunbar 2001, Kovecses 2003, 2010, 2012). What concerns me here is the relation between emotion and the sense of smell. Beyond the famous idiom "the sweet smell of success", a review of the English data revealed no other patterns of smell + emotion except for a very few cases mentioned below.

15. A. I can **smell** your regret.
B. Even while he slept I could **smell** fear on him.
C. The happiness you offered her **smelled** of decay.
D. It **smells** more of hatred and rage.

In these few instances, emotions are conceptualized as SMELL. The active frame of the concept is used in A and B while the passive is used in C and D. Hence, some emotions in English like the ones in 15 are conceptualized as smells. The emotions are restricted to regret, happiness, fear, and hatred. Other basic emotions such as anger and disgust are not found. The conceptual metaphor EMOTIONS ARE SMELLS is not well-grounded in English contrary to Arabic. In Arabic, feeling a particular emotion is smelling. This metaphor is illustrated in the subsequent sentences.

16. A. nashtamu fi -l-?a9yaad raa?ihata al-sa9aadah
we-smell in the-holidays scent-of the-happiness

We **smell** happiness during the holidays.

- B. tafuuHu min 9ibaaraati-hi raa?iHat al-sa9aadah
emit from words-his scent-of the-happiness

His words smelled of happiness.

17. A. 9abaqat raa?iHat al-Huzn fi kulli zawaya al-Gurfa
permeated the-smell-of the-sadness in every corners-of the room

The smell of sadness permeated every corner of the room.

- B. ?ashummu fi kitaabaa-tik raa?iHat al-Huzn al-9ameeq

I-smell in writings-your the-smell-of the sadness the-deep

I smell deep sadness in your writing.

18. A. maa-zaalat raa?iHat al-Xawf tamla? al-makaan

still smell-of the-fear fill the-place

The smell of fear still fills the place.

B. yakad al-zaa?ir ?an yashumma fi l-madinat raa?iHat al-Xawf

almost the-visitor to smell in the-city smell-of the-fear

The visitor can almost smell the scent of fear in the city.

19. A. tafuuHu min ta9leeqi-hi raa?iHat al-GaDab

emit from comment-his smell-of the-anger

His comment reeked of anger.

B. ?ashtamu raa?iHat al-GaDab fi suTuur-ik

I-smell smell-of the-anger in lines-lines

I smell anger in your lines.

The four groups of examples illustrate four emotions found to be well represented in the data. These emotions are happiness (joy), sadness, fear, and anger. The other two basic emotions of disgust and surprise are not found. It is noticeable that the emotions are smells metaphor in these sentences mostly refer to the general impression about a place, a piece of writing or a piece of language although it might be used in other cases. Once again, both frames of the smell concept are activated, the passive frame in verbs like tafuuH (emit) and 9abiqat (permeate) and the active frame in the agentive verb yashummu (smell). Hence, in Arabic, it is possible to conceptualize emotions as smells and of feeling as smelling. These two conceptual metaphors are listed below.

9. EMOTIONS ARE SMELLS

10. FEELING IS SMELLING

However, the data demonstrate that other sense faculties are used to express emotions, providing more evidence for Kovecses' thesis that EMOTION IS PERCEPTION metaphor is a generic metaphor (See, Kovecses 1990, 2003, 2012, 2019). The subsequent examples are to prove that smell and taste senses are used to convey emotions in Arabic.

20. ?al_?um laa tauuq Ta9ma -nnawm wa laa tashummu raa?iHat al-raaHa

The-mother not taste taste-of the-sleep and not smell scent-of the-comfort

The mother does not taste sleep and does not smell comfort.

21. li- Ta9m al-Huzn fi fam-i maraarah

have-taste-of the-sadness in mouth-my bitterness

The taste of sadness in my mouth is bitter.

22. hal 9arafa al-9raaqiyuun Ta9m wa raa?iHat al-sa9aadat?

did know the-Iraqis taste and smell-of the-happiness?

Did the Iraqis know the taste and smell of happiness?

The sentences show that the senses of smell and taste are used to express emotions either separately or together. The experiencer can distinguish the smell and taste of comfort, happiness, and sadness. Thus, experiencing or feeling emotions is similar to perceiving a smell. The motivations for these correspondences can be deduced from the semantic feature assigned to smell by Ibarretxe-Antuñano (2021, 1999) in section 4 table 3. Namely, that smell is internal, subjective, direct, involuntary, and proximal. Emotions have precisely the same semantic qualities as smell. Moreover, I add to these the fact that emotions are abstract like unseen smells. They can only be detected through the olfactory system. Emotions can leave an impression in the surroundings too like smells that occupy space and persist for a long time. The examples, above, show that the GENERAL ATMOSPHERE OF A PLACE might be considered as a feeling.

In conclusion, the preceding discussion proved that the conceptual metaphors listed below are found in Arabic. Some of these conceptual metaphors are identical to English, 1-4, while others are unique to Arabic, 6-9. The conceptual metaphor FEELING IS SMELLING exists in English on a small scale, but it is in Arabic that it is mostly embodied.

1. SUSPICION IS SMELLING
2. BECOMING INSTINCTIVELY AWARE/KNOWING IS SMELLING
3. THE GENERAL ATMOSPHERE OF SOMETHING IS A SMELL
4. BAD IS SMELLY
5. FEELING IS SMELLING
6. EXPERIENCING IS SMELLING
7. EXPECTING IS SMELLING
8. EVENTS ARE SMELLS
9. EMOTIONS ARE SMELLS

6. Smell as Target Domain for Conceptual Metaphors

In the previous sections, we saw that the smell faculty is a rich domain for conceptualizing many abstract concepts. This reveals that perception, smell in this case, represents a natural link between sensory and conceptual experiences. Smell is a perfect physical domain to convey knowledge, detection, suspicion, and emotions. In this section, SMELL as a target domain is examined to establish the conceptual metaphors that result from that.

According to Kovecses (2019), three concepts interact with the smell domain: Existence, Intensity, and (Lack of) Control. These three are broad fundamental dimensions that span across smell and other concepts as well (p.340). In relation to smell, the existence or non-existence of smell is one aspect of the concept. Another aspect is intensity. Smell can have varying degrees of intensity. The third aspect is the fact that smell is a force. The experiencer feels helpless in front of smell because it is unavoidable. The discussion of SMELL as target domain will be divided into three sections based on three dimensions that interact with it according to Kovecses (2019)

6.1 Existence

Kovecses (2019) gives the following conceptual metaphors to characterize how the existence of smell is represented in English (p.340).

1. SMELL IS A SUBSTANCE
2. THE OBJECT / LOCATION THAT HAS THE SMELL IS A CONTAINER
3. THE EXISTENCE OF SMELL IS FOR THE SUBSTANCE TO BE IN THE CONTAINER
4. SMELL IS AN OBJECT
5. THE EXISTENCE OF SMELL IS THE POSSESSION OF AN OBJECT
6. CAUSING SMELL IS TRANSFER

These conceptual metaphors are exemplified by the sentences in 23 in English.

23. A. He has **the smell** of a soldier about him.
- B. The flowers give off **a smell** that bugs do not like.
- C. You didn't notice **the smell** of blood and powder residue?
- D. He went outside and breathed in **the smell** of freshly cut grass.
- E. **The smell** of coffee was coming from the kitchen.
- F. **The smell** of death filled the air.
- G. **The smell** of her perfume hung in the air long after she went.
- H. **The smell** of someone cooking meat on the grill wafted.

Based on the type of frame triggered by each item, these eight sentences may be classified into two groups. Accordingly, the sentences in C and D represent the active frame, while the rest of sentences represent the passive frame. After examining the senses of smell as a noun in 24, above, we notice that smell resembles a property in A. the smell is owned by the soldier as if it is some object like a car or a house. Consequently, smell is conceptualized as an OBJECT. In B, the smell is emitted from something as a result of a physical change. Therefore, the image of an OBJECT also applies. But the smell itself is not contained inside

the flower. It is rather produced through chemical change. The senses in D, F and G, smell is a substance that fills an area, and the area is thought of as containing the smell. The container is the place where the smell hangs, stays, lingers, or fills. The container may also be the human body when we breathe in air, it goes inside of our bodies. In E and F sentences, the smell has a power of its own. It can come, go, waft, drift or spread from one location to another. The different locations are containers. The smell itself is like a natural force. The C sentence indicates the existence of smell in the most general way without any further specification. Hence, smell has an existence opposite to sentences such as "Carbon monoxide has no smell.", or "The best sense of clean is no smell whatsoever.". This demonstrates that the presence of smell is a distinct concept.

In the following lines, Arabic sentences will be analyzed in order to find the underlying conceptual metaphors and establish whether they are comparable to English. Gad (2017) found out that verbs like tafuuH (emanate), tanba9ith (smell), tantashir (spread), tataSaa9d (waft), taltaSiq (stick to), tamla?(fill), and ta9baq (fill) collocate with smell in Arabic frequently (p. 336). These verbs will help to resolve how the existence of smell is realized in Arabic. The conceptual metaphors are given in groups because they are related in conceptualization.

24.

- i. SMELL IS A SUBSTANCE
- ii. LOCATION THAT HAS THE SMELL IS A CONTAINER
- iii. THE EXISTENCE OF SMELL IS FOR THE SUBSTANCE TO BE IN THE CONTAINER
 - A. istanshaqa raa?iHat al-Huquul ma9a-ha
inhale-he scent-of the-fields with-her
(He) inhaled the scent of the fields with her.
 - B. mala?at raa?iHat al-bayD Gurfata-hu al-SaGeerah
filled smell-of the-eggs room-his the-small
The smell of eggs filled his small room.
 - C. raa?iHat al-baHr tamla?u ?anfa-hu
smell-of the-sea fill nostrils-his
the smell of the sea fills his nostrils.
 - D. taSaa9adat raa?iHat al-Xubz al-Taazaj min al-tanuur
wafted smell-of the-bread the-fresh from the-furnace
The smell of fresh bread wafted from the furnace.

25.

iv. SMELL IS AN OBJECT

v. THE OBJECT THAT HAS THE SMELL IS A CONTAINER

vi. THE EXISTENCE OF SMELL IS THE POSSESSION OF AN OBJECT

A. yaHmilu ma9a-hu raa?iHat al-Ganam ?ila- al-bayt

(he)carry with-him smell-of the-sheep to the-house

He carries the smell of sheep home with him.

B. yashummu raa?iHat al-9araaqa fi ?aGlab lawhat-i

(he) smell scent-of the-originality in most paintings-my

He smells the scent of opulence in most of my paintings.

C. ?atuu bi-maraq la-hu raa?iHat naffaaøah

came-they with-broth has smell pungent

They brought a broth that had a pungent smell.

D. al-za9faraan yu9Tti raa?iHat zakiyah li-?al-?akla

the-saffron give aroma pleasant to-the-dish

Saffron gives a pleasant aroma to the dish.

The sentences in 24 and 25 can also be discussed under two classifications. The first classification contains 24-A and 25-B. This class triggers the active frame of the concept in which a human entity is the agent of these verbs. smell is a substance contained in the room or inhaled into the lungs. The place that contains the smell is considered a container. Since smell is contained in a space, this means that it exists. The second class includes 24 B, C, and D and 25 A, C, and D. All of these sentences represent the passive frame. The role of the human entity is experiencer. In this class, smell is conceptualized as an object that can be possessed and carried with the person. Sentence D is different in that smell is a substance that is caused by something or resulted from some chemical interaction between elements in the same way that give off in English is used. In this sense, smell is released out of a container which is the dish into space. Smell is a property of the broth or paintings, so it is conceptualized as an OBJECT. The Arabic examples and their interpretations demonstrate that the conceptual metaphors found in Arabic are a perfect match for the conceptual metaphors found in English.

6.2 Intensity

The previous discussion demonstrated that smell has an existence either as a substance or as an object and this existence is coded in both languages in similar ways. In this part, intensity is another dimension of smell that features in conceptual metaphors in English as

demonstrated by Kovecses (2019). Intensity is typically expressed through the use of adjectives. The intensity of smells is measured on a scale from weak (faint) to strong.

There is a gradable scale of pleasant/unpleasant smell that is interrelated with the scale of intensity. Consequently, intensity is an inherent quality for defining the smell concept in English and it is mapped into the following domains identified by Kovecses (p. 341):

1. INTENSITY OF SMELL IS STRENGTH OF EFFECT
2. INTENSITY OF SMELL IS SHARPNESS OF AN OBJECT
3. INTENSITY OF SMELL IS QUANTITY OF A SUBSTANCE
4. INTENSITY IS DEGREE OF BRIGHTNESS OF LIGHT

These conceptual metaphors are illustrated in 26 below.

26. Intensity of smell in English

- A. The **pungent smell** of fried onions, garlic, and tomato sauce **pricks** my nostrils. (Sharpness)
- B. The **sharp smell** would **bite** my nostrils. (Sharpness)
- C. The **sickly smell** of the dead lingered over Port-au-Prince. (Strength)
- D. The sweet, **sickly smell** of decomposing flesh quickly **envelops** the site. (Strength)
- E. A **vague smell** is already beginning to bother me. (Brightness)
- F. A **vague smell** of ripe apples hung in the air. (Brightness)
- G. I feel suffocated. **Smell** of death **fill** my chest. (Quantity)
- H. His nostrils **fill** with the **smell** of fuel. (Quantity)

Arabic, on the other hand, has a great number of adjectives that are used to describe smells. Yet, I had to search the Arabic data for them. This search revealed that most of these adjectives are semantically equivalent. I tried to identify the most important collocates according to the degree to which they reflect the distinctions of intensity and the positive/negative contrast (see appendix B). The conceptual elements of intensity illustrated in the following group of Arabic examples are given below. It seems that the dominant intuitive meaning that these adjective convey is that intensity means control and control is achieved through intensity.

27. Intensity of smell in Arabic

- A. ?al-fuful la-hu ma čaaqun Haar wa **raa?iHat qawiyah**
The-pepper has taste spicy and aroma strong
Pepper has a spicy taste and **strong aroma. (Strength)**
- B. fi al-jaw **raa?ihat shadeedah** li-masHuuq al-baarud

in the-air smell strong has-powder-of the-gun

There was a **strong smell** of gunpowder in the air. (**Strength**)

C. ?azakamat ?anfa-k raa?iHat naffaa ðah taXtariq ruuHa-k

filled nostrils-your smell pungent penetrating soul-your

A **pungent smell** filled your nostrils and penetrated your soul. (**Sharpness**)

D. inba9athat min 9ulbat al-naqaaniq raay?iHat Haadah

emitted from can-of the-sausages smell sharp

A can of sausage gave off a pungent smell. (**Sharpness**)

E. raa?iHat naffaa ðah katamat ?anfaasa-ha

smell pungent muffled breaths-her

A pungent scent **muffled** her breath. (**Quantity**)

F. sayTarat raa?iHat 9aTinah 9ala kulli al-?arkaan

permeated smell putrid on every the-corner

A stench **filled** every corner. (**Quantity**)

The data did not reveal any contrast in connection to light-related adjectives as the fourth conceptual metaphor in English suggests. Adjectives related to light in Arabic such as *xaafit* (dim) and *saaTi9* (bright) are not used to describe smell.

6.3 Control

Control is the third dimension that smell conveys. Smell, in effect, is tied to this notion more than the other sense modalities. Hence, there are many linguistic expressions attributing power to smell. Against this power, human beings are defenseless, helpless and lack control over it. The notions of power and control are connected in Arabic. Because smell has power, it has control. Kovecses (2019) pointed out three conceptual metaphors in English that assign control to smell (p. 342). These metaphors are given below followed by illustrative examples from English and Arabic.

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

28.

- A. The smell **hit** me after I had re-entered my house.
- B. He could NOT get **past** the smell.

- C. The smell would invariably **wake** me **up** and I'd have a piece.
- D. The smell of the smoldering varnish **distracted** him.
- E. If you haven't tried that don't let the smell **stop** you.
- F. The smell of smoke and magic **assaulted** her.

The English sentences accurately express the perceptual experience of a person in contact with an unavoidable physical force (SMELL). This force may hit, cause harm, distract, stop, wake up a person or even assault him/her. The Arabic examples, on the other hand, also demonstrate that smell is conceptualized as a driving force on its own. Humans are helpless in front of this force.

29.

A. Sadamat-ni raa?iHatun Gareebah Heena ?aqtarab-t

hit-me smell strange as approached-I

A strange smell hit me as I approached.

B. tudahimun-ni raa?iHat duxaan al-sajaa?ir

raids-me smell-of smoke-of the-cigarettes

The cigarette smoke assaults me.

C. lan tastaTee9a muqaawamat al-raa?iHat al-shahiyyah

won't be-able-to resist the-smell the-delicious

You won't be able to resist the delicious scent.

D. TaGat raa?iHat ?al-qahwa 9alaa -l-makaan

permeated smell-of the-coffee over the-place

The smell of coffee permeated the place.

E. Gamarat-ni raa?iHat ?al-wuruud

swamped-me scent-of the-roses

I was swamped by the scent of roses.

F. taSafa9 ?anfa-k raa?iHat sayyi?ah min al-majareer

slap nose-your smell bad from the-sewage

The terrible smell of sewage slaps you.

G. raa?iHat al-qahwah taGzuu ?anf-i

smell-of the-coffee invade nose-my

The smell of coffee invades my nostrils.

The sentences in 29 prove that the conceptual structure of smell in Arabic is similar to that in English. The power of smell in all the above sentences expressed the presence of a tremendous power that can take over a place, invade, or control a person. When human beings come into physical contact with it, they cannot stop it or resist it and they need to get away from it.

In conclusion, intensity and control are two target domains that interact with smell. Human beings do not have control over strong smell. The intensity of smell is a controlling force. Consequently, the same conceptual metaphors found in English also exist in Arabic. The total number of conceptual metaphors is six. They are repeated below for convenience.

1. INTENSITY OF SMELL IS STRENGTH OF EFFECT
2. INTENSITY OF SMELL IS SHARPNESS OF AN OBJECT
3. INTENSITY OF SMELL IS QUANTITY OF A SUBSTANCE
4. SMELL IS A PHYSICAL FORCE
5. INTENSE SMELL IS A STRONG PHYSICAL FORCE
6. SENSING AN INTENSE SMELL IS COMING INTO CONTACT WITH A STRONG PHYSICAL FORCE

7. Conclusion

Perception has long been seen as a way to determine how our brains interpret our physical and abstract experiences and how they structure these experiences linguistically. Metaphor is seen as a cognitive process that links two distinct domains, the physical and the abstract, through mappings and correspondences. The olfactory system, in particular, has been understudied as a source of conceptual metaphors in Arabic. Consequently, this paper tried to show that our sensory experiences as represented by the smell domain form a mental basis for many conceptual domains. Examining the conceptual metaphors related to the olfactory domain will help to recognize the importance of perception in cognition. Cross-linguistic research is of great importance to establish metaphor as a universal human mechanism for thinking and understanding. It helps realize the similarities and differences in conceptualization and linguistic encoding of various concepts. Thus, this study attempted to carry on a contrastive analysis that will shed light on what is common and what is specific in relation to conceptual metaphors of smell in English and Arabic. To achieve these objectives, the current paper has applied the CMT to compare and contrast conceptual metaphors related to the olfactory sense in Arabic and English.

As a result, this study proved that smell is conceptualized in similar ways in both English and Arabic. This fact further testifies that the concept of smell may have a universal nature. In addition, the study examined the passive and active frames of the smell concept and showed that both are activated interchangeably to convey different portions of the smell sensory

experience. The passive frame of smell in Arabic uses a different set of verbs than the active frame. The concept of smell has basically the same conceptual elements in both languages, i.e., SUBSTANCE, OBJECT, CONTAINER, etc.

The study revealed that the majority of conceptual metaphors established for English smell constructions are also found in Arabic. Smell is also used as a source domain for the expression of emotions, although it is more commonly used in Arabic than in English. In addition, more abstract domains are conveyed in Arabic such as experiencing and expecting. Smell forms the target domain for a number of abstract domains in both languages such as CONTROL, INTENSITY and EXISTENCE. The most prominent metaphors are INTENSITY OF SMELL IS STRENGTH OF EFFECT, SMELL IS A PHYSICAL FORCE, and SENSING AN INTENSE SMELL IS COMING INTO CONTACT WITH A STRONG PHYSICAL FORCE.

Finally, this paper is limited to the investigation of conceptual metaphors in the smell domain which means that metonymies based on smell lie beyond its scope. Future research may examine Arabic metonymies associated with smell perception. The saliency and pervasiveness of smell conceptual metaphors constitute a significant area for further research. Moreover, the domain of emotions and its close associations with smell and other sense modalities represents a promising field for the study of language universals in perception and cognition.

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Appendix A. Appendix A list of Special Phonetic Symbols for Transcribed Arabic Sounds

/T/ a voiceless denti-alveolar plosive, emphatic, e.g., /Tabl/ (a drum)

/D/ a voiced denti-alveolar plosive, emphatic, e.g., /Dayf/ (a guest)

/ʔ/ a voiceless glottal plosive, e.g., /ʔamal/ (hope)

/ð/ a voiced dental fricative, non-emphatic, e.g., /ðahab/ (gold)

/S/ a voiceless alveolar fricative, emphatic, e.g., /Saff/ (a queue)

/X/ a voiceless uvular fricative, e.g., /xawf/ (fear)

/G/ a voiced uvular fricative, e.g., /Gadi:r/ (a pond)

/H/ a voiceless pharyngeal fricative, e.g., /Habl/ (a rope)

/9/ a voiced pharyngeal fricative, e.g., /9inab/ (grapes)

Appendix B. List of consulted Arabic dictionaries

1. Omar, Ahmed Mokhtar. (2008). Contemporary Arabic Dictionary.
2. Abu Al-Azm, Abdel-Ghani. (2013). Al-Ghani's Dictionary.
3. Gibran Masoud. (1992). The Pioneering Modern Linguistic Dictionary. Dar Al-Ilm for Millions, Beirut.
4. Mustafa, Ibrahim, Al-Zayat, Ahmed, Abdel-Qader, Hamid & Al-Najjar, Muhammad. (1972). The Mediator Lexicon. Dar Al-Daawa.

Appendix C. Collocation of Smell (N) + Adjective in Arabic

Adjectives	Sentences
shadeedah, qawiyyah, murakkaza (strong)	?al-fuful la-hu ma ðaaqun Haar wa raa?iHatun qawiyyah The-pepper has taste spicy and aroma strong Pepper has a spicy taste and strong aroma
Xafeefah, naa9imah, (weak or soft)	tuSdiru l-shumuu9 raa?iHat naa9imah give-off the-candles scent soft The candles give off a soft scent
jameelah, zakiyah, Tayyibah (nice/pleasant)	?al-qurunful ðuu raa?iHat Tayyibah The-cloves has smell good Cloves smell good.
qa ðrah, muqazzizah (very bad, horrible)	baaGatat-ni raa?ihatun muqazzizah hit-me smell disgusting A disgusting smell hit me.
Ghareebah (strange)	yumkin mulaaHaZat -raa?iHati-hi -l-Gareeba can notice smell-its the-strange Its strange smell can be noticed.
Hulwah, muHabbah (sweet)	?al-misk -l-?abiaD yucTee raa?iHat Hulwah li-l-malabis the-musk the-white give scent sweet to-the-clothes White musk gives a sweet scent to clothes.
Xaaniqah, muz9ijah, (very strong = penetrating)	li-lformaldhaid raa?iHat Xaaniqah has-formaldehyde smell suffocating Formaldehyde has a suffocating smell.
shahiyyah (delicious smell of food)	ra?iHat shahiyyah tasallalat 9abra -l-baab aroma delicious crept through the door A delicious aroma crept through the door.
kareehah(weak and unpleasant)	tanba9ith min al-manzil raa?iHat kareehah emit from the-house smell unpleasant The house smells bad.
ja ðaabah, fawwaHah, 9aTirah (strong but pleasant)	tantashir fi -l-jaw raa?iHat ja ðaabah spread in the-air scent attractive An attractive scent spreads in the air.
mun9ishah (refreshing)	li-haa ða -l-9iTr raa?iHat mun9ishah has-this the-perfume scent refreshing

	This perfume has a refreshing scent.
naffaa øah, Haadah, (sharp)	hunaaka raa?iHat mutta9affinah qaadimatun min al-Hi čaa? there-is smell musty coming from the-shoes
muta9affina (acid)	There is a musty smell coming from the shoes.
qadeemah (old not fresh), 9ateeqah (classic)	?al-makaan yaHmilu raa?iHatan 9ateeqah The place carry smell classic The place has a classic smell.

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