Temprature Metaphors In Arabic And English: A Contrastive Study

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Abstract: The differences between English and Arabic metaphors can be confusing and challenging for second language learners and translators. The purpose of this research is to compare and contrast between temperature metaphors pertaining to (hot, warm, cool, cold, ḥa:rr حار, dafi؟ دافئ and ba:rid بارد) in English and Arabic to find similarities and differences between them in terms of functions, frequencies, structures, collocations and the fields they were attested in. The data were collected from dictionaries, corpora, websites, advertisements and daily life conversations. The findings revealed that temperature metaphors in English were more frequently used than they are in Arabic. In addition, the functions used in English temperature metaphors are more and varied. Another finding revealed that Arabic does not have an equivalent to the English word "cool". Finally, English temperature metaphors are attested in more fields than in Arabic.

Keywords: Temperature metaphor; Arabic and English metaphors; contrastive analysis

1. Introduction

Metaphor is a type of figurative language that can be studied cross-linguistically and cross-culturally. It is commonly used to enhance communication and understanding. There have been many studies on theories of metaphor, yet the cognitive theory of metaphor has much currency in recent research. The cognitive dimension indicates that metaphor is not limited to language, but to concepts too; "metaphor is pervasive in everyday life, not just in language but in thought and action" (Lakoff and Johnsen 2003: 4). Moreover, the cognitive approach defines metaphor as a mapping structure from one conceptual domain, the source, to another conceptual domain, the target (Kovecses 2021).

Although linguistic metaphors may vary cross-culturally, conceptual metaphors tend to be almost the same universally. For example, Alverson (1994) found that the TIME IS SPACE conceptual metaphor can be found in diverse languages and cultures as English, Mandarin Chinese, Hindi and Sesotho. The reoccurrence of some conceptual metaphors like (time is space) is because most people around the world share the same concepts (e.g.Time) and the same bodily experiences (e.g. body parts: Heart). However, metaphors differ in the way they are expressed and used across languages and cultures.

There are different metaphor-related fields that have been studied cross-linguistically to identify the similarities and differences between them, including animal metaphors, time metaphors, body-part metaphors, temperature metaphors, etc. The frequency of these fields differs from one language to another. Their differences motivate investigating them cross-linguistically. This paper will focus on the field of temperature metaphors in Arabic and English.

Temperature metaphors are commonly used in both English and Arabic to refer to emotions, relationships, feelings and situations. Interestingly, some concepts and subjects are shared by different cultures (e.g. time, temperature, colour etc) while their metaphorical meanings may differ. The differences can be confusing and challenging for second language learners /teachers and translators. For example, in English, metaphors related to heat, as in She is hot, can be used to describe an attractive person, and to express lustful and erotic emotions. However, in Modern Standard Arabic, hot woman امرأة حريرَة "imraʔa ḥareera" is used to describe sad emotions (Lisan al-Arab Dictionary). Additionally, in some Gulf Arabic dialects, hot woman can mean one who is a good housekeeper. This study aims at identifying the differences and similarities between temperature metaphors in Arabic and English in terms of functions, frequency, structure and collocations. The study aims at answering the following questions:

1. What are the similarities and the differences between Arabic and English temperature metaphors in terms of function, structure, frequency, collocation and genre?
2. What implications may such a study offer to second language learning/teaching and translation?

2. Review of related literature

A number of contrastive studies have been conducted to compare and contrast different fields of metaphor, i.e, comparison of two emotions: happiness and anger (Al-Abed Al-Haq and Al Sharif, 2008) and animal metaphors in Arabic and English (Mansouri, 2015). However, temperature metaphors have not been studied in Arabic and English.

Valiulienė (2015) conducted a contrastive study that aimed at comparing and contrasting temperature metaphors in Lithuanian and English. The study used data which revealed common patterns as well as specific features of conceptual temperature metaphors and metaphorical expressions. The study found that the majority of temperature metaphors conform in both languages, because of the similar physical experience and shared cultural traditions.

Abu-Ssaydeh (2003) made a comparison between metaphor and simile in Arabic and English. The study aimed at determining areas of similarities and differences, identifying sources of difficulty and providing the translator and the language instructor with metaphorical tools that they can use to produce English texts. The researcher referred to some temperature metaphors as weather related metaphors. It was found that there are areas where the metaphorical potential in Arabic and English converges. Moreover, some metaphors are hard to translate because they come from

cultures that load certain words with associations that are unusual or unexpected, thus making it difficult to understand their functions in a new or specific lexical environment.

Le Guen (2015) conducted a study that aimed at proving that temperature terms are not only used for description of sensory items. but also for categorical temperatures (non-sensory) in Yucatec Maya, Mexico. The study also aimed at challenging the assumption that temperature conceptualization would exclusively be defined anthropocentrically (in terms of human values and experiences). These categorical temperatures refer to entities' permanent or fixed temperatures that are locally related to cultural values. The data were collected from the Yucatec language using standard ethnographical observation together with a questionnaire. The paper concluded that Yucatec Maya language uses three types of temperature terms: the sensory temperature terms, the categorical temperature terms and the metaphorical temperature terms. The categorical temperature terms in particular refer to a fixed thermal state of an entity (i.e hot or cold) disregarding its actual temperature (as measurable with a thermometer). For example, among Yucatec Maya speakers, oranges are considered 'cold things' whereas salt is considered a 'hot thing'. Moreover, the paper showed that categorical temperature terms are not exclusively defined anthropocentrically, because temperature is a shared human experience.

Vejdemo and Vandewinkel (2016) conducted a cross-linguistic study to examine Body-Parts Temperature Expressions (BPTEs) like "warm heart" and "cold eyes" in English, Ibibio, Japanese, Kannada, Mandarin Chinese, Ojibwe and Swedish. The study was based on data elicited from the seven languages. The data elicitation was performed in two steps. The first step was to establish a likely list of basic and frequent temperature terms in the source language. The second step was to elicit the names of the different body parts from informants through pointing to and naming of the body-related expressions. It was found out that all of the studied languages have BPTEs even in Ojibwe, which is a metaphor-poor language. Moreover, some body-related expressions reoccur in BPTEs like 'heart' , 'head' , 'voice' , 'smile' and 'eyes'. In addition, the study found support for two conceptual metaphors: control is cold/ lack of control is hot, and caring is warm/ uncaring is cold.

Further, Pasaribu (2019) conducted a study to describe the concept and the extended senses of warn and cool in English. The main aim of the study was to identify the prototypical meaning, the extended senses, and the relation between the prototypical meaning and the extended senses of these two lexemes: Warm and Cool, taking into account that temperature terms have more than one semantic representation. The study used a qualitative descriptive method that focused on the classifications of the use of the two terms. The data were collected from different sources like corpora and dictionaries. The paper concluded that the term warm has three extended senses, namely: (1) friendly, (2) pleasant to other senses, and (3) near the goal of the game. Those three words are expressed to describe the degree of heat and are extended to describe other human physical experience. Furthermore, the term cool has four extended senses, namely: (1) calm, (2) unfriendly, (3) fashionable and (4) agreeable. The prototype of the term cool is "having a low

temperature". As a result, the findings proved that there is a relation between the central senses and the extended ones, which enabled the researcher to draw the semantic networks of polysemy (warm and cool). Those extended senses are motivated by metaphors because the temperature domain is used to express non-temperature entities.

The previous studies examined temperature terms and metaphors in different languages. This study will fill in a gap since it will investigate the similarities and differences between temperature metaphors in Arabic and English.

3. Methodology

3.1 Data collection

This research is a contrastive study that compares and contrasts temperature metaphors in English and Arabic. A total of 213 temperature metaphors were collected from bilingual and monolingual dictionaries in both languages, namely Lisan Al-Arab Dictionary, Al-Muheet Dictionary, Maqayis Al-Lugha Dictionary, The Oxford Dictionary and Cambridge Dictionary. Moreover, ICA and BNC corpora, websites, advertisements and daily life conversations were also used.

3.2 Data analysis

A total of 125 temperature metaphors pertaining to hot, cold, cool and warm were collected in English and a total of 88 Arabic temperature metaphors related to ḥa:rr حار , dafiʔ دافئ and ba:rid بارد were collected in Arabic.

Each temperature term (hot, cold, cool, warm, ḥa:rr حار, dafiʔ دافئ and ba:rid بارد) was examined, explained and classified according to its functions, structures, frequency, collocations and genre.

4. Findings

1. Heat-related metaphors

1.1 English metaphors of hot

In English, fifty-two metaphors pertaining to hot were found and they serve eighteen functions. The first function is to describe intense emotions. Some emotions are positive like, excitement, love, passion, eroticism, and eagerness. Examples include: she felt **hot** emotions or the scene was **hot** and a **hot** chick. It is used to describe negative emotions and feelings of anger, embarrassment and uncomforting. For example, he looked very **hot** (uncomfortable) and a **hot**headed person (angry). The second function is to describe situations, mostly negative ones like awkwardness, embarrassment, problems and tensions. For example, she is in **hot** water (in trouble), he has been in a **hot** seat for a week now (embarrassed and in a problem) and **hot** peace (tensions). The third function is to describe behaviors and activities (actions, performances, debates, interests, etc) as in **hot** dance, **hot** music, **hot** debate, **hot** button, **hot** topic, **hot** competition and to **hot**dog (to show off). The forth function is to indicate good skills, characteristics and how knowledgeable a person

is, as in Tony is very **hot** in local history and he is **hot** on humor (he is good at telling jokes). The fifth function is to show a negative desire as in not **hot** for/with something. The sixth function indicates the popularity of people as in he is a **hot** commodity in Hollywood right now and he is a **hotshot** lawyer. The seventh function is to describe attractiveness or appearance, as in a **hot** hairstyle and a **hot** pink dress. The eighth functions describe strong relationships as in the lines between them stayed **hot** (they stayed connected). The ninth function shows difficulty in dealing with certain things and people, as in too **hot** to handle. The tenth function is used to show importance and value. For example, it is used in business to attract customers to buy products as in **hot** deals and **hot** prices. The eleventh function shows freshness and newness as in **hot** news, **hot** of the press and red-**hot** news (straight out of the war zone). The twelfth function indicates speed and easiness as in, **hot** cakes. The thirteenth function is used to indicate important events that are happening at certain timings as in **hot** minute, hour, weak, month etc. The fourteenth function is to show activities of certain places. For example, **hot** spots indicates either danger places or locations where there are too many things to do and see. Moreover, it can be used to indicate a quality of a place as in a **hot**bed (place that provides good conditions for something to grow or develop). The fifteenth function indicates disgustingness as in **hot** breath (bad mouth smell). The sisxteenth function is to indicate permission especially by an authority (police), as in a **hot** pursuit (A doctrine that provides that the police may enter the premises). The seventeenth function is to refer to colors like red, orange and yellow. They are called **hot** colors. The last function indicates speed and regularity. For example, **hot**line is used to give quick access to direction and help. Another example is **hot** money (money that moves regularly between different markets in search of best rates).

1.2 Arabic metaphors of hot (ḥa:rr)

Thirty-eight heat-related metaphors were found in Arabic with six main functions. First, it is used to indicate intense positive and negative attitudes and behaviors to show welcoming, gratitude, sincerity, importance, appreciation, urgency, invocation, hardship and threat as in taṣfeeq **ḥa:rr** تصفيق حار (a warm applause), rajaaʔ **ḥa:rr** رجاء حار (special request or calling), lahja **ḥa:rra** لهجة حارة (angry tone), muṣaafaḥa **ḥa:rra** مصافحة حارة (warm handshake) and Imaan **ḥa:rr** إيمان حار (strong faith). Second, it is used to express emotions and feelings of angriness, sadness, desire, love. Those feelings and emotions are the negative ones. For example, aʕsa:b **ḥa:rra** أعصاب حارة (angriness), la:ththa **ḥa:rra** لذة حارة (Joyful pleasure), dam **ḥa:rr** دم حار (warm blooded) and ʕawaṭif **ḥa:rra** عواطف حارة (hot emotions). Third, it is used to indicate intensity in hardship and in continually increased events, as in **estaḥa:rr** al qatl استحرَّ القتل (the killing is getting intense) and ʕamal **ḥa:rr** عمل حار (intense job). Forth, it is used to show intensity in activities, issues and colors as in, **ḥara:ratil** tana:fos حرارة التنافس (hot competition) and lawn **ḥa:rr** لون حار (intense/hot color). Fifth, it is used to indicate strong relationships as in **ḥara:ratil** ukhowwa حرارة الأخوة (strong brotherhood) and ʕalaaqa **ḥa:rra** علاقة حارة (strong relationship). Last, it sometimes indicates the liveliness of an activity as in, **ḥara:til** kitaba حرارة الكتابة (live writing "happening now").

1.3 Heat in English and Arabic metaphors

1.3.1   Frequency and Functions

Heat metaphors are used more frequently in English than in Arabic. Also, the functions of heat metaphors in English are more than the functions of heat metaphors in Arabic. The functions of heat metaphors in English are sixteen while they are only six in Arabic. As a result, the English heat metaphors are more diverse. Table (1) shows the similarities and differences between English and Arabic "hot" metaphors.

Table 1: Functions of Arabic and English 'hot' metaphors

	Functions	English	Arabic
1-	Expression of intense emotions.	+	+
2-	Expressing situations.	+	-
3-	Describing behaviors and actions.	+	+
4-	Describing skills and characteristics.	+	-
5-	Expressing negative desires.	+	-
6-	Expressing popularity of people.	+	-
7-	Expressing attractiveness or appearance.	+	-
8-	Indicating strong relationships.	+	+
9-	Expressing difficulty in dealing with certain things.	+	+
10-	Expressing importance and value.	+	-
11-	Expressing freshness and newness.	+	-
12-	Indicating speed and easiness.	+	-
13-	Indicating important events that are happening at certain times.	+	-
14-	Describing activities of certain places and a quality of a place.	+	-
15-	Indicating disgustingness.	+	-

16-	Indicating permission.	+	
17-	Referring to colors.	+	+
18-	Referring to speed and regularity.	+	-
19-	Describing the liveliness of an activity.	-	+

1.3.2 Structures

On one side, the English heat metaphors are mostly adjectives. Examples include: he is **hot**, the scene was **hot**, **hot**shot, red-**hot**, **hot** flush, **hot** peace, **hot** pursuit, **hot** money,**hot**line and **hot** seat. Yet, a compound verb was found as in someone is **hot**-dogging, and a noun, as in write with **heat**. On the other side, the Arabic heat metaphors are mostly expressed by using the adjective **ḥa:rr** as in taḥḥiya **ḥar:a تحية حارة** (warm welcome), and few are expressed by using the noun **ḥarar:at** as in **ḥarara:til** qalb **حرارة القلب** (kind heart), and finally by using the verb **estaḥa:rra** as in **estaḥa:rra** al qatl **استحر القتل** (the killing is getting intense) which occurred once.

1.3.3 Collocations

English heat metaphors collocate with abstract nouns more than with concrete nouns. Examples of abstract nouns as in, he feels **hot,** he looks **hot,** and **hot** topic. Other concretes include **hot** cakes, **hot** water and **hot** potato. Similarly, Arabic heat metaphors collocate mostly with abstract nouns as in, **ḥarar:atil** qalb **حرارة القلب** (kind heart), mushkilah **ḥa:rra مشكلة حارة** (serious problem) and aʕṣaab **ḥa:rra أعصاب حارة** (angry or stressed).

1.3.4 Fields

English heat metaphors were found to be used in daily life conversations, business and sales, law, politics, advertisement, art, literature, sports and finance. However, in Arabic they were found in literature, sport, art, media, daily life conversations, Religion and politics. Table (2) below shows the fields in which English and Arabic heat metaphors were attested.

Table 2: Fields of hot metaphors in English and Arabic

Fields		English	Arabic
1-	Daily life conversations.	+	+
2-	Business and sales.	+	-
3-	Law	+	-
4-	Politics	+	+

5-	Media and advertisement.	+	+
6-	Art	+	+
7-	Literature	+	+
8-	Sports	+	+
9-	Finance	+	-
10-	Religion	-	+

2. Warmth-related metaphors

2.1 English metaphors of warm

In English, twenty-three metaphors pertaining to warm were attested. They serve eleven functions. The first function is to show certain attitudes and behaviors and they are mostly positive ones, as in: a **warm** welcome, a **warm** commendation, **warm** thanks, a **warm** support and a **warm** disposition. The second function is to express positive emotions and feelings. For example, he **warms** my heart or I have **warm** feelings. The third one indicates closeness in relationships, as in a **warm** friend. The forth one is to describe people's characteristics and personalities as in, a **warm** person to describe a good person. Also, she has a **warm** heart, describes someone with good intentions. The fifth function is to indicate positive and good vibes of places and times as in, a **warm**, friendly atmosphere, or a **warm** evening. The sixth function is to show value and importance, as in: a **warm** debate arose. The seventh function is to indicate the explicitness of sexuality especially in movies or plays, as in: if there is anything a little too **warm** in the play, it can easily be left out. The eighth function is used to indicate intensity of colors such as red, yellow or orange tones as in, **warm** colors and **warm** shades. The ninth one is used for scents to indicate the beauty or certain smells, as in: a **warm** scent and a **warm** aroma. The tenth function is to show closeness in getting somewhere. For example, in children's games, when they get close to discovering something or getting the correct answer, we are getting **warmer** would be used. The last one is to indicate getting ready for an event, a competition or even a speech, as in to **warm** up or to get a **warm**-up.

2.2 Arabic metaphors of warm (dafiʔ)

The collected metaphors pertaining to warm in Arabic were sixteen with five different functions. The first function is to express positive feelings and emotions as in **difʔil** mashaʕir دفء المشاعر(good feelings). The second function is to indicate positive attitudes and behaviors as in: inṭibaaʕ **dafiʔ** انطباع دافئ (good impression) and basma **dafiʔa** بسمة دافئة (lovely smile). The third function is to describe colors as in, alwan **dafiʔa** ألوان دافئة (warm colors). The forth function is to indicate closeness in relationships as in, ʕalaaqa **dafiʔa** علاقة دافئة (bonded relationship) and jaw

ʕaʾʔili **dafiʔa** دافئ عائلي جو (family ambience). Finally, it shows beauty as in, ahaazeej **dafiʔa** أهازيج دافئة (lovely music) and musiqa **dafiʔa** موسيقى دافئة (lovely music).

2.3 Warmth in English and Arabic metaphors

2.3.1 Frequency and functions

In English, warmth metaphors are used more frequently than in Arabic. Moreover, the functions of English warm metaphors are more than in Arabic, as they are serving eleven functions. They are used to show positive attitudes and behaviors, to express positive feelings and emotions, to indicate closeness in relationships, to describe people's characteristics and personalities, to describes good times and places, to show value and importance, to indicate explicitness of sexuality in scenes, to talk about certain colors, to indicate beauty of certain smells, to indicate closeness to get things done and to indicate preparing for something.

However, warm metaphors in Arabic serve five functions only. Like the English warm metaphors, they are used to show positive attitudes and behaviors, to express positive feelings and emotions, to describe intensity of colors, to indicate closeness in relationships and to show beauty. Table (3) shows the similarities and differences between English and Arabic in this respect.

Table 3: Functions of Arabic and English 'warm' metaphors

Functions		English	Arabic
1-	Indicating to attitudes and behaviors.	+	+
2-	Expressing refers to emotions.	+	+
3-	Indicating closeness in relationships.	+	+
4-	Describing people's characteristics and personalities.	+	-
5-	Expressing positive and good vibes of places and times.	+	-
6-	Indicating value and importance.	+	-
7-	Indicating the explicitness of sexuality in scenes.	+	-
8-	Referring to colors.	+	+
9-	Referring to scents.	+	-

10-	Expressing the closeness in getting somewhere.	+	-
11-	Indicating getting ready for an event.	+	-
12-	Showing beauty.	-	+

2.3.2 Structures

Most of the English metaphors of warmth are used as adjectives in sentences. Yet, two of them are used as verbs as in: he **warms** my heart and to **warm-up** for a match. Also, one noun was found in the **warm-up.** On the contrary, Arabic metaphors of warmth are all adjectives in the form of **dafʔ دافئ**. Table (4) shows the similarities and differences of the structures of warm metaphors in English and Arabic.

Table 4: Structures of 'warm' metaphors in English and Arabic

Structure	English	Arabic
Adjective	+	+
Noun	+ (few)	-
Verb	+ (few)	-

2.3.3 Collocations

English metaphors of warmth collocate mostly with abstracts. Yet, they collocate with some concretes as in: a **warm** person and a **warm** heart. Similarly, Arabic metaphors of warmth collocate with abstracts mostly. Yet, Arabic collocated with a concrete noun as in, basmah **dafiʔa بسمة دافئة** (warm smile).

2.3.4 Fields

Metaphors of warmth in English were found to be used in daily life conversations, literature, media and advertisement, arts and sports. However, warm metaphors of Arabic are mostly used in literature and media. Table (5) shows the fields in which English and Arabic warm metaphor were attested.

Table 5: Fields in which metaphors of 'warm' were attested in English and Arabic

Fields	English	Arabic

1-	Daily life conversation.	+	-
2-	Literature.	+	+
3-	Media and advertisement.	+	+
4-	Art	+	-
5-	Sports	+	-

3. Cold-related metaphors

3.1 English metaphors of cold

Thirty metaphors using 'cold' were collected and they serve ten different functions (mostly negative). The first function is to express certain emotions like fear, horror and carelessness. Examples include: a **cold** shiver of fear, **cold** feet, a **cold** feeling and **cold**-hearted person. The second function is to refer to death as in, lying **cold** and stiff in a coffin. The third function is to indicate states, attitudes and behaviors that are usually negative as in, how **cold** and calculating he was, **cold** manner, **cold** war, **cold** response, give a **cold** shoulder and **cold** comfort. Yet in one situation "cold" is used to indicate complements as in, they went to the test **cold** (without preparation or rehearsal). The forth function is to describe facts and objectives to indicate negativity (no emotions). For example, **cold** statistics, **cold** theory, **cold** world, **cold** reality and **cold** logic. The fifth function is to describe lack of emotions in intimate relationships, e.g. Elise was cold and barren. The sixth function is to refer to negative emotions of places, things and events as in, **cold** light, **cold** place (referring to the depressing emotion in the place and not the temperature) and London's image to many is **cold**, wealthy and impersonal. The seventh function is to describe colors containing pale blue or grey, as in **cold** blue eyes. The eighth function is to refer to events that are no longer fresh or easy to follow as in, the trail went **cold** (cold of the scent or trail of a hunted person or animal). The ninth function to is refer to randomness and un-planning as in, **cold**-call and **cold** canvas (when salesmen make unsolicited visits or phone calls to people to sell goods or services). The tenth and last function is to indicate peace, as in **cold**-start (a name given to a limited-war strategy designated to seize Pakistani territory swiftly without, in theory, risking a nuclear conflict).

3.2 Arabic metaphors of cold (ba:rid)

In Arabic, thirty-four metaphors related to "cold" were found and they serve six functions. The first functions is to express negative states, attitudes and behaviors, as in, dam **ba:rid** دم بارد (cold blood), salaam **ba:rid** سلام بارد (cold peace), ehtijaj **ba:rid** احتجاج بارد (a weak protest) and taʕziya **ba:rida** تعزية باردة (unemotional condolence). The second function is to describe emotions. Some emotions are positive as in, damʕ **ba:rid** دمع بارد (tears of joy) and **baradat** kabduh بردت كبده (feeling comfortable), while others are negative as in, galb **ba:rid** قلب بارد (cold-hearted) and

masha:ʕer **ba:rida** مشاعر باردة (cold feelings). The third function is to refer to death as in, **baradal** rajul برد الرجل (the man died). The forth function is to refer to places, things and events that are unemotional as in, hadiya **ba:rida** هدية باردة (meaningless), layla **baridatul**: ʕaysh ليلة باردة العيش (beautiful night) and hika:ya:t **ba:rida** حكايات باردة (meaningless stories). The fifth function is to refer to colors as in, lawn **ba:rid** لون بارد (cold colors) and these are usually shades of grey and blue. The sixth and last function is to describe personalities and characteristics that are mostly negative as in, **ba:rid** al aʕsaab بارد الأعصاب (careless) and **ba:rid** almazaj بارد المزاج (careless).

3.3 Coldness in English and Arabic Metaphors

3.3.1 Frequency and Functions

Metaphors of cold are more frequently used in English than in Arabic. Moreover, cold metaphors in English serve ten functions and they are to express certain emotions like fear, horror and carelessness, to refer to death, to indicate states, attitudes and behaviors that are usually negative, to describe facts and objectives to indicate negativity (not emotions), to describe lack of emotions in intimate relationships, to refer to negative emotions of places, things and events, to describe colors containing pale blue or grey, to refer to events that are no longer fresh or easy to follow, to indicate randomness and un-planning and to indicate peace. However, metaphors of cold in Arabic serve only six functions and they are to express negative states, attitudes and behaviors, to describe emotions, to refer to death, to refer to places, things and events that are unemotional, to refer to colors and to describe personalities and characteristics that are mostly negative. Table (6) shows the difference and similarities of functions of "cold" metaphors in English and Arabic.

Table 6: Functions of 'cold' metaphors in English and Arabic.

	Functions	English	Arabic
1-	Expressing emotions.	+	+
2-	Referring to death.	+	+
3-	Indicating states, attitudes and behaviors.	+	+
4-	Describing facts and objectives.	+	-
5-	Referring to unemotional relationships.	+	-
6-	Referring to negative emotions and energy of places, things and events.	+	+
7-	Referring to colors.	+	+

8-	Referring to events that are no longer fresh or easy to follow.	+	-
9-	Referring to randomness and un-planning.	+	-
10-	Indicating peace.	+	-
11-	Describing personalities and characteristics.	-	+

3.3.2 Structures

Most of the English metaphors that are related to cold are found in the form of adjective. Yet, one is found as a verb, e.g. **cold**-call and another one is found as a noun, e.g. **cold**-start. Similarly, most of the Arabic cold metaphors are found adjectives. Yet two are found as verbs, e.g. **baradal** rajul برد الرجل (died) and **baradat** kabduh بردت كبده (feeling comfortable).

3.3.3 Collocations

Cold metaphors in English collocate mostly with abstracts as in **cold** feelings, **cold** comfort, **cold** theory, **cold** logic, the trial went **cold** and **cold**-start. Yet, some 'cold' sometimes collocate with concretes as in, **cold** feet, it left me **cold**, **cold** image and **cold** blue eyes. However, Arabic 'cold' collocate mostly with abstracts as in, yaqeen **ba:rid** يقين بارد (weak faith), rudood feʕl **barida** ردود فعل باردة (weak reactions) and samt **ba:rid** صمت بارد (cold silence). Yet there are also some that collocate with concretes as in maka:n **ba:rid** مكان بارد (depressed place) and al muba:ra:t **ba:rida** المباراة باردة (boring match).

3.3.4 Fields

In English, cold metaphors are used in the fields of literature, daily life conversations, media, business, politics and military. In Arabic, cold metaphors were used in the fields of literature, politics, daily life conversations and media. Table (7) show the different fields in which metaphors of 'cold' are attested in English and Arabic.

Table 7: Fields in which metaphors of 'cold were found used in English and Arabic

	Fields	**English**	**Arabic**
1-	Daily life conversation.	+	+
2-	Literature.	+	+
3-	Media.	+	+

4-	Politics	+	+
5-	Business	+	-
6-	Military	+	+

4. Cool-related metaphors

Metaphors that are related to cool were only attested in English and have no equivalents in Arabic. This might be due to the fact that 'cool and cold' have one word in Arabic which is **ba:rid بارد**, as can be seen in the following table:

English	Hot	Warm	Cool	Cold
Arabic	حار	دافئ	-	بارد

4.1 Cool-related metaphors in English

The collected metaphors related to 'cool' were only twenty and they serve ten functions.

The first function is to refer to attitudes and behaviors that are negative. Usually they show no friendliness towards a person or they show no enthusiasm for an idea or project, as in c**ool** evaluation, cool response, **cool** reception, **cool** welcome and **cool** towards me. The second function is to show positive vibes and beauty of places and things, as in, **cool** outfit, **cool** location and **cool** hotel. The third function is to indicate emotions that are not excessive (free from excitement, anxiety, anger, etc), as in, **cool** head and she is **cool** (calm). The forth function is to indicate relaxation in music. For example, that is a **cool** jazz (relaxing jazz). The fifth function is to indicate attractiveness and impressiveness in appearances and looks. For example, you look **cool** and you are lucky to have someone **cool** to hang out with. The sixth function is to show exclamation (as in excellent and wow!). For example, it's **cool** to see you! And **Cool**! The seventh function is to express acceptance or agreement with something. For example, When somebody apologizes for something and somebody else replies "It's **cool**." (which means It's okay). The eighth function is to emphasize the size of an amount of money. Take a look at this example, a two-piece suit from this guy comes in at a **cool** two grand, so is unlikely to be realistic unless I win the lottery. The ninth function is to refer to colors that relax the eyes like blue and green. The tenth function is to indicate less growing and more of slowing down, as in, the stock market has **cooled** off. Table (8) shows the functions of 'cool' metaphors in English and Arabic.

Table 8: Functions of 'cool' metaphor in English and Arabic

Functions	**English**	**Arabic**

1-	Referring to attitudes and behaviors.	+	-
2-	Indicating positive vibes of places and things.	+	-
3-	Referring to emotions that are not excessive.	+	-
4-	Indicating relaxation in music.	+	-
5-	Referring to attractiveness and impressiveness in appearances and looks.	+	-
6-	Showing exclamation.	+	-
7-	Referring to express acceptance or agreement with something.	+	-
8-	Emphasizing the size of an amount of money.	+	-
9-	Referring to colors.	+	-
10-	Indicating less growing and more of slowing down.	+	-

4.2. Frequency, structure, collocation and fields

Cool metaphors are frequently used in English. Structurally, they are all adjectives except for one verb, as in to **cool** off. In these metaphors, 'cool' collocates with abstracts, as in, it's **cool**, **cool** welcome and **cool** evaluation and concretes as in **cool** outfit and **cool** place. They are used in the field of literature, daily life conversations, business and economy, music, art, media and biography.

5. Discussion

This section will discuss the findings and it will be divided into two parts. Part one (5.1) will discuss the answers to the first research question and part two (5.2) will discuss the answer to the second one. Moreover, this section will highlight the implications of the study.

5.1

In what follows, I will discuss the answer to the first question of the study: what are the similarities and the differences between English and Arabic temperature metaphors in terms of their function, structure, frequency, collocation and fields they are used in?

Temperature Metaphors in English and Arabic:

This study revealed that temperature metaphors exist in both English and Arabic. Moreover, some similarities were also found. However, a higher number of temperature metaphors were found in English than in Arabic. This result emphasizes the popularity of temperature metaphors in many fields of the English Language. In the field of Business, for example, AlJumah (2007) conducted a comparative study to compare and contrast metaphors in Arabic and English general business writing. In the study, AlJumah encountered many domains of metaphors, including temperature and weather. The study resulted in finding out that English and Arabic business use metaphors. However, metaphors in English were more frequent (P169).

1- Functions and structures:

In terms of functions, it is important to say that both Languages use temperature metaphors to express different functions. Yet, some functions are also found the same in both languages. They are mostly used to express feelings and emotions, behaviors, events and activities, situations, colors, relationships and characteristics.

Having said that, it is worth mentioning that English has other different functions in terms of using temperature metaphors that are not attested in Arabic. The functions of English metaphors related to hot were 18, while they were only 6 in Arabic. Then, the functions of English metaphors related to warm were 11, while they were only 5 in Arabic. Also, the functions of English metaphors related to cold were 10, while they were only 6 in Arabic. Lastly, the functions of English metaphors related to cool were 10, while there was not any equivalent in Arabic because the Arabic language does not have an equivalent to the English word "cool". Instead, Arabic uses other equivalents when it comes to translate cool into Arabic as in, Mumtaaz ممتاز (Excellent!), raaʕʔ رائع (Great! or Wow!), haa'deʔ هادئ (calm) and Muʕ:tadel معتدل (moderate).

Some of the English temperature metaphor functions that are not found in Arabic include reference to importance, attractiveness and appearance, freshness and newness, speed and regularity, desire, getting direction, permission, places, sexuality, smells and scents, preparing for something, getting things done, states, facts and objectives, randomness and un-planning, vibes and energy, exclamations, size of amount of money and slowing down.

This research showed that, although there are many temperature metaphors that are the same in English and Arabic, the differences are actually more. This is due to the differences between the two cultures. The differences are not only limited to the language, but to the geographical perspective (ex. weather) as well. For example, **hot** in Arabic can be positive but not in English; **warm** is more positive in English. (ex. **hot** reception in Arabic and **warm** reception in English).

Another interesting result is that most of the temperature metaphors in both languages are used to describe emotions, behaviors and states. The findings of this study support the findings of earlier studies in this field (Kövecses 2007, lackoff and Kövecses 1987, Al-Haq and Al Sharif 2008), in

terms of considering 'heat is anger' and 'warm is happiness' along with other feelings and human experiences as well.

Although some studies showed that in many cultures the concept of "HEAT IS ANGER" is shared universally. Yet in the Chinese culture, it is quite different. For example, Yu (1995) shows that in the Chinese culture, the conceptualization of anger in terms of heat is less common. Instead, it is more on pressure and not only on heat. This is just another evidence that metaphors are used globally because of shared human experiences yet, there are some cultures that are different as mentioned earlier.

Ortony and Fainsilber's study (1987) showed that emotions are expressed by using metaphorical language because of two reasons. The first is that, it is challenging to express them literally. Metaphorical language always allows humans to go beyond the literal meaning. This helps the other party to understand it better. The second reason is that emotions may vary and, therefore, they cannot be measured by using literal terms. Linking those reasons to this research, the researcher found that this makes sense especially in terms of temperature metaphors. Both temperature and emotions (which are abstract in nature) are sensed by the human body. Sensation is the major point in temperature and emotions and feelings. This leads the researcher to think of temperature metaphors as part of adjective metaphors or what is called sometimes as synaesthetic metaphors. A synaesthetic metaphor is a metaphor that exploits a similarity between experiences in different sense modalities (thefreedictionary.com). These sense modalities are vision, sound, taste, touch and smell. But theses senses became six when Day (1996) added the sixth sense which is temperature between smell and taste. Therefore, many of temperature metaphors in Arabic and English are synaesthatic metaphors, as in **warm** aroma and **cold** color, **cool** jazz, sawt **daafi?** صوت دافئ (nice voice), alwan **daafi?a** ألوان دافئة (warm colors) and ahaazeej **daafi?a** أهازيج دافئة (nice songs).

Now, in terms of structure, temperature metaphors appear mostly as adjectives in both languages. This is related to the fact that the temperature terms (hot, warm, cold, cool, ha:r حار, dafi:?دافئ and ba:rid بارد) are linguistically structured originally as adjectives. Moreover, when used in metaphors, they are mostly represented as adjective metaphors. Although there are other structures that appeared as well, yet they are very limited and do not overlap with the majority (adjectives). The major difference between English and Arabic is that English adjectives mostly precede the nouns they modify, whereas in Arabic, adjectives follow the nouns they modify.

2- Frequency and Fields

In terms of frequency, English temperature metaphors are more frequent than in Arabic. In addition, they are attested in more fields than in Arabic. Moreover, English has a wider scope of temperature metaphors especially those of heat and cold. This could be related to the fact that English language is the most used language in the world. Geographically speaking, the countries that speak English as native and non-native are more than the countries that use Arabic language.

5.2

This part discusses the second question of this research, what implications may such a study offer to second language learning/teaching and translation?

In first language acquisition, people already acquire the language system, and it is easier for them to understand metaphorical language. Oppositely, second language learning students must learn and keep learning all parts of language to get an overall competence of the language they are learning. The findings of this research can help SLL to understand the differences between Arabic and English language in terms of using temperature metaphors. In English and Arabic, temperature metaphors are used to emphasize subjective, personal, intangible, or abstract experiences (Lackoff &johnson, 2003; Demje´n 2018; Otrony 1987; Alkhatib & Shaalan 2017). The findings of this research indicate that temperature metaphors are used daily to express arguments, ideas, emotions and situations. These facts render the metaphor as an essential part in language. Understanding a temperature metaphor from a limited perception and not from an extended perception can cause mistakes. Imagine a student of second language learning understanding hot woman as a woman who is a good housekeeper! This could cause confusion which will not eventually lead to improving their overall communication competence. The findings of this research can also help them to pay attention to different structures of metaphors and how can they use them correctly in their communication. For SLL teachers, the findings of this research can help them to prepare teaching and learning materials using the various examples presented. Moreover, they can help them in understanding the differences from one culture to another. For example, some temperature metaphors in English culture can indicate sexuality while in Arabic culture they do not or at least they are not found. When teachers understand that they can easily transfer this to their students and let them pay attention that the students need to understand such differences to communicate better.

Similarly, in the field of translation, translating metaphors from English to Arabic and the other way around is not an easy task (Mehdi 2006). Translators are asked to be as faithful as possible to the text they are translating from a source language into a target language. Also, they are supposed to know the exact or the most accurate equivalents in the target language. Yet before that, they must understand the differences between languages (especially in metaphors). They must understand that these differences come from different cultures and backgrounds, different approaches of thinking and viewing life and different values, etc. The findings of this research can help translators to address such differences to find the most accurate equivalents. Furthermore, the findings can help translators to navigate how words in the target language can fit accurately according into the context and the field in which they appear in the source language.

6. Conclusion

This research aimed at studying temperature metaphors in English and Arabic. Using the contrastive analysis approach, the researcher compared and contrasted temperature metaphors of

English and Arabic to identify the similarities and the differences between them in terms of their functions, structures, frequencies, collocations and the field in which they were attested. Moreover, this study aimed at highlighting the implications to second language learning/teaching and translation.

Based on the findings of this research, it has been resolved that temperature metaphors are used in both English and Arabic mainly to reflect on human experiences such as emotions, attitudes and behaviors, situations, etc. Also, it has been concluded that English uses more temperature metaphors than Arabic. Since there is not any comparative study done on the topic of temperature metaphors between English and Arabic so far, this study is significant. This study may help second language learners and translators to know the temperature metaphors in both English and Arabic, which will help them to improve their language competence.

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