A comparative lexical analysis of vehicle spare parts terms in Arabic

Anwar A. H. Al-Athwary
College of Languages and Translation, Najran University, Najran, Saudi Arabia

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Abstract

Purpose – Investigating technical terms of vehicle spare parts used in the mechanics' jargon in Saudi Arabic (SA) and Yemeni Arabic (YA) has received scant attention. The current study, therefore, is an attempt to shed some light on the topic. The aim is to identify the strategies used for creating equivalents in vehicle spare parts vocabulary and to pinpoint the most salient variations between the two dialects in this jargon.

Design/methodology/approach – More than 250 terms of vehicle spare parts were collected and analyzed qualitatively. Each list contains nearly 125 items. They were gathered from two main resources: semi-structured interviews with vehicle mechanics, and written lists from spare parts dealers in both countries.

Findings – Three main strategies are found at work: lexical borrowing (from English and French), metaphor and loan translation. Direct borrowing is the most influential strategy where loanwords represent nearly one-third of the data, the majority of which is from English. Metaphorical extensions and literal translations also have an important role to play in the process of spare part naming. While the two dialects share common practices in terms of literal translation, they are characterized by many differences with regard to lexical borrowing and metaphors.

Originality/value – The study approaches an under-researched topic that is related to the mechanic's jargon in Arabic and leaves the door open for further research. The findings of this study may be used as guidelines for Arabic academies and those who are concerned with translating and studying technical terms in the field of mechanical engineering.

Keywords Vehicle spare parts, Loanwords, Metaphor, Loan/literal translation, Mechanics' jargon, Saudi Arabic, Yemeni Arabic

Paper type Research paper

1. Introduction

In the field of science and technology, creating technical equivalents does not represent a real challenge. L'Homme (2020, p. 229) points out, "dealing with terms that designate specialized realities is not as problematic as trying to establish equivalence in other situations, for instance, when important cultural specificities are involved." However, establishing terminologies can be sometimes problematic. This occurs when there is a lexical gap in the host language, a situation that L'Homme (2020) refers to as "non-equivalence." She also adds that speech communities may need sufficient time to create new terms, so they may resort to certain strategies to cope with those urgent lexical needs such as direct borrowing, literal translation and adopting new designations (L'Homme, 2020, p. 235). This holds true for Arabic language, both standard and colloquial. The task of creating new terminologies rests with Arabic academies. However, it is a slow and long process and needs a lot of effort. In the meantime, speakers of Arabic dialects depend on the previous methods in accommodating new foreign terms into the language.

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In Arabic, there are many methods which are usually subsumed under Arabization. These methods include transcription, naturalization, (loan) translation and coinage (by means of derivation, revival and neologisms) (Bahumaid, 1994; Baker, 1987; Ghazala, 2012). The first two processes (i.e. transcription and naturalization) might also be referred to as lexical borrowing. The employment of these strategies in Arabic dialects is much more frequent than in the standard variety because such dialects are not necessarily subject to the strict regulations and laws of the Arabization process. After all, the efforts exerted by Arabic academies in finding the appropriate methods of incorporating technical terms are remarkably helpful and make the process easier and less complex.

These linguistic practices of adopting foreign terminology in Arabic raise the question of synonymy (Al-Athwary, 2016). A single technical term may have more than one equivalent in both standard Arabic and other Arabic dialects. The jargon of vehicle mechanics is rich in cases of this type. Just to mention one example, the English term "steering wheel" is called *ṭa:rah* [1] in Saudi Arabia; *diriksu:n*/*daraksu:n* in Egypt, Saudi Arabia and Lebanon; *sukka:n* in Yemen, UAE and Oman; *ʔisti:rin(g)* in Jordan and Iraq; and *ʕajalat ʔal-qiya:dah* in Standard Arabic. In addition to these six terms, it has a couple of counterparts in other Arab countries. The reason behind this is typically attributed to the lack of coordination between the different institutions and bodies which are concerned with the Arabization process across the Arab states.

Vehicle mechanical engineering has its own characteristic terminology and discourse type. Colloquial jargon, in particular, is characterized not only by the existence of technical terms but also by odd words and expressions. Terms like *dugmah* "starter magnetic switch," *bu:ri* "horn," *bara:ṣa:t* "bearing pair set" and *ṭurumbat mo:ya* "a water pump" are examples of such strange words and expressions from mechanic jargon used in Saudi Arabic (SA) and Yemeni Arabic (YA). This might arise either from being frozen colloquial terms or from being originally foreign words borrowed from other donor languages rather than English and French, most probably from Turkish such as *bu:ri* (Pehlivan and Osam, 2010) and *ṭurumbah*. At this point, Madanat (2022, p. 551) notes, "we all complain about jargon, yet everyone writes it and no one ever admits using it" because "Jargon or even colloquial jargon can be the worst form of communication—and the best."

1.1 Saudi Arabic and Yemeni Arabic

Being geographically adjacent, SA and YA have something in common (Prochazka, 1988; Watson, 2018), especially YA, with the southwestern dialects of SA.

SA is an umbrella term for several Arabic dialects including Hijazi Arabic, Najdi Arabic and Eastern dialects. The first two are the most distinct varieties and differ from each other in some respects (Al-Essa, 2009; Prochazka, 1988; Versteegh, 2014). *Najdi Arabic* can be broken up into smaller dialects depending on geographical spread. Although there are phonological and morphological variations among the Najdi sub-dialects, mutual intelligibility among them is total (Al-Essa, 2009). Hejazi Arabic, on the other hand, is spoken along the western area of the country. It is a leveled dialect which exhibits similarities to other urban Arabic dialects outside Arabia. Al-Essa (2009, p. 208) reports, "it differs from the other tribal dialects in the western region and most of the other varieties in Saudi Arabia, including Najdi, in many phonological and morphological features."

The dialectal situation in Yemen is even more divergent. Versteegh (2014, p. 150) states, "the dialect map of Yemen is complicated because the geographical fragmentation of the area has produced a great deal of dialect variation." The term YA, therefore, refers to a variety of dialects spoken in different regions of the country. The Arabic varieties in Yemen can be divided into the following seven dialectal groups: the Tihama dialects; the k-dialects (in which the alveolar stop /*t*/ is substituted by the velar stop /*k*/ in the singular first- and

second-persons subject suffixes, for example, *ruħt* "I went" becomes *ruħk*); the southeast Yemenite dialects; the dialects of the central plateau (e.g. the dialect of Sana'a); the dialects of the southern plateau; the dialects of the northern plateau; and the northeast Yemenite dialects.

The history of vehicle use in Yemen (Aden) [2] and Saudi Arabia (Riyadh) [3] traces back to the 1920 and 1930s. Saudi Arabia is a high-income country and a member of the Group of Twenty. It imports almost all types of vehicles from different places of the world like the United States, Europe and East Asia. In each Saudi city, there is an area called "Al-Sina:'iyyah," usually located in the suburbs of cities, where spare parts are sold and broken vehicles are repaired and maintained. Yemen, on the other hand, is a low-income country and due to the recent economic circumstances resulting from the civil war since 2015, it is classified as one of the most impoverished countries in the world (UNDP Yemen report, 2021). Vehicle import in Yemen is mainly restricted to East Asian countries and Europe. No Sina:'iyyah areas exist in Yemen, and vehicle repair and maintenance shops and spare parts dealers are scattered within the cities themselves. This comparison reveals that, in Saudi Arabia, vehicle sales and repair industry is much larger than in Yemen, hence the use of car part vocabulary in SA is supposed to be much more dominant.

Some spare parts terms are not interchangeably intelligible among the speakers of SA and YA. For example, if a driver goes to a spare parts store in Saudi Arabia and asks the salesman (any foreign expatriate rather than Yemenis) to give him *bala:ka:t* "spark plugs" as used in YA, he may not understand his order and is likely to start asking for an explanation because in Saudi Arabia the term *bawa:ji* is used instead to stand for "spark plugs" rather than *bala:ka:t*.

1.2 The purpose of the study

Most of the technical terms in the various specialized jargons are basically in English; mechanics' jargon is no exception. Therefore, upon incorporating them into Arabic, there has been an urgent need to accommodate these terms in Arabic language in general, and in SA and YA in particular. The aim of the current study is to investigate and compare the various accommodation strategies of vehicle terms used in the two dialects. In other words, the current study attempts to address two main research questions:

RQ1. What are the strategies used in accommodating vehicle parts terms in SA and YA?

RQ2. How does SA differ from YA in terms of employing the vehicle parts terms in their lexicon?

2. Literature review

Mechanics' jargon in any language is considered to be partially involved in everyday interactions and has a wider cycle of users (drivers, mechanics, auto body technicians, salespeople, etc.) as opposed to other highly technical and specialized jargons. Unfortunately, little attention has been paid to this significant area of linguistic studies, either at the level of world languages or at the level of Arabic language. Only a couple of studies have been found in the literature.

Pehlivan and Osam (2010) provided a detailed description of the vocabulary stock in Turkish Cyprus dialect (TCD) with reference to the language of mechanics. Since it is a written language, the data were collected from dictionaries as well as from interviews with mechanics. They attempted to show the extent to which TCD has become different from other Anatolian dialects in light of the technical vocabulary associated with cars and car parts. They found that mechanics' jargon in TCD developed in three ways: borrowing from English

and Greek, assigning new meanings to words in Turkish and Anatolian dialects and deriving many words from Turkish. The first method was found more significant. However, other methods of creating new terminologies such as metaphorical extension or literal translation were not attested in the data analyzed in TCD.

As for Arabic language, only one study on the topic of mechanics' language is found, that is Madanat (2022). Madanat investigated the colloquial expressions of mechanics' jargon used in Jordanian Arabic and English. The focus was on the role of metaphors used in mechanics' expressions while presenting and explaining a technical problem to a client, comparing them with the English ones. The author concluded that metaphors in Jordanian Arabic have an essential and yet hidden linguistic role in creating many terms of vehicle parts in the jargon. As we will see below, there is a similarity between Jordanian dialect on the one hand, and YA and SA on the other, in using a number of metaphors (*wardah* "a rose," *kursi* "a chair", *raʔs* "a head"). One of the shortcomings of the study, however, is related to the data used in the analysis. The sources of data collection were not clearly stated. As indicated by Madanat, the data were collected only from Internet glossaries and websites. All of the websites mentioned in the reference list are in English except the last one, which is an online dictionary based on standard Arabic corpus. There is no mention of any sources related to Jordanian colloquial Arabic which is the variety under study. Therefore, there should have been some kind of additional oral materials collected from the spoken dialect itself such as interviews with and recordings of the concerned people using the jargon.

Finally, under the category of machinery, Al-Saqqaf (2006) stated a few vehicle-related terms, most of which are from English, among a long list of loanwords that have been borrowed from other languages like Hindi-Urdu, Swahili and English in Hadhrami Arabic spoken in Yemen. Some of the machinery terms are related to vehicle parts but were not analyzed at all.

As the short literature review shows, there is still a research gap in the domain of mechanics' jargon, either in the world languages in general or in Arabic language in particular. Therefore, this study comes as an attempt to shed more light on this under-researched topic in the two dialects of SA and YA.

3. Research methods

The data of vehicle parts names are collected in two ways: semi-structured interviews with mechanics and analysis of spare parts documents. The first source of data includes four expert mechanics, who have spent more than fifteen years in the field; two of them work in vehicle repair and maintenance in Saudi Arabia, and the other two in Yemen. Two of the four informants are familiar with both vehicle jargons. They are consulted in figuring out the differences and similarities between the two dialects. The other sources of data are two auto spare parts dealers who provided us with long lists of spare parts names used in the workplace in each country. Each list was handed over to the peer mechanic to provide the equivalent terms in the opposite jargon. Each list includes more than 125 auto-part terms. Thus, the total number of items in both lists is more than 250 items.

The sample is restricted to the most common parts used by mechanics, drivers and spare parts salesmen. It is also confined to lexical items which are used in the Arabic dialects rather than in Standard Arabic, even though there are some terms that are common in both varieties. The collected data cover terms used in the different vehicle-related systems which include the engine system, the fluid system, the ignition system, the engine cooling system, the air conditioning system and the electrical system. They also include auto body repair and maintenance. General vehicle terms like *taksi* "taxi," *baːṣ* "bus," *treːllah* "trailer," *winš* "winch" and *banšar* "puncture" are excluded from the collected data because the focus in this study is only on the more specialized terms that are related to car spare parts.

To establish and verify the meanings and definitions of spare parts terms in English, two specialized dictionaries have been consulted. They are the Oxford Dictionary of Mechanical Engineering (ODME) edited by Atkins *et al.* (2013), and the McGraw-Hill Dictionary of Engineering (MDE) edited by Parker (1984).

This study is mainly descriptive and qualitative where the collected data are analyzed to show how the names of vehicle parts are accommodated into Arabic. Numerical data are sometimes used to signify certain quantitative values where necessary.

4. Findings and discussion

The sample of more than 250 technical terms in both dialects is analyzed qualitatively. The analysis reveals that there are three main accommodation strategies that are used in creating equivalents for vehicle parts in the mechanics' jargon in SA and YA. These methods are listed below:

(1) Direct borrowing

(2) Metaphors

(3) Loan/literal translation

(4) Others (ellipsis, hybridization, etc.)

In the following sections, these strategies are illustrated, explained and discussed. Meanwhile, differences and similarities between SA and YA in light of the three strategies will be highlighted.

4.1 Direct lexical borrowing

YA and SA reflect the phenomenon of borrowing in their vehicle vocabulary stock very explicitly. The existence of loanwords comes as an inevitable result of the urgent lexical need in this field. English and French loanwords used in the vehicle jargon in the two dialects can be categorized as cultural borrowings or "loanwords by necessity" (Haspelmath, 2009). They refer to those loans which have entered Arabic due to the lexical gap in the lexicon. Most of these borrowed words have counterparts in Standard Arabic due to the purist efforts carried out by the various Arabic academies in the Arab World. Nevertheless, mechanics and other people involved in vehicle repair and maintenance prefer using loanwords over their Arabic neologisms (cf. Haspelmath, 2009, p. 48). Due to the urgent need for these terms, the entrance of foreign terms (as loanwords) usually precedes the creation of the new terms which may take time and comes as a later step. This may explain the speakers' preference for using borrowed items.

As Table 1 shows, almost all loanwords given to vehicle parts are either borrowed from English or French as two main donor languages, with English being the main donor language (about 85% of all loanwords). The borrowed items in each list exceed one-third of the whole data in that list (49 cases in YA (i.e. 23 + 26) and 48 cases in SA (i.e. 22 + 26)). Therefore, lexical borrowing is considered a significant source of spare parts terms and the most

Table 1. Simple statistics of borrowings in mechanics' jargon in SA and YA

	SA	YA	Common in both	Total
English loanwords	15/21%	22/31%	23/32.50%	60/84.50%
French loanwords	7/10%	1/1.50%	3/4%	11/15.50%
Grand total	22/31%	23/32.50%	26/36.50%	71/100%

influential strategy over the other two strategies. YA tends to borrow more loanwords from English, while in SA the tendency is toward borrowing more terms from French.

With respect to differences in loanwords, there are some interesting instances in which SA uses French loanwords while YA uses English ones to designate the same referent. This includes *bawa:ji/bala:ka:t, rumma:n/bi:ringa:t* and *šukma:n/ʔigza:z*. If we start with the first pair, we find that *bawa:ji* (SA) from French "bougie" and *bala:ka:t* (YA) from English "(spark) plugs" are both used to refer to the same car spare part, that is "spark plugs." Similarly, the bearing is called *rumma:n* in SA from the French "roulements a billes," while it is *bi:ringa:t* in YA from the English "ball bearing." Finally, the pair *šukma:n/ʔigza:z* where *šukma:n* (from Fr. pot d'é chappement) and *ʔigza:z* (from Eng. exhaust (pipe)) both designate "that final part of the exhaust system of the car engine" (ODME).

The loanword *rumma:n* together with *ʕaks* requires some elaboration as they represent two striking examples of lexical borrowing as well as false friends. The word *rumma:n* is used in SA to refer to "the ball bearings" and is believed to be borrowed from the French "roulements a billes" as discussed above, and the second one *ʕaks* is most probably adapted from the English "axle," and can be generally defined as "the cross-shaft that carries a wheel and either rotates with the wheel to transmit mechanical power to or from it or allows the wheel to rotate freely on it" (MDE). What is interesting here is that the words *rumma:n* and *ʕaks* are originally native Arabic words meaning "pomegranate" and "the opposite," respectively. They were selected as equivalents for roulements and axle due to the phonological similarity between them. Such phonological similarity motivates the omission of the lateral sound /l/ from both *rumma:n* and *ʕaks*. Therefore, they represent two cases of both lexical borrowing and false friends (cf. Al-Athwary, 2021). Furthermore, the word *rumma:n* can be also mistakenly treated as an example of metaphorical extension, which is not at all.

There are some other instances in which the same spare part is designated by a different loanword from English in each dialect. For example, in SA, the loanword *gi:r* is used to refer to "the gearbox," while in YA the borrowed word *ʔisbi:t* "speed" is used to denote the same referent, that is "gearbox." It seems that the loan *ʔisbi:t* has undergone a semantic shift. Because the gear system is responsible for and always associated with "speed," the speakers of YA picked up the word "speed" to stand for gearbox and neglected the original name of the spare part. Another interesting example is the use of the loanwords *se:fu:n* "siphon" and *filtar* "filter" in SA and YA, respectively, to refer to "the engine oil filter." The semantics of the term *se:fu:n* is a little complex in SA. First of all, *se:fu:n* has another totally different meaning that has nothing to do with vehicle vocabulary; it comes to mean "the toilet box," and thus constitutes a false friend with the other *se:fu:n* used in the language of mechanics (cf. Al-Athwary, 2021, p. 375). Second, in mechanics' jargon of SA, the word *se:fu:n* is only used to refer to one type of car filters, that is "the engine oil filter"; for other types of filters, the loan *filtar* is used such as *filar ʔal-mukayyif* "the filter of car air conditioning," *filtar ʔal-gi:r* "the filter of gear box." However, the word *filtar* may be sometimes used instead of *se:fu:n*. On the other hand, in YA *filtar* is used for all kinds of car filters.

Another difference occurs when the name of the same spare part in one dialect is native and in the other is borrowed. About 14 instances have been encountered under this category. In SA, for instance, the equivalent for "shock absorber" is the Arabic word *musa:ʕid,* meaning "a helper," whereas in YA it is *murtazi* adapted from French "amortisseur." The opposite is true in the case of the term "chassis frame." SA adopts the French/English loanword *ʔaš-ša:şi/ ʔaš-ša:şiyyah*, but its counterpart in YA is the Arabic colloquial term *ʔal-qiʕa:dah*, meaning "the bed." MDE defines chassis as "a frame on which the body of an automobile or airplane is mounted." The third interesting example is the pair *mifta:ħ/suways*. The first part of the pair is used in SA to refer to "the car ignition key," and it literally means "a key," so it is often used in a phrase like *mift:aħ ʔas-saya:rah* to specify which key we mean. Although in YA the word

mift:aħ is used to denote the same car part, the borrowed word *suways* is also used, especially in some regions of Yemen like Aden and Taiz. The loan *suways* is taken from the English term "switch," which is originally found in the car part name "key starter switch." The term *suways* is only employed in YA to refer to "car ignition key." Like the term *ʔisbi:t* analyzed above, *suways* has also suffered from a semantic change or shift. The last example is related to the designations given to the vehicle part "radiator." In SA, it is straightforward, and the English loan *lidi:tar* is at work. In YA, however, the Arabic equivalents *xazza:n ma:ʔ* or *ta:niki ma:ʔ* are used to mean literally "water tank." The term assigned to this vehicle part is associated with the radiator function which involves "water circulation through the radiator's tubes" (ODME).

As for the instances of similarities in loanwords borrowed by SA and YA, they are much fewer than the differences. In some cases, both SA and YA use a loanword of the same origin (i.e. English) to name a certain vehicle part. These include *silf*, *filtar* and *kumbrusar* which designate "self-starter," "filter," and "AC compressor," respectively. The other group of loanwords is related to those which are incorporated from the same source (i.e. English) but demonstrate slight differences in their phonology such as kalatš/kiliš for "clutch," and *difirins*/*difire:šan* for "differential." The third group of similarities belongs to those loanwords which are the same in the two dialects but are adopted from French origin. They refer to *ʔusṭub* "brake light" (from Fr. feux de stop), *ṭablu:n* "auto dashboard" (from Fr. tableau de bord) and *dilku* "voltage distributor" (from Fr. delco).

4.2 Metaphors

The second significant strategy for creating equivalents for car spare parts in SA and YA is the use of metaphor. According to Escribano and Esclapez (2017), the use of metaphor, either terminological or conceptual, is central in the study of scientific and technical language where the cognitive linguistics approach plays a vital role. They also conclude that there is "evidence that metaphorical reasoning is a mechanism present at the core of creative scientific development albeit certain socio-cultural variations" (Escribano and Esclapez, 2017, p. 83).

In his cognitive metaphor theory, Lakoff (1993) states that a metaphor is grounded in physical experience and is culturally determined. In addition, Yu (2008) stresses that body and culture play an important role in emerging metaphors as a result of the interaction between the two. Therefore, in the context of SA and YA when creating metaphors for certain car parts, speakers resort to their own experience as well as to the direct environment around them. For instance, they may employ different parts of living beings, especially human beings (head, arm, etc.), and other objects from the cultural environment (rose, chair, etc.). Mechanics' jargon in the two dialects is rich in employing metaphorical terminologies in the process of spare parts naming. The total number of items involved in the metaphorical extension in the whole data is thirty-seven (about 15%).

As Table 2 shows, the metaphors employed from the human body are more than other categories due to the fact that the users of the jargon primarily interact with the closest environment experience around them. Almost all of the metaphorical terms listed in Table 2 require to be combined with other spare part names in order to realize the whole metaphorical image. In other words, the structure of metaphorical expressions often consists of two constituents, the main part which expresses the metaphor for a given vehicle part and the second component which represents a larger spare part of the vehicle. For example, the term *ðira:ʕ* is found in combinations like *ðira:ʕ bustum*, *ðira:ʕ massa:ħah*, *ðira:ʕ daraksu:n*; they literally mean "arm of the piston," "arm of the wiper" and "arm of steering wheel," respectively; technically they refer to "the piston connecting rod," "the wiper arm" and "the steering tie rod end." The first component of each phrase (*ðira:ʕ*) is

used metaphorically to indicate a certain part of the vehicle, while the second constituent (*bustum*, etc.) indicates the spare part to which the first one is associated. Some other cases of metaphors can stand alone as individual lexical items such as *ʔal-ʕifri:tah*, *ʔal-qiʕa:dah* and *tanjarah.* As mechanical terms, they designate "the car Jack," "the car chassis" and "gear torque converter," respectively. They do not require to be combined with other items because such terms are understandable individually as they refer to sole spare parts. On the other hand, terms like **ra ʔs* "a head," **wajh* "a face" and **maqaşş* "a scissor" cannot stand by themselves, and it should be specified which part that is being referred to as in the case of *ðira:ʕ* above.

Out of the 37 instances of metaphors, 12 are found common between the two dialects, 17 are used in SA alone and 8 in YA alone. This would mean that SA has more tendency toward employing metaphors in its mechanics' jargon.

As for differences, the two varieties vary in using metaphors. In some cases, they use two different metaphors to indicate the same spare part. To refer to the connecting rod of the piston, the metaphorical expression *ðira:ʕ bustum* "arm of the piston" is used in SA, while YA uses *yadd bistu:n*/*bustum* "hand of the piston." Another striking example is related to the bumper of a vehicle, more specifically the lower plastic piece of the front or rear bumper, or what is technically known as the "lower deflector." In SA, it is called *liħyat şadda:m* "beard of the bumper," but in YA it is *diqn şadda:m* "chin of the bumper." The other pattern of difference is when the name of a spare part is created metaphorically in one dialect, whereas in the other dialect it is not. For instance, in SA, the equivalent for the vehicle chassis is the loanword *ʔal-ša:şi* or *ʔal-ša:şiyyah*. In YA, however, a metaphor extension is employed; chassis is referred to as *ʔal-qiʕa:dah*, meaning "the bed" on which the whole body of the vehicle rests. The opposite holds true for the pair *wardat surrat ʔaz-ze:t* and *waysar surrat ʔaz-zayt* in which both *wardah* and *waysar* refer to "the washer" of the oil drain plug. The term *surrah* "a navel" is used in both dialects metaphorically to designate "oil drain plug." The variation occurs in naming the washer of this plug. While in YA it is denoted by the English borrowing *waysar*, it is designated by the metaphorical term *wardah* in SA. The device of "car jack" is also referred to differently. In YA, the colloquial term *danqalaş* is used for "jack," but SA employs the metaphor *ʕafri:tah* "a female goblin" to denote the same device.

The twelve instances of metaphors between SA and YA represent the common and similar terms shared by the two dialects. The first example has been already stated above, that is *surrat ʔaz-ze:t*/*ʔaz-zayt* (lit. the navel of oil), which stands for "the oil drain plug" in both varieties. Similarly, the metaphorical expression *ʔaşa:biʕ ʔal-baṭṭa:riyyah,* literally meaning "fingers of the (car) battery," is used in SA and YA to refer to either the battery terminals or battery connectors/clips. One final example is the metaphor *ţanjarah* "a pot" which is used in

Table 2.
The 37 metaphor-related terms in the whole data (both SA and YA)

Category	Metaphor-related terms
Humans/human parts	1. *ðira:ʕ* "an arm" 2. *diqn* "a chin" 3. *ʔaşa:biʕ* "fingers" 4. *ra ʔs* "a head" 5. *yadd* "a hand" 6. *raqabah* "a neck" 7. *rukbah* "a knee" 8. *surrah* "a navel" 9. *şadr* "chest" 10. *ḍafi:rah* "a pigtail" 11. *ʕafri:tah* "a female goblin" 12. *faxð* "a thigh" 13. *ku:ʕ*/*kawʕ* "a joint" 14. *liħyah* "a beard" 15. *wajh* "a face"
Animals/animal parts	16. *baṭṭah* "a duck" 17. *du:dah* "a worm" 18. *samakah* "a fish" 19. *ʕaşa:fi:r* "birds" 20. *ʕaḍmah* "a bone" 21. *θarbah* "a sheep tail" 22. *ri:šah* "a feather"
Plants	23. *jawzah* "a walnut" 24. *wardah* "a rose"
Objects	25. *kursi* "a chair" 26. *jasr* "a bridge" 27. *šamʕah* "a candle" 28. *ţanjarah* "a pot" 29. *fiḍḍah* "silver" 30. *qiʕa:dah* "a bed" 31. *šawkah* "a thorn" 32. *maqaş* "a scissor" 33. *hila:l* "crescent" 34. *summ* "poison" 35. *šanţah* "a bag" 36. *sa:ʕah* "a watch" 37. *θalla:jah* "a refrigerator"

expressions like *ţanjarah ʔal-giːr* (lit. the pot of gearbox) (SA) or *ţanjarah ʔal-ʔisbiːt* (lit. the pot of gear) (YA) to denote "the torque converter" located in the gearbox.

It is generally stated (Lakoff, 1993; Steen, 2011; Yu, 2008) that the source domain from which the new concepts are drawn is usually concrete, whereas the target domain is abstract. In the field of science and technology, this does not always hold true (Escribano and Esclapez, 2017). From the examples discussed above, it is clear that almost all cases attested in this study prove that both domains, the source and the target, are concrete. The source domain in this case is the human experience and the immediate environment from which metaphorical concepts like those listed in Table 2 have been drawn, and they are basically concrete. The target domain, on the other hand, represents the referents (vehicle spare parts) to which these concepts have been assigned, and they are naturally concrete.

All metaphors in SA and YA have been created on the basis of the perception of their shape or function which is similar to the entities in the source domain. Examples of metaphorical extensions based on the resemblance of shape include terms like *wardah* "a rose," *ðiraːʕ* "an arm," *surrah* "a navel," *liħyah* "a beard" and *hilaːl* "a crescent." Thus, the washer of the oil drain plug resembles a rose or a flower, so it is *wardat surrat ʔaz-zeːt*; the crankshaft bearing set has the exact shape of the crescent, so it is called *hilaːl ʔal-karank;* and so on. Examples of metaphorical extensions based on the resemblance of function include terms like *kursi* "a chair," *šamʕah* "a candle" and *qiʕaːdah* "a bed." The metaphor *kursi* is used to designate a device in the car which has the function of a chair and has nothing to do with the shape of a chair. It refers to the spare part known as "the mount(ing)." According to ODME, mounting is a device which "supports a component within a machine and minimizes the transmission of shock or vibration." Similarly, the term *šamʕah,* which here refers to the car headlight, does not have the shape of the candle, but rather it has the same function as a candle of being the source of light. It is obvious that the creation of metaphor is motivated by the relationship between the source domain and the target domain of metaphor. Such a relation is either that of the shape of the spare part or its function.

4.3 Loan/literal translation

The third strategy of creating equivalence in vehicle vocabulary is the process of loan or literal translation. It is less frequent and less dominant than the other two strategies elaborated above. Stetkevych (2006) refers to them as phrases and idioms "literally" translated from English. Backus and Dorleijn (2009, p. 77) also define a loan translation as "any usage of morphemes in Language A that is the result of the literal translation of one or more elements in a semantically equivalent expression in Language B." Thus, the two definitions stated above indicate that loan translation is similar to literal translation. The process of loan translation or calquing can be perceived as a language-in-contact phenomenon representing a special type of borrowing.

About 18 typical instances of loan translations (about 7% of the data) have been found in the sample. The majority of them (15 cases) do exist in both SA and YA. Thus, the differences between the two varieties are marginal, and the focus will be on the common examples. The six examples in Table 3 illustrate this process.

In each case above, only the meaning is imported from the donor language (i.e. English), while the forms representing that meaning are native (i.e. Arabic). For example, in the first Arabic equivalent above, the term *ħassaːs* stands for "sensor," and *ʔal-mayy*/*ʔal-moːya* for "water"; in the second case *biţaːnah* is based on "liner" and *rafraf* on "fender," and so on. The majority of literal translation equivalents come in the form of compounds except for a few of them which come in the form of simple words like the third example in which the term

ṣadda:m can stand by itself as a calque, the words *ʔama:mi* and *xalfi* are just adjective modifying and specifying the type of bumper. But for a compound expression like *ma:su:rat mukayyif*, **ma:su:rah* alone cannot convey the sense of the whole compound because we should determine which *ma:su:rah* we are referring to, be it either that of the AC hose, radiator hose, oil dipstick guide tube or oil cooler tube. In SA and YA, the term *ma:su:rah* constitutes the first element of these four spare parts. Therefore, the second element of the compound (*mukayyif*, *lidi:tar*, etc.) should be attached to make it clear which vehicle part we talk about.

4.4 Other strategies

Other methods of creating equivalents such as derivation, coinage and revival have no significant role to play in finding equivalents in the mechanics' jargon of the two dialects. However, there are some other linguistic processes that take place as sequences of lexical borrowing and literal translation. They refer to ellipsis and hybridization.

Ellipsis is related to those loanwords whose structure comes in the form of compounds or phrases, but, when borrowed, a part of this compound or phrase is unintentionally truncated. Luján (2010, p. 292) defines ellipsis as "the process by which part of a complex expression acquires the meaning of the whole". Table 4 shows some examples of this process.

In the ellipsis instances attested in YA and SA, either the first part or the last part of the borrowed structure is dropped. For instance, in *bala:ka:t*, the first part is truncated, that is "spark," while in *ţablu:n* the last part "de bord" is dropped. In all instances of ellipsis, the elliptical part denotes the same meaning of the whole compound or phrase.

Hybridization is also encountered in the collected data. The hybrid construction represents a combination of a native constituent and a foreign one, hence the formation of a hybrid word or phrase. SA and YA differ from each other in terms of hybrid formation. The same spare part can be referred to by a different hybrid in each dialect. The difference can be either in the foreign element or in the native one. For example, the hybrid equivalent for the "timing belt" is *se:r ʔat-ta:ymin* in SA, while it is *baţţat ʔat-ta:ymin*/*ʔat-ti:mit* in YA. The different part here is the native element: it is *se:r* in SA and *baţţah* in YA, which both

Table 3.
Some illustrations of loan translation strategy

No.	Loan translation	Original foreign (English) referent
1	*ħassa:s ʔal-mayy/ʔal-mo:ya*	< water (temperature) sensor
2	*biţa:nat rafraf*	< fender liner
3	*ṣadda:m ʔama:mi/xalfi*	< front/rear bumper
4	*ġaţa:/ġiţa: ze:t muħarrik*	< engine oil filler cap
5	*ma:su:rat mukayyif*	< air conditioning suction hose
6	*misma:r tawa:zun ʔama:mi*	< front stabilizer bar rod

Table 4.
Some illustrations of the ellipsis process

Variety	Elliptical form	Original full form (English/French)
YA	- *bala:ka:t*	- spark plugs
	- *ʔigza:z*	- exhaust pipe
SA	- *gi:r*	- gearbox
	- *šukma:n*	- pot d'é chappement
Both YA and SA	- *ţablu:n*	- tableau de bord
	- *kliš/kalatš*	- clutch pedal

mean "belt." The other example is the equivalent for the term "crankshaft." In SA, it is *ʕamu:d ʔal-karank,* but in YA it is *ʕamu:d ʔal-kire:n*; the Arabic element here is the same (*ʕamu:d*), meaning "shaft," but the foreign one is different at least in the irregularity of phonological shape. Finally, the difference sometimes is in both elements, the native and the foreign. The spare part "camshaft" can be taken as an example. In SA, it is called *ʕamu:d ka:ma:t,* while in YA it is referred to as *ṣabarat ʔat-ta:ymin*. The first hybrid is straightforward; *ʕamu:d* denotes "shaft," and *kama:t* means "cams." In the second one, however, the colloquial term *ṣabarah* designates "rod" and *ʔat-ta:ymin* means "timing," resulting in something like "the timing shaft/rod." This would mean that in YA, "camshaft" here is named after its function apart from its original name. Interestingly, in all instances of hybridization, the first part is always native and the last one is foreign.

Related to this section is a group of terms whose origin is not known; they cannot be even classified as colloquial because they are not commonly used and only restricted to the mechanics' jargon. Such odd terms exist in both dialects. In SA, there exist words like *ṭurumbah* "a pump," *šanbar* "a piston ring," *galanṭ* "the handbrake," *ṣu:fah* "oil seal," *bu:ri* "the horn" and *ya:yy* "spring," and in YA like *bara:ṣa:t* "bearing pair set," *danqalaṣ* "the car Jack," *wa:la:t* "engine valves," *sukka:n* "the steering wheel" and *lamdah* "oil seal." The phonological shape of some of these terms, especially those used in SA mechanics' jargon, suggests their foreign origin. Words like *ṭurumbah*, *bu:ri* and *galanṭ,* for instance, are most probably borrowed from Turkish. *Ṭurumbah*, for instance, is believed to be adapted from the Turkish "tulumba," which originally denotes "an old-style water pump." Similarly, the term *šanbar* can be traced to the Latin or English word "chamber." All these designations lack authentic and evident references to confirm their origin and require more historical and etymological investigation.

5. Conclusion

This study attempts to identify the strategies by which vehicle spare parts terms have been created in SA and YA. The analysis has shown that these terms are developed by three main strategies: direct borrowing, metaphorical extension and literal translation. While the two dialects share common practices in terms of literal/loan translation, they partially differ with regard to lexical borrowing and metaphor. Although the number of loanwords occurred in both dialects is nearly the same, YA has the tendency to borrow more items from English, while SA tends to borrow more from French. The metaphors in the mechanic's jargon are often drawn from the immediate environment and experiences. SA employs much more metaphorical terms than YA. The findings might be used as guidelines for Arabic academies and those who are concerned with translating technical terms. They also serve as evidence that the emergence of metaphors does not always go in the concrete-to-abstract direction in conceptual mapping. Thus, the target domain can also be concrete. The creation of metaphor is motivated by two factors: the shape of the spare part or its function.

More focus on comparing the mechanic's jargon in other Arabic dialects (e.g. Arabic of the Maghreb countries vs Gulf Arabic) is required to know more about the technical variation among them. More research is also needed on the topic of metaphor. It has also been noticed that there is a great variation between standard Arabic and other Arabic dialects in terms of the three main strategies of creating mechanical terms. Therefore, a comparative study between them can be conducted. Finally, an etymological investigation of the origin of certain terms in both SA and YA highlighted above, such as *ṭurumbah*, *galanṭ*, *šana:bir*, *danqalaṣ*, should be advisably carried out. The main task is to establish which ones are local/colloquial and which ones are foreign. This can be also a cross-dialectal study and not restricted to only SA and YA.

Notes

1. In transliterating Arabic forms, the following reading conventions are used:

ʔ	(ء)	Glottal stop
ħ	(ح)	Voiceless pharyngeal fricative
x	(خ)	Voiceless uvular fricative
ṣ	(ص)	Emphatic voiceless alveolar fricative
ṭ	(ط)	Emphatic voiceless denti-alveolar plosive
ḍ	(ض)	Emphatic voiced denti-alveolar plosive
ḏ	(ظ)	Emphatic voiced interdental fricative
ġ	(غ)	Voiced uvular fricative
ʕ	(ع)	Voiced pharyngeal fricative
q	(ق)	Voiceless uvular plosive
š	(ش)	Voiceless palatal fricative
j	(ج)	Voiced lamino-palatal affricate

2. Adan Al-Ghadd newspaper, https://adengad.net/posts/2766
3. Al-Riyadh newspaper, https://www.alriyadh.com/786294

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Corresponding author
Anwar A. H. Al-Athwary can be contacted at: aaalathwary@nu.edu.sa