A Corpus-based Grammatical Investigation towards a Computational Identification of Metaphor

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ABSTRACT

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The present study is a corpus-based grammatical investigation for the computational identification of metaphors. The aim of the study is to set a grammatical criterion for the computational identification of metaphors in the Holy Qur’an and propose a computer software input rule for the grammatical identification of metaphorical candidates. The work presented in this study draws on the cognitive theory of metaphor (Lakoff and Johnson, 1980), authentic exegeses of the Holy Qur’an, and finally and most significantly it draws on and extends techniques from computational linguistics. The corpus of the study is one surah from the Holy Qur’an, Surah Hud. A methodology for the investigation of candidate metaphor grammatical structure was developed to deduce the grammatical markers of metaphor and utilize them in the computational identification of metaphors. A quantitative and qualitative interpretation of these results and how they can contribute to the computer software suggested for a computer identification of metaphor in the Holy Qur’an is made. The study ended with a theoretical framework that was applied to the corpus to find metaphors by findings specific grammatical markers.

How to cite:

1. Introduction

The first to think of metaphor as something beyond means of embellishment was a study by Lakoff & Johnson (1980) when they identify ‘the concepts we live by’ at the very beginning of their book Metaphors we live by (1980). It is argued that metaphors link two conceptual ‘domains’. A domain is an area of meaning, such as the idea associated with CLEANLINESS AND DIRT. Domains consist of sets of linked entities, attributes, processes, and relationships, which are apparently stored together in the mind. The elements comprising a domain are lexicalized, that is, expressed in language, through lexical items and expressions (Cameron & Maslen, 2010, p. 44).
In recent linguistic studies, metaphor is conceived as “a process of mapping between two different conceptual domains – the source domain and the target domain” (Simpson, 2004, p. 108). Similarly, metaphor is defined as a mapping of the structure of a source model onto a target model (Ungerer & Schmid, 1996, p. 120). Koveces (2010) hypothesized that understanding one domain in terms of another comprises a set of fixed correspondences, called mappings, between a source and a target domain. These mappings profoundly suggest the meaning of the metaphorical linguistic expressions that develop the meaning of a particular conceptual metaphor.

Halliday (1985) introduced the concept of grammatical metaphor which imposes on the grammatical resources of language. While the lexical metaphor is concerned with lexis (i.e. words), grammatical metaphor is rooted in the grammar of the language. Specifically, Halliday (1985) used the notion of ‘grammatical metaphor’ to illustrate the process when the same semantic component is conveyed through different but relevant structures. In functional grammar, two types of grammatical metaphors are prominent. These are ideational metaphor and interpersonal metaphor (Halliday & Matthiessen, 2004). The ideational metaphor “downgrades” linguistic sequences, figures, and elements to a rank below. However, an interpersonal metaphor creates new layers of meaning by “upgrading” modal assessment, which in its “congruent” form is realized as an adjunct of a proposition (for instance, “hopefully,” “regrettably,” etc.) to the rank of a whole clause, such that the interpersonal assessment becomes a proposition in its own right (for instance, “I hope,” “I regret”; Ezeifeke, 2015, p. 3-4).

The current study draws on Lakoff & Johnson (1980) and contributes to corpus studies on metaphor in one main way. It suggests a grammatical criterion for the identification of metaphor that can be fed to a computer to create software that would computationally identify metaphor. The present study attempts to find answers to the following questions. First, what are the grammatical markers for the identification of metaphors in the Holy Qur’ān? And how these markers could be used for the computational identification of metaphor? In order to provide authentic answers to the questions of the study, the grammatical markers of metaphorical candidates will be identified; that is identify grammatical markers of lexical items that are likely to be metaphorical. Furthermore, such markers will be utilized to create computer software that can identify metaphors in the Holy Qur’ān.

To address the gap in the literature (i.e. identifying specific grammatical markers of metaphor to computationally detect metaphor in the Holy Qur’ān), the present study employs the cognitive theory of conceptual metaphor (Lakoff & Johnson, 1980) along with Halliday’s notion of grammatical metaphor (1985). Studies on metaphor in Arabic (Al-Jurjānī, 1989; Al-Sakkākī, 1973; Albustānī, 1986; Abū Libdeh, 2011) as well as studies on metaphor in English corpus and metaphor in computational linguistics (Benson et al., 1986; Biber et al., 1999; Baumer et al., 2009; Mason, 2004; Birke and Sarkar, 2006; Krishnakumaran and Dju, 2007,) are reviewed, investigated and analyzed to arrive at a grammatical criterion for metaphor identification.

The following section is a review of the literature. It is subdivided into three sections. The first consists of a review of the definition of metaphor in both Arabic and English. The following section reviews studies on metaphor. The cognitive theory of metaphor by Lakoff and
Johnson (1980) is then reviewed followed by studies of metaphor in computational linguistics.

2. Review of Literature

2.1 Definition of Metaphor

Arab rhetoricians’ definitions of metaphor are either replacing one concept for another as in Al-Jurjānī (1966), or borrowing as in Ibn Qutaibah (1962), ‘Akkāwī (1992), Al-Sakkākī (1937), and Al-Jahīz (1960). Al-Jahīz (1960) defines metaphor as, “to describe one thing in terms of another” (p. 153). Similarly, Ibn Qutaibah (1962) defines metaphor as, “borrowing a word and replacing it with another word if there is a relation between both words or they have a similar meaning or one causes the other, so, for example, they call rain sky because the rain comes from the sky” (p. 88). On the other hand, ‘Akkāwī (1992), emphasized the meaning of borrowing in his definition of metaphor: ‘to borrow something is to transfer that thing from someone to someone else so that this borrowed thing becomes a property of that from which it is borrowed’ (p. 90) (Cited in ‘Atīq, 1985, p. 367).

In English, Newmark (1988) defines metaphor as the “application of a word or collocation to what it does not literally denote, i.e., to describe one thing in terms of another” (p. 104). Dickins (2005: 228), similarly defines metaphor as “a figure of speech in which a word or phrase is used in a non-basic sense suggesting a likeness or analogy with another more basic sense of the same word or phrase”.

2.2 Metaphor in Arabic Rhetoric and Studies on Metaphor in Arabic

Al-Sakkākī (1973, p. 373) distinguishes two major kinds of metaphor: الاستعارة التصريحية/ʔiːstiʔarahaːʔtaʃəriːjjaːh (i.e. explicit metaphor) and الاستعارة المكنية/ʔiːstiʔarahaːʔimaknijjaːh (i.e. implicit metaphor). In the former, الاستعارة التصريحية/ʔiːstiʔarahaːʔtaʃəriːjjaːh (i.e. explicit metaphor) is defined as a figure of speech whose likened element is maintained but its likened-to element is ellipted, as in احذر سيفا بين فكيك/ʕḥðar sajfan bajna fakkajka/ – (i.e. beware of a sword between your two jaws), where the lexical clue is بين فكيك/bajna fakkajka/ (i.e. between your two jaws). The likened element is سيف/saifan/ (i.e. sword) and the likened-to element اللسان/ʔllisaːn/ (i.e. the tongue) is ellipted. In this metaphor, the tongue is compared to a sword in being sharp (Cited in Abū Libdeh, 2011, p. 5).

The second kind of metaphor is الاستعارة المكنية/ʔiːstiʔarahaːʔimaknijjaːh (i.e. implicit metaphor) which is achieved through the ellipsis of the likened element from a given proposition, as in الحروب تحرق الأخضر واليابس/ʔalḥuruːb taʃriq ʔalʔaːxдр-wał-ʔajabis/ (i.e. wars burn the green and the dry), where the borrowed-from, i.e. the likened, element النار/ʔnaːr/ (i.e. fire) is ellipted, though the text receiver can still discern the meaning and effect as denoted in the verb تحرق/taʃriq/ (i.e. burn) that alludes to destruction, while the likened to i.e. الحروب/ʔalḥuruːb/ (i.e. wars) is maintained. In this metaphor, wars are compared to fire in the destruction that both cause (ibid). In this example, cognitive clues and common sense enable the receivers to discern this signification (Cited in Abū Libdeh, 2011, p. 6).

In Arabic, some studies highlight the grammatical aspect of lexical items which contributes to metaphorical language (Albustānī 1986; Al-Jurjānī d. 471 or 474 H). Albustānī (1986) defines metaphor and classifies it into two types: استعارة فعلية/ʔiːstiʔaːraːh ʔiːliːjjaːh (i.e. metaphor in the verb) and استعارة اسمية/ʔiːstiʔaːraːh ʔiːsmiːjjaːh (metaphor in the noun). “Metaphor in the verb” exists when there is semantic inappropriateness between the verb...
and the subject or the verb and the object. For example in the expression 
النور ينهمر /ʔnnu:rjanhamir/ (i.e. light is falling down), the verb acts as a predicate of the noun 
النور /ʔnnu:r/ (i.e. the light) and there is semantic inappropriateness between the verb 
ينهمر/janhamir/ (i.e. fall down) and its subject 
الضمير المستتر هو /ʔḍḍa:mi:rʔlmustatir huwa/ (i.e. implied subject ‘it’) which refers back to 
النور /ʔnnu:r/ (i.e. the light) since “light” cannot really “fall down like rain”. This inappropriateness is a marker of the metaphoricity of the verb. In this metaphor, ‘light’ is compared to ‘rain’ and the common feature is the act of falling down. The second type of metaphor is 
الاستعارة الاسمية /ʔl-ʔistiʔa:r ah ʔl-ʔismijjah/ “metaphor with the noun”. In this type, the metaphor is a noun subject that does not have semantic relation with its verb. An example is the noun 
البحر /ʔlbahr/ in the following lines of Almutanabbi:

فلم أر من مشى البحر نحوه ولا رجلاً قامت تعانقه الأسد

(I have not seen a man to whom the sea walks or a man lions embrace).

The relation between the verb 
مشى /ma∫a/) i.e. (walk) and the noun 
البحر /ʔlbahr/ (i.e. the sea) is semantically inappropriete. The general context indicates that metaphor is in the noun 
البحر /ʔlbahr/ (i.e. the sea) because the poet wants to highlight the aspect of similarity between the described person ‘Saifud-dawlah’ and the sea (i.e. the generosity of the described man is compared to the hugeness of the sea). Hence, in this metaphor, the ‘man’s’ generosity (i.e. Saifud-dawlah) is compared to the sea in its hugeness.

2.3 Studies on Metaphor in English

This section reviews studies that contribute to the grammatical features of metaphor in English (Halliday, 2004; Benson et al., 1986).

Halliday (2004) alludes to the impact of word order in a grammatical structure in producing metaphorical meaning. His approach depends on the fact that grammatical structure could signal a metaphor. He refers to the concept of “grammatical metaphor” that certain grammatical structures are metaphor markers. One example is the sentences “Mary came upon a wonderful sight” and “a wonderful sight met Mary’s eyes” which are metaphorical variants of “Mary saw something wonderful” where the grammatical structures of the phrasal verb ‘come upon’ with the noun collocate in the first sentence ‘a wonderful sight’ and a noun plus verb plus noun in the passive voice in the second sentence ‘a wonderful sight met Mary’s eyes’ are metaphorical variants of the single lexical item “see”. He refers to these variants as “marked clause structures” or “grammatical metaphors” because they involve “grammatical twist” or unusual grammatical structures.

Benson et al. (1986) classify collocations into “grammatical collocations” and “lexical collocations”. “Grammatical collocation” is that type of collocation where a dominant word, e.g. (noun or verb) is followed by a grammatical word, typically a preposition. They argue that in this type the meanings of “the prepositions in the collocations are not predictable” (p. 43). This indicates that these grammatical structures are metaphorical. The meaning cannot be predicted from its parts and is therefore metaphorical.

A grammatical criterion could be derived from Benson et al. (1986) as follows: grammatical structures where a particle is preceded by a verb are metaphorical because of the unpredictability of the meaning. In contrast, grammatical structures in which lexical units (i.e.
nouns, adjectives, or verbs) combine with the meaning of both parts maintain literal meaning that is predictable is non-metaphorical. However, if the meaning in collocation is not literal and cannot be predicted, it is metaphorical.

2.4 The Cognitive Theory of Metaphor

Lakoff & Johnson (1980) maintain that metaphors are “the means by which human experiences are organized and conceptualized”. They believe that language whether literal or non-literal provides a way to comprehend, express, and describe reality. As such, conceptual metaphor theory takes a cognitive view of metaphor, and, when it first came on the scene in the 1980s, offered a striking new way of understanding metaphor (Cameron & Maslen, 2010, p. 42).

Lakoff & Johnson (1980) describe three types of conceptual metaphor: “orientational”, “ontological”, and “structural”. The first type, “orientational metaphor”, is grounded in our physical, embodied experiences; “it applies a directionality or orientation in order to frame an abstract concept”. For example, the orientational metaphors for quantity MORE IS UP and LESS IS DOWN result from accumulating objects or substances: when stacking or piling objects, results in a higher pile. The second type is “ontological metaphor” which categorizes or classifies abstract, subjective concepts and experiences in terms of concrete, physical ones. For example, in the metaphor MONEY IS A LIQUID, physical experiences with liquids are used to help understand and conceptualize the abstract notion of money resulting in phrases such as “he pours money into his IRA”, and “her savings are all dried up”, or “they froze my assets” where in the first the verb ‘pours’ indicates the meaning of “money pouring like a liquid”, in the second the verb “dried up” implies one of the conditions of liquid of being ‘dried up, in the third the verb “froze” indicates the change of the state of “liquid” into “solid”. As such, the class of substance liquid is being used as an ontological categorization of the concept of money. The third kind of conceptual metaphor as referred to by Lakoff and Johnson (1980) is “structural metaphor”. “Structural metaphors” conceptualize one set of experiences in terms of another. For example, RATIONAL ARGUMENT IS WAR uses various aspects of physical combat and war to structure our experiences of having an argument. Such metaphors are considered structural because they structure one entire set of experiences in terms of another, entailing many component mappings between the sets of experiences; the two arguers are framed as opponents attacking each other until either one is defeated or a trace is called for in physical combat. For example, one can intimidate an opponent by saying, “I'm bigger than you,” or, “I'm stronger than you” (Lakoff & M. Johnson, 1980, p. 61).

2.6 Computational Linguistic Studies on Metaphor

Most previous computational linguistic work on metaphor looks to it as an obstacle to overcome, employing computational methods of differentiating literal text from figurative, then applying special processing to that figurative text to infer its literal meaning. One exception according to Baumer et al. (2009:390) is CorMet (Mason, 2004). CorMet is a corpus-based system for discovering metaphorical mappings between concepts which is the understanding of one idea, or conceptual domain, in terms of another. It does this by finding systematic variations in domain-specific selectional preferences, which are inferred from large, dynamically mined internet corpora. Metaphors transfer structure from a source domain to a target domain, making some concepts in the target domain metaphorically equivalent to concepts in the source domain. The verbs that select for a concept in the source
domain tend to select for its metaphorical equivalent in the target domain. CorMet uses domain-specific textual corpora to extract known conceptual metaphors (Mason, 2004, pp.1-2).

Another study employing the tools and technologies of computational linguistics for figurative language identification is proposed by Birke and Sarkar (2006). They present TroFi system (Trope Finder), a system for “automatically classifying literal and nonliteral usages of verbs through nearly unsupervised word-sense disambiguation and clustering techniques” (Birke & Sarkar, 2006, p.1). They assert that TroFi is not a metaphor processing system. “It does not claim to interpret metonymy and it will not tell you what a given idiom means” (p.2). Rather, TroFi attempts to separate literal usages of verbs from nonliteral ones. For example, given the target verb “pour”, TroFi clusters the sentence “Custom demands that cognac be poured from a freshly opened bottle” as literal, and the sentence “Salsa and rap music pour out of the windows” as nonliteral, which, indeed, it does. As such, they address the problem of metaphor identification as a classical word sense disambiguation task. A model is learned for each verb independent of the other verbs. The problem with this approach is that it is limited and cannot handle a new verb without additional training.

Another study is syntactic processing of the relationships between parts of speech, in which Krishnakumaran and Dju (2007) examine the relationships of verbs and adjectives with nouns to find instances that violate standard expectations in WordNet (Fellbaum, 1998). For example, “he is a brave lion,” would be considered metaphorical, because ‘he’, taken to mean a ‘person,’ is not a WordNet hyponym of ‘lion’.

In the light of the aforementioned review of studies conducted on metaphor, it could be concluded that much work is still needed with regard to studying metaphor in the Holy Qur’ān. The present study attempts to identify the grammatical markers of metaphor that would help to set a grammatical criterion for the computational identification of metaphors in the Holy Qur’ān.

3. Research Methodology

This section sets down the grammatical criterion for the ‘manual’ identification of metaphor in the Holy Qur’ān. To do so, the section provides a series of the most significant markers and deduces a possible grammatical criterion that can opt as a potential linguistic marker for a candidate metaphor. This grammatical criterion is then applied to the corpus of the study. This criterion not only identifies candidate metaphors but also identifies the degree of the metaphoricity of metaphors. Metaphoricity is gradable as some metaphors are more metaphorical or primary while others are secondary (Hanks, 2006). The underlying assumption of this indicator of ‘degree of metaphoricity’ is that some metaphors have the potential of denoting metaphorical meaning stronger than others and are therefore considered of a degree of metaphoricity higher than the others.

4. Corpus of the Study

The proposed methodology is a practical application of the suggested grammatical criteria for the identification of metaphors in the Holy Qur’ān to the corpus of the study. To carry out the objectives of the study, a corpus of one Sūrah from the Holy Qur’ān, namely Sūrat Hūd, is used. The manual identification of metaphors on the Sūrah of the study is achieved through referring to authentic exegeses of the Holy Qur’ān namely Tafsīr Aṭ-Ṭabarī (2010), Az-
Zamakhshari (2007), Al-Qurṭubi (1964) and Ash-Sha’rāwi (1997) as well as Yūsuf ‘Ali interpretation of the meanings of the Holy Qur’ān (1992). Then a two-step methodology is employed. First, candidate metaphors are manually identified by checking the Holy Qur’ān exegesis. Second, the suggested criterion is applied to each candidate metaphor. A candidate metaphor passing the criterion is assigned a mark along the continuum of metaphoricity. Then the marks are calculated to arrive at the degree of metaphoricity of each candidate metaphor according to the grammatical marker.

5. The Grammatical Criterion

This criterion investigates the grammatical structure as well as the grammatical category of the constituents of the candidate metaphor in question. To do so, constituents of grammatical category according to some features of verbs, nouns and adjectives are set up and a grammatical structure that is to determine whether it is Verb+Noun, Noun+Adjective, Noun+Verb, Noun+Noun, Noun+Preposition phrase/ Prepositional Phrase+Noun is also provided.

In order to arrive at a mere accurate description of the grammatical structure in which a candidate metaphor appears – a semantic description of the Noun/Verb - is provided, that is, the thematic role and the semantic domain to which a Noun/Verb belongs. The thematic roles of nouns depend on the verb. With transitive verbs, the subject often denotes an agent, i.e. the wilful initiator of the action. Nouns are ‘dummy subjects’ when used as a semantically empty (or non-referential) subject, particularly in speaking about the weather, time, or distance as in ‘it was not as cold as on the previous night, by the time you get back it’s nine o’clock, and it was seven miles to the nearest town and I had to bus or walk everywhere’, respectively. In non-finite clauses, there is often no subject, and the relevant participant must be supplied from the surrounding text. Where the subject is expressed in non-finite clauses, it is a noun phrase (i.e. it cannot be a clause) and always precedes the verb phrase. It is in the accusative case of pronouns as in “Can you bear it, the thought of him going away?” and the common case of nouns as in “The retail trade is making optimistic noises about shoppers coming back to the High street”. With ing-clauses, however, the subject may also be a genitive form of a noun or possessive determiner as in “He spoke about Sir Michael’s coming to the area” and “So it ended up by his going off with her” (Biber, Johansson, Leech, Conrad & Finegan, 1999, pp. 123-125).

The direct object typically denotes an animate or inanimate participant affected by an action, or directly involved in the action (without being an agent or a recipient) as in “this suggests that he is worried that those who came might rather walk the dog or paint the house than work for minimal benefit”. In other cases, a resultant object is found where the referent is a result of the action denoted by the verb as in “But then to be fair, I cannot recall any colleague who could paint a self-portrait with absolute honesty”. Some verbs may take either an affected or a resultant object, e.g. paint in the above two examples, respectively. Other semantic roles of objects are locative and instrumental objects, expressing roles that are otherwise associated with adverbials, as in “the finances of the most powerful country in the world will jump the rails this weekend”, where ‘the rails’ is a locative object and “He took a walk about the streets, kicking his feet in the sea of dry leaves on the pavement”, where ‘his feet’ is an instrumental object. In some cases, the direct object does not really express a participant role, but rather a verbal notion. This is true of cognate objects, which most typically repeat the
meaning of the preceding verb as in “And she laughed her laugh, that shocking laugh which turned heads and caused her to blush and put a hand over her naked mouth” (Biber et al., 1999, pp. 127-128).

Although many verbs have more than one meaning, they are classified into seven major semantic domains: activity verbs, communication verbs, mental verbs, causative verbs, verbs of simple occurrence, verbs of existence or relationship, and aspectual verbs (Biber et al., 1999, p. 360).

Activity verbs primarily denote actions and events that could be associated with choice, and so take a subject with the semantic role of agent. Examples are ‘bring, buy, carry, come, give, leave, move, open, run, take, and work’ (Biber et al., 1999, p. 361).

Communication verbs can be considered a special subcategory of activity verbs that involve communication activities (speaking and writing). Consequently, communication verbs include asking, announcing, calling, discussing, explaining, saying, speaking, stating, suggesting, talking, telling, and writing (Biber et al., 1999, p. 362).

Mental verbs denote a wide range of activities and states experienced by humans; they do not involve physical activity and do not necessarily entail volition. Their subject often has the semantic role of the recipient. They include both cognitive meanings (e.g. think or know) and emotional meanings expressing various attitudes or desires (e.g. love, want), together with perception (e.g. taste) and receipt of communication (e.g. read, hear) (Biber et al., 1999, p. 363).

Verbs of facilitation or causation, such as allow, cause, enable, force, help, let, require, and permit indicate that some person or inanimate entity brings about a new state of affairs. These verbs often occur together with a nominalized direct object or complement clause following the verb phrase, which reports the action that was facilitated. For simplicity, these verbs are referred to as causative verbs (Biber et al., 1999, p. 364).

Verbs of simple occurrence primarily report events (typically physical events) that occur apart from any volitional activity. Often their subject has the semantic affected role. For simplicity, these verbs are referred to as occurrence verbs. They include ‘become, change, happen, develop, grow, increase, and occur (Biber et al., 1999, p. 364).

Verbs of existence or relationship report a state that exists between entities. Some of the most common verbs of existence or relationship are copular verbs, such as ‘be, seem, and appear’. Such copular verbs are typically followed by a subject predicative and perform a linking function so that the subject predicative directly characterizes the subject. Other verbs of existence or relationship are not copular verbs, but report a particular state of existence (e.g. exist, live, stay) or a particular relationship between entities (e.g. contain, include, involve, represent) (Biber et al., 1999, p.364).

Aspectual verbs, such as begin, continue, finish, keep, and start characterize the stage of progress of some other event or activity, typically reported in a complement clause following the verb phrase as in ‘she kept running out of the room’ and ‘he couldn’t stop talking about me’ (Biber et al., 1999, p. 364).

The assumption of this criterion is: if a lexical item is used in a certain grammatical structure with a particular order producing restricted or semi-restricted collocation, the lexical item in
question is considered a metaphor, and vice versa if a candidate metaphor occurs in a certain grammatical structure with a particular order producing an open an open collocation it is non-metaphorical. A continuum is set up so that candidates occurring in open collocational grammatical structures score one mark, candidates of semi-restricted collocational grammatical structure score 2 marks, and candidates of restricted collocational grammatical structures score 3 marks along the continuum of metaphoricality.

In (11:5) /ʔla ʔinnahum jaʔahu:na sudu:r ʔahum lijastafaw minh ʔla hj:i:najasta Yf:u:na ʔjabahum jaʔlamwu ma jusirwu:na wama jwu:ʔlinu:n ʔinnahu ʕalji:mwn biʔætis-swdwu:r/ the imperfect verb of activity /jaʔahu:na/ occurs in a grammatical structure where it is followed by a direct affected object /ṣudu:r/ producing a semi-restricted collocation. In this Qur'ānic verse, the grammatical structure in which the verb is employed contributes to its metaphoricality. When the verb occurs in grammatical structures where it precedes concrete nouns, the literal meaning, i.e. to bend, is produced. For example, when the verb /ʔana/ precedes the noun /ʔu:ba/ the meaning is simply ‘folding up’. Also, the meaning of the verb /ʔana/ in the grammatical structure /ʔa na ṣadrhu ʕala:/ is to bend the horse’s rein to slow it down or stop it. Both of which are the basic meanings of the verb. However, in the collocation /ʔana ʕafahu:/, the verb acquires a figurative meaning which is ‘to be arrogant’ as it cooccurs with the abstract noun /ʕafa:/ producing the meaning of ‘to hide’. Similarly, in the collocation /ʔa na ṣadrhu ʕala:/ the verb acquires the meaning of ‘to hide’ when it collocates with the abstract noun /ṣadrhu/ followed by the preposition /ʕala/ producing a semi-restricted collocation. Based on the above, the verb /jaʔahu:na/ scores two marks along the continuum of metaphoricality.

Looking at the candidate metaphors in /walaʔin ʔadaqa-na-alʔinsa:nin minna raʔmatant ðumma nazaʔnaha minhu ʔinnahu lajaʔwusun kafu:r/, /walaʔin ʔadaqhahu naʔmæʔa ba:lda:raʔa mas-sathu lajaqu:lan-na ʕahabas-saj-ji:ʔa ʕan-nji ʔin-nahu lafaři:wun faww-r/: it is noted that the di-transitive mental verb /ʔadaqa/ occurs in collocation with two nouns (i.e. objects); follows the patterns below: the mental verb /ʔadaqa/ is followed by the direct object concrete noun /ʔa:nana/ (i.e. man) and the second object (resultant) abstract noun /raʔmatant/ in the first verse; the mental verb /ʔadaqahu:/ is followed by the preposition /ʔa:na:/ in the second verse producing the meaning of ‘experience’ which is a non-literal meaning of the verb. The verb /ʔadaqa/ occurs in a number of grammatical structures where the verb precedes concrete nouns such as /ʔa-taʔa:m/ (i.e. food) and /ʔa:jæeb/ (i.e. drink), and the literal meaning, i.e. taste is produced. However, in other grammatical structures as /ʔa:jæeb/ (i.e. to sleep), /ʔa:na/ (i.e. enjoy success), /ʔa:jæeb/ (i.e. achieve stability), /ʔa:jæeb/ (i.e. enjoy freedom), the verb is followed by abstract nouns e.g. sleep, success, stability and freedom respectively, and acquires a figurative meaning (i.e. to experience). The grammatical structure in these two verses in which the verb appears contributes to the metaphoricality of the verb. Based on this, the verb /ʔadaqa/ in its two forms /ʔadaqahu:/ is assigned two marks along the continuum of metaphoricality.
In Qur'anic verse, the verb is preceded by the indefinite abstract noun رحمة rahmatan/ produces the meaning of “Obscure” which is the non-literal meaning of the verb. As such, in this Qur'anic verse the grammatical structure in which the verb is employed where it is followed by the preposition /قثا/ preceding the abstract noun رحمة rahmatan/ (i.e. mercy) acting as the object of the verb بثثا /يتيح لله that is bringing. The verb denotes an abstract meaning of “obscuring mercy” and hence, the lexical item in question is considered a metaphor. Based on this, the verb عميت /Cummatat/ scores two marks along the continuum of metaphoricity.

In other grammatical structures when the same concrete noun acts as a subject of other verbs, its literal meaning, i.e. eye is maintained. For example, when the noun عين /Ein/ follows the verb ترى /i.e. see/ as its subject it denotes the meaning of ‘seeing with the eye’ as in ترى عينهم /tara /Einunhum/ (i.e. their eyes see). In other grammatical structures as in ترى عينه /tara /Einahu/ the concrete noun acquires figurative meaning such as disrespect or contempt and the opposite as in ترى عينه /تار /Einahu/ which denotes respect and appreciation. In the grammatical structure أقرت عينه /qarrat /Einahu/ the concrete noun in collocation with the verb أقرت /qarrat/ denotes the figurative meaning of pleasure and content, and in أقرت عينه /أقرت الله بك عيني /qarrat /Einahu bika /Aqanin/ denotes a figurative meaning which is Allah bestowing His blessings on you. Other examples of grammatical structures where the noun acquires a figurative meaning different from its basic meaning (i.e. eye) are في طرفة عين /fi tarfata /Ein/ which means very quickly، على نافذة عين /la /Ein nuufada/ which means ‘has shrewd eyes’، القارئ عينه /qar/ i /Ein/ which is a way to express that someone is most welcome، and أصابته عين /a:bsathu /Ein/ to say that someone was envied. In this Qur'anic verse, the grammatical structure in which the noun is used contributes to the metaphoricity of the noun. The concrete noun عينكم /Einakum/ as a subject (agent) preceded by the mental verb تذكر /tazzar/ develops the figurative meaning of ‘your eyes (i.e. you yourselves) disrespect the believers’. Therefore, the noun is considered a metaphor and the noun عينكم /Einakum/ is assigned three marks along the continuum of metaphoricity.
the name of ‘Allah’ the Almighty acting as a subject (agent) producing the meaning of ‘to
torture you’ which is a non-literal meaning of the verb. However, in other grammatical
structures when the verb is preceded by other nouns, the literal meaning (i.e.
to deviate from what is good or expected) is produced. For example, when the verb
‘swallow’ /Yawā/ is followed by the noun /Jā:b/ (i.e. young man), the meaning is to be seduced
or ‘to go astray’ which is the literal meaning of the verb. In other grammatical structures, the
verb acquires a meaning which is different from its basic meaning as in ‘to exceed the
natural limit of drinking milk’. In this Qur’ānic verse where the verbal noun
‘/jaWyijakum/’ is preceded by the structure /in kanal-la:hu juri:da /
‘when a person is going to be seduced’, and is considered a metaphor. On the basis of this, the verb
‘/jaWyijakum/’ is assigned two marks along the continuum of metaphoricity.

In In /11:37/, the noun /Fa:junina/ produced by the preposition /baa?/ is preceded by the activity
/Fa:junina/ preceded by the preposition /baa?/ is preceded by the activity verb
/la:jil, producing the meaning of “care and guidance” which is non-literal meaning
of the noun. This is different from other grammatical structures when the noun follows other verbs.
Examples are structures in which the concrete noun /Junina:/ when someone is
appreciated, /baa?/ (lit. to see) as in /Junina:/ when someone is
appreciated, /Junina:/ which means pleasure and content, /fi torkat /Junina:/ which means very
quickly, /Junina:/ which means ‘has shrewd eyes’ /Junina:/ to say that someone is most welcome, and
/Junina:/ /Junina:/ to say that someone was envied. In this Qur’ānic verse the grammatical structure in which the noun is
used contributes to the metaphoricity of the noun. The concrete noun /Au:inina /
/Fa:junina/ prefixed with the preposition /baa?/ and preceded by the activity verb
/la:jil/ develops the meaning of our care in (making the ship) which is figurative and therefore, the
lexical item in question is considered a metaphor. On this basis, this candidate metaphor is
assigned two marks along the continuum of metaphoricity.

In /11:44/, the verb of physical activity /bla:jji/ is preceded by the concrete noun /Ar:ast/ (agent) produces the
meaning of ‘taking water away’ which is a non-literal meaning of the verb. In other grammatical structures when the verb precedes other nouns (i.e. animate objects) the
structure is an open collocation and the literal meaning of the verb ‘swallow’ is produced. For example, when the verb
‘swallow’ /bla:jji/ is used with /bla:jji/ the meaning is to ‘swallow’. But in other grammatical structures where the verb cooccurs with an abstract noun as in /Ar:ast/ /bla:jji/ it denotes ‘accepting or willing to bitterness’. In this Qur’ānic verse, the grammatical structure in which the candidate metaphor
‘/bla:jji/ literally ‘to swallow’ is employed contributes to its metaphoricity. The verb of physical activity
‘/bla:jji/ preceded by the concrete noun /Ar:ast/ (agent) develops the

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figurative meaning of ‘take away’. In this Qur'ānic verse, the imperative verb of non-action غَلِيظٍ/Yāli:Z/ preceded by the concrete noun ساق غليظ/Yāli:Zi/ (agent) maintains its basic meaning of ‘stop’. Based on the above, the structure يَا رَأَب ضِرَّاءً إِلَيْي/γαρδυβλαςήjι/ scores two marks along the continuum of metaphoricality, but the structure يَا سَامِئُكَقِي:ث/γαρδυβλαςήjι/ scores a mark. In

In [11: 80] /qa:la law ؤاَلَيَا لِي بِكُمْ قُوَّةً أَوْ ءَاوِي إِلَي رُكْنٍ شَدِيد/iltrkni ∫adi:d/, the deverbal noun ضرب في أركان المعمورة/iru:ku:n rukni:li: (i.e. resort to) and followed by the adjective of quality غَلِيظٍ/Yāli:Z/ is preceded by the abstract deverbal noun عَذَاب/γαρδυβلςήjι/ producing the figurative meaning of ‘severe torture’. However, in other grammatical structures when the adjective of quality follows other nouns, literal meaning, (i.e. rough) is produced. For example, when the adjective غَلِيظٍ/Yāli:Z/ follows the noun عامي/ma:çji/ the meaning is ‘large intestine’ called such because it is ‘thicker’, more vascular, and has a more developed mucosal folds than the jejenum (i.e. the part of the small intestine). Also, the meaning of the adjective غَلِيظٍ/Yāli:Z/ in the grammatical structure وَلَمَّا جَآءَ أَمْرُنَا نَجَّيْنَا هُوداً وَالَّذِينَ ءَامَنُوا مَعَهُ بِرَحْمَةٍ مِنَّا وَنَجَّيْنَاهُم مِنْ عَذَابٍ غَلِيظٍ in the grammatical structure ضرب في أركان المعمورة, the deverbal noun ضرب في أركان المعمورة/iru:ku:n rukni:li: (i.e. large intestine) and the plurality of the noun ضرب في أركان المعمورة/iru:ku:n rukni:li:/ (i.e. thick stem) the adjective denotes the literal meaning of ‘thick’. However, in other grammatical structures the adjective acquires a figurative meaning as in ‘Cactus plant has a thick stem’ as in ‘Cactus plant has a thick stem’ to store water’. In both structures عامي غليظ/Yāli:Z/ (i.e. large intestine) and عامي غليظ/Yāli:Z/ (i.e. thick stem), the adjective denotes the literal meaning of ‘thick’. However, in other grammatical structures the adjective acquires a figurative meaning as in غَلِيظٍ/Yāli:Z/ denoting ‘difficult matter’, غَلِيظٍ/Yāli:Z/ denoting ‘bitter water’, غَلِيظٍ/Yāli:Z/ referring to ‘confirmed pledge’ and غَلِيظٍ/Yāli:Z/ describing a ‘cruel man’. In this Qur'ānic verse, the grammatical structure in which the adjective of quality غَلِيظٍ/Yāli:Z/ is employed contributes to its metaphoricality. The adjective غَلِيظٍ/Yāli:Z/ preceded by the deverbal abstract noun عَذَاب/γαρδυβلςήjι/ develops the figurative meaning of ‘severe’, and hence, the lexical item in question is considered a metaphor. Based on this, the adjective غَلِيظٍ/Yāli:Z/ scores two marks along the continuum of metaphoricality.

In [51:38] /walamma ٰنَا ٰتَوَلَّىٰ بِرَكْنِهِ لِجَآءَ أَمْرُنَا نَجَّيْنَا هُوداً وَالَّذِينَ ءَامَنُوا مَعَهُ بِرَحْمَةٍ مِنَّا وْلَا مَرَّةً أَنْ لَكُنَّا قَلْبٌ غَلِيظٌ أَوْ دِينٌ غَلِيظٌ أَوْ طَيْفٌ غَلِيظٌ أَوْ رَأْب ضِرَّاءٌ إِلَيِّي رُكْنٍ شَدِيد/iru:ku:n rukni:li: (But (Pharaoh) turned back with his Chiefs, and said, "A sorcerer or one possessed!") literally denotes ‘to go away with his corner’ where the verb is preceded by the preposition وأِيَلِي baa?/ is “to turn back with his Chiefs”. The meaning intended is non-literal and it is that he left arrogantly with his supporters. Similarly, in this Qur'ānic verse, the grammatical structure in which the noun is employed contributes to its metaphoricality. The noun وأَيَلِي rukn/ preceded by the verb وأِيَلِي baa?/ scores two marks along the continuum of metaphoricality.

In [51:39] /ta:wa'lla بِعِرْكُنِي:ث/iru:ku:n in the structure وَلْعَظِيَّةً فِي قَوْلِهِ/fa:tawallabiruknii/ wa qa:la sa:hinun ٰنَا mad3nu:n/ (But (Pharaoh) turned back with his Chiefs, and said, "A sorcerer or one possessed!") literally denotes ‘to go away with his corner’ where the verb is preceded by the preposition وأِيَلِي baa?/ is “to turn back with his Chiefs”. The meaning intended is non-literal and it is that he left arrogantly with his supporters. Similarly, in this Qur'ānic verse, the grammatical structure in which the noun is employed contributes to its metaphoricality. The noun وأَيَلِي rukn/ preceded by the verb وأِيَلِي baa?/ scores two marks along the continuum of metaphoricality.
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In the Qur’ānic verse, the grammatical structure in which the noun is employed contributes to its metaphoricity where the noun /baqijatu/ is followed by the noun الله/Allah/ denotes the figurative meaning of “Allah’s reward” and therefore, the lexical item in question is considered a metaphor. Based on the above, the noun /baqijatu/ scores three marks along the continuum of metaphoricity.

In Arabic, the expression لصَّيحَةُ فَاَصْبَحُوا فِي دِيَارِهِمْ جَاثِمِينَ (11:87) /qa:lu jaa ju:bi:na /sa:laetuka ta:muruka 2n natrwka /ja:bdu /a:bbae/una aw 2n /baqijatu fii /ma:wla:la /ma:a/ /a:bna /binnakal /ntal hali:mu:ra faj:di/l, the deverbal noun صلاتك /salatuk/ i.e. prayer followed by the verb of communication تآمرك /ta:muruka/ produces the non-literal meaning of ‘your religion’. However, when the noun collocates with other verbs or lexical items in other grammatical structures, the literal meaning (i.e. prayer) is maintained. For example, when the deverbal noun صلاتك /salatuk/ follows the activity verb /qim/ i.e. perform or the abstract noun تآ الكر /ta:xi:r/; the literal meaning is maintained so ‘perform the prayer’ or ‘delay the prayer’. However, in this Qur’ānic verse the grammatical structure in which the noun is employed contributes to its metaphoricity where the noun صلاتك /salatuk/ is followed by the verb of communication تآمرك /ta:muruka/ it acquires the figurative meaning of “does your religion command you!” and therefore, the lexical item in question is considered a metaphor. Based on this, the noun صلاتك /salatuk/ scores two marks along the continuum of metaphoricity.

In Arabic, the expression لصَّيحَةُ فَاَصْبَحُوا فِي دِيَارِهِمْ جَاثِمِينَ (11:92) /qa:la jaaqum /rahi: /a:zak-wi: alikum mina alla:hi wattaxa∂tu:mwhu /waræ/kum Zihriji: jinna rabbi bimæ /ta:/malu:/na muhi:ti/l, the noun of place يطهُري /Zihriji/ preceded by the perfect activity non-volitional verb وراءكم /waræ/kum /piritaxa∂tu:mwhu/ and the adverb of place يطهُري /Zihriji/ /waræ/kum /produces the literal meaning of ‘ignore or forget about’. In other grammatical structures when the noun of place is preceded by other verbs, the literal meaning, i.e. (behind someone’s back) is produced. For example in مُعَجَّمَةَ الْمأْسَئَةِ Al-Ma‘āni Al-Gami’, the expression /d3a:galahu Zihriji/ indicates the meaning جعلهُ نسيًا من نسيًا /d3a:galahu nasjan mansija/ literally “totally ignored”. However, the noun of place يطهُري /Zihriji/ in the structure /piritaxa∂ ba:fi:ran Zihrijan/ where it is preceded by the verb اخْتَمَسَ /piritaxa∂/ and the noun /ba:fi:ran/, the meaning implied is of taking as /fuwwad:/ (i.e. tools used in battles or war). However, in this Qur’ānic verse, the noun of place يطهُري /Zihriji/ is preceded by the verb وراءكم /waræ/kum /aintenance of ‘ignoring or forgetting about something. Based on the above, the noun يطهُري /Zihriji/ scores a mark along the continuum of metaphoricity.

object /ضَيْعَةُ/ and its inanimate subject (agent) abstract noun /ضَيِعَةُ/ produces the non-literal meaning of 'destroyed'. However, when the activity non-volitional verb precedes other concrete nouns in other grammatical structures, that literal meaning is maintained. For example, when the verb أخذ /خَذَ/ is followed by the concrete noun إلى السماح /إِلَىُ السَّمَاحِ/ the meaning is 'seize or take' which is the literal meaning of the verb. In other grammatical structures, the verb acquires figurative meanings that differ from its literal meaning as in أخذ الطريق /خَذَ الْطَّرِيقَ/ where the verb co-occurs with hearts literally 'to take the hearts of the listeners' (i.e. impress the listeners) or with عده /عَدَّ/ literally 'tools' as in أخذ عده النعمة /خَذَ عَدَّ النُّعْمَة/.

The deverbal noun /فِرْد/ implies the literal meaning of 'gift' (i.e. a sign of the Day of Qiyamah). However, in other grammatical structures when the deverbal noun collocates with other lexical items, its literal meaning i.e. gift is maintained. For example, in the Qur’ānic verse, the grammatical structure in which the noun is employed contributes to its metaphoricity. The deverbal noun /فِرْدُ/ i.e. gift preceded by the concrete noun إلى الماء /إِلَىُ المَآءِ/ produces the non-literal meaning of ‘woeful curse'. However, in other grammatical structures when the deverbal noun collocates with other lexical items, its literal meaning i.e. gift is maintained. For example, in the Qur’ānic verse, the grammatical structure in which the noun is employed contributes to its metaphoricity. The verb أخذت /خَذَتِ/ followed by the noun phrase إلى الماء /إِلَىُ المَآءِ/ i.e. to its basic meaning. In this Qur’ānic verse the grammatical structure in which the verb is employed contributes to its metaphoricity. The verb أخذت /خَذَتِ/ followed by the noun phrase إلى الماء /إِلَىُ المَآءِ/ i.e. 'the place where people or cattle seek for water' produces the non-literal meaning of “woeful is the Fire they are led to”. However, in other grammatical structures when the noun collocates with other lexical items, the literal meaning, i.e. place to which cattle are led to drink water is produced. For example, when the deverbal derivative noun /وَرْدُ/ i.e. water precedes the concrete noun إلى الماء /إِلَىُ المَآءِ/ i.e. water it refers literally to ‘water place’. However, in this Qur’ānic verse, the grammatical structure in which the noun is employed contributes to its metaphoricity. The deverbal noun /وَرْدُ/ i.e. water preceded by the indeclinable verb إلى الماء /إِلَىُ المَآءِ/ in the Qur’ānic verse, the grammatical structure in which the verb is employed contributes to its metaphoricity. The verb أخذت /خَذَتِ/ scores three marks along the continuum of metaphor.
Judgement is giving the spoils as gifts to people who do not deserve these spoils). However, in this Qur’ānic verse, the grammatical structure in which the noun is employed contributes to the metaphoricity of the noun. The noun القائم من هذه IPv-d preceded by the indeclinable verb Brasil /bi?sa/ produces a restricted collocation, as it acquires the figurative meaning of ‘woeful is the gift (i.e. Fire)’ and therefore, the lexical item in question is considered a metaphor. Based on the above, the noun القائم من هذه IPv-d scores three marks along the continuum of metaphoricity.

In this Qur’ānic verse, the grammatical structure in which the noun is employed contributes to its metaphoricity. The noun القائم من هذه IPv-d is produced. The active participle القائم من هذه IPv-d/ in the grammatical structure القائم من هذه IPv-d /alaijaka min Nnbae?il qura naqussuhu قلأيا jinha qa:imun wahasid/d, the participles قائم وحصيد qqa:imun wahasid/d literally standing and harvested preceded by the prepositional phrase من hera/minha/ (i.e. of them) produces the non-literal meaning of “of the villages left without their people and others which have been wiped out”. However, in other grammatical structures when the participles القائم من هذه IPv-d/qqa:imun wahasid/d collocate with other lexical items, literal meaning (i.e. standing and harvested) is produced. The active participle القائم من هذه IPv-d/ in the grammatical structure القائم من هذه IPv-d /zaidun qa:imun/ literally ‘Zaid is standing’ maintains its literal meaning. In other grammatical structures, the active participle القائم من هذه IPv-d/qa:imun/ acquires a different meaning which is figurative as in the din القائم IPv-d/qa:imun/ which means ‘unpaid debt’, the participles القائم من هذه IPv-d /الشهب IPv-d qa:im/ which refers to ‘villages left without their people’ which are produced. However, in other grammatical structures when the participle القائم من هذه IPv-d/qqa:imun wahasid/d and the adjective participles القائم من هذه IPv-d/qqa:imun wahasid/d/ preceded by the prepositional phrase من hera/minha/ refer figuratively to “villages left without their people” and to “those that have been wiped out”. The two participles in question are candidate metaphors and based on this, the two participles القائم من هذه IPv-d/qqa:imun wahasid/d score three marks each along the continuum of metaphoricity.
meaning (i.e. word) in the first and a figurative meaning (i.e. a promise) in the second. In this Qur'ānic verse, the deverbal noun كلمة/kalimatu/ preceded by the perfect verb of activity تمتم/tammat/ develops the meaning of ‘fulfilling a promise’ which is figurative, and therefore, the lexical item in question is considered a metaphor. Based on the above, the noun كلمة/kalimatu/ scores three marks along the continuum of metaphoricity.

6. Discussion and Interpretation of Analysis

The analysis of results shows that a direct relation links the grammatical structure of a candidate metaphor to its type of collocation. If the Verb+Noun is a restricted collocation, it is found to be highly metaphorical, if it occurs in a semi-restricted collocation, it is less metaphorical than in the case of restricted collocation, and if it occurs in an open collocation, it is non-metaphorical. The suggested software should involve a program that parses the grammatical structure of the candidate metaphor. The parser should denote the semantic/grammatical type of constituents of the metaphor. The analysis of results shows that Verb of activity + abstract noun (abstract) structure could be a marker of metaphoricity.

The following table shows the results of investigating the grammatical criterion in the corpus. The first column lists all candidate metaphors in the corpus, and the second is the grammatical criterion with its semantic/syntactic subdivision into Verb+ Noun, Noun+Adjective, Noun+ Verb, Noun+Noun, and Noun+P.P or P.P+Noun, and the last column is of the degree of metaphoricity.

<table>
<thead>
<tr>
<th>No.</th>
<th>Candidate Metaphor</th>
<th>Grammatical Criterion</th>
<th>Degree of Metaphoricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>يثنون صدورهم/jaθnu:naṣudu:r dhum/</td>
<td>imperfect verb of activity+ direct affected object</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>أذقنا رحمة/ʔaðɑqnə rahmatant/</td>
<td>perfect mental verb+resultant object</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>أذقناه نعماء/ʔɑdɑqnəhu naCmaeʔa/</td>
<td>perfect mental verb+resultant object</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>رحمة فعميت عليكم/raḥmatan faʕummajat /</td>
<td>abstract noun+ perfect verb of activity+ preposition</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>تزدري نعيمك/ʔaCjunikum/</td>
<td>mental verb + agent</td>
<td>✓</td>
</tr>
<tr>
<td>No.</td>
<td>Candidate Metaphor</td>
<td>Grammatical Criterion</td>
<td>Degree of Metaphoricity</td>
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<tr>
<td>6</td>
<td>الله (11:34) يا بِأَيَّامِكُمُ يَغْيُضُونَكُمْ</td>
<td>agent+ imperfect mental verb</td>
<td>✓</td>
</tr>
<tr>
<td>7</td>
<td>اصِنِعُوا ‏(11:37) بِأَيْنَ مَعْصَمُكُمْ اِنْتَهَى</td>
<td>subject (agent)+ imperative verb of physical activity</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>يا أَرْضُ ابْنِي ‏(11:44) اِنْتَهِي</td>
<td>subject (agent)+ imperative verb of non-action</td>
<td>✓</td>
</tr>
<tr>
<td>9</td>
<td>يا سَمَاءُ ابْنِي ‏(11:58) اِنْتَهِي</td>
<td>deverbal noun + Adjective of quality</td>
<td>✓</td>
</tr>
<tr>
<td>10</td>
<td>عَذَابُ يَوْمٍ مُحِيطٍ ‏(11:86)</td>
<td>deverbal noun + Proper noun</td>
<td>✓</td>
</tr>
<tr>
<td>11</td>
<td>رَكُنُ ‏(11:87)</td>
<td>deverbal noun + Adjective of quality</td>
<td>✓</td>
</tr>
<tr>
<td>12</td>
<td>حَجَرَةٌ مُسَمَّى ‏(11:88)</td>
<td>deverbal noun + Adjective of quality</td>
<td>✓</td>
</tr>
<tr>
<td>13</td>
<td>بَقَيتِ ‏(11:92)</td>
<td>deverbal noun + communic ation verb</td>
<td>✓</td>
</tr>
</tbody>
</table>
The analysis of data lists 22 candidate metaphors in the corpus. Of these 22 candidates, 10 are Verb+Noun, 4 are Noun+Adjective, 5 are Noun+Verb, 1 is Noun+Noun, and 2 are Noun+P.P and P.P+ Noun. (4) of the verb-based structures involve verbs of activity. (3) of these verbs of activity co-occur with abstract nouns and (1) with a concrete noun. (3) are mental verbs of sense (senses, emotions, or temptation), (2) of the 3 mental verbs co-occur with abstract nouns while (1) co-occur with a concrete noun, (2) are of indeclinable verbs (i.e. verbs that have only one form) with abstract nouns. Accordingly, the metaphorical candidates varied in their degrees of metaphoricity.

The grammatical criterion for identifying metaphor in the corpus of the study has been adapted from both English and Arabic studies. The basic assumption of this criterion is as follows: if a lexical item be it verb or a noun is used in a certain grammatical structure with a particular order producing either an open, restricted, or semi-restricted collocation, the lexical item/candidate metaphor would be considered either non-metaphorical or...
metaphorical respectively. If the grammatical structure in which the candidate metaphor is used creates an open collocation, its meaning is literal, and it is not metaphorical. If, on the other hand, the grammatical structure produces a restricted or semi-restricted collocation, the meaning is metaphorical and the lexical item in question is a metaphor. This criterion is borrowed from works by Al-Jurjāni (1989), Benson et al. (1986), and Halliday (2004).

The proposed grammatical criterion investigates the candidate metaphors in the Sūrah of the study by checking the grammatical category of the candidate metaphor (i.e. type of noun, verb, adjective, or participle) in Arabic dictionaries and Arabic grammar references and its semantic-syntactic division adapted from Arabic grammar references. Following the proposed grammatical criterion, a lexical unit is metaphorical if it appears in a restricted or semi-restricted collocational structure (Al-Jurjāni, d. 471 or 474 H), if a particle is preceded by a verb producing unpredictable meaning (i.e. phrasal verb) (Benson et al., 1986), or if there is “grammatical twist” (Halliday, 2004). Halliday (2004) contributes largely to the grammatical criterion for the identification of metaphor in the corpus. He illustrated that word order could result in a metaphorical meaning in a grammatical structure. Accordingly, a grammatical structure could signal a metaphor. He refers to the concept of “grammatical metaphor” where he emphasizes, “There is a strong grammatical element in rhetorical transference”. The grammatical criterion derived from this study is as follows: grammatical structures, which are produced because of “grammatical twist”, are metaphorical.

7. Conclusion

This work is a valued addition to the work on corpus linguistics towards the computational linguistic research on metaphor. It suggests a rule to free the linguist from manually marking metaphors in huge corpora to find the grammatical features of metaphor, identifying them and their degrees of metaphoricity. Within the grammatical criterion, it was hypothesized that metaphors that occur in certain grammatical structures that constitute a restricted or semi-restricted collocation are more metaphorical than candidates that occur in open collocations. Following the analysis of findings and interpretations of the results of the grammatical criterion, the study proposed a software rule based on this criterion for the computational identification of metaphor in the Holy Qur’ān. Computer software for processing a corpus that could suggest potential metaphors is a contribution in order to find metaphors.

References


