

The Middle Voice in Najdi Arabic: A Constraint-Based Approach

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Abstract—Grammatical voice categories have been the subject of discussion among linguists for decades. Although the active and passive voices have received considerable scholarly attention, much less has been paid to the middle voice. The main characterising properties of the middle voice are the prevention of the agent argument in its construction and its tendency toward intransitivity. The nature of the middle voice represents a problematic issue in linguistic research. Scholars have discussed different applications of the middle voice phenomenon, which helps explain the intense debate over its linguistic properties. However, the concept of this voice and its frame are still somewhat vague compared with similar linguistic aspects, especially if it is seen from the perspective of modern theoretical linguistics. This paper, therefore, seeks to reach a better understanding of the topic of the middle voice by exploring it in one of the Arabic varieties: Najdi Arabic (NA). More specifically, it aims to provide a theoretical account of the underlying linguistic properties of the middle voice in NA within the framework of Head-driven Phrase Structure Grammar (HPSG). Toward this end, the paper, using the constraint-based approach of HPSG, proposes certain lexical entries that account for the linguistic properties of the middle voice verbs in NA. It also attempts to analyse the constructions where such middle voice verbs occur.

Index Terms—middle voice, analysis, syntax, semantics, Najdi Arabic

I. INTRODUCTION

Voice is a grammatical category that allows for viewing the action of a sentence in different ways without changing its meaning (Quirk et al., 1985). The active and passive have traditionally been regarded as the two main poles of the voice category, although a third form, known as the middle voice, is found in many languages (e.g., Greek, French, and Arabic). It has been widely argued that the middle voice is conveyed by ergative verbs, which can be used transitively or intransitively. In general, middle voice verbs can have unergative or unaccusative syntax based on the language and the reading (Alexiadou, 2014; Beavers & Udayana, 2023).

One of the main characteristics of the middle voice is the absence of the agent argument in its construction (Kaufmann, 2007; Kemmer, 1993; Manney, 2000; Steinbach, 2002). To clarify, the subject of the middle voice does not perform the action of the sentence. Instead, it is affected by an action or state (Van Wolde, 2019). Unlike active voice constructions, which are typically transitive, middle voice constructions tend to be intransitive and valency-reducing devices (Beavers & Udayana, 2023; Kaufmann, 2007). This observation aligns with the common claim that the middle voice has an effect on the concepts of transitivity and valency. Thus, the middle voice is a component of a large semantic-pragmatic domain that covers both traditional voice categories (active and passive) as well as the semantic categories of transitive and intransitive events (Kemmer, 1993).

In the last several decades, the middle voice has become the subject of increased interest in linguistics research and has been examined through language-specific studies, including those of Arabic (Ajer, 2015), Hebrew (Jones, 2020), Greek (Manney, 2000), and German (Steinbach, 2002). Several general studies on the middle voice have taken a cross-linguistic approach (e.g., Croft et al., 1987; Kemmer, 1993; Klaiman, 1992). One reason for this rise in attention is the similarity exhibited by middle voice systems across languages, even those that are not genetically related (Allan, 2002). Nevertheless, the middle voice requires further research to investigate its structures, borderlines, and relations to other linguistic aspects. This need can be observed, for instance, in the confusion over its terminology. Many terms have been employed to describe a wide range of middle-voice-related grammatical phenomena, such as mediopassive, pseudo-reflexive, quasi-reflexive, agentless passive, patient-subject construction, deponent, and neuter (Croft et al., 1987; Kemmer, 1993).

As mentioned above, the middle voice is, to a considerable extent, a cross-linguistic phenomenon that exists in many languages, including Standard Arabic (SA) and other Arabic varieties. This voice is interestingly complex and

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understudied in Arabic, particularly in modern linguistic literature. To address this research gap, this paper examines the middle voice in Najdi Arabic (NA), a major Arabic variety spoken in the Kingdom of Saudi Arabia.

To form the middle voice in NA, the verb must undergo a morphological inflection process. As shown in example (1), the transitive verb *kisar* ‘broke’ in NA is used intransitively and morphologically changed to *ʔinkisar* ‘broke’ following the most common pattern of the middle voice verbs, which is *ʔinfical* in NA. The middle voice example in (1) includes only one argument, *l-ka:s* ‘the glass’, which is the subject here. However, this subject is not the doer of the action but instead undergoes the expressed action. In other words, the NP *l-ka:s* ‘the glass’ here is a non-agent subject.

- (1) *ʔinkisar* *l-ka:s*
 break.3.SG.M DEF-glass
 ‘The glass broke.’

Unlike Arabic, English does not require any morphological inflection processes to form middle voice verbs. Instead, it applies the same structure as the active voice, as in (2).

- (2) The book sells well. (Kemmer, 1993, p. 2).

This paper seeks to contribute to the ongoing research on the middle voice by identifying the characterizing linguistic properties of the middle voice in NA. In addition, this paper attempts to develop a theoretical analysis of these properties using the theory of Head-driven Phrae Structure Grammar (HPSG).

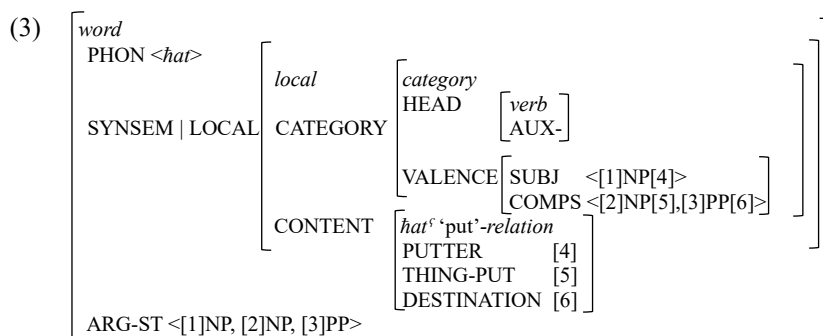
The remaining part of the paper proceeds as follows: section [II] briefly introduces the framework of HPSG. Section [III] addresses the main characterizing linguistic properties of the middle voice in NA. Section [IV] presents a theoretical analysis of the middle voice constructions in NA. Section [V] concludes this paper.

II. THEORETICAL FRAMEWORK

HPSG is a highly informative syntactic theory that has been proposed to account for the middle voice in NA in this paper. It is a syntactic declarative version of Generative Grammar (GG)¹, which includes a system of types, features, and constraints to generate strings of linguistic objects (Abeillé & Borsley, 2021). Unlike most versions of Generative Grammar, HPSG is a monostratal non-transformational approach that was developed by Carl Pollard and Ivan Sag in the mid-1980s. This approach assumes that the sentence has only one level of syntactic structure; hence, any movement operations are unacceptable (Borsley & Jones, 2005). It is a unique approach that offers an integrated framework for a cross-layer representation, including phonology, morphology, syntax, semantics, pragmatics, and discourse (Bhuyan & Ahmed, 2008).

HPSG takes a constraint-based approach to grammar based on the idea that linguistic analysis includes a set of constraints that linguistic objects must satisfy, and the linguistic object is well-formed if and only if it meets all these relevant constraints (Abeillé & Borsley, 2021). The linguistic objects are classified into a lexical or phrasal type, to which HPSG constraints apply, from the level of lexemes or words to the level of phrases and sentences. HPSG distinguishes between linguistic objects (lexemes, words, phrases, etc.) and their descriptions. Linguistic objects should include all the properties of their description and cannot be underspecified, while descriptions are usually underspecified in HPSG (Abeillé & Borsley, 2021).

Linguistic objects and constraints in HPSG are typically specified using feature structure descriptions. These descriptions have a specific structure known as Attribute-Value Matrices (AVMs) (Levine & Meurers, 2006). To illustrate how AVMs are used to describe the linguistic objects in HPSG, the lexical entry of the NA verb *ħatʕ* ‘put’ is shown in (3).²



The lexical entry in (3) includes the verb *ħatʕ* ‘put’ of the type *word* and demonstrates sets of attributes (features) and their values (structures). The attribute PHON has a value that specifies the phonological characteristics of the verb *ħa:tʕ*. The syntactic and semantic properties are represented as the value of a feature SYNSEM. LOCAL is part of the value SYNSEM, which is divided into two subsections: CATEGORY (which identifies syntactic properties) and CONTENT (which illustrates semantic properties). The feature HEAD indicates the syntactic category of a linguistic object. Here,

¹ GG was developed by Noam Chomsky in the mid-1950s.

² This entry is adapted from the entry of the verb *put* proposed by Levine and Meurers (2006, p. 2).

‘Ahmad marveled.’

Verbs of the middle voice in (4–5) do not require a complement but take only a syntactic subject. In contrast, the verbs *fiḡad* and *siḡaʕ*, in (6), are required to have a complement. For the verb *ʔistayrab* in (7), having a complement is optional. It can therefore be assumed that verbs of the middle voice in NA can be either transitive or intransitive. However, middle voice verbs in NA are observed to be more frequently used intransitively. This, in turn, supports the widespread assumption that the transitive verbs tend to be detransitivised when they occur in middle voice constructions.

The next subsection deals with the syntactic aspects of the head verb, a middle voice component. It accounts for the well-established argument that the middle voice is expressed by an ergative verb across languages.

B. Syntactic Aspects of the Middle Voice’s Head Verb in NA

A prominent scholarly view is that the head of the middle voice is established by an ergative verb. According to Halliday (2003), the construction of an ergative verb requires the presence of three essential factors: a transitive verb; an expressed object presented as the grammatical subject; and a different denotation when the logical subject is employed with an intransitive verb (i.e., when the verb is used ergatively). Ergative verbs (e.g., improve) can be used in the active, passive, and middle voice in English, among other languages.

In the NA data, ergative verbs are not observed in middle voice constructions. The verbs in (4) can be used both transitively (in their basic form) or intransitively, yet they are not classified as ergative. That the verbs of the first group are not ergative is supported by Al-Khawalda’s (2011) statement that ergative verbs in Arabic are used either transitively or intransitively without any morphological change. As shown in (8), obtaining a transitive structure by adding a direct object to the verbs of the middle voice from (4) without making morphological changes produces ill-formed sentences. This evidence conflicts with the well-known argument that the middle voice is conveyed by an ergative verb.

- (8) a. *ʔindilag* *Aḡmad* *l-ba:b**
 open.3 SG.M Ahmad DEF-door
 ‘Ahmad opened the door.’
- b. *ʔiftayal* *Aḡmad* *l-tilfizu:n**
 turn on.3.SG.M Ahmad DEF-television
 ‘Ahmad turned on the television.’
- c. *tiyaiyyar* *Aḡmad* *l-ʒaw**
 change.3.SG.M Ahmad DEF-weather
 ‘Ahmad changed the weather.’

It is commonly known that intransitive verbs involve two types: unergative and unaccusative. The first group of examples in (4) involve transitive verbs that are used intransitively and cannot assign an accusative case, as the verb has no external argument. Such verbs are classified as unaccusative verbs (Alexiadou & Doron, 2012). The second group of verbs in (5), which involves external arguments, is categorised as unergative. Importantly, these external arguments do not carry the agent role in middle voice constructions in NA. Based on the above, the middle voice of NA involves intransitive verbs, which are classified as unaccusative verbs in (4) and unergative verbs in (5).

Notably, all the verbs used in the middle voice constructions presented thus far have been presented in the past tense in NA. In other words, the head verb of the middle voice in NA is restricted to signifying the past tense. Hence, it could be hypothesised that using the present tense is not acceptable in middle voice constructions in NA.

According to Allan (2002), the middle voice is typically raised by a semantic feature that is known as subject-affectedness. This feature is assigned to the subject by the verb of the middle voice. In other words, the head verb of the middle voice requires its arguments to have the subject affectedness feature. As indicated by Ajer (2015), the middle voice in Arabic is presented by a middle voice head verb that introduces an [+affected] feature to the subject, as illustrated in (9).

- (9) Middle voice head: subject [+affected]

The notion of affectedness also applies to the subject of middle voice verbs in NA as will be seen in next section.

IV. MIDDLE VOICE IN NA: ANALYSIS

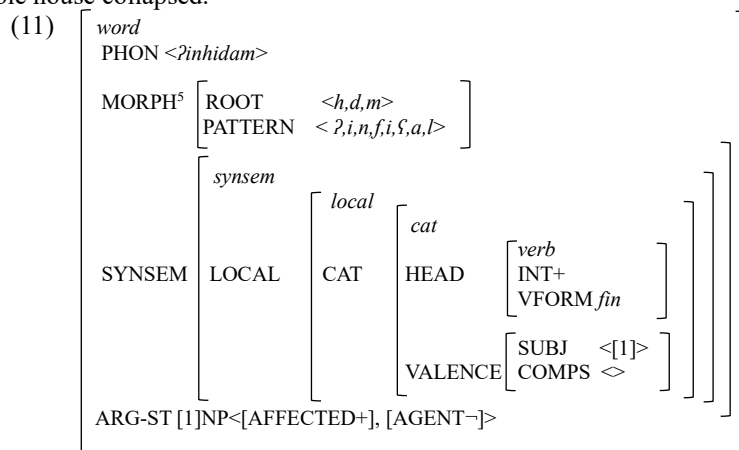
This section attempts to analyse the relevant properties of NA middle voice verbs and the constructions in which they occur using the framework of HPSG. Given space considerations, the analysis is limited to the most common verbs that exhibit interesting features in the middle voice in NA, which have the patterns *ʔinfisal*, *ʔiftasal*, and *tifaʕʕal*. The first subsection [A] analyses the linguistic properties of the lexical entries of these selected verbs. Then, the next subsection [B] seeks to provide a theoretical account for the constructions of the middle voice in NA.

A. Lexical Level

The basic and distinguishing properties of the head middle voice verb form the natural beginning of this analysis. Such properties are encapsulated within the HPSG framework by means of lexical entries. For example, the linguistic information of the middle voice verb *ʔinhidam*, exemplified in (10), will be as shown in the lexical entry in (11).

- (10) *ʔinhidam* *l-bi:t* *killah*
 collapse.3.SG.M DEF-house whole

‘The whole house collapsed.’



The lexical entry shown in (11) presents the relevant and necessary phonological, morphological, semantic, and syntactic information for the NA verb *ʔinhidam* ‘collapsed’. The lexical entry of *ʔinhidam* here is considered a *word* type as it is an inflected form of the lexeme. Two features characterise the morphological information of *ʔinhidam*, which are the ROOT and PATTERN, where the former shows the root letters and the latter the pattern (the root and affixes). The phonological properties are described by the feature PHON, whose value presents the phonological strings of *ʔinhidam*. The intrinsic and selectional syntactic-semantic properties, on the other hand, are described by the feature SYNSEM. The feature LOCAL shows part of the value of SYNSEM and is divided into two features: CATEGORY and CONTENT. CATEGORY has the feature HEAD, which presents a feature structure value of the type *verb*. Moreover, the HEAD feature specifies other characterising properties, which are [INT(RANSITIVE) +], and VFORM *fin*. [INT] with (+) value indicates that this verb pattern is intransitive and has only one argument. The prefix *ʔin-* represents a morphosyntactic feature that serves as a detransitivising function in the verb *ʔinhidam*, which is captured by the feature [INT+]. The feature VFORM, whose value is *fin*, specifies that *ʔinhidam* is a finite verb, which means that it is an inflected tensed verb that follows the pattern *ʔinfiʕal*.

The arguments that the verb requires are encoded using the features VALENCE and ARG-ST. The relevant information of the arguments such as the grammatical relations and the theta roles can be expressed in HPSG via these two features (Althawab, 2023). In (11), the feature VALENCE states that the syntactic head *ʔinhidam* always takes one argument (the subject). Note that the COMPS value is empty, which means that *ʔinhidam* does not take any complement. The feature ARG-ST presents the structure of the single argument of the verb *ʔinhidam*, indicating that it is an NP that is also described by the features [AFFECTED+]⁶ and [AGENT-]. The feature [AFFECTED+] with a positive value indicates that the subject is affected by the action of the expressed verb. Another feature of the NP subject is the feature [AGENT-], whose value is the semantic negative marker (-). This marker indicates that the subject in question can fulfil any theta role except the agent one, which is a distinguishing property of the middle voice’s argument. It is worth noting that the value of the ARG-ST is identical to that of the VALENCE feature, which is specified by the tag [1] to show that this is the same argument. Overall, the lexical entry in (11) includes the underlying properties that are needed to identify the middle voice verb *ʔinhidam*.

The entry in (11) is presented to explain all the essential information in the formal representation of feature structure in HPSG. It should be pointed out that this entry is written in somewhat detailed form here, which is not always the case because HPSG employs the concept of ‘underspecification’, which does not always necessitate a detailed feature structure. Instead, it requires that the most crucial and relevant information be included in the analysis (e.g., in a lexical entry, AVMs, or a tree diagram).

The next lexical entry, given in (13), describes the verb *ʔiftayal*, which is exemplified in (12).

- (12) *ʔiftayal* *l-tilfizu:n* *fazʔah*
 turn on.3.SG.M DEF-television suddenly
 ‘The television suddenly turned on.’

⁵ The feature MORPH is a modified version that has been adapted from two research papers (Bhuyan & Ahmed, 2008; Islam et al., 2010).

⁶ As stated in the previous section, the middle voice head verb assigns a specific feature to the subject, namely, the subject-affectedness feature. Thus, all the subjects of the middle voice are required to have this feature.

(13) $\left[\begin{array}{l} \textit{word} \\ \text{PHON} <ʔiftayal> \\ \\ \text{MORPH} \left[\begin{array}{l} \text{ROOT} <f,y,l> \\ \text{PATTERN} <ʔ,i,f,t,a,\textit{a},l> \end{array} \right] \\ \\ \text{SYNSEM} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \textit{verb} \\ \text{INT+} \\ \text{VFORM} \textit{fin} \end{array} \right] \\ \\ \text{VALENCE} \left[\begin{array}{l} \text{SUBJ} <[1]> \\ \text{COMPS} \diamond \end{array} \right] \end{array} \right] \\ \\ \text{ARG-ST} [1]\text{NP}<[\text{AFFECTED+}], [\text{AGENT-}]> \end{array} \right]$

In (13), the values of the phonological and morphological features are distinct from the previous verb pattern (*ʔinhidam*). However, the remaining properties of the verb appear to be the same as in (11).

To illustrate how this lexical entry can account for middle voice verbs, consider the verb *ʔiftayal* when it occurs in constructions like (14).

- (14) *ʔiftayal* *Saleh* *zei:n*
 work.3.SG.M Saleh good
 ‘Saleh worked hard.’

As shown in (14), the verb *ʔiftayal*, which is superficially the same verb used in (12), is still not considered a middle voice verb. This is so because the verb *ʔiftayal* here takes an agent subject which violates the [AGENT-] requirement of the middle voice verbs that is shown in the value of the ARG-ST of the middle voice verb *ʔiftayal* in (13).

The third lexical entry concerns the verb *tiyaiyyar*. Before discussing it, contrast the two examples in (15) and (16).

- (15) *tiyaiyyar* *l-zaw* *ʕindina*
 change.3.SG.M DEF-weather here
 ‘The weather changed here.’
- (16) *tiyaiyyar* *Ahmad* *ʕalina* *min nafsah*
 change.3.SG.M Ahmad to us from himself-RPP
 ‘Ahmad changed himself to us.’

The sentence in (15) exemplifies the verb *tiyaiyyar* in the middle voice whose lexical entry is given in (17). In contrast, the sentence (16) is not considered a middle voice instance since the verb here takes a nonaffected agent subject.

(17) $\left[\begin{array}{l} \textit{word} \\ \text{PHON} <tiyaiyyar> \\ \\ \text{MORPH} \left[\begin{array}{l} \text{ROOT} <y,y,y,r> \\ \text{PATTERN} <t,i,f,a,\textit{a},\textit{a},l> \end{array} \right] \\ \\ \text{SYNSEM} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \textit{verb} \\ \text{INT+} \\ \text{VFORM} \textit{fin} \end{array} \right] \\ \\ \text{VALENCE} \left[\begin{array}{l} \text{SUBJ} <[1]> \\ \text{COMPS} \diamond \end{array} \right] \end{array} \right] \\ \\ \text{ARG-ST} [1]\text{NP}<[\text{AFFECTED+}], [\text{AGENT-}]> \end{array} \right]$

Given this, we can recap the essential information for middle voice verbs in NA as shown in (18). The entry (18) summarises the properties and constraints, shared by all the NA middle voice verbs addressed in this section, that cannot be overridden or underspecified.

(18) $\left[\begin{array}{l} \textit{word} \\ \text{PHON} <xxxx> \\ \\ \text{MORPH} \left[\begin{array}{l} \text{ROOT} <x,x,x> \\ \text{PATTERN} <ʔ,i,n,f,i,\textit{a},l>, <ʔ,i,f,t,a,\textit{a},l> \text{ or } <t,i,f,a,\textit{a},\textit{a},l> \end{array} \right] \\ \\ \text{SYNSEM} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \textit{verb} \\ \text{INT+} \\ \text{VFORM} \textit{fin} \end{array} \right] \\ \\ \text{VALENCE} \left[\begin{array}{l} \text{SUBJ} <[1]> \\ \text{COMPS} \diamond \end{array} \right] \end{array} \right] \\ \\ \text{ARG-ST} [1]\text{NP}<[\text{AFFECTED+}], [\text{AGENT-}]> \end{array} \right]$

So far, we have employed the HPSG theory by means of lexical entries to generate all the possible forms of middle voice verbs in NA. We can apply the entry in (18) to any possible middle voice verb, provided that appropriate phonological and morphological information is added and the constraints shown in this entry are met. For instance, the sentences shown in (19-24) are all headed by middle voice verbs that match the summarising entry in (18).

- (19) *ʔinfitaħ* *l-ba:b*
 open.3.SG.M DEF-door
 ‘The door opened.’
- (20) *ʔingitʕaʕ* *l-ħabil*
 broke.3.SG.M DEF-thread
 ‘The thread broke.’
- (21) *ʔirtafaʕ-at* *ħarartah*
 increase.3.SG.F his temperature
 ‘His temperature increased.’
- (22) *ʔiftayal* *l-tiʕfizu:n*
 turn on.3.SG.M DEF-television
 ‘The television turned on.’
- (23) *tiyaɪyyar* *l-ʒaw*
 change.3.SG.M DEF-weather
 ‘The weather changed.’
- (24) *tikawwam* *l-ybar*
 gather.3.SG.M DEF-dust
 ‘The dust gathered.’

B. Phrasal Level

The previous subsection has explored middle voice verbs at the lexical level and addressed their intrinsic and selectional linguistic properties. This subsection, in turn, attempts to analyse the constructions in which such verbs occur.

Analysing the middle voice constructions within the framework of transformational approaches has been criticised as being insufficiently informative to reasonably account for the aspects of these constructions (e.g., Abraham, 1995; Ackema & Schoorlemmer, 1994; Fagan, 1992). As alternatives, linguists have considered lexical and non-transformational approaches to analysing middle voice constructions.

In 1987, Pollard and Sag proposed a non-transformational constraint-based approach that considers some of the derived syntactic structures constructed by lexical rules, such as the English passive voice. In this approach, the analysis of the passive voice involves the notion of the logical subject demotion within HPSG without relying on syntactic movement. The analysis is based on the assumption that passivisation targets the first member of a SUBCAT list⁷ and either removes it or, optionally, places it at the end of the list within a prepositional phrase, as in *done by John* (Pollard & Sag, 1987, p. 215). This approach is also known as the noncanonical linking analysis of passives. This identification arises from the analytical principle that the passive voice’s initial argument is not the logical subject, which means it cannot be an actor. This, in turn, violates the linking constraint of the ACT value to the first element of the ARG-ST list in HPSG (Davis et al., 2021).

Pollard and Sag’s (1987) analysis of the English passive voice can be considered when analysing middle voice constructions in NA, although some concerns should be highlighted. It is generally assumed that the passive and middle voices share the same feature of not allowing the logical subject in the sentence-initial NP. However, as we have already noted, the English passive voice has the potential to present the logical subject in the end as a PP (*by phrase*). The middle voice constructions of NA, in contrast, prevent the presence of the logical subject in any position in the sentence. Based on this, some aspects of Pollard and Sag’s (1987) approach to the English passive voice may not be applicable to the analysis of the middle voice in NA.

In later work, Pollard and Sag (1994) presented the HPSG structure-sharing as an alternative to syntactic movement analysis. Movement in syntax is generally obtained to transfer certain information. For example, the movement of the object in passivation to the subject position (sentence-initial NP) is assumed based on the fact that certain crucial properties of the object are shown in the subject, besides having a null (empty) object position (Pollard & Sag, 1994). This issue is processed in HPSG by using the sharing structure mechanism, in which certain objects (substructures) share an information structure using their token identities, which is shown in the ARG-ST.

For the analysis of the middle voice, two possible accounts have been proposed for the realisation of middle voice constructions. One is that the middle voice has an implied controller, originally presented as the logical subject. In this case, the logical subject is removed, following Pollard and Sag’s (1987) approach, to satisfy the [AGENT-] requirement of the middle voice. Then, the object shares the information (*to become*) of the grammatical subject by adopting the structure-sharing mechanism, and no syntactic movement is involved. Another possible account is that some middle voice constructions express a spontaneous event (also referred to as anticausative, which is commonly linked cross-linguistically

⁷ Here, in this version of HPSG, the SUBCAT feature replaces the ARG-ST, which marks the valence structure of a sign (word or a phrase), which more precisely displays the verb’s arguments (subject, direct object, indirect object, etc.).

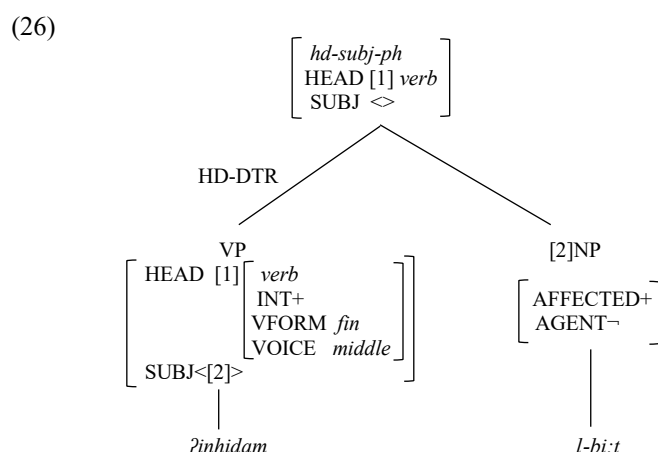
to the middle voice), which implies that no implied controller is obtained. Unlike the former account, here, the subject is not removed and remains a non-agent subject. This case very clearly demonstrates that the subject is in its basic position and maintains its distinctive features of the middle voice, [affected +] and [AGENT-].

Given this, together with the analysis of the head middle voice verbs discussed in subsection [A], we can summarise the account of middle voice constructions in NA as follows:

- Only one argument should be included in the ARG-ST.
- Subjects must satisfy the constraint of agent prevention [AGENT-].
- The logical subject, if any, is suppressed.
- The head verb must assign the [affected+] feature to its subject.
- There is a tendency to have an intransitive structure that is headed by an inflected verb (that follows a certain set of patterns).

We can also conclude from the above points that sentences in which middle voice verbs occur are analysed in HPSG as instances of the type *hd-subj-ph* since such sentences are composed of a head verb and a subject, with no complement. What has been discussed so far can be illustrated in (26) which shows the structure of the sentence (25). Note that the feature VOICE is introduced here to identify for the voice category of these constructions as *middle*.

(25) *ʔinhidam l-bi:t*
collapse.3.SG.M DEF-house
'The house collapsed.'



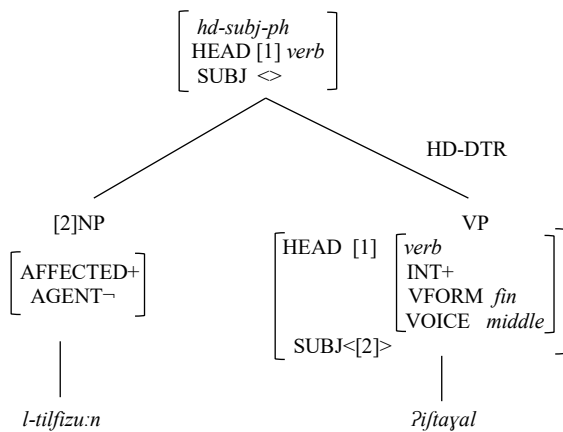
The basic structure of the middle voice in (26) indicates that this verb-initial sentence is of the type *hd-subj-ph* and it has a VP head daughter (*ʔinhidam*) and an NP non-head daughter (*l-bi:t*) which functions as the subject of the head daughter. This structure also shows that the head daughter (HD-DTR) is an intransitive finite verb. The feature VOICE, on the other hand, indicates that the verb is in the middle voice. Furthermore, the structure here shows that this head verb has only one argument, which is its subject. The subject, in turn, is analysed as an NP carrying the two distinct features required in middle voice constructions: [AFFECTED+] and [AGENT-].

As discussed earlier, the constructions of the middle voice can involve one of two non-transformational accounts in NA. The example in (26) appears to follow the first account, as there is a possibility of engaging an implied controller. This possible controller may be removed from the ARG-ST, after which the object takes its place to become the grammatical subject. Here, two steps are included in the non-transformational analysis: (a) removing the subject and (b) sharing information of the object.

It is worth noting here that the constructions of the middle voice in NA do not reflect sensitivity to a specific word order structure (VS or SV). Thus, having either a verb or a subject in the initial position is acceptable and does not violate any constraint. This characteristic is shown in (28) which presents the structure of the subject-verb (SV) sentence in (27).

(27) *l-tilfizu:n ʔiftayal*
DEF-television turn on.3.SG.M
'The television turned on.'

(28)

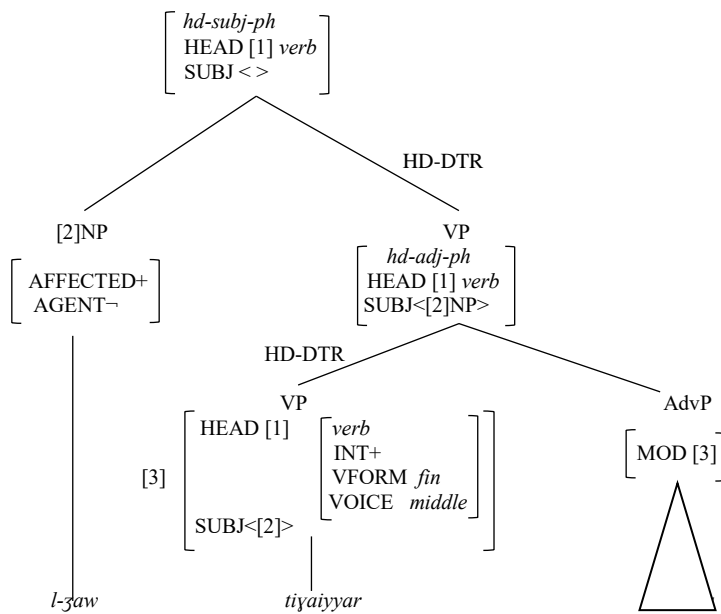


In HPSG, English subject-initial sentences are almost always seen as instances of *hd-subj-ph*. One might ask whether the preverbal NP in (28) is essentially a subject and whether it can be characterised as a *hd-subj-ph*. In his analysis of Arabic, Fassi Fehri (1993) assumes that both the preverbal and postverbal NPs in similar constructions to be subjects. Also, Althawab (2022) argues that a subject-initial sentence in NA is an instance of the type *hd-subj-ph*. Accordingly, it can be concluded that, regardless of the word order, the middle voice constructions in (26) and (28) entail the same phrasal type (*hd-subj-ph*).

It should be noted that the head middle voice verb can be modified by an additional element such as a PP or an adverbial phrase (AdvP) as exemplified in (29). In this case, the head daughter will be of the type *hd-adj-ph* as shown in (30).

(29) *l-3aw tiyaiyyar ʕind-ina*
 DEF-weather change.3.SG.M with-us
 ‘The weather changed here.’

(30)



The *hd-subj-ph* sentence in (30) includes two parts: a VP HD-DTR *tiyaiyyar ʕindina* ‘changed here’ and a non-HD-DTR, which is the NP subject *l-3aw* ‘the weather’. The VP itself comprises the HD-DTR *tiyaiyyar* and the adverbial phrase *ʕindina*. According to Abeillé and Borsley (2021), VPs modified by adverbs or PPs are usually presented as an instance of the head-adjunct phrases (*hd-adj-ph*). Thus, the VP *tiyaiyyar ʕindina* here is analysed as a *hd-adj-ph* that consists of the head VP *tiyaiyyar* and the adjunct AdvP *ʕindina*. In HPSG, the relationship between adjuncts and what they modify is expressed via the feature MOD, as shown in (30). Here, the tag number [3] serves as a link between the VP and its modifier to show the adverbial modification relation.

The example in (30) appears to describe a spontaneous (anti-causative) event, and thus, the logical subject or controller is null. In other words, the grammatical subject here is essentially a non-agent argument that is placed on the ARG-ST list along with the features [affected+] and [AGENT-]. This characterisation is also supported by Davis et al.’s (2021)

assertion that the agent argument is assumed to be presented in the ARG-ST list of the passive verb; however, it cannot do so in the middle voice verb. Hence, the middle voice example here aligns with the second analytical account.

Cross-linguistic research has demonstrated a close relationship between the existence of middle voice constructions and adverbs. Fagan (1992), among others, has argued that middle voice constructions in languages like English and German require the insertion of additional adverbs. This view is based on the assumption that the middle voice involves a generic interpretation, and thus, to be more informative, the middle voice head verb is required to license an adverb. However, this view is considered to be an overgeneralisation, as there are many examples of middle constructions that have been presented without the adverbial modification, as stated by Steinbach (2002). This view can be examined in NA middle voice by considering the example in (30), in which the adverbial modification functions as an informative operator by providing more detailed information. However, this adverb is not an essential element in middle voice construction, which is why it is analysed as an adjunct. The use of the adverb here is optional, and the middle voice example can stand without the insertion of any adverb as shown by the grammaticality of the examples other than (30).

V. CONCLUSION

This paper investigates the middle voice as one of the marked voice categories in NA, an underexamined context in linguistic research. It contributes to the ongoing debate of this voice by providing a description and analysis of the underlying linguistic properties of the middle voice supported by empirical evidence from an Arabic variety (NA).

The discussion of the NA data reflects that middle voice constructions primarily tend to have an intransitive structure, which signifies a low valency of the middle voice verbs. The discussion also reveals that the head verb of the middle voice is constrained to the past tense in NA. Using the constraint-based approach of HPSG, the paper also attempts to theoretically account for the underlying linguistic properties of the middle voice in NA. The analysis considers the essential and selectional properties of the middle voice verb, including [INT+] and VFORM *fin*. The head verb is assumed to assign the subject-affectedness feature to its subject to satisfy the feature [affected+]. It also demonstrates that middle voice subjects share the constraint of agent prevention since subjecthood is eliminated in middle voice constructions. This supposition is supported by Davis et al.'s (2021) assertion that the middle voice verb does not allow the assignment of an agent role to its subject in the ARG-ST list.

Two possible accounts for middle voice constructions are proposed. The first accounts for cases of the middle voice in which there is an expressed controller that is removed and is merely implied in middle voice constructions. This account adopts the notion of subject demotion from Pollard and Sag's (1987) approach to satisfy the [AGENT-] requirement of middle voice, in addition to the structure-sharing mechanism. The second possible account suggests that some middle voice constructions have a spontaneous event with no expressed or implied controller. It has also been shown that middle voice constructions in NA are not sensitive to specific word order and that the middle voice head verb can be modified by an adjunct in NA, which is analysed as an optional informative operator using the feature [MOD].

ACKNOWLEDGEMENTS

The Researchers would like to thank the Deanship of Graduate Studies and Scientific Research at Qassim University for financial support (QU-APC-2025).

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