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Transitivity and Split VP Shells in Unaccusative Constructions. Evidence from Jordanian Arabic

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Abstract

The present study aims at providing a descriptive account of the unaccusative verbs in Jordanian Arabic dialect (henceforth, JA) in terms of Transitivity. It also aims at presenting empirical evidence to prove that a split projection analysis is appropriate for unaccusative predicates in JA in light of the Minimalist Approach (Chomsky, 1995, 2000). A sample consisting of 13 examples representing unaccusative constrictions in JA was collected from the daily utterances by the surrounding Jordanian family members, friends, and acquaintances or from the written comments posted by Jordanians in different Facebook pages. The findings of the study revealed that unaccusative constructions in Jordanian Arabic are alternating verbs. They are classified further into two subclasses; intransitive verbs which may have alternating transitive forms only with the use of the overt morphological markers, and intransitive verbs which may be of two forms; intransitive or transitive lexically i.e. without the use of any overt morphological markers. Furthermore, the findings showed that unaccusative constructions in JA are applied to the split hypothesis in that unaccusative verbs are presented in two VP shells; an outer vP and an inner VP shells. The pieces of evidence are based on the existence of the two internal arguments, the dual positions of the adverb of manner, and the account for the possibility of having two orders of the unaccusative's structure. The limitations of the study lie in the lack of the semantic analyses of the unaccusative verbs and the semantic conditions determining the possibility of having the alternating causative forms of unaccusative verbs in JA. Therefore, the study recommends conducting further research to investigate thoroughly the semantic conditions that determine the causative alternation for the unaccusative predicates in JA.

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Keywords: Jordanian Arabic, Minimalist Approach, Transitivity, Unaccusative, VP split.

Introduction

Verbs in terms of transitivity are of three types: intransitive, transitive, and ditransitive. Intransitive verbs have only one argument, transitive verbs have two arguments while ditransitive verbs have three arguments. Intransitive verbs are of two types based on the type of the argument it requires; unergative and unaccusative verbs. An unergative predicate requires an external argument which is theta-marked as AGENT

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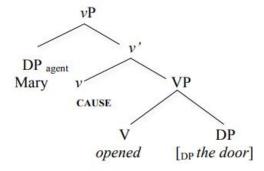
while unaccusative predicate requires an internal argument which is theta-marked as THEME. According to Perlmutter's Unaccusative Hypothesis (1978), unaccusative constructions are defined as constructions whose only argument is an internal argument (complement). Furthermore, the surface subject of the unaccusative verb is originally merged as an object where it is assigned a theta-role (i.e. THEME) and then moves to the specifier position (spec-T).

Li (1993) argued that unaccusative verbs involve the interpretation of manner of movement, motion, existence, or change in state or location from the semantic point of view. Let's consider the following example, several complications arose the verb arose is an unaccusative verb whose surface [QP] subject several complications is initially positioned as its [QP] complement where it is assigned its theta-role (THEME) as an object which subsequently moves to Spec- TP position. The initial complement position of several complications can be proved by the use of the non-thematic expletive there in the specifier position: There have arisen several complications (Radford, 2004).

Ouhalla (1999) mentioned that at the deep structure level, an unaccusative verb is a transitive verb whose only argument functions as an object i.e. thematic complement. He also explained that unaccusative verb does not have an external argument (i.e. thematic subject) which usually has the thematic role AGENT. Therefore, it loses its ability to assign a theta role to its thematic subject and subsequently cannot assign an accusative case to it. Therefore, it is called unaccusative. This goes in line with the Generalization of Burzio (1986) in which he indicated that the unaccusative verb lacks an external argument so that it fails to assign an accusative case to its complement (object), therefore, the object is forced to move to the subject position so that it is assigned its case. He adds that the verb which fails to assign an accusative case also fails to assign a theta-role (AGENT) to its external argument.

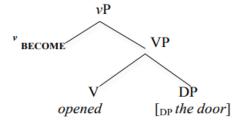
Hornstein, Nunes, and Grohmann (2005) and Redford (2009) stated that unaccusative predicates are predicates whose only arguments are internal (complements). They further point out that those verbs fail to assign an accusative case to their complements i.e. nominal DPs, therefore, they are assigned the nominative case instead. Redford (2009) stated that the complement nominal DPs of the unaccusative predicates assigned their nominative case via an agreement relation with the functional head T and this agreement results in the movement of the complement DP to spec-T position. He also suggested that the complement DP may remain in situ where the insertion of the expletive 'there' is satisfaction of the EPP feature.

Harley (2002) supposed that there are two types of little light 'v'; unaccusative which has the meaning of either become or happen and causative type which has the meaning of make, do, or cause. He added that the causative 'v' has both a transitive and unergative forms. Therefore, the semantic meanings of the little 'v' played a role in classifying its construction i.e. causative or unaccusative. Consider the following three examples along with their trees 1, 2, and 3 (cited in Al-Qadi (2015)):



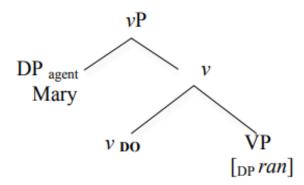
Tree 1: Structure of Mary opened the door

b. BECOME 'the door opened'



Tree 2: Structure of the door opened

c. vDo '(Mary) ran'



Tree 3: Structure of Mary ran

For instance, Koh (2007) provided an investigation of the possibility of the VP shells in the inchoative-causative verbs in Japanese based mainly on the semantic meanings of the little 'v'. The investigation revealed that there are two ways to form causative constructions in the Japanese language. The first is the use of the lexical construction without any morphological markers such as in the English counterpart *John stopped Mary* while the second way is to add an overt morphological causative marker 'sase' to the verb such as in the English counterpart *John made Mary stopped*. He added that not all causative constructions in Japanese apply to the VP shells theory. For instance, the lexical causative forms have only one VP shell and the little 'v' has the feature of cause while the unaccusative + morphological marker forms (syntactic form) have two VP shells and the 'v' has the features of both *cause* and *become*. Therefore, the semantic features of the little v are responsible for the existence of the split VP shells.

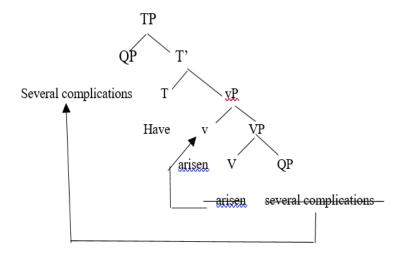
Furthermore, Adger (2003) demonstrated that the solo argument of the unaccusative verbs is assigned THEME theta role and it appears in the object position while it is assigned AGENT theta role in the unergative verbs. He added that unaccusative constructions are different from intransitive constructions in that little 'v' in unaccusative predicates do not have a specifier position. Therefore, this argument do not move to [Spec-v] position to receive its nominative case, instead, MP suggested another way of checking its case without affecting the underlying structure of unaccusative predicates.

Theoretical Background

Minimalist Approach and Split VP Hypothesis

The discussion of the current study is based on the Minimalist Program introduced by Chomsky (1995, 2000) and the Split (VP) Hypothesis introduced initially by Larson (1988) and then acquired by Burzio's Binding Theory (1986) followed by ongoing research regarding this topic e.g. Butt and Ramchand (2003); Vergnaud (2000); and Larson (2003). Minimalist Program proposes the optimal process of derivation through using the minimalist machinery tools needed for derivation. It indicates that language is composed of the lexicon and the computational system to connect between the derivation of sound and meaning. Minimalist Program supposes three operations for derivation; merge in which two syntactic elements are combined together to form a higher element in a binary branch, agreement to establish syntactic relations for case assignment and agreement, and finally movement.

On the other hand, (VP) shells hypothesis proposed by Larson (1988) indicates that all verb constructions are represented in two VP shells. Since the concern of this study is the unaccusative verbs, the following brief discussion shows the split VP construction in unaccusative predicates. Radford (2004) illustrates that the unaccusative constructions are represented at the underlying level to have two (VP) shells: An inner VP shell headed by a lexical verb (unaccusative) which is positioned as a complement of an outer VP shell headed by a strong affixal light verb. The unaccusative sole argument is an internal argument which originates as the complement of the lexical verb (V). The unaccusative verb (V) then moves to adjoin the light verb (v) which has a strong 'v' feature. The internal argument receives its nominative case through the agreement relation with the head T and then it moves to spec-T to value the unvalued EPP feature of T. In some cases, the complement argument received its Nominative case in *situ* and it does not move to the spec-TP position as is mentioned in the discussion section below. Tree 4 represents the VP shells of the English sentence *Several complications have arisen* (Radford, 2004).



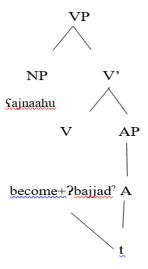
Tree 4. VP shells for Several complications have arisen

Accordingly, the current study adopted the framework of Larson (2003); Larson (1988), Burzio's (1986), Vergnaud (2000) and Butt and Ramchand (2003) to investigate the unaccusative verbs in Jordanian Arabic dialect. That is, unaccusative verbs in Jordanian Arabic are applied to the split VP projection i.e. having two VP shells; an inner vP shell which has a little light v and an outer VP shell which has V.

Keeping in view the above-mentioned debate, the current study aimed to provide a descriptive investigation of the behavior of unaccusative verbs in Jordanian Arabic dialect in terms of transitivity. It also aimed to provide pieces of evidence to prove that unaccusative verbs in the Jordanian dialect are applied to verb split projection i.e. having two VP shells; vP + VP.

Review Of Related Literature

Unaccusative verbs in Arabic language have been discussed from different points of view. This type of verbs has attracted the attention of different scholars to be discussed in Arabic in its different dialects or varieties e.g. classical Arabic, Modern Standard Arabic, Egyptian dialect, and Jordanian Dialect. For example, Baker (2003) discussed the syntactical structure of unaccusative verbs in Modern Standard Arabic. He suggested that the unaccusative verb $\mathcal{H}bijad^cd^cat$ became white in $\mathcal{H}bijad^cd^cat$ sajnaahu haziinan, 'His eyes became white because of sorrow' is a non-verbal predicate which composes of a functional predicate (become) and adjectival phrase AP (white). Baker indicates that it is assigned its thematic role (THEME) in two different ways; the verb assigns it inside the VP while the adjective assigns the theta role of THEME outside the VP i.e. the verb has two events structures; one for the cause (Become) and the other for state (AP). AlDobaian (2006) explained the production of the unaccusative verb's structure as follows; the verb $\mathcal{H}bijad^cd^cat$ is derived by the merging (conflation) of the adjective $\mathcal{H}bijad^cd^cat$ with the functional verb 'became' to produce $\mathcal{H}bijad^cd^cat$ which consequently have a descriptive lexical content. (See Tree 5)



Tree 5. Structure off Abjjad dat

However, Al-Dobaian (2006) provided pieces of evidence from Modern Standard Arabic to defend Baker's suggestion that unaccusative verbs in Arabic are not functional adjectival predicates. Al-Dobaian also claimed that unaccusative verbs and functional adjectives are different syntactic structures and the conflation does not always apply to all adjectives or verbs. He also pointed out that the functional predicates may have lexical content without the need of the conflation with the adjectives. Some of these predicates which have lexical content are *kaan* 'was', *jakuun* 'is', *and sajakuun* 'will be' (Al-Dobaian, 2006).

From the morphosyntactic point of view, Hallman (2006) examined the syntax of the transitivity or causativity of unaccusative verbs in Arabic language. He suggested that the causative transitive counterparts of unaccusative verbs are formed through a morphosyntactic process. He also pointed out that unaccusative predicates like $\partial aaba$, 'melted' is a simple VP because it has one VP shell whereas their causative counterpart e.g. $ju\partial iib$, 'someone melted something' is presented by two VP shells (VP split). Al-Khawalda (2011) conducted a study to stand against the claim that Arabic does not have unaccusative verbs similar to English. He refuted such claim by providing a list of the unaccusative verbs in Modern Standard Arabic accompanied by a thorough explanation of their deep structures. Al-Khawalda (2011) also provided pieces of evidence to prove that this type of verbs has only one argument which is internal and it is different from intransitive verbs. Examples of the evidence were: the use of passive counterparts, the existence of the transitive counterparts, and the insertion of there.

Furthermore, unaccusative verbs in Jordanian Arabic have been discussed from the syntactic point of view by Mohsen (2014) in her Master thesis. She examined the A-movement of the unaccusative verbs in JA. She indicated that the unaccusative verbs in JA select only internal arguments although the surface structure of the unaccusative predicates is [DP V] in JA. Therefore, the internal argument moves from the complement position to the specifier position [spec-TP]. She justified this movement to say that the internal DP moves to satisfy the EPP feature of (T). She also supposed that this movement is preceded by the operation of agreement between the T head and the complement DP.

Mahmoud Abdel Wahed (2021) investigated the different trilateral four forms of the verbs that share the typical characteristics of the unaccusative verbs in Classical Arabic. Through their discussion using trees diagrams, Mahmoud Abdel Wahed (2021) also indicated the universality of the argument structure and the VP shells hypothesis are both applied to Classical Arabic and English languages. The forms are: fa?ala (e.g. dyamada (freez), saa?a (becomes bad)), fa?ila (e.g. fariħa (becomes happy), ħazina (becomes sad)), fa?ula (e.g. hasuna (to be handsome), ?af?ala (e.g. ?aemara (brings fruit)), and ?if?alla (e.g. ?iħmara (to be red)).

Alonini (2022), on the other hand, provided a discussion for the unaccusative predicates in Modern Standard Arabic on the basis of the Minimalist Program. In her discussion, Alonini argued that unaccusative verbs in MSA have only one argument i.e. complement that is theta- marked as THEME. She also suggested that the THEME argument receives its nominative case without the movement to [Spec-vP] position. Instead, it receives its Nominative case in situ i.e. [V NP/DP] through the Locality of Matching between the internal argument and the head T. In other words, the complement of the unaccusative verb is assigned its [Nom] case through the agreement between the head T and the complement NP because of the absence of any intervening NPs between the head T and the internal argument NP.

Regarding the transitivity of the unaccusative verbs, several researchers have suggested that unaccusative verbs are intransitive verbs which may have a transitive variant with or without any morphological modifications occurred to the intransitive variant. For instance, Levin and Rappaport Hovav (1995) suggested that unaccusative predicates are of two sub classes. The first is the alternating causative (dyadic) verbs which require a sole internal argument. This means that this class has transitive counterparts such as the verbs: break, sink, dry, and open. For instance, the unaccusative verb open can be either intransitive or transitive such as in The door opens or John opens the door, respectively without the use of any overt markers.

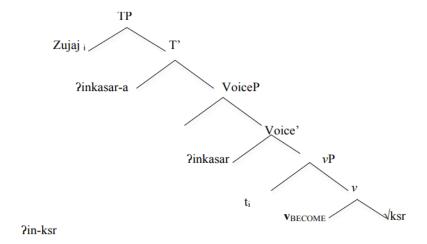
The second class is called intransitive unaccusative verbs which do not have an alternative transitive variant. For example, it is ungrammatical to have transitive variants of the verbs *die*, *disappear*, *and vanish* such as *John dies* but it is not grammatical to say **Charles dies John*. Grahek (2002) also supported Levin & Rappaport Hovav's (1995) classifications of unaccusative verbs in the Slovene language. Grahek (2002) found that in Slovene, unaccusative predicates may be of two forms; transitive and intransitive. He also suggested that the transitive form is the basic form of such verbs and the morphological marker *se* is used to change the unaccusative verb from a transitive form to an intransitive form. He added that this class of unaccusative predicates i.e. transitive causative forms can be passivized.

Moreover, Al-Khawalda (2011) argued that unaccusative verbs in MSA can have either an intransitive or a transitive form without any morphological derivations and they accept the insertion of the external arguments. For example, the verb jaylii 'boils' can be intransitive such as in 2almaa2u jaylii 'The water boils' or transitive such as in 2alwaldu jaylii 2almaa2a 'The boy boils the water'. He also suggested that all unaccusative verbs in MSA Arabic belong to this category and they consequently have passive counterparts. One of the interesting example that Al-Khawalda mentioned in his study was the verb was^ala 'arrived'. Al-

Khawalda classified this verb under the intransitive verbs rather than unaccusative verbs. However, in this study, the verb was^cala is considered as an unaccusative verb and its transitive counterpart can be derived through a morphological process.

Most recently, Al-Qadi (2015) in her doctoral thesis drew a comparison between English and Arabic in terms of the alternation of the unaccusative verbs to causative forms in MSA. Al-Qadi proposed that all change of state intransitive verbs such as run, dance, and laugh in MSA can have causative forms with the use of overt morphological markers. Thus, the forms of the intransitive verbs appear in the two following causative forms; (fassala such as in farraha 'made someone happy') and (fassala such as fassala 'made someone happy'). Her dissertation's focus was on the possibility of the alternation of unergative and intransitive Arabic verbs into causative forms. She mentioned that contrary to English, Arabic has alternated causative forms of unergative verbs such as d^2ahika 'He laughed' can be causative such as in fassala Khaled Ali 'Khaled made Ali laugh'.

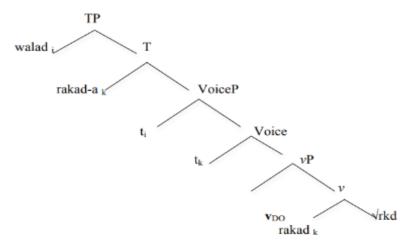
Al-Qadi (2015) explored the syntactic structures of unaccusative verbs by adopting the VP shells hypothesis; an outer VoiceP and an inner vP shells. For instance, she provided a syntactic derivation of change of state verb that has the meaning of become e.g. ?inkasara 'it broke' such as in ?inkasara al-zudʒadʒu 'The glass broke'. (See Tree 6)



Tree 6. Structure of Pinkasara al-zudzadzu

The verb <code>?inkasara</code> 'broke' has only one [DP] argument which is <code>al-zudʒadʒu</code> 'The glass'. The root k-sr adjoined the v head to form a verb i.e. <code>kasara</code> and then it is merged with the morpheme <code>?in</code> which is responsible for deriving the verb which carries the semantic meaning of BECOME to form voice head. The DP moves to [Spec-T] to check its nominative case through agreement relation.

Al-Qadi (2015) also provided a syntactic derivation of the verb that has the meaning of DO such as $rakad^{\varsigma}a$ 'He ran' such as in $rakad^{\varsigma}al$ -waladu 'The boy ran'. (See Tree 7)



Tree 7. Structure of rakad $^{\varsigma}$ al-waladu

The root r-kd is merged with a verb head to form the intransitive verb rakad $^{\varsigma}a$ then it moves to voice head to choose the appropriate vowel melody. After that, it is moved to T head. The [DP] is inserted in [specvoice] and then moves to [Spec-TP] to check its nominative case.

According to what has been mentioned earlier, most studies attempted to describe the semantic or syntactic behavior of unaccusative verbs in different languages or dialects including English, Japanese, Slovene, Modern Standard Arabic and Classical Arabic. However, the current study is different from the previous literature in that it provides further investigation of unaccusative predicates in the Jordanian Arabic dialect regarding its transitivity. It also attempts to provide evidence to prove that this type of verb construction is applied to VP shells Hypothesis suggested by Larson (2003); Larson (1988) and then by Butt and Ramchand (2003) on the basis of the Minimalist Program introduced by (Chomsky, 1995, 2000).

Method

• Research Design

The current study is a descriptive qualitative based-study. It seeks to provide a thorough description of the syntactic behavior of the unaccusative verbs in JA. It also presents comprehensive qualitative data including sufficient examples from JA along with their structural trees to give evidence for the applicability of the VP shells hypothesis to unaccusative verbs in JA.

• Sampling and Research Procedure

The sample of the study consisted of 13 examples collected from Jordanian Arabic dialect. For the first subsection of the discussion which is concerned with describing the syntactic behavior of unaccusative predicates in JA in terms of its applicability of causativity, each example included one unaccusative verb presented as follows: in VSO order, in SVO order, in a passive form, and in a causative alternative form. For the second subsection which is concerned with providing evidence for the applicability of unaccusative verbs in JA to the VP shells hypothesis, three pieces of evidence are provided, one example is provided for each and represented with a sufficient tree.

• Data collection Procedure

This study is a descriptive qualitative study that seeks to discuss and analyze different examples of unaccusative verbs in JA. The 13 examples and their variants were collected from the spontaneous speeches of the surrounding friends, colleagues, and relatives and from the written comments posted by Jordanians in Facebook on different Facebook pages discussing news concerning the Jordanian community. The data was then presented to ten Jordanian Arabic-speaking adults who are PhD holders in Linguistics to judge the existence, use, and the grammaticality of the target constructions and examples used in the study.

• Data Analysis Techniques

The data of the study was analyzed and discussed in two separate sections. The first section aimed to classify the JA unaccusative verbs into two sub classes in terms of transitivity. The first class represents the unaccusative intransitive verbs that may have transitive variants through a morphological derivational process. The second class represents the unaccusative verbs that have either an intransitive or a transitive form without any morphological markers provided with sufficient examples. The second section aimed to provide pieces of evidence to prove that unaccusative verbs in JA are applicable to VP shells hypothesis. The pieces of evidence used in this study are; the existence of two complements, the dual positions of an adverb of manner and the SVO order of the unaccusative predicates.

Results And Discussion

Transitivity of Unaccusative Verbs in JA

This study has discussed different types of the unaccusative verbs in JA dialect in terms of transitivity or causativity. It has been argued that although the unaccusative verbs in the Jordanian dialect belong to the intransitive class of verbs, they are considered alternating transitive verbs. That is, the unaccusative verbs have transitive variants but in two different cases. Therefore, those verbs can be classified into subclasses. In the first class, the transitive variants are derived through morphological derivations while in the second class, the verbs may be in the two forms without any morphological derivation.

To begin with the first class which represents the intransitive unaccusative verbs that can be alternated into a transitive form by the overt morphological markers. That is to say, the unaccusative verb in this class has two different forms; intransitive and transitive forms. To begin with the intransitive form, it has only one argument i.e. an internal argument which is theta-role marked as THEME because it is affected by the action and thus cannot be the AGENT. This argument receives its Nominative case though the case marker does not overtly appear on the argument in the JA dialect. This intransitive unaccusative form does not accept the insertion of any external arguments and cannot be passivized.

Let's consider the following examples from 1 (a, b) to 12 (a, b) which show the unaccusative verbs in JA in two orders; VSO and SVO, respectively. However, the examples from 1 (c,d) to 12 (c,d) show the ungrammaticality of the insertion of an external argument to the intransitive unaccusative verbs in JA in the two orders; VS and SV, respectively.

1. (a) maat ?ilkalb

die-past-3SM The dog-3SM-NOM

'The dog died'

1. (b) ?ilkalb maat

dog-3SM-NOM die-past-3SM

'The dog died'

1. (c) maat ?ilwalad ?ilkalb*1

die-past-3SM The boy-3SM- NOM The dog-3SM-ACC

'Khaled died the dog'

1. (d) ?ilwalad maat ?ilkalb*

The boy- 3SM- NOM die-past-3SM The dog-3SM-ACC

'Khaled died the dog'

2. (a) wigis ?ilħaʤar

fall-past-3SM The stone-3SM-NOM

'The stone fell'

2. (b) ?ilħaʤar wigi?

The stone-3SM-NOM fall-past-3SM

'The stone fell'

2. (c) wigis ?ilwalad ?ilhad;ar*

fall-past-3SM The boy-3SM-NOM The stone-3SM-ACC

'The boy fell the stone'

2. (d) ?ilwalad wigi? ?ilħaʤar*

The boy-3SM -NOM fall-past-3SM The stone-3SM- ACC

'The boy fell the stone'

3. (a) daab ?ieeldz

melt-past-3SM The snow-3SM-NOM

'The snow melted'

3. (b) ?ieeldz ðaab

The snow-3SM -NOM melt-past-3SM

'The snow melted'

3. (c) ðaab ?ilwalad ?ieeldz*

melt-past-3SM The boy-3SM –NOM The snow-3SM-ACC

'The boy melted the snow'

3. (d) ?ilwalad daab ?ieeldz*

The boy-3SM -NOM melt-past-3SM The snow-3SM-ACC

'The boy melted the snow'

4. (a) nisif ?is sahin

dry-past-3SM The dish-3SM-NOM

'The dish dried'

4. (b) ?is^saħin niʃif

The dish-3SM-NOM dry-past-3SM

'The dish dried'

4. (c) nisif ?ilwalad ?issahin*

dry-past-3SM The boy-3SM-NOM The dish-3SM-ACC

'The boy dried the dish'

4. (d) ?ilwalad niʃif ?isˤsʿaħin*

The boy-3SM-NOM dry-past-3SM The dish-3SM-ACC

'The boy dried the dish'

5. (a) nigis ?il s^{ς} ?il s^{ς} iir

decrease- past-3SM The juice-3SM-NOM

'The juice decreased'

5. (b) ?ilsas iir nigis

The juice-3SM-NOM decrease-past-3SM

'The juice decreased'

5. (c) nigis ?ilwalad ?il ssiir*

decrease-past-3SM The boy-3SM- NOM The juice-3SM-ACC

5. (d) ?ilwalad nigis ?ilsas iir*

¹These sentences with (*) are ungrammatical in JA.

The boy-3SM- NOM decrease-past-3SM The juice-3SM-ACC

'The boy decreased the juice'

6. (a) yirig ?ilqaarib

sink-past-3SM The boat-3SM-NOM

'The boat sank'

6. (b) ?ilqaarib yirig

The boat-3SM-NOM sink-past-3SM

'The boat sank'

6. (c) yirig ?ilwalad ?ilqaarib*

sink-past-3SM The boy-3SM - NOM The boat-3SM-ACC

'The boy sank the boat'

6. (d) ?ilwalad yirig ?ilqaarib*

The boy-3SM- NOM sink-past-3SM The boat-3SM-ACC

'The boy sank the boat'

7. (a) wisfil ?ilwalad

arrive-past-3SM The boy-3SM-NOM

'The boy arrived'

7. (b) ?ilwalad wis'il

The boy-3SM-NOM arrive-past-3SM

'The boy arrived'

7. (c) wis'il ?il?um ?ilwalad*

arrive-past-3SM The mother-3SF-NOM The boy-3SM-ACC

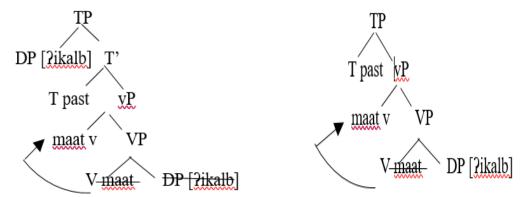
'The mother arrived the boy'

7. (d) ?il?um was^clat ?ilwalad*

The mother-3SF-NOM arrive-past-3SF The boy-3SM-ACC

'The mother arrived the boy'

These examples (1(a) -7(a)) and (1(b)- 7(b)) present intransitive unaccusative verbs in Jordanian Arabic. These examples reveal the following: First, unaccusative verbs in JA has only one argument i.e. internal and is theta-marked as THEME because this argument is not the active AGENT of these verbs i.e. does not have the control over the actions. Instead, it has affected by the action. The internal argument is merged initially in the complement position of VP i.e. [V DP]. The content (V) lacks its ability to assign accusative case so the internal argument receives its Nominative case from the feature evaluation with the head T which has unvalued number and person features but a valued Nominative case. Then, the complement DP (in the examples mentioned earlier) moves to [Spec-TP] to value the EPP feature of (T) in the-surface SVO order e.g. 2ilkalb maat 'The dog died'. However, in the case of the surface VSO order maat 2ilkalb 'The dog died', the head T does not have an EPP feature so the DP [2ilkalb] does not move to [Spec-TP] position. (See trees 8 and 9, respectively)

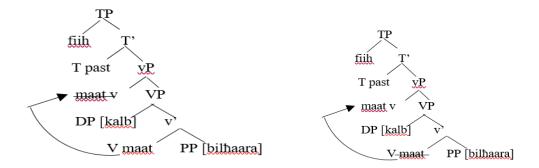


Tree 8. Structure of SVO order for 2ilkalb maat

Tree 9. Structure of VSO order for maat 2ilkalb

The pieces of evidence which prove that the original position of the internal argument is the complement of VP are; first, the insertion of an external argument (AGENT) to the above examples make them ungrammatical either in the VSO order (see examples 1(c)-7 (c)) or in SVO order (see the examples 1 (d)-7 (d)) such as in examples 1(c) ?ilwalad maat ?ilkalb 'The boy died the dog' and 1 (d) maat ?ilwalad ?ilkalb 'The boy died the dog'.

Second, unlike the AGENT argument, the insertion of the expletive there in JA (i.e. *fiih*) is grammatical in the above examples. For instance,in the examples *fiih kalb maat bilhaara* 'There died a dog in the neighborhood' or *fiih maat kalb bilhaara* 'There died a dog in the neighborhood', the Jordanian expletive *fiih* comes before the internal argument *kalb* in both SVO and VSO orders, respectively. This proves that the expletive *fiih* is positioned in a Spec-TP position and the internal argument *kalb* remained in situ i.e. specposition of VP position. (See trees 10 and 11)



Tree 10. Structure of fiih kalb maat bilhaara

Tree 11. Structure of fiih maat kalb bilhaara

The intransitive unaccusative verbs mentioned earlier (i.e. *maat* 'died', ðaab 'melted', ɣirig 'sank', wis'il 'arrived', nigis' 'decreased', wigis' 'fell', and niʃif 'dried') do not undergo passivization process. This means that these verbs do not accept the insertion of passive particles (?it or ?in) used in JA to form passive constructions. For instance it is ungrammatical to say the following examples (1(e)- 7(e))in JA:

1.(e) ?inmaat ?ilkab or ?itmaat ?ilkab* die-past- passive-3SM The-dog-3SM-NOM 'The dog was died' 2. (e) ?inwigi\$?ilħaʤar* or ?itwigi\$?ilħaʤar*

2. (e) ?inwigi\$?ilhad;ar* or ?itwigi\$?ilhad;ar* fall-past-passive-3SM The-stone-3SM-NOM 'The stone was fallen'

3. (e) ?inð'aab ?ieealʤ* or ?itð'aab ?ieealʤ* melt- past-passive-3SM The-snow-3SM-NOM 'The snow was melted'

4. (e) ?inniʃif ?is's'aħin* or ?itniʃif ?is's'aħin* dry-past-passive-3SM The dish-3SM-NOM

'The dish was dried'

5. (e) ?innigis^c ?ilʕas^ciir* or ?itnigis^c ?ilʕas^ciir* decrease-past-passive-3SM The juice-3SM-NOM 'The juice was decreased'

6. (e) ?inyirig ?ilqaarib* or ?ityirig ?ilqaarib* sink-past-passive-3SM The boat-3SM-NOM 'The boa was sank'

7. (e) ?inwis'al ?ilwalad* or ?itwisal ?ilwalad* arrive-past-passive-3SM The boy-3SM-NOM 'The boy was arrived'

However, these unaccusative verbs have transitive forms in JA through a morphosyntactic derivational process to have the derivational form *fassal*. This transitive form is formed by adding the short vowel (a) after the first consonant and geminate the second consonant followed by the vowel (a) before the last consonant. These transitive verbs have the causality meaning and thus require an AGENT (the doer of the action) and a THEME. Consider the following examples (1 (f)- 7(f) and 1(g)- 8(g)) in VSO and SVO orders, respectively:

1. (f) mawwat ?ilwalad ?ilkalb die-past-3SM The boy- 3SM- NOM The dog-3SM-ACC 'The boy caused the dog to die'
1. (g) ?ilwalad mawwat ?ilkalb The boy-3SM-NOM die-past-3SM The dog-3SM-ACC 'The boy caused the dog to die'
2. (f) wagga\$?ilwalad ?ilhad;ar fall-past-3SM The boy-3SM-NOM The stone-3SM-ACC 'The boy caused the stone to fall
2. (g) ?ilwalad wagga\$?ilhad;ar

The boy-3SM-NOM fall-past-3SM The stone-3SM-ACC

'The boy caused the stone to fall

3. (f) d'awwab ?ilwalad ?ieeld3

melt-past-3SM The boy-3SM -NOM The snow-3SM-ACC

'The boy caused the snow to melt'

3. (g) ?ilwalad ð'awwab ?ieeld3

melt-past-3SM The boy-3SM -NOM The snow-3SM -ACC

'The boy caused the snow to melt'

4. (f) nassaf ?ilwalad ?is sahin

dry-past-3SM The boy-3SM -NOM The dish-3SM -ACC

'The boy caused the dish to dry'

4. (g) ?ilwalad naffaf ?is^saħin

The boy-3SM-NOM dry-past-3SM The dish-3SM-ACC

'The boy caused the dish to dry'

5. (f) naggas' ?ilwalad ?ilsas'iir

decrease- past-3rd-sing The boy-sing-NOM The juice-sing-ACC

'The boy caused the juice to decrease'

5. (g) ?ilwalad nigis^ç ?ilças^çiir

The boy-3SM-NOM decrease-past-3SM . The juice-3SM-ACC

'The boy caused the juice to decrease'

6. (f) yarrag ?ilwalad ?ilqaarib

sink-past-3SM The boy-3SM-NOM The boat-3SM-ACC

'The boy caused the boat to sink

6. (g) ?ilwalad yarrag ?ilqaarib

The boy-3SM-NOM sink-past-3SM The boat-3SM-ACC

'The boy caused the boat to sink

7. (f) was's'al ?il?ab ?ibnuh

A rrive-past-3SM The father-3SM-NOM His-son-3SM-ACC

'The boy caused his brother to arrive'

7. (g) ?il?ab was⁵s⁵al ?ibnuh

The boy-3SM-NOM arrive-past-3SM His-brother-3SM-ACC

'The boy caused his brother to arrive'

It is worth noting that the transitive causative verbs mentioned above can be passivized in JA. The passive forms are formed by adding the passive particle (?it) to these verbs and deleting the AGENT argument. Consider the following examples 1-7 (h):

1. (h) ?itmawwat ?ilkalb bissum

die-passive-past-3SM The dog-3SM-NOM By-poison

'The dog was died by the poison'

2. (h) ?itwaggas ?ilhadar bilbiir

fall-passive-past-3SM $\overline{}$ The stone-3SM -NOM into the-well

'The stone was fallen into the well'

3. (h) ?itð[°]awwab ?ieeldʒ

melt-passive-past-3SM The snow-3SM -NOM

'The snow was melted'

4. (h) ?itnafſif ?is^çs^çaħin

dry-past-passive-3SM The dish-3SM-NOM

'The dish was dried'

5. (h) ?itnaggas^ç ?ilsas^çiir minilkaasih

decrease- past-passive-3SM The juice-3SM-NOM from the glass

'The juice was decreased from the glass'

6. (h) ?ityarrag ?ilqaarib bilbaħar

sink-past-passive-3SM The boat-3SM-NOM in the sea

'The boat was sank in the sea'

7. (h) ?itwas $^{\varsigma}$ s $^{\varsigma}$ al ?il?ibin lilmadrasih

arrive-past-passive-3SM The-son-3SM-NOM To school

'The son was arrived to school'

It is worth mentioning that in the examples from (1(h)- 8 (h)), the internal arguments (THEME) appear in these causative transitive verbs are the same arguments appear in the intransitive unaccusative verbs in the examples (1(a)-7(a)). This proves that the only argument that unaccusative verb requires is a complement (i.e. internal argument which is theta-marked as THEME).

Now let's move to discuss the second subclass of unaccusative verbs in JA. This class of verbs can be of two different forms; intransitive or transitive form. That is to say, this class does not undergo any morphological modifications or derivational processes to form the transitive variant except to form the passive voice variant. In other words, the same form of the verb can be intransitive or transitive without any overt derivational suffixes or morphological markers. Let's consider the following examples (8-12 (a)) and 8-12 (b) in SVO and VSO orders, respectively.

8. (a) zaadat ?ilmaj bilbiir increase-past- 3SF The water-3SF- NOM in the well The water increased into the well'
9. (a) γalaa ?iʃʃaaj bilbriig boil-past-3SM The-tea-3SM- NOM in the kettle The tea boiled in the kettle'
10. (a) badaa ?inniqaſ strat-past-3SM The discussion-3SM-NOM The discussion started'
11. (a) ʃaaʕ ?ilxabar bilħaara spread-past-3SM The news-3SM-NOM in the neighborhood The news spread in the neighborhood'
12. (a) fataħ ?ibaab open-past-3SM The door-3SM-NOM The door opened'

The examples 8 (a) to 12 (a) show the intransitive form of the unaccusative verbs zaad 'increased', yalaa 'boiled', badaa 'started', faas' 'spread', and fath 'opened' in JA. It is quite clear that these verbs require only internal arguments (i.e. Thematic subjects); Pilmaj 'The water', Pissaj 'The tea', Pinnigas' 'The discussion', Pilxabar 'The news', and Pilbaab 'the door' because these arguments do not have the control over the actions. For instance, the water cannot be the actual doer of the action i.e. cannot increase itself without any effects of a doer. This can be clarified by the grammatical insertion of the expletive subject fiih 'There' in JA to these verbs. For instance, fiih majj zaadat bilbiir 'There increased water in the wall', fiih saaj yalaa bilbriig 'There boiled tea in the pot', fiih niqaas badaa 'There started a discussion', fiih xabar saa? bilhaara 'There spread news in the neighborhood', and fiih baab fatah 'There door opened' The insertion of the expletive there in the subject position demonstrates that the arguments appeared on these verbs are internal arguments i.e. THEME.

In contrast to the first class which has been discussed earlier, this class of unaccusative verbs can have transitive forms but without undergoing any overt morphological modifications. That is to say, these verbs can be transitive (i.e. causative) and having external arguments without any changes to their forms and remain grammatical. Consider the following examples (8 -12 (b) and 8- 12 (c)) in VSO and SVO orders:

8. (b) zaad ?ilwalad ?ilmaj bilbiir

increase-past-3SM The boy-3SM- NOM The water-3SF ACCU in the well

'The boy increased the water in the wall'

8. (c) ?ilwalad zaad ?ilmaj bilbiir

The boy-3SM- NOM increase-past-3SM The water-3SF- ACCU in the well

'The boy increased the water in the wall'

9. (c) yalaa ?ilwalad ?iffaaj bilbriig

boil-past-3SM The boy -3SM- NOM The-tea-3SM- ACC in the kettle

'The boy boiled the tea in the pot'

9. (d) ?ilwalad yalaa ?i∬aaj bilbriig

The boy -3SM- NOM boil-past-3SM The-tea-3SM- ACC in the kettle

'The boy boiled the tea in the pot'

10. (c) badaa ?ilwalad ?innigaſ

strat-past-3SM The boy -3SM- NOM The discussion- 3 SM-ACC

'The boy started the discussion'

10. (d) ?ilwalad badaa ?innigaf

The boy -3SM- NOM strat-past-3SM The discussion-3SM-ACC

'The boy started the discussion'

11. (c) ſaas ?ilwalad ?ilxabar bilħaara

spread-past-3SM The boy -3SM- NOM The news-3SM-NOM in the neighborhood-

'The boy spread the news in the neighborhood'

11. (d) ?ilwalad ʃaas ?ilxabar bilħaara

The boy -3SM- NOM spread-past-3SM The news-3SM-ACC in the neighborhood

'The boy spread the news in the neighborhood'

12. (b) fataħ ʔilwalad ʔilbaab

open-past- 3SM The boy -3SM- NOM The door-3SM- ACC

'The boy opened door'

12. (c) ?ilwalad fataħ ?ilbaab

The boy -3SM- NOM open-past-3SM The door-3SM- ACC 'The boy opened door'

Furthermore, this class of verbs can be passivized using the overt passive particle (?in) in JA without any other morphological modifications. See examples 8 (e) to 12 (e).

8. (e) ?inzaadat ?ilmaj bilbiir increase-past- passive-3SF The water-3SM -NOM in the well 'The water was increased in the wall' 9. (e) ?inɣalaa ?iʃʃaaj bilbriig boil-past-passive-3SM The-tea-3SM -NOM in the kettle 10. (e) ?inbadaa ?innigaʃ strat-past-passive-3SM The discussion-3SM -NOM 'The discussion was started' 11. (e) ?inʃaaʔ ?ilxabar bilhaara spread-past-passive-3SM The news-3SM -NOM in the nieghbourhood 'The news was spread in the neighborhood' 12. (e) ?infataħ ?ibaab open-past-passive 3SM The door -3SM -NOM 'The door was opened'

To conclude this section, following the Perlmutter's hypothesis (1978) and Burzio's (1986) suggestion and similar to other languages e.g. English (Hornstein et al., 2005; Levin & Rappaport Hovav, 1995; Ouhalla, 1999). Slovene (Grahek, 2002), and Japanese (Koh, 2007) in addition to Arabic dialects e.g. Classical (Mahmoud Abdel Wahed, 2021) and Modern Standard Arabic (Al-Khawalda, 2011; Al-Qadi, 2015; Hallman, 2006), Jordanian Arabic have unaccusative verbs whose only arguments are internal which are positioned as the complement of VP and theta-marked as (THEME). This was approved by the insertion of the expletive fiih 'there' in JA to replace the external arguments for these verbs in addition to the semantic interpretation of the complements which do not have the active participation in the action. The findings of this section demonstrated that unaccusative verbs in JA are alternating verbs that have two forms: intransitive unaccusative and transitive accusative forms. This finding supports the findings of the studies in Modern Standard Arabic (Al-Qadi, 2015; Hallman, 2006), Japanese (Koh, 2007), and Solvene (Grahek, 2002) languages.

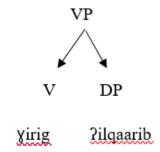
Furthermore, these verbs can be further classified into two categories. The first category represents the unaccusative verbs that have an intransitive form but they can be altered into a transitive form through a morphosyntactic process and the use of overt morphological markers to have the derivational form (fa??ala). This category also appears in MSA in Al-Qadi's (2015) findings in that she stated that all change of state unaccusative verbs can be causative through a morphological process using overt morphological markers. Further, the findings of this section indicated that only the transitive form can be passivized using the overt passive particle ?it. The second category, on the other hand, includes the unaccusative verbs that can be intransitive or transitive without the need of any morphological modifications. That is to say, they can be altered lexically. They also can be passivized with using the overt passive marker ?in. Therefore, the difference in the use of the passive particles for these classes reveal that these verbs are different. This category appears in Al-Khawalda (2011) study of MSA and in Levin and Rappaport Hovav (1995) study of English. It seems that Al-Khawalda in his study did not include all types of unaccusative verbs in MSA as he suggested only this type of category. On contrary, Levin and Rappaport Hovav (1995) revealed that English is different from Arabic Language in its two different dialects. That is, in English unaccusative verbs cannot be transitive or causative through the use of the overt morphological markers.

• Unaccusative Verbs in JA and the VP shells Hypothesis

The current study supports the VP shells Hypothesis introduced initially by Larson (1988) and after then by Butt and Ramchand (2003) in that all verb predicates are applied to the split VP projection i.e. having a deep structure of vP+VP shells. Therefore, this section presents the pieces of evidence which prove that unaccusative verbs in JA are also applied to split VP hypothesis. It particularly suggests that the internal arguments of the unaccusative JA verbs are positioned within the VP shell in [Spec-VP] position. The pieces of evidence provided in this sections are: The existence of two internal arguments, the dual position of the adverbs and the alternating orders between SVO and VSO. It is worth mentioning that the pieces of evidence are applied to only one example: yirig \(\text{2ilqaarib}\) 'The boat sank'.

It is clear that the unaccusative verb $\gamma irig$ 'sank' used in JA has only one internal argument² i.e. $\gamma ilqaarib$ 'The boat' and it is positioned as a complement of V without an external argument.

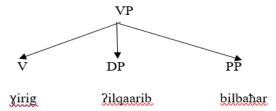
²See section 1 of Findings and discussion. above for the discussion of the pieces of evidence that prove that the arguments in the unaccusative verbs are internal rather than external.



However, let's consider the following sentence which has more than one internal arguments:

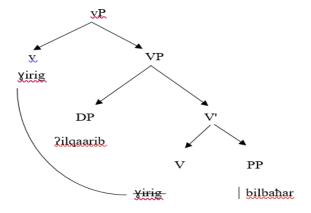
13. (a) yirig ?ilqaarib bilbaħar sink.past-3SM the-boat.3SM-Nom in-the-sea 'The boat sank in the sea'

In example 13 (a), the unaccusative verbs *yirig* 'sank' has two internal arguments; the complements DP and PP respectively. If we apply the assumption that complements are sisters of a head (V), both complements in the previous construction should be represented in the following structure as in tree 12.



Tree 12. Structure of yirig ?ilqaarib bilbaħar

The PP bilbahar 'In the sea' is considered as a direct object which is assigned the thematic role (goal) and this is assumed because of the following evidence; the interpretation of the DP ?ilqaarib 'The boat' may vary depending on the following PP. For example, the interpretation of virig ?ilqaarib bilbaħar 'The boat sank in the sea' differs from yirig ?ilqaarib bilwaħil 'the boat sank in the mud and from yirig ?ilqaarib bildam 'The boat sank in blood' so that it is clear that ?ilqaarib 'The boat'is affected in different manners depending on the contents of the complement PP. Moreover, in conformity with Principle (A) where the reflexive pronoun laħaalu 'By itself' must be c-commanded by its antecedent (DP) i.e, the antecedent appears in a higher position than the reflexive pronoun as in the following examples: virig ?ilqaarib laħaalu 'The boat sank by itself is grammatical whereas yirig laħaalu ?ilqaarib 'By itself sank the boat' is ungrammatical because the reflexive pronoun (PP) isn't c-commanded by its antecedent (DP) which makes it unbound. This also confirms the Merger condition in if a V has two internal arguments; clausal and pro (nominal) the clausal is the first to be merged with V while the pro(nominal) is the last. (cited from Redford (2009)). However, the ternary-branching is incompatible with The Minimalist framework which assumes that the merger operation by which phrases are formed is inherently binary. Thus, the arisen problem is solved by the assumption of the VP split in unaccusative constructions in JA. Consider the following tree 13 for the structure of yirig ?ilqaarib bilbaħar where the unwanted details are omitted.

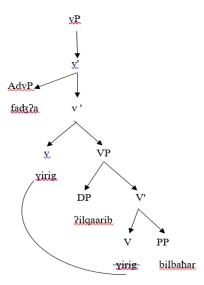


Tree 13. Structure of yirig ?ilqaarib bilbaħar

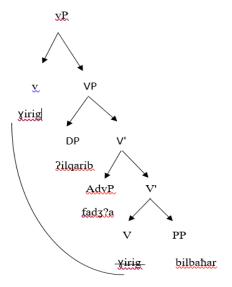
Tree 13 illustrates that in the inner VP the lexical head V first merges with the internal arguments [PP] as the complement of V to form V bar and then it merges with the internal argument [DP] as the specifier of VP to constitute the inner VP shell. The VP is then merged with the light 'v' which is affixal (has strong v-feature) which triggers the movement of the lexical head and then the deletion of the original copy. Thus, the above tree shows that the internal arguments of V are positioned within the VP shell and this confirms the assumption that complements should appear within the VP. Therefore, VP split is appropriate for the unaccusative verbs in JA. Furthermore, the VP split is appropriate to account for the dual positions of the adverb fadg?a 'suddenly'. Consider the examples 13 (b) and 13 (c).

13. (b) fad;?a yirig ?ilqaarib bilbaħar adv. suddenly sink. past-3SM the-boat-3SM-Nom in-the-sea 'The boat sank in the sea suddenly' 13 (c) yirig ?ilqaarib fad;?a bilbaħar sink. past-3SM the-boat-3SM- Nom Adverb suddenly in-the-sea 'The boat sank in the sea suddenly'

The dual positions of the Adverb of manner in the previous examples where the adverb comes before the verb in 13 (a) and after the verb in 13 (b) can be explained by the split VP. For example, the adverb fadg a in (13. a) comes before the light v i.e. adjoins v' in VP shell whereas it comes after the lexical V i.e., adjoins V' in VP shell in (13.b) as represented in trees 14 and 15 below.



Tree 14. Structure of fad?a yirig ?ilqaarib bilbahar

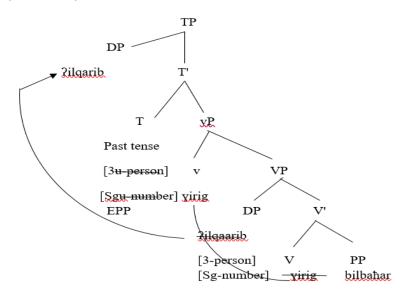


Tree 15. Structure of yirig ?ilqaarib bilbaħar faʤ?a

Further evidence to support our claim that unaccusatives have a split VP structure comes from the fact that it enables us to account for the observation that unaccusative verbs can appear in SVO order as represented in 13 (d):

13 (d). ?ilqarib yirig bilbahar the-boat-3SM-Nom sink.past-3SM in-the-sea 'The boat sank in the sea'

The structure in 13 (d) shows that the complement DP ?ilqarib 'The boat' which is assigned the thetarole THEME comes before the unaccusative verb yirig 'sank' and this is due to the A-movement where the complement DP moves from [spec-V] i.e. object position to[spec-T] i.e. specifier position. This is due to the agreement relation between the head T which is an active probe since it has un-valued person and number features and the active goal DP which has the unvalued case feature since the unaccusative verbs don't assign an accusative case to its complements. Thus, the unvalued person and number of T are valued (3-Person, Sgnumber) and the unvalued case of the DP is valued as nominative and then it moves to [spec-T] to satisfy the EPP feature of T. (See Tree 16).



Tree 16. Structure of Pilqarib yirig bilbahar

It is worth mentioning that in example 13 (c) mentioned at the beginning of the discussion where the complement DP remains in situ and does not move to [spec-T], it is assumed that this agrees with the finite functional head T and assigned Nominative case but they don't move since the T in the previous structure doesn't have an EPP feature (Nasu, 2001). What proves this assumption is that in both types of the structures discussed above, the complement nominal DPs agree with the finite head T and hence are assigned the Nominative case. Although the Nominative case is not overt in JA constructions, any Jordanian knows that the appropriate vocalization mark to the nominal NPs or DPs is the Arabic nominative mark ($\frac{1}{2}$) 'u'.

To sum up, unaccusative verbs in JA are applicable to the VP split projection hypothesis suggested by Larson (2003); Larson (1988) and Butt and Ramchand (2003). Following the MP supposed by Chomsky (1995, 2000), the unaccusative verbs in JA are represented in the deep structure with an inner vP and an outer VP shells. The internal argument [THEME] is positioned initially in [Spec-VP] position and then it moves to [Spec-T] to satisfy the EPP feature of the Head T which in turn assigns the Nominative case to the internal argument through the feature evaluation. This movement of the internal argument in JA is also approved previously by Mohsen (2014). However, it is contrary to what Alonini (2022) suggested that the internal argument of the unaccusative verbs remains in situ in MSA and assigned its Nominative case through the agreement with the Head T in situ. Furthermore, the findings of the current section provided three types of evidence to the VP shells in unaccusative verbs in JA.

Conclusion, Recommendations, And Implications

Unaccusative verbs in JA are similar to the unaccusative verbs in other languages i.e. English, Japanese, and Slovene or dialects of Arabic language such as MSA and Classical Arabic but with slight variations. The current study concluded that unaccusative verbs in JA are alternating unaccusative verbs. They are classified into two subclasses. The first class includes intransitive unaccusative verbs that have alternating transitive form fa%ala that is derived using overt morphological markers i.e. the addition of the vowel (a) and gemination of the second consonant of the verb root. The second class includes the intransitive unaccusative verbs which have alternating transitive forms without any morphological markers i.e. lexical alternation.

Furthermore, the unaccusative verbs in JA are applied to VP split hypothesis and this is proved by the empirical evidence which are the existence of the two internal arguments; the dual positions of the Adverb of manner and the potential existence of the SVO order for the unaccusative constructions. The limitations of the study lie in the lack of the semantic analyses of the unaccusative verbs and the semantic conditions determining the possibility of having alternating causative forms of unaccusative verbs in JA. Therefore, the study recommends conducting further research to investigate thoroughly the semantic conditions that determine the causative alternation for the unaccusative predicates in JA.

Further, the current study furnished the ground for other research to shed the light on the syntactic-semantic behavior of unaccusative verbs in JA and to see how they are different from unaccusative verbs in MSA despite the fact that both dialects belong to the same language i.e. Arabic.

Conflict of Interest

The authors declare that there are no conflicts of interest to declare

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