Phase-based analysis of verbal passive in Standard Arabic

Rima Ben Ayeche
University of Carthage
Tunisia

Abstract

It is assumed that human languages are governed by underlying universal principles that characterise the Language Faculty. In this regard, the present paper investigates the structural derivation of verbal passives in Standard Arabic within Principles and Parameters. Data analysis relied on Chomsky’s (2000, 2001, 2004, 2007, 2008, 2013) phase-based syntax and data comparison has been based on Chomsky’s (2005) theoretical model of three factors. Results of this analysis indicate that minimalist principles provide a uniform account for the behaviour of Case, agreement and movement in Standard Arabic verbal passives despite complications raised by agreement asymmetries. Besides, the parametric exploration of the analysed structures has provided evidence of how the apparent variations are feature-bound. In addition, the structural analysis of the verbal phrase demonstrated the presence of two features namely [+active] and [-active] headed by a unified voice projection. VoiceP [+active] is a strong phase that hosts an External Argument and VoiceP [-active] is a weak phase that hosts a passive morpheme. The results of the proposed cross-linguistic analysis offered support for Chomsky’s model (2005) of three factors.

Key words: verbal passives, Standard Arabic, VoiceP, phase-based syntax, factors

1 I would like to express a word of recognition to two anonymous reviewers for their comments. All shortcomings are my responsibility, though.
1. Introduction

A persistent preoccupation of Generative Grammar (GG) has been the issue of how to explain linguistic variations across languages. With the rise of Principles and Parameters (P&P) in the late 1970s, studies in parametric variations have gradually increased. Under the early P&P, Government and Binding theory (GB) attempted to reconcile between descriptive adequacy and explanatory adequacy via parameterising certain principles as Head parameter, Pro-drop parameter and Null subject parameter, etc. (Chomsky, 1981, 1986; Haegman, 1994; Ouhalla, 1991). The onset of Minimalism (Chomsky, 1991, 1993) marked a shift in the status of parameters. Along with “Borer-Chomsky Conjecture”, parametric variations are relegated to the Lexicon (Baker, 2008), part of the inflectional component (Borer, 1984). Recent minimalist studies have been conducted to identify the nature of linguistic variations and the universal linguistic properties of the faculty of language (FL) (Bošković, 2013; Picallo, 2014; Roberts, 2012).

Despite the extensive literature on Arabic syntax, few fragmented recent studies have attempted to approach passive constructions in Arabic (Al-Balushi, 2011; Ayyat, Sultan, & Yasine, 2013; Dkhissi, 2016). These studies tried to approach passivisation from different stages in Minimalism highlighting controversial conclusions, but when viewed collectively they all point to the overwhelming evidence for the necessity of approaching passivisation from a larger perspective.

Aiming at stressing one pattern, the underlying universal principles of the Faculty of Language (FL), this study adopts the “Strong Minimalist Thesis” (SMT) that language is an optimal solution meeting the legibility conditions (Chomsky, 2000, p. 96). A prominent challenge to this claim is movement which seems to be a peculiar aspect of human language. This enquiry tests the universality of this hypothesis to argument (A)-movement in SA. The debate concerns the nature of this movement and its motives. In English, passive constructions are assumed to be formed by the movement of the internal argument to the specifier position leaving a copy, in its original position to satisfy an Edge feature on T. The challenge is whether to maintain the existence of parameterised principles in a highly rich morphological language as SA or to support
Chomsky’s insight and reduce all the variations to the relative freedom allowed by the Articulatory-Perceptual system, which includes phonetics, morphology and phonology.

2. Chomsky’s (2005) Model of Three Factors

This sub-section considers the status of the FL from the perspective of recent Minimalism. Chomsky (2005, p. 6) treats the FL as akin to other biological systems and identifies three factors, involved in its growth and development:

I- “Genetic endowment, apparently nearly uniform for the species;
II- Experience, which leads to variation, within a fairly narrow range;
III- Principles not specific to the faculty of language.”

A main assumption throughout the development of Minimalism is that the computation of LF is uniform. Minimalism thus abandons the parameterised principles in favour of “a universal inventory of formal features from which each language makes a one-time selection of a subset” (Richards, 2008, p. 136).

One way of achieving descriptive adequacy within this minimalist framework is to restrict variation to the lexicon, in particular, to the features of functional heads. This “lexico-centric” approach to syntactic variation is expressed by Baker (2008, p. 353) as “Borer-Chomsky Conjecture”.

MP endorses the rationale of the classic P&P (i.e. to specify the nature of Internal language (I-language)) but dispenses with the GB’s parameterised principles and proposes that variation is explained in terms of lexical parameters.

The minimalist program takes the FL as an optimal realization of interface conditions, and the SMT states that no aspect of FL is beyond the third factor explanation. In Chomsky’s (2007) words:

Throughout the modern history of generative grammar, the problem of determining the character of FL has been approached ‘from top down’: How much must be attributed to UG to account for language acquisition? The MP seeks to approach the problem ‘from bottom up’: How little can be attributed to UG while accounting for the variety of I-languages attained, relying on third-factor principles? (p. 4)
Two essential formal feature types are determined by UG on which the narrow syntax operates:

- Edge feature is the structure-building feature.
- Uninterpretable features which connect the expressions with the external systems of sound and meaning and trigger transfer to the interfaces are driven by Interpretability Condition.

These two feature types are conceptually sufficient to postulate the following minimalist operations:

- Edge feature enables the operation merge (External Merge and Internal Merge).
- Uninterpretable features induce the operation agree in order to value and delete the uninterpretable features for convergence. They also trigger the operation transfer after valuation to generate phases.

Thus, the principal mechanisms of FL, merge, agree and transfer, are obtained from the minimal components of Universal Grammar, edge and uninterpretable features.

In this way, macro-parameters are untenable. Unlike the parameterised principles of the GB era, third-factor principles are invariant. Inclusiveness condition, No Tampering Condition (NTC) and Phase Impenetrability Condition (PIC) are principles of efficient computation. The FL must produce structures which are “legible” to the cognitive apparatus: AP and C-I interface systems (Mobbs, 2014, p. 39).

These are the essential theoretical notions that will underlie the analysis of passive predicate in SA.

### 3. Passive Predicate in Arabic

Passivisation in Arabic refers to a construction where the semantic subject or agent is not identified or is unknown (Sawaie, 2015, p. 5) as in the following example:

(1) kutib-a  ad-dars-u.
    written-3SM-Pass  the-lesson-Nom.

“The lesson was written.”
The DP ad-dars-u (the lesson) is intuitively understood as the complement of the verb kutib-a (was written). As far as the agentive phrase is concerned, Arabic and English are different. While in English short (i.e. agent) and long (i.e. agentless) passives are grammatically valid, Arabic occurs without the mention of the identity of the agent. The use of the agent is attributed either to pragmatic factors or to a literal syntactic translation from European languages (Khafaji, 1996, p. 27). The agentive phrase can be added by means of a by phrase that involves the preposition min 'from' or the use of min tarafi / min qibali translated as ‘by means of’.

(2)

a- kutib-at ar-risalat-u bikalam-i ar-raʔiis-i.
  written-Pass-3SF the-letter-Nom by the-president-Gen.
  “The letter was written by the president.”

b- muniḥ-a l-kaatib-u l-ẓaaʔizat-a min qibali l-ḥukuumat-i.
  received-Pass-3SM the-writer-Nom the-prize-Acc by the-governement-Gen.
  “The writer received the prize by the government.”

(Sawaie, 2015, p. 219)

3.1. Unaccusativity Hypothesis

Unaccusativity hypothesis states that the subject of unaccusative verb is not a true agent, and so it originates in the complement to a V-position. By contrast, the subject of unergative verb is merged in the canonical subject position.

(3)

a- fataḥ-a muḥammad-un l-baab-a. (Active)
  opened-3SM Muhammad-Nom the-door-Acc.
  “Mohammed opened the door.”

b- futih-a l-baab-u. (Passive)
  opened-Pass-3SM the-door-Nom.
  “The door was opened.”

c- ẓaaʔ-a ar-aʔul-u. (Unaccusative)
  came-3SM the-man-Nom.
  “The man came.”
d- *ziʔ-a ar-aʒul-u.
came-Pass-3SM the-man-Nom.
“The man was come.”

Drawing upon data from SA, the passive verb is like the unaccusative. They both lack an EA and involve a DP raising. However, unaccusative (3-d) cannot be passivized because it is not initially transitive and does not have an IA. In contrast to the impossibility of unaccusative passivisation, prepositional passive is allowable with unergative verbs as in the following:

(4)

a- katab-a ar-aʒul-u ˤala l-ḥaʔit-i. (Unergative)
wrote-3SM the-man-Nom on the-wall-Gen.
“The man wrote on the wall.”

b- kutib-a ˤala l-ḥaʔit-i. (Prepositional Passive)
written-Pass-3SM on the-wall-Nom
“The wall was written on.”

In fact, katab-a (wrote) describes a willed or volitional activity while unaccusative verb zaʔ-a expresses the state of a DP which is semantically patient.

Both personal and impersonal passives are alike in the sense that they involve a DP raised to a preverbal position. However, like English, SA’s personal passive has a transitive ground while impersonal passive is confined to unergative clause.

3.2. Thematic Structure

(5) kasar-a Ahmed-u l-kaʔs-a. (Active)
broke-3SM Ahmed-Nom the-glass-Acc.
“Ahmed broke the glass.”

(6) kusir-a l-kaʔs-u. (Passive)
broken-Pass-3SM the-glass-Nom.
“The glass was broken.”
l-kaʔs-a (the glass-Acc) in sentence (5) is the IA of the active verb kasar-a (broke-he). It has an Acc-Case mark and a patient θ-role. On the other hand, the passive verb kusir-a, (was broken) like its English counterpart, is unaccusative as it follows.

l-kaʔs-u (the glass-Nom) in the passive sentence has a Nom-Case mark but keeps its patient θ-role. Therefore, while active verb shows agreement with its nominative subject. Conversely, the passive verb shows agreement with the theme subject, which appears carrying Nom-Case.

Two observations are drawn. While in English the linear ordering of the two DPs relative to the verb determines the identification as subject and object, in Arabic this identification is based on the inflectional Case endings which assign the suffix \( \text{u} \) as a subject marker and the suffix \( \text{a} \) as an object marker. Second, the occurrence of a passive verb triggers the absorption of Acc-Case without having to move the IA.

3.3. The Clause Structure of SA

The interest in the sentential structure emanates from the fact that Arabic, unlike English, allows freedom of word ordering. Given its rich inflectional morphology, two word orders are commonly used:

(7) fataḥ-a l-walad-u l-baab-a. (VS)
opened-3SM the-boy-Nom the-door-Acc.
“The boy opened the door.”
(8) l-walad-u fataḥ-a l-baab-a. (SV)
the-boy-Nom opened-3SM the-door-Acc.
“The boy opened the door.”
(9) The boy opened the door. (English)
(10) *opened the boy the door.
The existence of a basic\(^2\) order is inevitable to support the claim that permutations to that word order yield pragmatic information. VS\(^3\) order will be the accepted unmarked surface order “found in so-called pragmatically neutral sentence” (Fassi, 1993, p. 19), and SV is the marked one.

Assuming the VISH, the differences concerning the basic word order in SA are redundant. In view of this hypothesis, the distinctions between languages with respect to word order amount to differences of derivation from an underlying structure assumed for all languages. It follows that the parametric variation between English and SA is not confined to the basic structure of subject. In order to put the discussion on a concrete footing, the operations that differentiate between VS and SV orders are represented as it follows:

\[
(11) \text{VS order} \\
\text{TP} \\
\text{T} \quad \text{vP} \\
\text{EA} \quad \text{v'} \\
\text{V} \quad \text{VP} \\
\text{V} \quad \text{IA}
\]

\(^2\) The Greenbergian’s (1966) paradigm is an influential work in the study of word order. Focusing upon universals and typology, he raised the issue that every language has a basic pattern of ordering the subject and object in the sentence relative to the verb and that each word order pattern correlates with certain specific grammatical features.

\(^3\) VS order is the accepted basic word order on the basis of the following indices: SV is the marked order for focus, emphasis, and information distribution while VS is the pragmatically neutral order. Stylistically, in the case of Arabic, VS order is more frequent than SV as seen in the writing of many modern Arab writers. Further evidence comes from a survey of syntactic structures in the language, in which we find that VSO has the greatest distribution. A great many construction types, including nominalization structures and subjunctive mood clauses, can only be expressed using VSO order.
Taking into consideration that the unmarked word order in SA is different from English, the EA in VS order does not move from its base position i.e. the specifier of v as it has its features valued under agree with the c-commanding T. SV, on the other hand, is the outcome of a further movement of the subject to the specifier of TP triggered by edge requirement.

In this way, English and SA are derived from a basic underlying structure while surface word order peculiarities amount to differences in the projection of TP domain. In English, the initial subject must move to [Spec, TP] while in SA it can either remain in situ or move to a preverbal position.

This section shed light on the thematic structure of passive predicate and showed the derivational processes that distinguish SA from English. The following section explores the implications of this envisioned representation on the derivation of passive constructions within phase-based Minimalism.

4. Assortment of Arabic Passive Voice into Agree-feature Inheritance

This section attempts to promote a phase-based analysis by showing that it has the potential of accounting for verbal passivisation. It focuses on the possible positions and
distributional constraints on the passive subject and agreement peculiarities on the passive verb in an attempt to offer a unified account of verbal passives.

4.1. Voice Projection: a phase

This paper shifts from Chomsky’s Voice transformation, and supports instead what was stated in Collins (2005) and pursued with Sailor and Ahn (2010): Passive is a non-active transformation.

A functional head Voice is present in every finite clause, and it alone determines the grammatical voice (passive-middle, etc.) of that clause. Any and all syntactic differences among the voices arise from featural differences among the lexical entries for voice. (Sailor & Ahn 2010, 6)

Adopting Sailor and Ahn’s instantiation of voice as a functional head which modulates active and passive voice alternations is conceptually and empirically motivated:

- Collins (2005) and Gehrke and Grillo (2009) were concerned about Jaeggli’s (1986) Case-absorption in which the passive morpheme *en* absorbs θ-role and Acc-Case. They pointed out that the passive bound morpheme *en* and the past participle suffix have the same morphology in English. Accordingly, it is far from clear on which basis the former but not the latter is analysed as a clitic. To compensate for this ambiguity, it is then more accurate to suppose that there is one voice with different lexical features [-active/+active]. This makes the difference more precise and hence justifies the notion of “non-default voice”.

- Reducing active and passive differences to a featural variation of the lexical entries of a single unified voice has another welcome advantage: It minimises the range of derivational operations, and supports the “Borer-Chomsky Conjecture”.

On the basis of this, they reach to the conclusion that active and passive in English are different features of a VoiceP raises the question of where to locate VoiceP in the derivation.

Adopting Chomsky’s phasal architecture, C is the clause-peripheral phase that selects T. Along the lines of Aelbrecht (2010) and Baltin (2012), the clause-internal phase head is not little v but Voice, structurally superior to V and below T. Voice phase contains voice, φ and edge features as it follows:
VoiceP is the locus of voice feature in the sentence. Lexical verbs appear in the derivation with their base form and their uninterpretable voice feature. Voice feature valuation triggers the merger of a voice head into the structure. If the sentence is active, the voice which carries the [+active] feature is introduced; if the sentence is passive, a voice with the [-active] feature is introduced with a particle carrying the passive morpheme. This particle is taken up by the verb and uninterpretable voice feature is deleted.

Since Chomsky (1995), it is assumed that EA is base-generated outside the lexical VP. Given that the internal phase in this study is VoiceP, Kratzer’s (1996) account that EA is introduced by the functional head voice is more appropriate. Active voice head has an EA and assigns Acc-Case to the IA while passive voice head does not have an EA and does not assign Acc-Case (p.123). Kratzer’s notion of voice is accommodated to Chomsky’s phasal dichotomy in which "some phases are strong and others weak with or without the EPP option, respectively, hence relevant or not for Spell-Out." (2001, 14)

(13) Active Strong VoiceP

```
  VoiceP
   /\        /
  EA   Voice'
      /
     Voice  VP
     [+active]
      \   /
       Agree  V   IA
          [U Voice]
```
The adopted analysis is superior to other proposals such as the addition of EA in the specifier of passive VoiceP (Bruening 2013; Embick 2004; Legate 2014) or verb fronting in passive constructions (Collins 2005; Sailor & Ahn 2010) in the following respects:

- It does not add any functional projection in the derivation serving the principle of economy.
- No more voice transformations are required as separate syntactic operations. Instead, a single VoiceP is the locus of voice, introduces the EA and is the source of Acc-Case.

### 4.2. VS Order

(15) kusir- RecursivePass-3SF l- baab-u. (VS)

broken-Pass-3SF the-door-Nom.

“The door was broken”.

Crucial to this discussion are two facts about VS passive:

(i) There is no required displacement of the IA.

(ii) This IA appears with Nom-Case and shows agreement features with the verb in the same way postverbal subjects do.

The following configuration illustrates how sentence (15) is derived:
The lexical verb *kasar* enters with unvalued voice features. VoiceP carries a passive morpheme [u-i] and values the uninterpretable features on V. Given that VoiceP is a weak phase, it does not have an agent and cannot assign Acc-Case to the IA *l-baab*. Since the passive morpheme takes away the Case-assigning ability of the verb, *l-baab* is accessible for T. A structural Nom-Case is assigned under agree by T which inherits its features from C. It follows that IA gets a Nom-Case [u] while it remains in situ.

It is noteworthy that the occurrence of postverbal nominative theme in this passive structure is consistent with agree as an operation that applies to elements at a distance rather than in a Spec-head configuration. Chomsky (2005) conjectures that movement is driven by edge feature on the phase head. In this respect, the C-system in VS order has two kinds of features: tense and force features.
Since there is no trigger for IA displacement, *l-baab-u* remains in situ in VS order because C does not have an Edge feature to be inherited by T. Thus, there is no recourse to the $\phi$ feature-driven movement in order to explain the breakdown of IA raising in VS structures. It becomes, instead, a matter of presence or absence of an Edge feature with the relevant head features at SEM under IM.

It can be concluded that there is no A-movement above in VS passives. Thus, the IA remains in complement to V position and would receive Nom-Case via agree with T. Formal feature checking does not have to coincide with A-movement. What is emphasised here is that Case is valued postverbally. It does not trigger movement.

Another problem that remains unaccounted for under the feature inheritance-based analysis is the agreement asymmetry in SA as in the following example:

(17) $su\tilde{a}il-at$  $l-banaat-u$.  
questioned-Pass-3SF  the-girls-Nom.

“The girls were questioned.”

The verb $su\tilde{a}il-at$ (were questioned) is impoverished as it does not involve number agreement with the postverbal DP $l-banaa-tu$. This agreement asymmetry is not expected, as agree relation is established when the probe c-commands the goal.

To account for this paradox, neither a null expletive nor a null pro is needed. However building on Musabhienn’s (2009) proposal that resumptive pronouns are not number markers, it can be concluded that irrespective of the subject position, there is only one agreement pattern “limited to the features of person and gender; the feature of number is default singular” (p. 218).

This analysis shows that SA is a language where agreement and Case assignment exist even in the absence of A-movement.

### 4.3. SV order: Triggers and Constraints

Let’s consider the following example:

(18) $l-bint-u$  $su\tilde{a}il-a-t$.  
the-girl-Nom  questioned-Pass-3SF.

“The girl was questioned.”
SV structure in SA is derived in a similar way to its counterpart in English in two aspects:

(i) The IA moves from its base position as a complement of VP to a preverbal position.

(ii) Although basic agreement in SA is only in terms of person and gender, number feature is present with SV order.

The aim then is to provide an account that captures these two empirical observations.

Uninterpretable voice feature matches with the passive particle [u-i]. The probe T agrees with the matching goal it c-commands. *suʔil-at* agrees in person and gender features with *l-bint-u* which gets Nom-Case in situ. Movement in Minimalism is edge driven. The specifier position of T is the landing site of A-movement; therefore, the moved IA occupies [Spec, TP].

The locality constraints also play an important role in this movement. Following PIC, TP and VoiceP are weak phases. TP inherits φ, tense and edge feature from C. VoiceP is a defective phase because it lacks an agent. Therefore, movement of the IA does not violate PIC condition. A possible derivation of sentence (18) is along the following lines:

(19)
If basic agreement in SA is reduced to person and gender, then how to account for the obligatory presence of number feature on the verb as in the following example:

(20) al-banaat-u suʔil-na.

the-doors-Nom questioned-Pass-3PF

“The girls were questioned.”

A possible explanation of the presence of the number marker with SV order and its absence with VS order is that number marker is in fact a pronounced copy of the moved DP. Chomsky (2008) argues that copies are “invisible” (p. 150). However, due to the rich morphology of Arabic verbs the number marker, an antecedent copy of the moved subject, is forced to appear overtly. Thus, there is no agreement asymmetry.

On the basis of this section, it can be argued that English differs from SA in that the English structure shows that T inherits an edge feature from C; hence, the subject has to move to the specifier of TP. In contrast, SA does not pose any restrictions on the edge requirement on TP. It was shown that SV passive structure in SA involves A-movement whereas VS structure does not involve A-movement. The next section provides further evidence that agreement and Case assignment are not tied to DPs’ occurrence in particular position nor to the presence of A-movement in passive structures.

4.4. Parameterising Verbal Passives in SV and VS structures

What motivated the comparison of passive construction in SV and VS orders in English and SA is the formal similarity in their structures.

(21) The problems were solved.

(22) al-bint-u suʔil-a-t.

the-girl-Nom questioned-Pass-3SF

“The girl was questioned.”

Both constructions involve a DP moving to a preverbal position and full agreement. TP and VoiceP are weak phases. T inherits φ, tense and its edge feature from C. Therefore, movement of the IA does not violate PIC condition. However, the VS analysis carried out reveals some differences between both constructions.
(23) suʔil-at al-banaat-u.
questioned-Pass-3SF the-girls-Nom.
“The girls were questioned.”

Taking into consideration the fact that the unmarked word order in SA is different from the unmarked word order in English, it was argued that structures in both varieties are derived in different ways. English differs from SA in that the English structure shows that T inherits an edge feature from C; hence the subject must move to the [Spec, TP]. In contrast, SA does not pose any restrictions on the edge requirement on T.

While SV passives in English always involve A-movement, SV passives in SA involve A-movement whereas VS passives do not. C does not have edge feature in VS order. Therefore, there is no required displacement of the IA.

Moreover, IA appears with Nom-Case and shows agreement features with the verb, in the same way passive English subjects do. However, in SA ϕ-features are only person and gender. The number feature observed in SV order is in fact an overt copy of the moved DP. Due to the rich morphology of SA language, the copy is a spell-out antecedent attached to the verb.

5. Conclusion

The aim of this paper was to analyse A-movement in SA SVO and VSO orders within the realm of minimalist syntax. It was noticed that Chomsky’s vP does not provide a satisfactory account of passive voice. Therefore, a unified VoiceP with different lexical features [+active\-active] similar to the one introduced by Sailor and Ahn (2010) was adopted. In line with phase-based system, VoiceP is a strong phase with [+active] feature and a weak phase with [-active] feature. Unlike Chomsky’s active-passive transformation, the combination of features under VoiceP draws the exact sites of active and passive verbs in English and unifies cross-variation in both languages. As for the derivation of verbal passive in SA, it can be spelt-out as SV and VS while English it is an SV only. The parameter differentiating English and SA resides in the non-availability of edge feature on C phase in VS order. Languages differ because the features determining the morphological shape of lexical items differ. The proposed feature-based account of parametric variations between two typologically different languages is minimal. This variation
is limited to the featural properties of the functional heads. Such an approach provides empirical evidence in favour of the SMT and supports minimalist syntax.
References


