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| RESEARCH ARTICLE

The Syntax of Secondary Predicates in Standard Arabic: A Minimalist Approach

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| ABSTRACT
This paper examines the structure of the secondary predicates in Standard Arabic using the Minimalist Program. The main aim of the paper is to make generalizations about the structure as well as to find a uniform analysis of this structure. Among the most important results reached are as follows: The secondary predicates have a unified structure that is derived from small clauses that form a phase. In addition, despite having one unified structure, these predicates have distinct positions. Moreover, secondary predicates also possess shared arguments (with main predicates) and secondary predicates differ depending on the types of shared argument it modifies. We also find that the apparent 'accusative' Case shown on the secondary predicates has nothing to do with verbs. In fact, the Case hosted on secondary predicates is an abstract Case, which is derived through the genitive Case parameter. Finally, the control structure provided by some predicates is derived by copying and merging the shared argument from the specifier of the small clause to a higher position in the sentence structure, noting that the empty element PRO does not exist within the proposed analysis.

| KEYWORDS
Secondary predicates, Standard Arabic, depictive predicates, resultative predicates, causative predicates, accusative Case, shared arguments, control structure.

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1. Introduction

Determining the structure of secondary predicates (henceforth, SP) remains an important issue for discussion in the generative literature, due to the many morpho-syntactic problems it raises. The approaches that have addressed this structure are limited to two: the complex verbal predicate approach and the small clause approach. In this paper, on the one hand, we show that the first approach poses a number of theoretical and empirical problems. On the other hand, we show the superiority of the second approach using the phase-based framework, whereby the structure of SP constitutes a phase and in which the aspect plays a key role in determining its interpretation. We also show that these SPs entertain an independent interpretation, an issue that shall be clarified further in the sections to come. Moreover, concerning Aspect, we show that, following Chomsky (2008), it is a domain for Case and agreement systems.

The paper is organized as follows: Section 2 introduces the definition and the typology of SPs in Standard Arabic (henceforth SA). In section 3, we identify the characteristics and distribution of these SPs whereby the distribution is restricted, especially in terms of the hierarchical ordering of these SPs. In the same section, we also observe the interpretive contribution that the preposition makes to the structure of SPs and the constraints it imposes at the head of the aspect phrase. We also infer, in this regard, that these SPs have a uniform structure and that the difference is limited to the nature of the projections that host these SPs. Section 4 explores the properties of the so-called referential 'shared argument' as well as the constraints imposed on it. Section 5 identifies characteristics of SPs in terms of Case and agreement, where we show, contrary to some previous proposals, the Case of SPs in SA has nothing to do with the verb category. That is, the Case hosted on secondary predicates is an abstract Case, and not a structural

accusative Case since both the abstract and structural accusative Cases are phonetically realized by the morpheme /-a/. In the final section, we observe the relationship between SPs and control structures and argue that this structure is derived by movement and does not, as is commonly believed, include the null element PRO.

2. Secondary Predicates: Definition and Typology

SP is common among natural languages, and, as the name suggests, the structure of SPs is defined as the structure that includes two predicates in one sentence. Let us look at the following examples for more clarification:

1) **A.** tamtama ṭariq-un **(muwa:fiqan)**
muttered.3.S.M Tariq-NOM agreeably
*'Tariq muttered **agreeably**.'*
B. ʔal-ʕumma:lu muḍribu:na **(iħtiʒa:ʒan ʕala l-muħa:kamati ɣajri l-ʕa:dilati)**
the-workers on strike in protest against the-trial not the-fair
'*The workers are on strike **in protest against the unfair trial***.'
C. naħatna l-ʒiba:la **(buju:tan)**
carved.1.P the-mountains houses
'*We carved the mountains **in the form of houses***.'

In (1A) and (1B), respectively, the main predicate can be both verbal and non-verbal such as /tamtama/ '*muttered*' and /muḍribuna/ '*on strike*'. We also notice that there is a secondary predicate that appears with the first predicate in the same structure (see /muwafiqan/ '*agreeably*' and /iħtiʒaʒan ʕala l-muħakamati ɣajri l-ʕadilati/ '*in protest against the unfair trial*' in 1A and 1B, respectively). Moreover, these SPs can be optional (i.e., adjuncts), as seen by the use of parentheses in the examples above.

Interestingly, in natural languages, SPs can be divided into four types. We discuss three of them in this paper. These are depictive predicates, causal predicates, and resultative predicates. As for depictive predicates, it is exemplified in 1A by the use of /muwafiqan/ '*agreeably*', which shows the state or the condition of the subject 'Tariq' while executing the event expressed by the verbal predicate /tamtama/ '*muttered*'. Example 1B shows /iħtiʒaʒan/ '*in protest*' as the causal predicate: it gives the reason that justifies the event /muḍribuna/ '*on strike*'. Example 1C identifies another type of secondary predicate: resultative predicate by the use of /bujutan/ '*in the form of houses*' since it expresses the result to which the mountains were carved; the predicate /bujutan/ '*in the form of houses*' is a result of the end point of the event that the verb /naħatna/ '*we carved*' selected.[1]

3. Characteristics of Secondary Predicates

3.1 Categorical Characteristics of Secondary Predicates

SPs are characterized by categorical variation, as they can be realized as adjectives, nouns, or verbs. Consider the following examples:

2) **A.** istuʃhida **mubtasim-an**
died.3.S.M smiling-ACC
'He died smiling.'
B. istuʃhida **jabtasim-u**
died.3.S.M smiles-NOM
'He died smiling.'
3) *iqtaħamati ʃ-ʃurṭijjat-u al-manzil-a **ṭawi:lat-an / taṭu:lu**
broke into the-police officer-NOM the-house-ACC long-ACC / lengthens.3.S

Let us start with depictive predicates (henceforth, DepPs). These DepPs can be realized as an adjective or a present tense verb (see the expressions in bold in 2A and 2B, respectively). In addition, whether realized as an adjective or a verb, DepP must be a present tense verb or an adjective that indicates the state of the individual only during a certain period or stage (i.e., stage-level adjective or verb). This is why (3) is ill-formed since the predicate denotes a permanent state. As for causal predicates (henceforth, CausP), they are realized as a nominal event or a present tense verb with the preposition /l-/ attached to it (see 4A below):[2]

4) **A.** juhaʒiru ʃ-ʃabab-u **baħθ-an / li-l-baħθ-I / li-jabħaθ-u: ʕan l-ʕajʃ al-kari:m**
migrate the-young searching / to-the-search / to-search for the-life the-good
B. *ʒa:ʔa **ʒarj-an / ɣina:ʔ-an la-hu**

[1] Note that the secondary predicate is what traditional Arab grammarians called accusatives or objects, and they called their types /ħal/ 'depictives', /mafʕul lah/ 'causal predicates', and /tamjiz/ 'resultatives'.

[2] Note that traditional grammarians only treat these predicates (or what they call causal objects) as nominal events.

came.3.S.M running-ACC / singing-ACC to-him

We also observe that CausP must always be states, and this is why (4B) is ill-formed[3] since 'running' and 'singing' indicate an action.[4] Let us now move to resultative predicates (henceforth, ResPs). Unlike DepP and CausP, ResPs can only be nouns. Consider the following examples:

5) A. tafaʒʒarati l-ʔarḍ-u **ʕujun-an / *walad-an / *raʒul-an**
burst the-earth-NOM springs-ACC / boy-ACC / man-ACC
'*The earth burst with springs*.'
B. *na:ma l-walad-u raħat-an
slept.3.S.M the-boy-NOM calmly-ACC

6) tafaʒʒarati **ʕujun-u l-ʔarḍ-i**
burst springs-NOM the-earth-GEN
'The earth burst with springs.'

As we see in (5A), these nouns must be marked with the [-animate] feature (see / ʕujunan/ '*springs*'). If the ResP is assigned the [+animate] feature, such as /waladan/ 'a *boy*' or / raʒul-an/ 'a *man*', the structure is ungrammatical (see e.g., 5A). Moreover, we notice that ResP can only occur with predicates of creation (e.g., /tafaʒʒarati/ '*burst*' in 5A), which expresses a procedure that results in a physical condition.[5] Therefore, if ResP occurs with predicates that express a state (e.g., /na:ma/ '*slept*' in 5B), the sentence becomes ill-formed. In addition to that, traditional Arab grammarians mentioned cases whereby the ResP is an argument in the Construct State (see e.g., 6). However, there are differences between (6) and (5A). In (6), the information in the former is old. That is, the springs already existed before and burst again. On the contrary, (5A) constitutes new information that shows that it is the springs and, not volcanos, that burst from the earth.

3.2 Distribution, Co-occurrence Restrictions, and Word Order Restrictions

In terms of distribution, all SPs share three main distributional characteristics. First, all these predicates occur in the right periphery (see e.g., 7 and 8 below). Second, SPs can occur in both verbal and non-verbal sentences (see e.g., 7 and 8, respectively, below). Finally, these predicates can also occur, in the verbal sentence, with all types of verbs (see 7A-C):[6]

7) A. tanawala aħmad-u ʔar-risalat-a **mutawaʒʒisan** **Transitive Verb**
took.3.S.M Ahmed-NOM the-letter-ACC apprehensively
'*Ahmed took the letter apprehensively*.'
B. ʕadat marwa **istiʒabatan li-naði:r daxili** **Intransitive Verb**
Returned.3.S.F Marwa in response to-warning internal
'*Marwa returned in response to an internal warning*.'
C. saqata n-naʒm-u **muʃtaʕilan** **Unaccusative Verb**
fell.3.S.M the-star on fire

[3] Traditional Arabic grammarians paid attention to this characteristic. For example, Al-Astrabadi (1978, p. 614) adds that predicates of emotions (or what they called 'verbs of heart') are stative and not active. The difference between stative and active predicates is that the former express permanent state while the latter express temporary state (e.g., 'knowledge' and 'hit', respectively). It should be noted that Al-Astrabadi, in his work, uses 'verb of emotion' but he refers to it, in practice, as a noun. This term of /fiʕl/ 'verb' is used ambiguously in the works of grammarians when it comes to the topic of causative object: sometimes the term is referred to as /maṣḍar/ or /ism ħadaθ/ 'nominal event' and sometimes it is referred to as a verb, which is classified into past, present, imperative verbs. For example, in Al-Astrabadi's work, he refers to words such as /qatl/ 'murder' as names of events refer to the names of events denoting actions and procedures whereas verbs of emotions are referred to as nouns that indicate internal psychological states.

[4] Note that there is a difference between CausP and the following structure:
(i) ʒa:ʔa li-l-ʒarj / li-jaʒri: / li-l-ɣina:ʔ / li-juɣanni
came to-the-running to-run / to-the-singing / to-sing
'*He came for running / to run / for singing / to sing*.'

Interestingly, at first glance, one might think that both (4A) and (i) are similar structures since both occurs in structures with verbs and particles. However, whereas (i) express the goal of running or singing, (4A) expresses the reason behind the search. Consequently, the structure that indicates the goal can be action but CausP can only express states.

[5] Concerning this generalization, see Levinson (2007, 2010). There are many studies in the minimalist literature that show that resultative predicates do not occur in all languages. Because of this observation, many linguists explained the lack of resultative predicates by the existence of a parameter: Universal Grammar gives the option of some languages selecting resultative predicates. For more on this, see Levin and Rappaport (1995), Rapoport and Zarka (2020b), and Irimia (2012).

[6] It is important to mention all of these types because the distinction will be crucial in our analysis later.

'*The star fell in flames*.'

8) A. zajd-un maḍrub-un **waqif-an**
Zajd-NOM beaten-NOM standing-ACC
'*Zayd is beaten while standing*.'
B. az-zawaʒ-u mujassar-un **darʔan li-l-fitna**
the-marriage-NOM easy-NOM ward off-the-temptation
'*Marriage is a facilitator to ward off temptation*.'

Another important characteristic of SPs is that they are bound by co-occurrence restrictions. Let us look at the following examples:

9) A. fa-ʔaʒtaz-u ʕumr-i ra:kiḍ-an mutaʕaθθir-an
so-pass-1.S.M life-my running-ACC stumbling-ACC
'*So, my life is passing by running and stumbling*.'
**B. ***taṣabbab-a l-ʕaddaʔ-u ʕaraq-an dam-an
sweat-3.S.M the-runner-NOM sweat-ACC blood-ACC
C. *aṣfaħ-u ʕan-i l-laʔi:m-i takarrum-an iʃfaq-an
forgive-1.S on-GEN the-mean-GEN graciously-ACC compassionately-ACC

The first restriction we observe is that DepPs can occur more than once in the same sentence (Zhang, 2001) (see e.g., 10A), but ResPs and CausPs can only occur once in the sentence (see e.g., 10B and 10C, respectively).[7]

These co-occurrence restrictions are explained by the locations where the SPs are positioned in the sentence. Adopting the general assumption that ResPs occur in the complement position explains why we cannot have more than one ResP since we cannot have two complements at once. On the contrary, DepPs can occur more than once because they are located in the adjunct position/s.[8]

Let us to the topic of word order restrictions. Contrary to what is common in Arabic literature, the order of these SPs is highly restricted.[9] There is a descriptive generalization that requires that the DepP must be organized in what we will call the Hierarchical Ordering of Depictive Predicates (see 10 below):

10) The Hierarchical Ordering of Depictive Predicates[10]
Depictive-Sub > Depictive-Obj

This hierarchical ordering requires that the predicative-subject should always precede the predicative-object if they both appear in the same structure. Consider the following examples:

11) A. ra:qaba l-ʕami:l-u **muxta:l-an** aḍ-ḍaħijjat-a l-qa:dimat-a **sa:hijat-an**
watched the-agent-NOM fool-ACC the-victim-ACC the-next-ACC absent-ACC
'*The agent, who is a fool, watched over the next victim, who was absent-minded*.'
B. *ra:qaba l-ʕami:l-u **sa:hijat-an** aḍ-ḍaħijjat-a l-qa:dimat-u **muxta:l-an**
watched the-agent-NOM absent-ACC the-victim-ACC the-next-ACC fool-ACC
C. naħata l-fannan-u **murakkiz-an** aṣ-ṣaxrat-a **muballalat-an timθa:l-an**
carved the-artist-NOM focused-ACC the-rock-ACC wet-ACC statue-ACC
'*The artist carved, in a focused manner, the wet rock in the form of a statue*.'

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[7] Note that DepPs can either modify one argument, whether it is external or internal, or one DepP modifies one subject while the other DepP modifies the object.

[8] See Irimia (2012), Rapoport and Zarka (2020b) and Zhang (2001). Winkler (1997) gives a semantic explanation of these restrictions, and she assumes that the function of ResPs is the quantification or the delimitidness of events: "while resultative predicates are delimiting expressions that can only occur with events that can be terminated, the depictive predicates do not constitute delimiting expressions and therefore may occur with both undelimited events or activities" (Winkler, 1997, p. 6).

[9] Al-Salami (2001) claimed that the SPs, or what she calls adjuncts, have the freedom of scope, without creating any problem of interpretation. Nevertheless, she still suggested a hierarchical ordering of these predicates (see i below) without giving any justification from the tree structure or from empirical data:

(i) The Cognate Objects > Adverbs of Time > Adverbs of Place > Depictive Predicates / Causal predicates > Concomitate objects

Moreover, it is not possible to monitor the subtle distributional and semantic differences between SPs if we follow the hierarchical ordering in (i). Notice how the example above does not include resultative predicates, or what she calls 'Tamyeez', which was the main topic in her thesis. In addition, example (i) cannot explain the issue of the concomitate objects, which resides obligatorily as an argument in the end chain of the hierarchy, as shown in Belahcen and Announi (2022) and Belahcen (2023). For more details, see Al-Salami (2001, p. 156).

[10] See Carrier and Randall (1992). For a cross-linguistic evidence in support of this hierarchical ordering, see Zhang (2001) for English and Chinese and Yamaguchi (2020) for Japanese. Note also that this hierarchical ordering can also be applied to non-verbal sentences in SA because these sentences only have one argument, which is the subject.

D. *naħata l-fannan-u **(timθa:l-an) murakkizan (timθa:l-an)** aṣ-ṣaxrat-a **(timθa:l-an) mubalal-an**
carved the-artist-NOM statue-ACC focused-ACC statue-ACC the-rock-ACC statue-ACC wet-ACC

In (11A), the depictive-Sub /muxtalan/ '*a fool*' precedes the depictive-Obj /sa:hijatan/ '*absent-minded* '. If the opposite order happens, the sentence is deemed ill-formed (see e.g., 11B above) because the generalization (10) is not respected. Let us now expand the proposed hierarchical ordering in (10) to include the rest of the SPs in SA. We propose that ResPs are lower than depictive-Sub and depictive-Obj. Evidence comes from examples (11C-D). When ResPs are in the utmost right periphery (i.e., the lowest in the hierarchical ordering), the sentence is well-formed (see 11C). However, once we change the order of the ResP, either before depictive-Sub or depictive-Obj, the sentence is ill-formed (see 11D). Let us now consider where CausP is situated in the proposed hierarchical ordering:

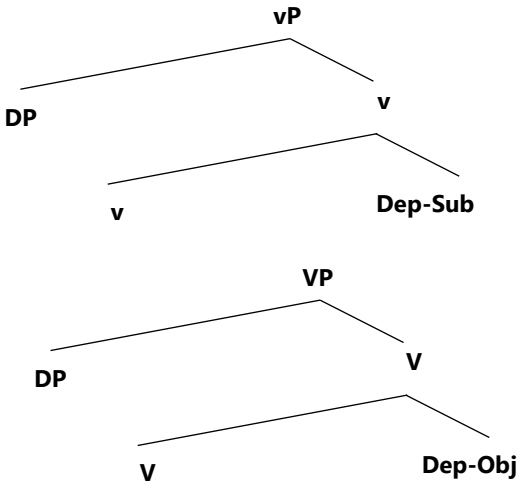
12) A. naħat-na aṣ-ṣaxrata **timθa:l-an istiʕdad-an** li-iftita:ħ l-mutħaf-i l-ʔaθar-i
carved the-rock statue preparation for-opening the-museum the-archaeological
'*We carved the rock in the form of a statute in preparation for the opening of the archaeological museum*.'
B.*/? naħat-na aṣ-ṣaxrat-a **istiʕdad-an (timθa:l-an) li-iftita:ħ l-mutħaf-i l-ʔaθar-i (timθa:l-an)**
carved the-rock preparation (statue) for-opening the-museum the-archaeological (statue)

Based on the grammaticality of (12A) and the ungrammaticality of (12B), we see that CausP must be the lowest in the hierarchy. That is, when the CausP follows the ResP /timθa:lan/ '*a statue* ', the sentence is grammatical. If the opposite happens, the sentence is ill-formed (see e.g., 12B). Based on all of these facts, we propose the following generalization on SPs:

13) The Hierarchical Ordering of Secondary Predicates
Dep-Sub **>** ResP **>** Dep-Obj **>** CausP

If SPs are organized in the hierarchical ordering above, the important conclusion that can be drawn is that they occur in different structural positions in the tree structure. We propose that the depictive-Sub is merged in vP in the adjunct position (see 14 below) or Predicate Phrase (henceforth PredP) in the verbless sentence[11] while the depictive-Obj is merged in VP in the adjunct position.

14)



As for CausP and ResP, both will be situated in VP. However, while the former is in the adjunct position, the latter will be in the complement position, taking into consideration their hierarchical ordering in the tree structure (i.e., ResP > Dep-Obj > CausP).

3.2 Distribution, Co-occurrence Restrictions, and Word Order Restrictions

Natural languages differ in how the structure of second predicates is achieved. Consider the following examples:

15) Georgian
vatʃ.r-eb-i **gaoceb-ul-i** gamovidnen saxl-idan

[11] We will argue in later sections for the existence of PredP.

merchant-PL-NOM amaze-PTCP-NOM they.came(AOR).out house-from
'*The merchants came out of the house amazed*.'
(Boeder, 2005, p. 204)

16) Swiss German, dialect of Diepoldsau

A. du moascht d=Milch aber **asa hoass-a** trinka
2.S.NOM must DEF=milk.S.F but so.much hot-DEPIC drink(INF)
'*You have to drink the milk hot*.'
(Schulz-Berndt & Himmelmann, p. 93)

B. *du moascht d=Milch aber **hoass-a** trinka

Based on the two examples above, on the one hand, some languages allow secondary predicates to appear without a preposition (see e.g., 15 with the secondary predicate /gaoceb-ul-i/ '*amazed*'). On the other hand, there are other languages, such as Swiss German, which prohibit the absence of the preposition with secondary predicates, as shown in the ungrammaticality of 16B above, due to the absence of the preposition /asa/ with the secondary predicate /hoass-a/ '*hot*'.

When it comes to the appearance of the preposition with secondary predicates, we saw only two types of languages (i.e., Georgian-type languages and Swiss German-type languages). There is another type of language, which shows an interesting behavior regarding this issue. Consider the following examples:

17) A. ṭalaʃa l-faʒru wa istajqaðʶtu **bi-ðihnin ṣafin** **Standard Arabic**
rose the-dawn and woke up.1.S with-mind clear
'*The sun rose, and I woke up with a clear mind*.'

B. tafaqqaʔa r-rumman-u ʕaṣi:r-an
exploded the- pomegranate-NOM juice-ACC
'*A juice was made from the pomegranate*.'

C. tadfaʃuha r-raɣbat-u r-rasixat-u **li-d-difaːʕi ʕan ħamli-ha**
driven the-desire-NOM the-firm-NOM to-defend on pregnancy-her
'*She was driven by a firm desire to defend her pregnancy*.'

18) A. qra **bʃwijja** baʃ tfhəm məzjan
read.1.S.M slowly so understand.1.S.M well
'*Read slowly to understand well*.'

B. ʒat mm-u **maxluʃa** mnin səmʃat l-xbar
came.3.S.F mother-his frightened when heard.3.S.F the-news
'*His mother came frightened when he heard the news*.'

In Standard Arabic (henceforth, SA) and Moroccan Arabic (henceforth, MA), the preposition can optionally appear with secondary predicates. Examples (13) and (18B) show that secondary predicates appear with no preposition whereas examples (17) and (18A) show that the secondary predicates appear with the preposition.[12]

The preposition plays an important role in determining the interpretation of SPs; [13] indeed, it is the preposition that appears with SPs that encodes their meaning. If we look at the examples above, we see that the preposition /bi-/ realizes the meanings of depictivity and resultability (see e.g., 17A-B, respectively) whereas the preposition /li-/ specifies the meaning of causality.[14]

Since the meaning of SPs remains available whether the preposition is present or not, as shown in the data established by the natural languages above, an important conclusion that can be drawn is that the projection of the preposition exists covertly even

[12] In the structures that contain CausP or DepP, the particle is never realized because these predicates are realized by verbs; and both verbs and particles can never occur in an adjacent manner in the same sentence.

[13] There are empirical arguments in some languages that highlight the importance of the particle in determining the interpretation of SPs. Consider the following example:

(i) Estonian (Finno-Ugric, Uralic)
minu mees töötab arsti**-*(na)**
1.S.GEN husband.NOM work.3.S doctor-ESS
'My husband works as a doctor.'
(Lutkat & Hasselblatt 1993, p. 192, as cited in Schultz & Himmelmann, 2004, p. 86)

In (i), we observe the presence of the predictive marker called 'essive case', which is used on expressions of function or role (Schultz and Himmelmann, 2004, p. 86). If this essive case is deleted, this meaning is lost. See Schultz and Himmelmann (2005) for more on the general and different meanings that are encoded in SPs in many natural languages.

[14] Traditional Arab grammarians claim that it is the particle /fi-/ that realizes DepPs, and not /bi-/ that we indicated in the paper (see Ibn Yaaeesh, n.d.). However, this particle is not produced in SA.

if it is not overtly realized in the sentence. Therefore, this preposition, even when covert, imposes some constraints that contribute to the realization of the meaning of depictivity, causality, and resultability. To support this conclusion, we assume that what encodes the meaning/interpretation of SPs is a functional projection, which specifies a particular predicative feature; this feature may be either a depictive, causative, or resultative, and this predicative feature must match with the feature hosted on the preposition, which appears with each type of SPs. We argue that the functional projection that hosts the interpretation of SPs is the Aspect Phrase (henceforth, AspP). In order to support this claim, consider these examples:

19) A. nawwamu aḍ-ḍahijjata **[muxaddaratan li-muddati θala:θati ajjamin]**
made sleep the-victim drugged for-period three days
'*They made the victim sleep by drugging her for three days*.'
*nawwamu aḍ-ḍahijjata **[muxaddaratan fi sa:ʕat-in]**
made sleep the-victim drugged for hour
B. al-ʃummalu ɣa:ḍibu:n-a **[taḍa:munan maʕa zumala:ʔihim ṭawa:la muddati l-ʕamali / * fi θala:ti sa:ʕatin]**
the-workers angry in solidarity with their colleagues throughout duration the-work / in three hours
'*Workers are angry in solidarity with their colleagues throughout the working time*.'

20) A. tafaʒʒarati l-ʔarḍ-u **ʕuju:nan fi sa:ʕatin**
burst the-earth springs in hour
'*The earth burst with springs in one hour*.'
B. *tafaʒʒarati l-ʔarḍ-u **ʕuju:nan li-muddati θala:tati ajjamin**
burst the-earth springs for-duration three days

Our AspP analysis is supported by the tests provided by the aspectual literature in distinguishing between SPs as limited situations or as non-limited situations. SPs as limited situations are modified by prepositional phrases and indicate a limited point in time (e.g., **/**fi sa:ʕatin/ '*in an hour*') whereas SPs as non-limited situations are modified by prepositional phrases and indicate extended temporal conditions in time (e.g., /ṭawa:la/ '*throughout*' and /li-θala:tati ajjamin/ '*for three days*').[15] We see that DepP and CausP only allow extended temporal conditions of time (see e.g., 19A-B). On the contrary, ResP only allows limited situations, and this is shown by the grammaticality of using **/**fi sa:ʕatin/ 'in an hour' in (20A) and the ungrammaticality of using /li-muddati θala:tati ajjamin/ '*for three days*' in (20B).

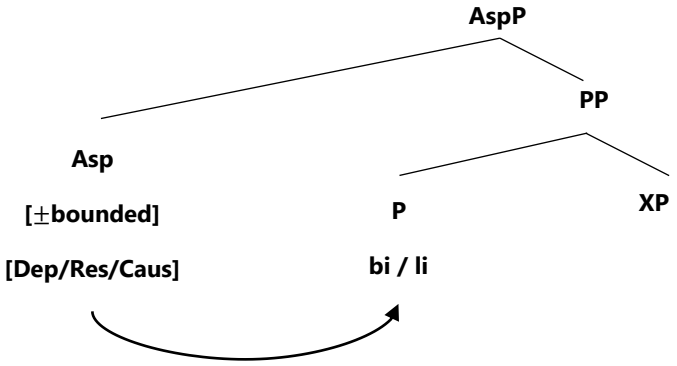
The aspectual head, which encodes the meaning of the SPs, is subject to some of the constraints imposed by the type of preposition that appears with a specific type of SP; consider the following examples:

21) A. *tadaxxalati ʃ-ʃurṭatu **min / ʕala / fi / li**-ʕunfin li-faḍḍi iʕtisa:mi l-mutaḍa:hirin
intervened the-police from / on / in / for-violence to-disperse sit-in the-protesters
B. *farra l-mufakkiruna **min / fi / ʕala / bi**-l-huru:bi mina l-ʔiḍṭiha:di
fled the-thinkers from / in / on / in-the-escape from the-persecution
C. *naħatna l-ʔarḍa **min / fi / ʕala / li**-l-bujuti
carved the-earth from / in / on / for-the-houses

Examples (21) show that SPs cannot occur with any type of preposition. Indeed, and as shown in examples (17A-C), SPs appear with specific types of prepositions: /bi-/ only occurs with DepP and ResP (see e.g., 17A-B) while /li-/ only occurs with CausP (see e.g., 17C). This means that each preposition has a predicative feature that AspP must put restrictions in order to encode the meaning of those SPs. Based on all of these facts, we propose that SPs have the following tree representation:[16]

[15] See Afrah (2021) on the aspectual characteristics of the present participle in SA.
[16] We use XP to refers to the fact the preposition can take different categories.

22)



In (22), we see that the head Asp hosts the features [+Dep] / [+Res] / [+Caus] as well as the [±bounded] feature. Recall that the latter feature is also important since it explains the differences between SPs that are used for limited situations and SPs that are used in non-limited situations. Naturally, the features on Asp must match those on P. If the preposition /bi-/ is realized, then it restricts the feature that is hosted on the head Asp, which can be [+Dep] or [+Res].[17] However, if the preposition /li-/ is realized, then the feature that is hosted on Asp is [+Caus]. This restriction by the prepositions /bi-/ and /li-/ occurs whether they are morphologically realized or not (i.e., whether overt or covert). The major conclusion from this is that the structure of SPs is uniform since all of these SPs have the projections AspP and PP. The only difference is the nature of the projection that is merged with the head P, as shown in (22). Therefore, this XP projection mentioned in (22) can either be PredP or a defective TP when DepP and CausP are realized by a verb.[18] For more clarity, consider examples (23A-B) that contain DepP and ResP, respectively, and the tree representation (24A-B), respectively:[19]

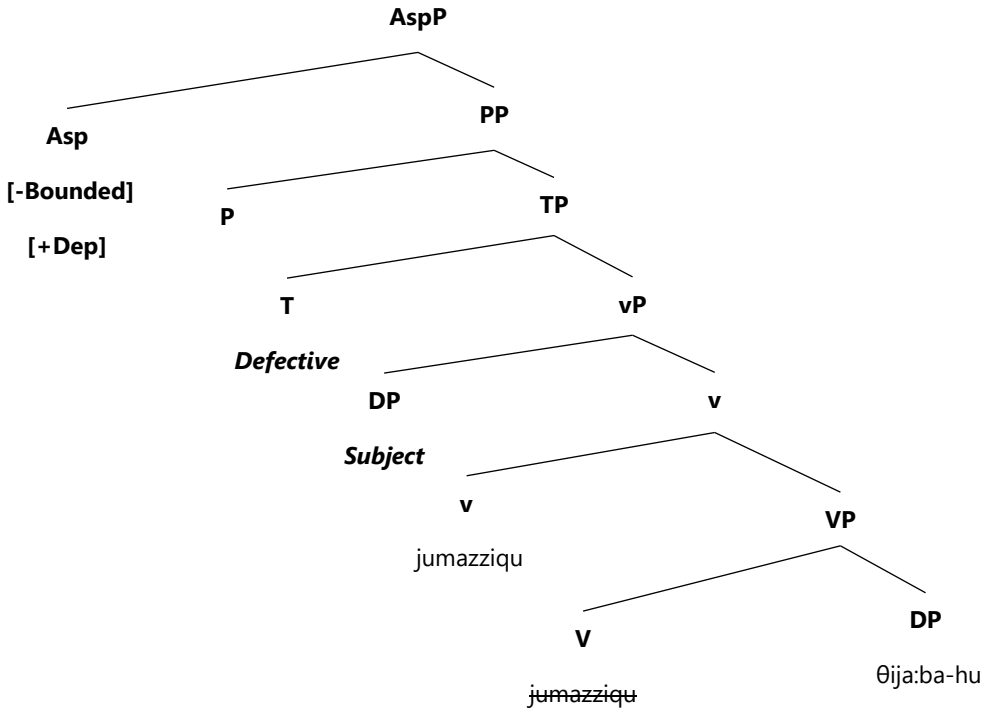
23) A. ṣaqaṭa ʃ-ʃabbu ja:fiʕun minhum fi l-ʔarḍi jumazziqu θija:ba-hu
fell the-man young from-them to the-ground tearing clothes-his
'*A young man fell to the ground tearing his clothes*.'
B. al-ʔarḍ-u mufaʒʒarat-an ʕuju:n-an
the-earth-NOM burst-ACC springs-ACC
'*The earth burst with springs*.'

[17] The fact that the preposition /bi-/ can have more than one feature is not a problem since prepositions have express several meanings. This idea is common to Arab grammarians, most notably with Al-Razi (1981). For example, the preposition /min/ '*from*' has two meanings, one of which is the possession in the Construct State.

[18] See the previous section regarding the order and positions of SPs that are constrained by the Hierarchical Ordering of Secondary Predicates.

[19] Concerning PredP, see section 4 and Rahhali (2010). In (24A-B), we limit ourselves to the projections that are directly related to the structure of SPs without providing much detail to the rest of the projections, which we will discuss in the next sections.

24) A.



B.

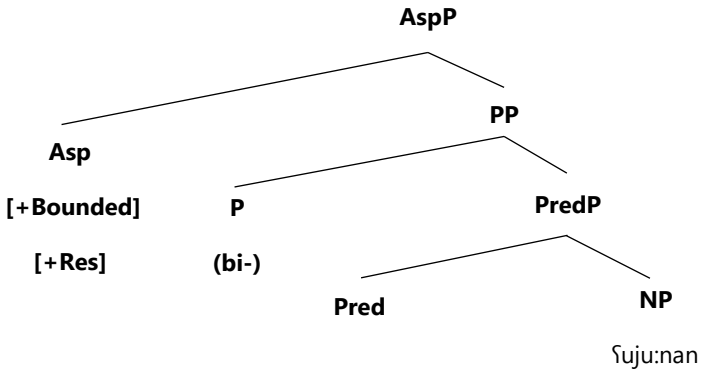


Figure (24A) shows that Asp hosts [+Dep] which matches with [+Dep] in P. Note that the preposition is not morphologically realized but is still available covertly. We already said the reason why the preposition is not morphologically realized is that DepPs are realized by verbs (see Footnote 12), and we also stated before that we will be using PP because all SPs have a uniform structure. In (24A), we also see that P is a complement to a defective TP because T relies on the temporal interpretation of TP contained in the matrix sentence. The same defective TP is externally merged with vP, whereby v licenses the accusative assignment of the direct object /θija:ba-hu/ '*his cloth*es'. Figure (24B) highlights that Asp hosts the feature [+Res], which matches with [+Res] in P that hosts /bi-/. In (24B), P complements PredP. We will see in later sections that since the PredP saturates the noun semantically (from a referential to a predicate); consequently, the ResP can theta-mark its subject. Indeed, we will go into detail about the position and the nature of SP subjects in the next section, especially the last section on the Control structure.

Since, as we have seen, SPs constitute a domain of independent interpretation whereby AspP plays a key role in determining their meaning, we argue that Asp constitutes a phase. We will support this claim in the following section, and we show that these small clauses constitute a domain for Case and agreement-checking systems.[20]

4. Shared Arguments: Referentiality and Restrictions

Following Irimia (2012, p. 17), we formulate the following condition for SPs:[21]

25) Licensing Condition for SPs
SPs are licensed only if the following condition is met:
The Rule of Subject-Predicate-Linking

Based on this condition, SPs must license subjects. The issue of subject licensing by SPs is not a problem, especially DepPs and CausPs, which are realized by verbs. However, the problem arises when SPs are lexicalized by adjectives or nouns. Indeed, these categories cannot license subjects because they do not have a specifier position like verbs, as shown in Baker's (2003a, 2008) theory of lexical categories. Therefore, for adjectives and nouns to become semantically saturated and able to assign a theta role to their subjects, they need the PredP, which has the specifier the position and gives the ability for these nominal and adjectival SPs to theta-mark their subjects. That is why we assume that the structure of verbless SPs is (24B) above. There is another important characteristic of SP subjects. Consider the examples below:

26) A. aṭraqa Zayd ṣa:mit-an
knocked.3.S.M Zayd silently-ACC
'*Zayd knocked silently*.'
B. tafaqqaʔa r-rumman-u ʕaṣi:r-an
exploded the- pomegranate-NOM juice-ACC
'*A juice was made from the pomegranate*.'

SP subjects have an important characteristic, which they share with the main predicates. If we consider (26A), we will find that the subject of the depictive *Zayd* is also the subject of the main predicate /aṭraqa/ '*knocked*', since the subject that is silent is the same one that performed the action of knocking. Similarly, in (26B), the ResP subject /r-rumman-u/ '*the pomegranate*' is both the surface subject of the verb *exploded* and *the juice*, and this is essentially what is called a shared argument.[22] Moreover, shared arguments in the structure of SPs (see e.g., 26A-B)[23] are restricted by the Definiteness Condition. Consider these examples for further clarification:

27) A. qadima [[**xa:dimun** (**min xudda:mi d-dawlati**)] **mutabaxtiran**]
came servant from servants the-country s strutting
'*One of the servants of the government came walking in a conceited way*.'
B. * tafaʒʒarati [[**ʔarḍ-un**] ma:ʔ-an]
burst earth-NOM water-ACC
C. *farra [[**mufakkir-un**] harab-an mina l-ʔiḍṭiha:di]
fled the-thinkers escape- ACC from the-persecution

In (27A), we see that the Definiteness Condition imposes shared arguments to carry the specificity feature. This means that shared arguments should be known in the discourse or, at least, known to the speaker. Naturally, if the shared argument appears with an indefinite meaning, the sentence becomes ungrammatical (see e.g., 27B-C). In addition, since specificity is part of definiteness, then shared arguments that appear before SPs follow this restriction:[24]

[20] The proposal we defend is in line with the reasoning made in Chomsky (2008), which dictates that phases are more related to the system of Case and agreement. Note that there is a similar proposal that uses the phase-based approach in analyzing secondary predicates (see Abu Helal, 2018); however, we part ways in the sense that the analysis uses vP even when the verb is not present. We also use AspP whether vP is present or not.

[21] See also Winkler (1997), Lebeaux (1988), and Rothstein (1983), from whom Irimia (2012) adopts the condition. We dispense with the second part of the licensing condition formulated by Irimia (2012), which requires the need to have the Rule of Predicate-Predicate-Linking since it does not concern us at this point in time.

[22] It should be worth noting that grammarians were aware of the issue of the shared argument between SPs and main predicates (for more, see Al-Astrabadi, 1978; see also Belahcen & Rahhali, in press).

[23] For more on the referential properties of topics and the subjects of verbless sentences, see Rahhali (2003, 2010).

[24] Regarding this property of specificity, shared arguments are similar to subjects of verbless sentences and topics. Following Enc's (1987) theory of definite referentiality who used Heim's (1982) theory on the semantics of definite and indefinite NPs, Rahhali (2003, 2010) showed that the difference between definites and indefinites has to do with familiarity and novelty. The former means that the primary function of definites is to is to indicate that the intended reference of the NP is familiar to the public whereas the indefiniteness is restricted by the concept novelty: it refers to what is new and not already presented in the discourse. In this context, Rahhali (2003, 2010) inferred that topics and the subjects of verbless

28) The Definiteness Condition (formulated following Rahhali, 2010)
In the structure, [DP [**X**]], the DP must signify specificity, at least.

Therefore, examples (27B-C) are ungrammatical because the condition (28) is violated due to shared arguments not signifying a specific entity, and, hence, not having the specificity feature. Moreover, DepPs can modify both the subject and the object of the matrix clause:

29) aʒa:ba-ha munʃaɣil-an / munʃaɣilat-an
responded.3.S.M busy.M-ACC / busy.F-ACC
'*He responded while he was busy / while she was busy.*'

While DepPs show freedom of modifying shared arguments (be it subject or object), other types of SPs, specifically ResP and CausP, do not have such freedom. When it comes to ResP, it can only modify direct objects. Consider this restriction (following Levin and Rappaport, 1995):[25]

30) Direct Object Restriction
A resultative phrase may be predicated of the immediately postverbal NP but may not be predicated of a subject or of an oblique complement.
(Levin & Rappaport, 1995, p. 34)

31) A. naħatna [**l-ʒiba:l-a buju:t-an**]
carved.1.P the-mountains-ACC houses-ACC
'*We carved the mountains in the form of houses.*'
B. * ṣaraxa [**ṣ-ṣabijj-u ḍaʒi:ʒ-an**]
screamed.3.S.M the-boy-NOM noise-ACC

On the one hand, example (31A) does not violate the restriction (30) because the ResP /buju:tan/ '*houses*' modifies the direct object /l-ʒiba:la/ '*the mountains*'. On the other hand, example (31B) is ungrammatical because /ṣ-ṣabijju/ '*the boy*' is not an affected argument but an agent. Let us now move to CausP:

32) A. **ʔal-ʕumma:lu** muḍribu:na [**iħtiʒa:ʒan ʕala l-muħa:kamati ɣajri l-ʕa:dilati**]]
the-workers on strike in protest against the-trial not the-fair
'*The workers are on strike in protest against the unfair trial.*'
B.* ḍuriba**t** [**iha:natan la-ha / li-l-iha:anati la-ha**]
hit.3.S.F insult to-her to-the-insult to-her

CausP stands to the opposite of ResP since it needs to modify agents, as shown in the grammaticality of (32A) where the CausP /iħtiʒa:ʒan/ '*in protest*' modifies the agent subject /ʔal-ʕumma:lu/ '*the workers*' because the event of protesting requires for an agent to perform it. In (32B), the pronoun /-t/ stands for an experiencer; therefore, the ResP will end up modifying an experiencer and not an agent. To clarify further, (32B) is ill-formed because the CausP always needs a causer, and the latter cannot be a theme or an experiencer but should always be an agent.[26] That is, the causer needs to be a thematic subject and not a syntactic subject like the empty pronoun *pro* (see 32B above), which raises to the specifier position in order to get Case assigned since the verb is in the passive and cannot assign Case to it. Based on all of these observations, we formulate the following restriction:

33) Agent Argument Restriction
CausP is only linked to shared arguments that are agents.

Based on (33), CausP must be linked to a shared argument that is an agent of both main and secondary/causative predicates. In the next subsection, we move to issues related to agreement and Case.

5. The Structure of Secondary Predicates and the Properties of Agreement and Case

The approaches that analyze the structure of SPs can generally be reduced to two. The first approach adopts complex verbal predicate analysis and the second one adopts the small clause analysis. In this section, we will present the inadequacies of the first approach and develop the second approach using Chomsky's (2001a, 2005, 2008) phase-based model. Before we dive into these two main objectives, let us first explore the properties of Case and agreement that SPs have.

5.1 Secondary Predicates: Issues of Agreement and Case

sentences do not necessarily have to be definites, as they can indicate specification, instead. See the discussion and examples in Rahhali (2003, 2010).

[25] Simpson (1983) calls this restriction the Affectednees Condition to indicate that ResPs only modifies the affected arguments.

[26] Traditional Arab grammarians were aware of this restriction of CausP (see Ibn Sarraj, 1996).

Let us first start with the issue of agreement in the structure of SPs. Unlike Dalmi (2005), the structure of SPs, in SA and across languages, is rich in the morpho-syntax interface.[27] Consider the following examples:

34) A. hakaða ṣa:ħa **ṭa:riq-un ɣa:ḍib-an**
this shouted.3.S.M Tarik.3.S.M-NOM anrgy.3.S.M-ACC
'*This is how Tarik shouted angrily*.'
B. *iqtarabat min-hu **munfaṭir-atajn / munfaṭir-ina / munfaṭir-a:t**
approached.3.S.F from-him broken hearted-DUAL.F …-P.M …-P.F

DepPs and shared arguments have a rich agreement, most notably the φ-feature. In (34A), the shared argument '*Tarik*' agree with the DepP '*angrily*' in the features [3], [S], and [M]. If the SP and shared arguments do not agree in features, the sentence becomes ill-formed, as seen in the example (34B) where the shared argument, the empty pronoun, that hosts the [3], [S], and [F] features do not agree with all the three DepPs that host other features (i.e., [DUAL], [M], and [P], respectively). Note that there are other languages that share the same characteristic seen in (34) above:

35) Moroccan Arabic
ṭ-ṭalaba **klaw** kəsksu **mʃəṣṣb-in / *mʃəṣṣb / *mʃəṣṣb-at / *mʃəṣṣb-a**
students ate.3.P.M Couscous angry-3.P.M …3.S.M …-3.P.F …-3.S.F
36) French
Nous vivons **cachés**
we.1.P live.1.P hidden.M.P
'*We live hidden*.'
(Tesnière, 1959, p. 160, as cited in Schultz & Himmelman, 2004, p. 76)

On the opposite way, we see that ResP and CausP lack an agreement relation with shared arguments. Consider these examples:

37) A. tafaqqaʔa r-rumman-u **ʕaṣi:r-an / *ʕaṣa:ʔira**
exploded the-pomegranate-NOM juice-ACC juice.P
B.*xafaqati aṣwa:tu l-muʃa:riḍi:na **xawf-an / xawfa-tin** min maṣiri:n muma:θil
flickered voices the-opponents fear-ACC / fear-P of fate similar

ResP and CausP, as seen in (37A-B), respectively, have the feature [M] or [NEUTRAL] even if their shared arguments /r-rumman-u/ '*the pomegranate*' and /aṣwa:tu l-muʃa:riḍi:na/ '*the voices of opponents*', respectively, have different markings. In (37A), the shared argument /r-rumman-u/ '*the pomegranate*' carries the features [3], [P], and [F] whereas the shared argument /aṣwa:tu l-muʃa:riḍi:na/ '*the voices of opponents*' carries the features [3], [P], and [M]. If SPs carry the feature [P], the sentence becomes ill-formed.

Let us now move to the issues of Case. The structure of SPs is characterized by an important syntactic property, which is the alternation between the accusative and genitive Cases. Let us look at these examples below:

38) A. fa-sa:ʔaka l-ʕi:du fi aɣma:ta **maʔsu:r-a**
then-offended the-feast in clouds **captive-ACC**
'*So the feast was in the clouds of a captive*.'
B. tabki: l-ʔummu kulla jawmin **li-ʃ-ʃawq-i** li-ʔibni-ha
cries the-mother every day **for-**the-longing-**GEN** for-son-her
'*The mother cries every day longing for her son*.'

In the examples above, we see that when the structure of the SP does not contain a preposition, the SP is marked in the accusative Case (see e.g., 38A). However, when the structure does contain a preposition, the SP is marked in the genitive Case (see e.g., 38B).

If we return to the works of traditional Arab grammarians, we will find that the agreement properties of SPs did not receive the same attention as the Case properties of SPs.[28] Their discussion was generally related to what Case marks these SPs. In fact, these

[27] Dalmi (2005) assumes that Case (and many other types or marking on SPs) is peripheral, very restricted, and is only apparent in few languages. She assumes that the matching in the features of Case and agreement is a spell-out of agreement (Agr). The SPs are licensed through small clause analysis whereby the small clause is a complement of the head Agr. This proposal is problematic since the agreement projection is dispensed with in Minimalism.

[28] However, see the final point of this paragraph, which mentions a small indication of agreement relations through Ibn Yaeesh's (n.d.) observation.

grammarians almost unanimously agree that what governs SPs and mark Case to them is the verb. [29] Ibn Yaeesh (n.d.), for example, considers that the DepP is similar to adjectives. To clarify further, adjectives are known to modify nouns, and the verb governs the DP. This DP contains both the modifier (i.e., the adjective) and the modified (i.e., the noun). Since the verb Case marks the whole DP, it also indirectly Case-marks the adjective. Therefore, the same procedure will work for the DepP, which is the modifier, and the shared argument, which is the modified. Ibn Yaeesh (n.d.) finds that the verb also indirectly Case marks the DepP the same way the verb does to adjectives. The consequence of this is that DepP/adjectives must match in terms of agreement, Case, and definiteness with shared arguments/nouns. Let us now move on to these examples for further observations:

39) A. na:ħa ʃabbun na:fiʕun min-hum wa saqaṭa fi l-ʔarḍi **mumazziq-an** θija:bahu ʕindam:a raʔa: t-tabu:ta
screamed boy young from-them and fell in the-floor tearing-ACC clothes-his when saw the-coffin
'*One of the young boys screamed and fell on the floor, tearing his clothes when he saw the coffin*.'
B. ʒa:ʔa l-walad-u **l-ʒami:l-u** / ***ʒami:l-un** / **ʒami:l-an**
came.3.S.M the-boy-NOM the-handsome-NOM handsome-NOM handsome-ACC
C. ha:ða Omar **munṭaliq-an**
this Omar starting off-ACC
'*This is Omar going ahead*.'

The justification for the verb as a governor, as proposed in the works of most traditional Arab grammarians, does not seem to be coherent enough to be reliable, as it is not without theoretical and empirical problems. Let us initially concede by the suggestion of Ibn Yaeesh (n.d.) that the same verb that is the governor for the shared argument is the same one that Case-marks DepP in the accusative (see e.g., 39A). What we notice is that the unaccusative verb /saqaṭa/ '*fell*' in (39A) works as a governor for the subject, the shared argument, and the pronoun, and the DepP /mumazziqan/ 'tearing'. The problem is, what case-marks the DepP /munṭaliqan/ '*starting off*' since the verb/saqaṭa/ '*fell*' is an unaccusative one? In fact, what case-marks SPs, in general, in verbless sentences, as seen in example (39C)? In (39C), traditional Arab grammarians state that the governor of shared arguments case-marks the subject in the nominative. In this case, if we follow their claim, the DepP must be marked in the nominative and not the accusative Case because the shared argument is marked in the nominative Case.[30] If we look at example (39B), the matter becomes worse when the traditional Arab grammarians made the governor of the DepP the same governor for adjectives. If we look further, the DepP and adjectives are not so-similar after all. In (39B), the adjective /l-ʒami:lu/ '*the-handsome*' must match with the noun /l-waladu/ '*the boy*' in all aspects of agreement, definiteness, and Case. However, the DepP only agrees with the shared agreement in terms of person, number, and gender, and it does not have to match with it in terms of definiteness and Case.

By presenting the Case and agreement properties of the SPs and highlighting the weakness of the analysis given by traditional Arab grammarians, it seems that the questions that must be asked are as follows: how can the properties of Case and agreement be assigned, i.e., how can we explain the matching that occurs between DepP and the shared argument but is absent between CausP/ResP and their shared arguments? How can we explain the Case alternation (i.e., accusative and genitive) that is a characteristic of SPs? More broadly, what is the syntactic structure that enables the derivation and licensing of the properties of SPs in the MP? We answer these questions after we present a set of arguments that weakens the analysis of the complex verbal predicate.

5.2 The Analysis of Agreement and Case in the Complex Verbal Predicate

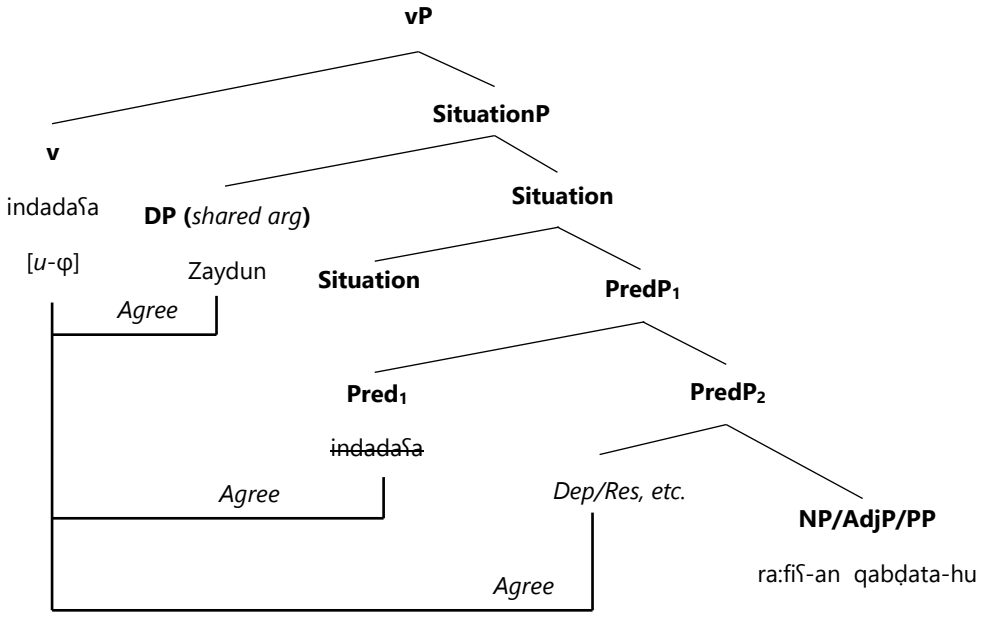
The proponents of the complex verbal predicate (Al-Salami, 2001; Irimia, 2012; see also Bresnan, 1982; Rothstein, 1983; and Simpson, 2005) assume that the composition of the main and the secondary predicates is a way to build complex predicates at the level of the verb. To explain the interpretive, Case, and agreement properties of the structures of SPs, Irimia (2012) posits that the SP constitutes, with the main predicate, a complex verbal predicate, as shown in tree representation in (40B) of the sentence (40A) below:

40) A. indafaʕa **Zayd-un** **ra:fiʕ-an** qabḍata-hu
rushed.3.S.M Zayd-NOM raising-ACC fist-his
'*Zayd rushed raising his fist*.'

[29] Traditional Arab grammarians based their analysis on the theory of /ʕa:mil/ '*government*'. This theory states that any governor must have a governee. For example, verbs, due to their nature, work as governors of direct objects. That is why grammarians always looked for the governor of DepP (see Ibn Sarraj, 1996).

[30] For more on arguments against the verb as a governor, see Belahcen and Announi (2022) and Belahcen (2023), which dive into why the verb is not a governor of the concomitate object.

B.



The analysis presented by Irimia (2012) is based on the assumption that there is a set of crucial functional projections. The first of these projections, as shown (40B) above, is the Situation Phrase, whose specifier is the shared argument '*Zayd*', which is sandwiched between the main predicate /indafaʕa/ '*rushed*' and the DepP /ra:fiʕan/ '*raising*'. The importance of this projection is that it combines both predicative categories, which results in the "various types of relations holding between the eventualities expressed" (Irimia, 2012, p. 13). Moreover, it is SituationP that mediates the relationship between the light *v*, which hosts the uninterpretable φ-features, and the shared argument. In addition, the second project in the vP, PredP$_1$, contains uninterpretable agreement and predicative features. These predicative features are valued through the movement of the main predicate /indafaʕa/ '*rushed*' to the head *v*. As for the third projection, PredP$_2$, it hosts the SP /ra:fiʕan/ '*raising*'. In order to license the Case and agreement properties of SPs, Irimia (2012) makes use of the Multiple Agree analysis proposed by Hiraiwa (2001, 2005) and which is formulated as follows:[31]

41) Multiple Agree

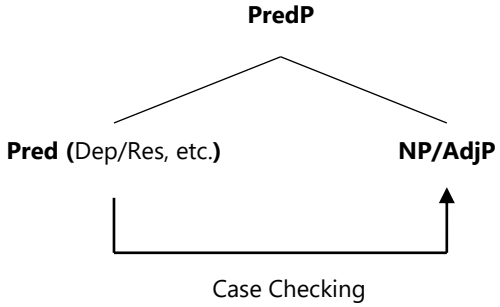
MULTIPLE AGREE (MULTIPLE FEATURE CHECKING) with a single probe is a single simultaneous syntactic operation. AGREE applies to all the matched goals at the same derivational point derivationally simultaneously.

(Hiraiwa, 2001, p. 69)

By drawing on the distinction between substantive features (i.e., [Number] and [Gender]) and the Case feature, and by depending on the mechanism (41), Irimia (2012) hypothesizes that the head of the light verb *v* hosts unvalued agreement features. The light verb *v* can value these features in more than one Goal in its domain. In order for those features to be valued, *v* has to value them with the closest active Goal that matches with it in terms of features. Consequently, *v* will be in a matching relation with the DP, the shared argument '*Zayd*' (see e.g., 40A-B), which is the closest Goal that hosts valued [3], [S], and [M] features. After it got its agreement features valued, *v*, which is specified with v-complex features, enters into multiple agree relations with two Goals at the same time in order to value their agreement features. These Goals are the main predicate /indafaʕa/ '*rushed*', which is in Pred$_1$, and the SP /ra:fiʕan/ '*raising*' in (40B). This is why both the shared argument and the SP appear to be matched in terms of agreement features. Indeed, the shared argument valued the agreement features of v, and the same head valued the same features of two Goals at once: indafaʕa/ '*rushed*' and SP /ra:fiʕan/ '*raising*'. Under this assumption, the formulation of the complex predicate is the result of a multiple Agree process. With regard to the licensing of the SP, Irimia (2012) assumes that the Case feature is valued under a local relation of head-complement, whereby PredP, which has the SP, hosts the Case feature that is valued in its complement position, as seen in the figure (42) below:

[31] The Multiple Agree operation has the same basic restrictions imposed to establish the standard Agree relations. The addition in Irimia's (2012) thesis is that the first goal does not deactivate the Probe; consequently, the latter can still enter into further agreement relations with other Goals.

42)



In order to license the cases where the SP carries Case features that match with the Case features of shared arguments, as observed in languages like Serbo-Croatian (see e.g., 43 below), Irimia (2012) assumes that the head of PredP is not specified with a Case feature, and the Case features of the shared argument is copied onto the SP because they appear in the same syntactic domain. The result of this copying procedure is the matching between the Case features of the SP with those of the shared argument.[32]

43) Serbo-Croatian

nasao	sam	**ga**	**pijanog**
found	aux.1.S	him.ACC[33]	drunk.ACC

'*I found him drunk*.'

(Bailyn, 2001, p. 6)

Irimia's proposal (2012) has three important characteristics, which we will adopt in this paper. The first characteristic is to distinguish between the substantial features (i.e., [Number], [Gender], and [Person]) and Case features. The second characteristic is to use the head-complement relation in the checking of the Case feature. The third characteristic is to drop the empty element PRO in the analysis, whereby she assumes that the main and secondary predicates have one shared argument that controls the SP.[34] However, the analysis of Irimia (2012) poses several theoretical and empirical problems for us.

If we apply Irimia's (2012) proposal to the framework of derivation by phase and consider that the SP is a phase, we will face several problems. First, this will deepen the problem of locality where the shared argument, which copies its Case features onto the SP when the head of PredP is not specified with a Case feature, does not enter into a local relation with the SP at any stage of derivation. The same applies to the light verb *v*, which checks the agreement features of the SP using the multiple Agree process, as there is no local relationship between these two elements. Second, it is theoretically problematic to consider the head of PredP sometimes to have the Case feature and sometimes not to have it. Indeed, what are syntactic contexts, within SA and across languages, in which this functional head is specified with a Case feature[35] and when it is not, especially in languages where the SP can alternate between two Cases? There are two consequences of this. The theoretical consequence of this is an increase in the cost and complexity of computational operations; henceforth, this goes against minimalism's concept of economy of derivation. The empirical consequence is that it will be difficult to predict the context in which the SP can carry a Case feature that is different from that of the shared argument or a Case feature that is a complete match to that of the shared argument. To make matters worse, in both of these featural contexts, the head of PredP produces only one meaning. Third, the multiple Agree procedure does not take into consideration other types of SP, apart from DepP. Indeed, Irimia (2012) claims that all SPs are derived through the

[32] Irimia (2012, p. 148) proposes the following generalization on how secondary predicates are Case checked:

SECONDARY PREDICATE CASE CHECKING

(i) Case of secondary predicate is checked in a head-complement configuration by the secondary predicate introducer.

(ii) If the secondary predicate introducer does not contain the relevant features, copy the Case feature of the shared argument/independently available in the domain.

[33] In Serbo-Croatian, and other languages such as Russian, SPs and shared arguments can also match in the nominative Case as well (Bailyn, 2001).

[34] We do not rely on the same analysis as Irimia (2012) proposed, as much as we only adopt the general conception that PRO should not be used in syntactic theory. We discuss this issue in the next subsection where we offer some arguments to support our proposal on the control structure. In short, we propose that the controlled element is only a copy of the controller. This copy has undergone the rule of deletion at the level of PF. For more on the analysis of the controlled structure, see Hornstein and Nunes, 2014.

[35] The SP does not always match with the shared argument in terms of the Case feature in the same languages that are characterized by Case matching. In many languages such as Russian, Polish and Serbo-Croatian, and Albanian, the SP can be marked with the instrumental Case, which is considered a default Case in those languages, and it can also be marked with a matching Case with the shared argument (see, for e.g., Bailyn, 2001, Irimia, 2005, among others).

same procedure. However, the analysis does not explain why some SPs (i.e., ResP and CausP) do not show agreement with shared arguments while others (i.e., DepP) display this relation. Fourth, this proposal faces a problem that would ultimately knock down the proposal altogether. If the light verb *v* actually probes into and checks the agreement features of both the main and secondary predicates, as explained in (40B), how can this proposal explain the structures that include more than one DepP:

44) daxala **mutaʔaxxir-ran** al-qaːʕat-a **muktaḍḍat-an**
entered.3.S.M late.3.S.M-ACC the-room.F-ACC overcrowded.F-ACC
'*He entered the room late. The room was overcrowded*.'

In (44), we have two DepP: the Dep-Sub /mutaʔaxxirran/ '*late*' and the Dep-Obj /muktaḍḍatan/ '*overcrowded*', where the Dep-Sub matches with its shared argument in agreement features that are different from those features that are matched between the Dep-Obj and its shared argument.

If *v* actually checks the agreement features of SPs using Multiple Agree, it is expected that the agreement features are matched between the DepPs /mutaʔaxxirran/ '*late*' and /muktaḍḍatan/ '*overcrowded*'. Indeed, we expect the verbal head never to have asymmetric agreement features with the DepP. However, we find a different case. In (44), we observe that the Dep-Sub '*late*' agrees with its shared argument, the pronoun, in terms of the agreement features [3], [S], and [M] whereas the Dep-Obj '*overcrowded*' agree with its shared argument, '*the room*', in terms of the features [3], [S], and [F]. Fifth, the analysis of Irimia (2012) does not specify how many projections of the category Situation, which hosts the shared argument. To further explain this problem. Let us re-look at example (44) above and example (45) below where there is more than one shared argument:

45) ṭaradati **Afin** Hatim-an **muxaddar-an** **radʕ-an** la-hu
expelled Afin.F.NOM Hatim-ACC drugged-ACC deterrence-ACC to-him
'*Afin expelled Hatim, who was drugged, in order to deter him*.'

In (45) above, we see that the subject '*Afin*' is a shared argument between the CausP /radʕan/ '*to deter*' and the verbal predicate /ṭaradati/ '*expelled*' whereas the object '*Hatim*' is a shared argument between the DepP /muxaddaran/ '*drugged*' and the main predicate /ṭaradati/ '*expelled*'.[36] As we can see, her proposal does not specify the position(s) that would host all of these shared arguments, if these projections exist in the first place.

If we go back to the process of the Multiple Agree that is dictated by *v*, this faces empirical problems, especially when it comes to data from verbless sentences in SA that contain SPs but no verb, as seen in the example below:

46) aθ-θimaːr-u l-maqṭuːfat-u naːḍiʒat-an θimaːr-un ṭajjibat-un
the-fruits.F.P-NOM the-picked-NOM ripe.F.P-ACC fruits-NOM good-NOM
'*The picked, ripe fruits are good*.'

How can the Irimia proposal (2012) explain such data of verbless sentences in which there is a significant projection in her analysis that is absent (i.e., the light verb with unvalued agreement features, among others)? Moreover, this proposition does not enable us to derive the hierarchical ordering of SPs, which was proposed in (13) for SA, at least. In addition, this proposal fails to explain the selectional restrictions imposed by the preposition on SPs that were discussed in 2.3.

Based on the arguments presented above, it is clear that the complex verbal predicate analysis that is based on the Multiple Agree mechanism and feature copying does not holistically explain the structure of the SPs nor does it justify their Case and agreement properties. In the following subsection, we present our proposal based on the small clause analysis within the phase-based approach of minimalism.

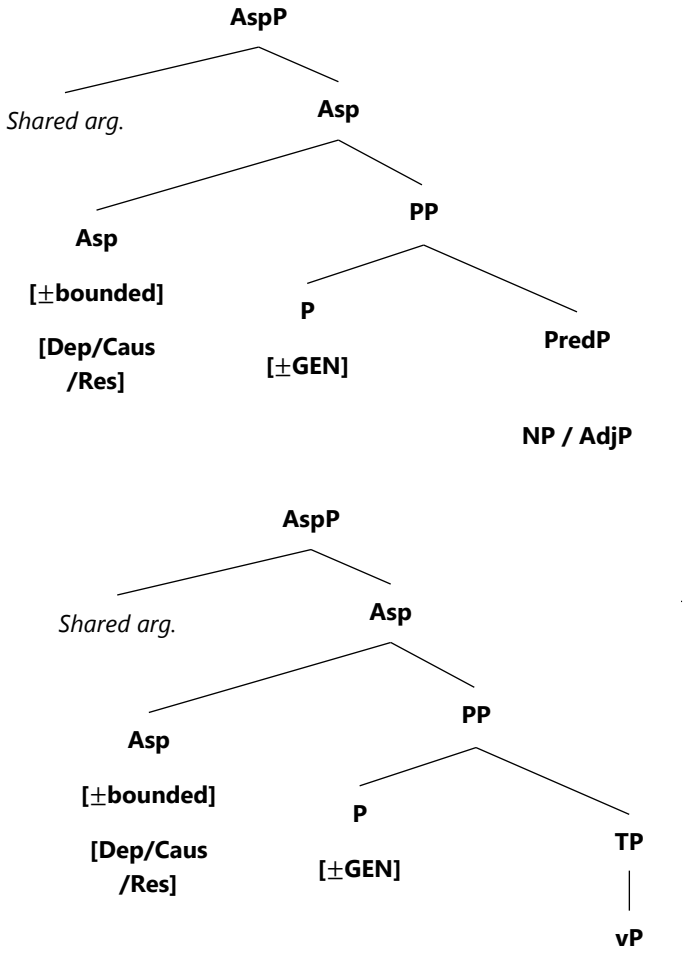
5.3 The Structure of Small Clauses

The analysis we develop here is based on an important assumption made in (47) below, and we suggest, accordingly, that the structure of SPs constitutes small clauses, shown in (48) below:

47) Small clauses are the sole incarnation of subject-predicate relationships.[37]
(Dekkin, 1995c, p.25)

[36] See the restrictions imposed on the modification of shared arguments in section 4.
[37] For more Chomsky (1986, 2001a) and Stowel (1981), and among others.

48)



Unlike Chomsky (2001a), we propose that AspP[38] constitutes a phase within which the interpretation of the structure of the SP is determined. The head of this phase, like the head of phases, is φ-complete, where it is specified with the predicative features (i.e., [Dep], [Caus], and [Res]). These predicative features must match with the type of preposition that is merged in the head P, as we saw before (see 2.2.). Moreover, the internal arguments of this phase are also specified with features, making this phase a domain for the checking of Case and agreement features.[39] In addition, the Aspect phase licenses the specifier position, which hosts the shared argument. The latter receives its thematic role from the SP, whose location is in PP (see Fig. 48 above). In the figure above, P is either the sister of PredP (which includes nouns or adjectives) or the sister of defective TP (which includes vP).[40] In (48), we also see that P hosts the feature [±GEN]; this head P licenses the featural alternation that is seen on non-verbal SPs. To clarify further, consider the following examples:

49) A. jassara r-rasu:l-u az-zawaʒ-a **li-darʔ-i l-fitna**
facilitated the-prophet-NOM the-marriage-ACC to-ward-GEN the-temptation
'*The prophet (PBUH) facilitated marriage to ward off temptation*.'
B. jassara r-rasu:l-u az-zawaʒ-a **darʔan li-l-fitna**
facilitated the-prophet-NOM the-marriage-ACC ward off-the-temptation
'*The prophet (PBUH) facilitated marriage to ward off temptation*.'

[38] Chomsky (2001a, p. 17) tried to address the Case and agreement properties of SPs, in general, and DepPs, in particular, in languages in which the DepP exhibits syntactic Case matching with the arguments that it modifies. He assumed that this constitutes weak phases. We will leave this issue aside.

[39] Our proposal is consistent with Chomsky's (2008) proposal that states that there is a relationship between phases and Case and agreement checking.

[40] See the structures (24A-B).

When the preposition is realized in the structure of the SPs, as seen in (49A) above, the SP valuates the [+GEN] feature in the local relation of head-complement. When this structure is devoid of the preposition, as seen in (49B), we propose that this head is impoverished of the feature of Case; therefore; there will be no Case feature that the SP can valuate. However, the continuation of the derivation without Case checking will violate the Case filter (Chomsky, 1981a), which will lead the derivation to crash. In order to save the structure, the abstract Case appears and it is phonetically realized by the morpheme /-a/. This means that what appears, at first glance, as a structural accusative Case is, in fact, only the realization of the abstract Case because both of these Cases carry the same morpheme /-a/. This is why the latter is considered to be ambiguous in SA.[41] The evidence that this is an abstract Case comes from the fact that it tends to disappear when a structural operator such as the preposition emerges in the structure, such as (49A) above.

This morphological ambiguity created by the morpheme /-a/, which realizes two distinct Case features, is also morphologically supported. Indeed, Tourabi (2015) argued that two Case features can be sufficient to explain the manifestations of Case in Arabic. These two features are nominative and genitive Case features; while /-u/ spells out the first Case, /-i/ spells out the second Case. As for /-a/, it is used in the elsewhere positions. Within the framework of distributed morphology, Tourabi (2015) identified the rules of lexical entries that compete to achieve morphological Case:

50) **A.** /-u/ → nominative Case
B. /-i/ → genitive Case
C. /-a/ → elsewhere

There are other morphological phenomena, which provide further evidence for the use of /-a/ to spell out more than one Case feature. Indeed, Tourabi (2015) showed that diptote nouns in SA are subject to the rule of impoverishment in the genitive Case before their inclusion in the lexical entries, as illustrated (51) below:

51) **The Rule of the Impoverishment of the Genitive Case**
[+GEN] → Ø / [+diptote] + ___ + [-Definite]

After the application of the rule of impoverishment in (51), the lexical entries specified in (50) correspond with the features they will realize. For example, [mosque, +P, + GEN] will be spelled out as [mosques, +GEN]. Then, we will get [mosques, +Ø], which appear in the context of the default lexical entry that spells out /-a/, as seen in (50C) above, whereby we will finally get [masaːʒid-a] '*mosques*' (Tourabi, 2015, p. 251). Based on this, we propose the parameter setting for the genitive Case in (52) below, which enables us to license the Case alternation that occurs within the structure of SPs:

52) **Genitive Case Parameter**
A. The realization of the preposition in the structure of SPs: [+GEN]
B. The absence of the preposition in the structure of SPs: [-GEN, +Abstract].

In order to further strengthen this, we can also justify the syntactic alternation between the genitive and abstract/accusative Cases through the hierarchy of Case, proposed by Tourabi (2015) as follows: nominative Case < accusative Case < genitive Case. Therefore, the nominative Case is the least marked Case in comparison to the other two Cases. It is well-known, in the literature and across languages, that the marked Cases tend to disappear, unlike the unmarked Cases. Consequently, since the genitive Case is the most marked, it will tend to disappear, as observed in the structure of SPs. As shown in this paper, when there is no genitive Case, what we end up seeing is the abstract/marked Case (i.e., the morpheme /-a/).

The abstract Case assumption, presented in this paper, licenses Case for SPs in all syntactic contexts in which they appear, in all types of sentences in SA, and with all types of verbs in the verbal sentences. The major conclusion from this is that SA has two distinct abstract Cases. These are the abstract nominative Case and the abstract accusative Case. If this is really the case, the question is, how do we distinguish between the contexts in which the abstract nominative Case appears and in which the abstract accusative Case emerges?

We can easily avoid this problem by assuming that the syntactic position where the abstract nominative appears is different from the site where the abstract accusative Case of the SP appears. Indeed, the abstract nominative Case appears in the left periphery whereas the abstract accusative Case only appears in the right periphery of the sentence. This means that the elements that appear in the left periphery, which carries the abstract accusative Case are subject to movement and not base generation. Based on this, we propose the abstract Case parameter, which enables us to interpret the manifestations of this Case in SA:

[41] This morphological ambiguity created by /-a/ is supported syntactically in Rahhali (2003, p. 99), who stated the /-a/ is also ambiguous when it comes to nouns with the accusative Case and the modal verbs that appear with main verbs in the present tense.

53) Abstract Case Parameter

If there is no structural particle in the sentence, the abstract Case is achieved, in SA, in two forms:

A. Nominative Case in the left periphery.

B. Accusative Case in the right periphery.

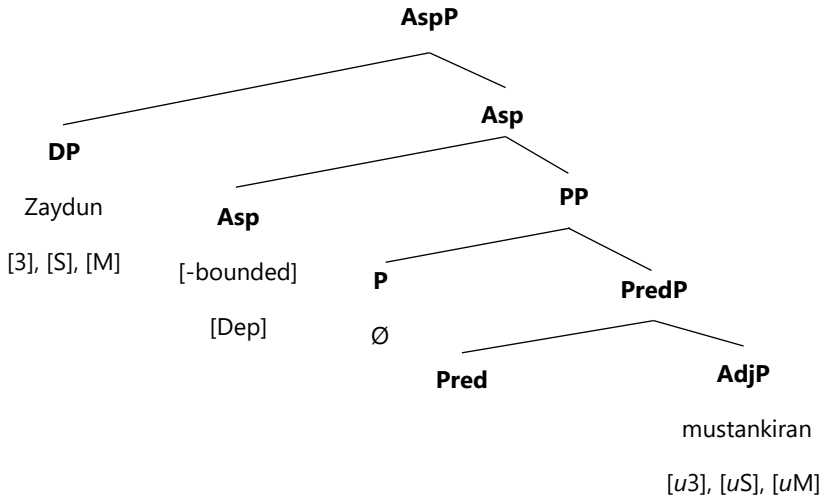
5.4 The Structure of Small Clauses

In the introductory subsection, we showed that the structure of SP is rich in manifestations in the morpho-syntax interface, where the DepP shows complete agreement with its shared argument. On the opposite, CausPs and ResPs do not show any agreement with their shared arguments.

We assume that this asymmetry, which the SPs exhibit in terms of their agreement properties, derives from the nature of the element that these SPs modify. Indeed, we explain the agreement of DepP with the shared argument by looking at the modification relation that exists between these two elements. We propose that the modified elements carry uninterpretable agreement features, and these features must be checked by the closest Goal that hosts the interpretable features before they are spelled out in the LF/PF interfaces. Since the DepP modifies the shared argument, which carries uninterpretable features, and they appear in the same domain of predication, then the DepP will probe into the shared argument in order to check its uninterpretable agreement features. Note that since it is the Probe that carries interpretable features, and the Goal carries uninterpretable features, we will have the process of Reverse Agree (see Zeijlstra, 2012, p. 497). This is to be expected since the φ-features of DepP are not needed in the spell-out unlike the nominal element, whose φ-features are always interpretable (Chomsky, 1995). We find a similar situation in Basque whereby "the probe on v° first searches down in its c-command domain for a matching goal. Only if no matching goal is available may the Agree relation 'flip' and can the probe start to look upward to Agree with a proper goal" (Zeijlstra, 2012, p. 28). Consequently, this results in the featural match between the shared argument and DepP. We clarify this procedure using the following example (54A) and its tree structure (54B) below:[42]

54) A. jahuzzu **Zayd-un** ra2sah-u **mustankir-an**
shakes.3.S.M Zayd-NOM head-his denunciation-ACC
'*Zayd shakes his head in denunciation*.'

B.



The DepP /mustankiran/ '*in denunciation*' enters the derivation with uninterpretable features [*u*3], [*u*S], and [*u*M] that match with the interpretable features of the shared argument 'Zayd', which makes it an active Goal. In order for the DepP to be phonetically spelled out in PF, its features must be checked against the interpretable features of the shared argument.

[42] In this figure, we only focus on the structure of the DepP within the AspP, and we set aside the rest of the projections.

Accordingly, there is no agreement between CausP/ResP and shared arguments because the former do not modify the latter. We explain why such a process does not happen by using a proposal within Distributed Morphology. Indeed, we propose that CausPs/ResPs actually modify the roots.[43] In Distributed Morphology, since roots have semantic specification, it makes them modifiable; consequently, what modifies them are CausPs and ResPs. Since the roots are categorically neutral, they do not carry any agreement features that would help check the uninterpretable features of CausPs and ResPs. This makes the SPs carry neutral agreement features; that is, they will always carry the [M] feature because it is the default feature in SA.

6. Some Control Structures and the Nature of the Shared Argument

The structure of DepP and CausP displays the characteristics of the control structure, in which the shared argument controls the subject of the small clause. The question that arises in this aspect is, what is the nature of the two elements involved in the control structure? Are they two different elements or are they just one?

Chomsky (1981a, 2001a) hypothesized that control structures include two distinct elements, the lexical DP and the null element PRO. Consider the following example:

55) John$_i$ hates [**PRO$_i$** to meet **angry**]
(Boeckx, Hornstein, & Nunes, 2010, p. 187)

The lexical DP, like '*John*' in (55) below, controls the empty element PRO, which is considered a thematic subject of the small clause. If '*John*' is considered to be the thematic subject of both the DepP '*angry*' and the main predicate '*hates*' at the same time, this will, according to Chomsky (1981a), be a violation of the θ-criterion formulated (56) below:

56) The θ-Criterion
Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument. (Chomsky, 1981a, p. 36)

If we assume that the subject of the small clause is PRO, then the verb '*hates*' will assign to '*John*' a θ-role, and PRO will be assigned the θ-role from the DepP '*angry*' without causing any issues for the θ-criterion.

Hornstein (2001) and Hornstein and Nunes (2014) argued that there is a wide range of theoretical and empirical arguments that make PRO *a* superfluous element within minimalism. Theoretically speaking, Hornstein and Nunes (2014) have shown that Chomsky's (1995) drop of the deep structure, as the level at which the θ roles are assigned,[44] was partial. This is demonstrated by the reformulation of the thematic properties of the deep structure in the so-called pure merge principle. Since the deep structure level is dropped within minimalism, this justifies the abandonment of the constraints associated with this level, i.e., the abandonment of the θ-criterion, which bans movement into θ-role positions. This means that movement to these θ-role positions will become possible and will allow a single DP to receive more than one θ-role in the derivation. Consider the examples below:

57) [qutila **Hammadi** [~~Hammadi~~ maydu:r-an]]
killed Hammadi betrayed-ACC
'*Hammadi got killed in betrayal*.'

In a sentence like (57), the DP '*Hammadi*' can first receive the θ-role from DepP /mayɣdu:ran/ '*betrayed*' and then receive a second θ-role from the main predicate /qutila/ '*killed*', after its movement to [Spec, vP]. This is what makes us consider 'Hammadi' a shared argument between the secondary and main predicates. Moreover, Hornstein and Nunes (2014) have reported that the full spectrum of options for control structure that are attested in multiple languages weakens the claim that PRO cannot appear in the positions where the DP appears in. Let us see the following examples:

58) Tsez
~~**kid**~~ [**kid**-bā čorpa bod-a] y-oqsi.
girl.ABS girl-ERG soup.ABS make-INF II-began
'*The girl began to make soup*.'
(Polinsky & Postdam, 2006, as cited in Hornstein & Nunes, 2014, p. 252)

59) San Lucas Quiaviní Zapotec
R-cààa'z **Gye'eihlly** g-auh **Gye'eihlly** bxaady.
HAB-want Mike IRR-eat Mike grasshopper

[43] We adopt the proposal from Halle and Marantz (1993) and Hajjaj (2017). It is important to mention that this proposal was also known to traditional Arab grammarians. Indeed, the root has semantic content, and this semantic content is shared with all the categories that are derived from the root.

[44] The θ-criterion is applied at the level of the deep structure where θ-roles are assigned.

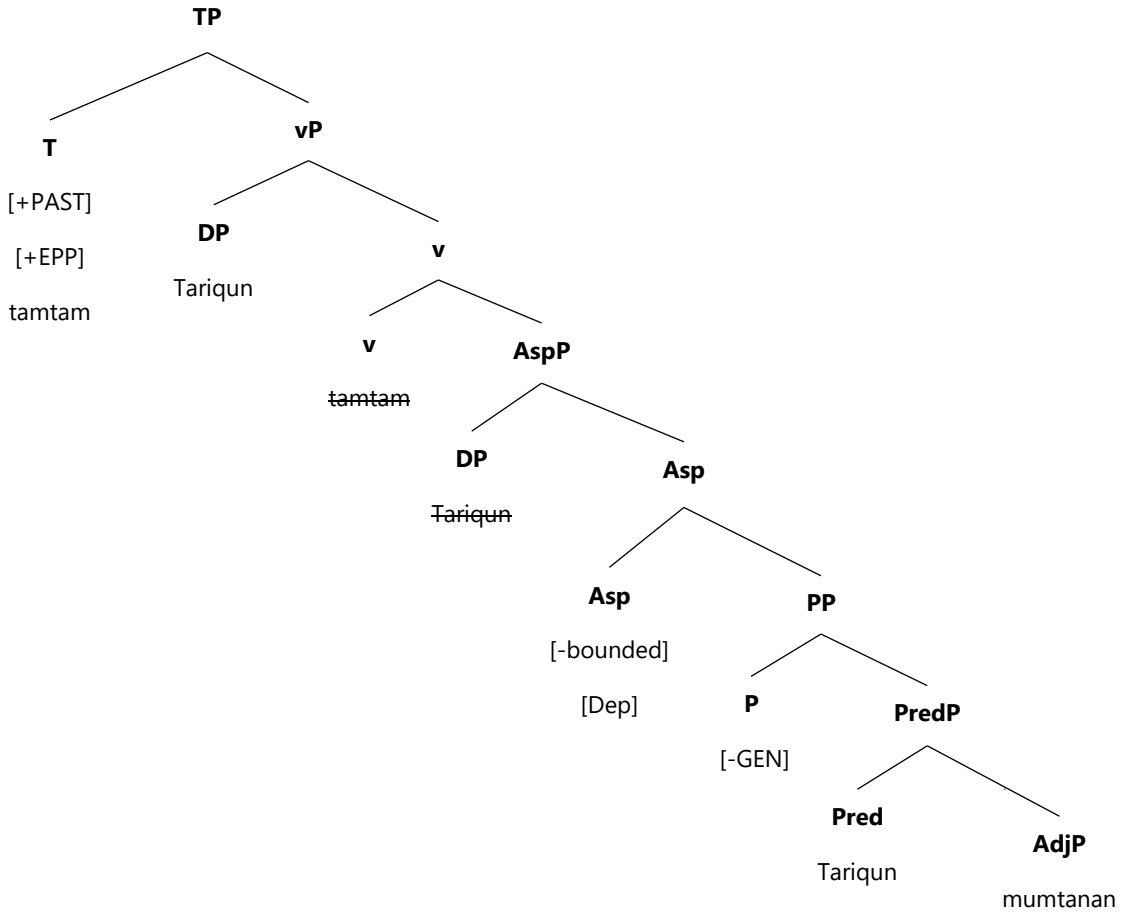
'*Mike wants to eat the grasshopper*.'
(Lee, 2003, as cited in Hornstein & Nunes, 2014, p. 252)

In Tsez, as seen in (58), which provides an example of backward control, what is phonetically realized is the subject of the small clause /kid/ '*girl*', while the subject of the main clause is not phonetically realized. More interestingly, we also have cases of copy control, as seen in (59), in which both the controller /Gye'eihlly/ '*Mike*' and the controlled /Gye'eihlly/ '*Mike*' are both realized phonetically.

Based on the data above, the computational system (C_{HL}) contains one DP that is merged and copied in multiple positions. This DP can be phonetically realized, in some languages, in multiple locations; in contrast, some of the copies of the DP can be deleted in the PF component, in other languages, such as SA.[45] Based on this, we consider that the shared argument in the structure of SPs in SA controls its copy after it has been merged and copied in a higher position for reasons related to Case, and that its lower copy was deleted in the phonetic component when the SP stage is spelled out in the interfaces. We clarify this further by deriving the sentence (60A) in (60B) below:

60) A. tamtam **ṭa:riq-un** **mumtann-an**
muttered.3.S.M Tarik-NOM grateful-ACC

B.



As seen in (60B), the SP /mumtannan/ '*grateful*' is merged as a complement of the head Pred forming PredP. The latter is then merged with P, forming PP. What comes next is the merge of AspP, a projection whose head is specified for [Dep]. The same SP enters another predicative relationship with the shared argument /tariqun/ '*Tarik*', which is located in [Spec, AspP] and receives its

[45] The elimination of PRO and the adoption of a single element (i.e., the DP) in the analysis of the control structure goes in line with Occam's Razor, which requires that the explanation of phenomena should be limited to only the important elements without adding other unnecessary elements to it.

theta role. Note that since the head P is marked with [-GEN], the DepP /mumtannan/ '*grateful*' is marked with the abstract Case in order to save the derivation from crashing. Notice that even the DP /tariqun/ '*Tarik*' receives a theta role from the DepP /mumtannan/ '*grateful*', it still did not get its Case features checked; if the structure goes through a spell out with the Case features unchecked, the derivation crashes as it is a violation of the Case filter. The way to solve this is by having the DP move to [Spec, vP] in order to receive the nominative Case from T. Note how the DP moves first to v before moving to T, and that is because the DP will receive its second theta role from the verb /tamtam/ '*mumbled*'.

7. Conclusion

In this paper, the main objective was to analyze the structure of SPs in SA from a minimalist perspective. We showed that although there are three types of SPs, they can all be analyzed in a uniform structure with a difference in the nature of the projections available in this structure. In addition, we have proposed a hierarchical ordering, which manages the distribution of SPs. We argued that the accusative Case carried by these SPs has nothing to do with verbs; in fact, it is an abstract Case, which is derived through the genitive Case parameter, which enables us to explain the alternation of the genitive/accusative Case that appears in the structure of SPs. Important contributions or overall significance of our study include: (a) The structure of the SPs gives validity to the phase-based approach because it constitutes a domain of independent interpretation and a domain for Case and agreement; (b) the derivation of this structure is restricted by the constraints placed on the optimal design of the language; (c) SA has two abstract Cases (i.e., the nominative Case satisfied at the left periphery and the accusative Case, which appears in the left periphery); and (d) and the structures of raising and control are unified eliminating the empty element PRO in the control structure. One of the limitations that we faced in this paper is the difficulty to explain how resultative predicates are not present in all languages. Some of the suggestions for future research include if the accusative Case is an abstract one or it can be explained by another source. Another suggestion is to search for the hierarchical ranking of secondary predicates from a cross-linguistic perspective.

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