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Multi-Functionality of the Discourse Marker 

Abstract: This paper explores the theoretical mechanisms of marking two discourse values, SURPRISE and IMPATIENCE, encoded in the syntax of Ghamdi dialect of Arabic (GA) by the discourse marker 

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This paper is a syntactic analysis of the mechanism by which Ghamdi dialect of Arabic (GA) marks SURPRISE and IMPATIENCE discourse values in the structure of a sentence. What is interesting about this phenomenon is that both values are marked in the syntactic production as one form of a discourse marker, 

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configuration is disallowed. Further investigations to more articulated structure show that the position hawerh attracts the DPs to is Shifting Topic Phrase, S-TopP, whose head is morphologically identified by the S-Topic marker ðad, giving credence to recent advancement of Topics Typology. Instantiating this position might be an explanation of the referentiality feature being associated to hawerh and the clause and clause DPs, being the category marked by hawerh, hence, S-Topic. Thus, IMPATIENCE, S-Top and Referentiality all interact in syntax. This paper though concludes with advancing the challenge that hawerh’s marking of TP does not involve movement of TP, but it marks it in situ, making the assumption that this could be that TP, involving the propositional components, is heavy in Ghamdi syntax (G-Syntax).

Subjects: Language & Linguistics; Grammar, Syntax & Linguistic Structure; Linguistic Theory

Keywords: Discourse marker; SURPRISE; IMPATIENCE; movement; Attract Closest; LF-Interface

1. Introduction
Recent research on discourse markers within the minimalist model of syntax has extensively centered on how discourse markers map syntax to discourse; hence, the structural domain TP to the discourse domain CP, an argument that discourse markers are used as a signpost that discourse is activated in the relevant clause and so are assumed to contribute to the propositional content of the sentence (Alshamari, 2017; Alshamari & Holmberg, 2019; Bayer, 1996; Bayer & Struckmeier, 2017; Coniglio, 2008; Cuenca & Crible, 2019; Jarrah et al., 2020; Jarrah & Alshamari, 2017; Marco & Zegrean, 2010; Ouhalla, 1997). This takes place in the computational system of the faculty of language (Chomsky, 1995 et seq), via the implementation of syntactic means merger of s discourse marker at the head Prt of PrtP which is a position in the CP domain (but sometimes, in some languages lower vP domain). By this morphological operation, merger, a discourse marker is merged in the course of the derivation of a sentence, and, carrying a certain discourse value, it semantically scopes within the clause, interacting with certain propositional parts of the clause (Bayer & Obenauer, 2011; Alshamari, 2017; Biberauer et al., 2014; Biberauer & Sheehan, 2011; Cruschina, 2009; Hack, 2014; Josef & Trotzke, 2015; Struckmeier, 2014; Zimmermann, 2011). A cross linguistic, Dutch example of how a discourse marker influences the propositional content of a sentence is provided in (1) from (Biberauer et al., 2014: 1).

(1) Hij heeft het toch niet gedaan

He has it PRT Neg done

“He did not do it after all.”

The example in (1) shows that, though the discourse particle marks discourse, grammatical functions like information structural values speaker’s attitudes at the interpretive level of the sentence, the LF interface system (i.e. the interpretive system that interprets semantic and pragmatic values on syntactic features). This property of discourse markers initiates the generalization that discourse markers mark the sentence with a certain value towards the propositional content of the clause (Bayer & Obenauer 2011). In generative terms, this can be described within the view that a discourse marker has a certain discourse feature on it and that feature is a semantic device that colors the sentence with a certain discourse value and that the discourse marker is the PF-spell out of this discourse feature in syntax (Bayer, 1996; Cruschina, 2009), which makes direct evidence that the relevant this language has rich articulated system of CP (Rizzi, 1997), the syntactic domain encoding discourse and where discourse marking of many types takes place, which in many languages is achieved by discourse markers.
Central to the current paper is the view that that discourse markers are multiple functional in nature (Bayer & Struckmeier, 2017; Biberauer & Sheehan, 2011; Struckmeier, 2014), an observation attributed to the assumption that each instance of the discourse marker, depending on the feature value it carries, occupies a fixed position in syntax (Tsoulas & Alexiadou, 2006). In (2) below, the North Italian discourse marker Pò marks SURPRISE (2a) while Pa, a phonologically variant of Pò (Hack, 2014: 51), marks IMPATIENCE (2b) (Hack, 2014: 52–56).

(2) a. Pò te digo! 
Pò say you.1SG

“But I’m telling you!”

b. Ê-l Pa bel mort? 
be.3SG-SCL Pa already dead

“Is he already dead?”

The data in (2) display a property of discourse markers that will be very crucial to the linguistic puzzle the current paper explores. That is, a single discourse marker can have several discourse related functions in different contexts. Against this brief background, with reference to the phenomenon in (2), we pursue a syntactic investigation to the discourse marker haweš used in the Ghamid dialect of Hijazi Arabic (GA), a Southern Arabian variety of Hijaz that maintains rich inventory of discourse markers. The novelty about haweš is that it expresses different discourse values, depending on the syntactic contexts it occurs in. When used singly, haweš marks SURPRISE information (Biberauer & Sheehan, 2011) while it marks IMPATIENCE information (Hack, 2014) when it co-occurs with the wh-phrase lej “why”. We take the generative, minimalist stand that the power of a discourse marker is actually the discourse feature it carries (Bayer, 1996; Biberauer et al., 2014). In association to this, we follow the argument that discourse features are active in the computation system syntax, and that they are responsible for movement of clausal constituents; hence, being marked with various values of discourse, including Topic and Focus (Cruschina, 2009).

Under this logic, the investigations to be held on the pragmatic distribution and syntactic properties of haweš argue that discourse features expressing SURPRISE information and IMPATIENEC information are overtly encoded in the syntax of GA, spelled out at the phonological component of grammar (PF interface) and interpreted at the thought interface (Chomsky, 2000, 2001) as marker haweš, though, with different values, instantiating their own heads in syntax with certain discourse information in the spine of the articulated CP (Rizzi, 1997) in GA. We implement cartographic mechanism (Frascarelli & Hinterhölzl, 2007; Rizzi, 1997) taking into account the assumption that there is a one-to-one correspondence between syntactic position and interpretation.

We now move to show how the discourse marker haweš functions at the pragmatic interface and how it behaves in syntax. We dedicate the following sub-section for this issue.

1.1. Sketching the GA Linguistic phenomenon

Consider the following set of GA data.

(3) a. haweš s’arag l-lašib l-korah

PRT steal.PST.3SG.M DEF-player DEF-ball

“The player stole the ball (I’m surprised this happened).”
b. hawez h l-lāṭīm s'ārag l-korah

**PRT** DEF-player steal.PST.3SG.M DEF-ball

“As for the player, he stole the ball (I'm surprised he did so).”

c. hawez h-korah s'ārag-ha l-lāṭīb

**PRT** DEF-ball steal.PST.3SG.M-3SG.F DEF-player

“As for the ball, the player stole it (I'm surprised this happened to it).”

By using hawez, the speaker expresses their speaker-attitude being surprised by the state of affairs expressed by the proposition in (3a) or by part of the proposition: the entity representing the subject having done the action (3b) and the entity representing the object having the action done to it (3c). Linking the pragmatic, information-structural impact of hawez on the propositional content of the propositional components in (3), we notice that the structure of the associate clause containing hawez is altered, VSO in (3a), SVO in (3b) and OVS in (3c), with the lexical verb carrying a clitic agreeing with the object DP in (3 c).

These different word orders, we argue, are due to the impact of hawez on the syntax of the clause and the clause constituents; the fact that hawez marks the event expressed by the whole clause (3a) while it marks clause internal parts in (3b,c). Thus, these different word orders are due to discourse features being present on hawez and different internal parts of the clause, which are semantic endorsement that have the effect that (i.e. are expressed by movement of clause internal constituents) movement occurs in syntax, following Cruschina (2009), as will be discussed in detail later. Under this view, hawez encodes SURPRISE information at the LF interface; in other word, SURPRISE information expressed at the LF interface is morphologically realised as hawez in syntax and at the PF interface.

It is widely held that discourse markers have multiple functions (Bayer & Struckmeier, 2017; Biberauer & Sheehan, 2011; Struckmeier, 2014), a property which has led many authors in the field to conclude that the semantics of discourse markers is difficult to determine in different contexts (Bayer & Struckmeier, 2017; Biberauer et al., 2014). With this at hand, and having highlighted how hawez works, consider now how the semantics of hawez is like when a wh-item co-occurs with it in (4) below.

(1) a. hawez lesf s'ārag l-lāṭīb l-korah

**PRT** Q steal.PST.3SG.M DEF-player DEF-ball

“Why did the player steal the ball (I am impatient to know why this happened)?”

b. lesf hawez s'ārag l-lāṭīb l-korah

**Q PRT** steal.PST.3SG.M DEF-player DEF-ball

Intended meaning: “Why did player steal the ball (I am impatient to know why this happened)?”

The issue becomes complicated once we see that the interpretation of the proposition in (4a), in which hawez co-occurs with lesf, no longer encodes SURPRISE information, but IMPATIENCE information, in the sense (Biberauer et al., 2014). This IMPATIENCE interpretation is only encoded in syntax and expressed at the LF interpretive system on one condition: hawez co-occur with lesf in a rigid order (hawez > lesf) at the PF interface, as in (4a). The proposition in (4a) is translated as that the speaker is being impatient to know the reason behind the state of affairs the player having
stolen the ball. The semantic distribution of haweh affects the whole proposition, but this effect is also associated with the Q-value of the wh-phase. The hypothesis we lay at this moment is that the clause in (4a) has two values. One value is [Q], encoded in syntax by the wh-phrase leʃ, functioning as a plain information-seeking Q-marker. The other value is a discourse, [IMPATIENCE], encoded in syntax and morphologically realized (Ouhalla, 1997) as the discourse marker haweh. This complex of haweh and leʃ, and perhaps more structural values, as will be investigated on minimalist groundings later, will be assumed to interact in syntax and deliver a sequence of values, including SURPRISE and IMPATIENCE and other information-structural values in a single clause, and licensing further syntactic projections, as we will see.

The last issue we lay out here is that the complex haweh and leʃ licenses clausal constituents in the syntactic complex they initiate, as in (5).

(1) a. haweh l-laʃib leʃ s'arag l-karah

PRT DEF-player Q steal.PST.3SG.M DEF-ball

‘As for the player, why did he steal the ball (I am impatient to know why he did so)?’

b. haweh l-karah leʃ s'arag-ha l-laʃib

PRT DEF-ball Q steal.PST.3SG.M-3SG.F DEF-player

‘As for the ball, why did the player steal it (I am impatient to know this happened to it)?’

The subject DP (5a) and the object DP (5b), respectively, intervene between the discourse marker haweh and the wh-phrase leʃ. Notice that the semantic distribution of haweh in (5) is on the intervening DPs; they have the IMPATIENCE value expressed on them, i.e. the subject DP in (5a) and the object DP in (5b) are marked with IMPATIENCE.

With regards to the data in (3), (4) and (5), it is imperative to highlight that standard assumptions in minimalism argue that movement is activated in syntax for reasons related to discourse interpretation, where a constituent moves form its canonical syntactic position if it has another interpretation it needs to a be assigned (Bošković, 2007; Chomsky, 2000, 2001; Citko, 2014; Cruschina, 2009; Holmberg et al., 2017; Miyagawa, 2010). Movement in minimalist assumptions is a syntactic operation triggered by an occurrence of discourse, pragmatically motivated feature on some item, initiating a record to the LF that there has been an agreement relation held in the computational system between certain items and that a certain interpretation needs to be assigned by the LF system (Miyagawa, 2010).

With this background at hand, the question emerging now is what accounts for the syntax of haweh and leʃ in a way that plausibly explains their pragmatic distribution at the LF interface, including the issue of different word orders maintained by the associate clause in (3), (4) and (5), with reference to movement of DPs to the right of haweh in (3) and DPs remerging in a position between haweh and leʃ in (5).3

To do this, with minimalist considerations, we will hold the assumption that there are interface conditions imposed on the syntax of GA, requiring it to activate syntactic operations, including DP movement in (3) and (5), leading to certain interpretations to the moved items. This will be in conjunction to approaches to movement and agreement, including (Chomsky, 2000, 2001) and (Bošković, 2007) as well as cartographic assumptions elaborated by Rizi (1997) and Frascarelli and Hinterhöfl (2007). In light of this, the paper will investigate how haweh maintains different interpretive values, when used singly and when co-occurring with leʃ. This will involve an account of minimalist
strategies and mechanisms behind the clausal constituents remerging between how haweh maintains different interpretive properties, when used singly and when co-occurring with lej.

The paper is structured as follows. Section 2 elaborates on the categorial nature of haweh, arguing that it has a head status. Section 3 displays the semantico-pragmatic distribution of haweh, with reference to its impact on the word order patterns of the associate clause, showing that DPs marked by haweh move. Further, a proposal on the status of the featural grid of haweh is advanced, arguing that haweh has an occurrence of valued [i-SUR] and unvalued [u-Ref]. Section 4 sketches the cases where haweh expresses SURPRISE information, and introduces minimalist principles and strategies implemented in the analyses for the marking system of haweh to the subject DP and object DP and the propositional content in TP, including DP movement to the right of haweh. Section 5 is devoted to the impact of lej on haweh and cases where haweh expresses IMPATIENCE, where haweh has [i-IMP] rather than [i-SUR] and where testing more articulated structure shows that the position of a Topic is motivated by the Attract Closest that haweh does to the DPs it marks. Section 5 also subsumes implications imposed by the research, including, the phenomenon of haweh's marking of TP, the issue of non-DP movement and a summary of the logic of the interaction of CP-Features we have proposed. Section 6 concludes the paper.

2. Morphological status of haweh
One relevant issue here, before we launch the analyses and explorations, revolves around the categorial morphological nature of haweh. Determining the morphological nature of haweh is of curtail importance as it will be evidence for whether haweh is a phrasal item or a head item, a criterion which will later be used to argue for DPs movement right adjacent to haweh, as the scenario in (3), (4) and (5) shows.

We follow the generative practice in that lej is a phrasal item that moves from its thematic, syntactic position in the vP (argument structure domain) or TP (tense functional domain, in case, for instance, a temporal adverb) to the CP, left periphery, discourse domain (Chomsky, 2001; Rizzi, 1997). The syntax of lej is represented in (6).

(6)

Extending this logic to haweh, it turns out that we are dealing with a morphologically different category. Notice that unlike lej, which functions as an adjunct, in the pre-movement phase of the derivation, haweh cannot have an impact on the proposition in the argument structure of the vP phase (Chomsky, 2000, 2001; Miyagawa, 2010). haweh is not a lexical item in the lexical argument structure vP or a temporal item in the functional tense structure TP. This contention is directly supported by the fact that haweh simply wouldn’t have a theta role assigned to it in the argument structure vP, neither would it have a tense-related function. Having this evidence from theta role theory supports the assumption that haweh is not associated to the proposition lower in the vP structure. It follows from this that haweh externally merges in the derivation (Chomsky, 2008), not
undergoing internal movement from within the TP domain or vP domain (Struckmeier, 2014), i.e., hawezh displays interpretive and syntactic properties that have long been a characteristic of discourse markers. According to Struckmeier (2014), a discourse marker is immobile in syntax; it is merged in a certain fixed syntactic position, where it semantically scopes, i.e. it cannot move since it accomplishes its discourse function in that position.

Given this background, we argue that hawezh is a discourse marker, externally merges in the CP domain, where it is licensed and interpretable, instantiating its own PrtP (Josef & Trotzke, 2015), whose head Prt hosts discourse information in syntax and is realized morphologically as hawezh. This scenario is represented in the schemata in (7) (the arrow indicates external merge (Chomsky, 2000, 2001).

Discourse markers function as a discourse device that colors the proposition with certain speaker attitude (Alshamari, 2017; Bayer & Struckmeier, 2017; Biberauer et al., 2014; Biberauer & Sheehan, 2011; Coniglio, 2008; Marco & Zegrean, 2010). Such a property of discourse markers is attested in languages considered rich in discourse markers and CP system, as in the German example below, from Josef and Trotzke (2015: 1), showing how the German discourse marker vielleicht affects the interpretation of the clause.

(8) Der ist vielleicht süß

This one (e.g., a cute little dog) is PRT sweet

'My God, how sweet it is!'

In (8), Josef and Trotzke (2015) take the discourse marker vielleicht to function as what seems to be a marker of ASTONISHMENT information, in the sense of Biberauer et al. (2014).

In analogy to this, we will argue that hawezh externally merges clause-initially in a position in CP domain c-commanding FocP (Rizzi, 1997). We will propose that hawezh instantiates a projection PrtP whose head Prt hosts the relevant discourse information with different values, depending on the contexts. Under this view, hawezh has a head categorical status, with a head syntactic property, being merged at the head position Prt of the projection PrtP and carrying SURPRISE information. On the other hand, lej/ has a phrasal value, merged at the Spec position of FocP.

A pause is worth taking up here. Given the conclusion we have just arrived at that hawezh is a head category merged externally at the head position Prt of a discourse projection PrtP (Josef & Trotzke, 2015), we shall recapitulate the scenario in (3a), repeated below in (9), stressing that the interpretation of SURPRISE comes from the fact that in syntax, hawezh has semantic scopes over the propositional content expressed by the TP clause.

(9) hawezh š’arag ʾlaṣib l-korah

PRT steal.PST.3SG.M DEF-player DEF-ball
“Why did the player steal the ball (I’m surprised this happened)?”

We at the moment stay in abeyance of the idea that (4a) above, repeated below in (10), also involves has semantic scope of 

\[ \text{(10) hawezh lef s’aarag l-laäib l-korah} \]

PRT Q steal.PST.3SG.M DEF-player DEF-ball

“Why did player steal the ball (I am impatient to know why this happened)?”

In the upcoming sections, we reconcile two approaches central to the linguistic theory in order to arrive at a reasonable account of how SURPRISE interpretation is delivered (when hawezh is used singly) and how IMPATIENCE interpretation is delivered (when hawezh co-occurs with lef). The approaches implemented are the cartographic practice of Rizzi’s (1997) split CP system and Topics typology proposed by and Frascarelli and Hinterhölzl (2007), since the data at hand involve more articulated items in the CP domain. The other approach is the minimalist insights of the theory developed in Chomsky (2000, 2001, 2008) on agreement and movement as well as the strategy of feature (un)-interpretability and feature (un)-valuedness.

3. Theoretical account: Minimalist and Cartographic investigation

To start with, we recall the data in (3), repeated below as (11).

\[ \text{(11) a. hawezh s’aarag l-laäib l-korah} \]

PRT steal.PST.3SG.M DEF-player DEF-ball

“The player stole the ball (I’m surprised this happened).”

b. hawezh l-laäib s’aarag l-korah

PRT steal.PST.3SG.M DEF-player DEF-ball

“As for the player, he stole the ball (I’m surprised he did so).”

c. hawezh l-korah s’aarag-ha l-laäib

PRT DEF-ball steal.PST.3SG.M-3SG.F DEF-player

“As for the ball, the player stole it (I’m surprised this happened to it).”

Considering the assumption that discourse markers map syntax to discourse (Biberauer et al., 2014), and categorized as a discourse marker that encodes SURPRISE information at the LF interface, and within minimalist assumptions (Chomsky, 2000, 2001), we argue that hawezh is endowed with a discourse feature [SUR] spelling out the discourse information SURPRISE in (11) and that this feature is responsible for movement of structure argument across the clause, as will be discussed. We implement the Chomsky’s (2001) mechanisms of agreement and movement strategies, and make clear on what basis we rely our argument regarding the phenomena we tackle here. One of the fundamental minimalist assumptions we follow here is that movement presupposes agreement (Chomsky, 2001; Miyagawa, 2010). That is, an occurrence of movement of a syntactic item in syntax is empirical evidence that there has been in syntax a sort of agreement between the relevant syntactic item and another a syntactic item, which might be a head or phrasal item in the structure, at a certain step of the derivation. In this respect, Miyagawa explains this line of logic in his agreement record story explicated in Miyagawa (2010). His views movement as a record of agreement. In this respect, Miyagawa assumes that in case there is no overt agreement in a structure,
which could be morphological in the shape of affixation and cliticization, the computational system, i.e. syntax, is required to initiate a syntactic strategy by which the interpretive system, the LF and PF interfaces, know (hence, keep a record of agreement) that there occurred an agreement in syntax between the two syntactic items. So, movement in this logic is a computational (syntactic) strategy that keeps a record of an (agreement) functional relation and passes it to the interpretive system when Agree cannot take place. Against this logic, we will go through the data and argue that movement of the arguments is due to agreement that has taken place for some reason, and our task is to account for the mechanism of how this movement takes place in syntax.

3.1. The case of single occurrence of hawew

Let us look into the cases involving movement of DPs in (11b,c), linking the alternation of word orders to current assumptions in minimalist and cartographic practice. As we can see in the translation lines, the interpretation is that the speaker is being surprised by the state of affairs expressed by part of the proposition, the subject DP (11b) and object DP (11c). The pragmatic distribution of hawew is thus explained by assuming that, by means of the discourse feature it carries, hawew marks the entity represented by the DPs. In other words, hawew agrees with the part of the proposition represented by the DPs in syntax, with the consequence that, in (11b), the speaker is being surprised by the state of affairs that the player, not anyone else, be it discourse-given or non-discourse-given, has stolen the ball, while (11c) involves the state of affairs that speaker is being surprised by the state of affairs that the ball, not anything in discourse, has had the action of stealing done to it. Hence, SURPRISE, the value carried by hawew, is expressed on and assigned to the entity represented by the subject DP (11b) and the object DP (11c) at the LF interface.

It is standard assumption in minimalist syntax that a feature, be it discourse or formal, is responsible for the shape a structure takes in syntax and at the PF interface and the interpretation at LF. We can see that (11b,c) involve DP movement, which is a syntactic mechanism to explain the impact of features on syntax and the interpretive system, PF and LF. This argument becomes more clearer once we consider (11a), which is void of any movement, VSO, being the unmarked word order in the boundary of TP (Ouhalla, 1997). That is to say, merger of hawew in (11a) is for marking the whole clause, the proposition that the player stole the ball, not part of the clause. Hence, SURPRISE interpretation is assigned to the whole clause, not part of it. The syntactic mechanism to do this is achieved in syntax by hawew scoping (marking) the TP, while keeping the clause constituents in their canonical linear order inside the TP (Fox & Pesetsky, 2005), hence, the syntax of (11a) being unmarked Arabic VSO (Ouhalla, 1997). We depict this scenario where no movement takes place in (12) (we follow Ouhalla (1994) in that the lexical verb moves from v to T in Arabic, due to rich agreement, and we argue that this is extended to GA) (12).
Following recent generative practice on discourse markers (Bayer & Struckmeier, 2017; Josef & Trotzke, 2015; Struckmeier, 2014), the schemata in (12) representing (11a), shows that haweh externally merges at the head Prt of PrtP, taking semantic scope over the TP clause expressing the proposition the player stole the ball, marking and assigning the TP SURPRISE interpretation.

Holding to the theory just developed, and considering the empirical evidence deduced from movement of DPs in (11b,c) and lack of movement in (11a), along with the different interpretations the clauses maintain, let us now formulate a plausible proposal about the feature grid of haweh and the associated clausal constituents, the subject DP and the object DP within minimalist assumptions (Chomsky, 2000, 2001). This is because feature-based analysis plays a crucial role in minimalist syntax; features are considered core reason of how syntax is mapped to discourse and how that is translated by means of different word orders. We dedicate the following subsection for this issue.

3.2. Featual grid of haweh

To formulate a minimalist interface-related fair argument about the feature grid of haweh and the associated components, including the clause and the clausal constituents, we make use of evidence from movement of the DPs in (11b,c). We have proposed that SURPRISE information is encoded in syntax, being morphologically identified at PF as the discourse marker haweh, to borrow Ouhalla's (1997) term. This being so, haweh has one feature: SURPRISE, [SUR]. Within the probe-goal theory (Chomsky, 2001), the Activation Condition of agreement relationship (Chomsky, 2001) requires that a probe has to be active, in the sense that it be endowed with an instance of uninterpretable unvalued feature, a condition which cannot be satisfied on the basis of haweh having only an instance of interpretable valued feature [SUR]. We wish to assume that [SUR] on haweh is uninterpretable unvalued to allow for rendering haweh active probe (Chomsky, 2001). However, this cannot be conceptually assumed since [SUR] is the only aspect of semantics that can logically make haweh a licit expression at the LF. In other words, if [SUR] on haweh is uninterpretable unvalued, would have no interpretation at the LF and the head Prt hosting haweh would end up having only uninterpretable unvalued feature, a phenomenon that leads to Prt being without any contribution at LF and so PrtP as a whole crashes at LF (Chomsky, 1995).

Circumventing this puzzle, we need to raise the question about the (un)interpretable (un)valuedness of other features on the moving DPs on the semantic pragmatic side. We see that the DPs marked by haweh have an information-structural reading, topic, in particular. They are split from the clause in syntax in what seems to be a topic-comment interpretation at LF. Thus, when the speaker utters (11b), for instance, they say something about the entity expressed by the DP (which has a flavor of referentiality in discourse), against which the rest of the sentence is predicated. This being so, we can assume that the DPs have a referentiality feature, [Ref], on them, since at LF, the entity expressed by the DP is referential in (11b). That is, the speaker interprets it as being referent in discourse. Under this view, by principles of Probe-goal theory, if we assume that the DP has an interpretable valued [Ref], which is a property of DPs, this directs us to the assumption that haweh has an occurrence of uninterpretable unvalued [Ref] counterpart on it, which needs to interact with a DP during the derivation of the clause, satisfying Activation Condition (2001), hence, haweh is active probe by means of [u-Ref].

What we have just proposed seems to be consistent with latest assumptions regarding movement and agreement in natural language. It is standard assumption to assume that syntactic movement of any item is triggered by an occurrence of an unvalued feature on it, what is termed phasal movement (Alshamari, 2017; Bošković, 2007; Holmberg et al., 2017). In other words, movement of the DPs in (11b,c) is Greed driven, in that the relevant item moves greedily looking for a value for the uninterpretable unvalued feature on it (Alshamari, 2017; Bošković, 2007; Holmberg et al., 2017). In Chomsky's (2001) words, this movement triggers the relevant item to escape its own phase transfer. This is because if this item is buried in its own phase, it will travel with the complement of its phase to the interface system,
resulting in its being transferred with an uninterpretable unvalued feature, a cause of derivation crash (Chomsky, 1995, 2000, 2001). Thus, we argue that the instance of [u-SUR] on the DPs in (11b,c) is unvalued. It seems that this is exactly the desired hypothesis we want. Considering the pragmatic fact that the interpretive property of hawešh expressing SURPRISE, we propose that hawešh has an occurrence of [i-SUR], which suffices to license hawešh at the LF interface as SURPRISE a marker and [u-Ref] rendering it active probe (Chomsky, 1995).

The emerging question now is: how can that be explained in syntax in the framework we follow? We dedicate the following section for the minimalist account.

4. The syntax of hawešh

4.1. hawešh marking SURPRISE information

We have proposed that the subject in (11b) moves because it has an occurrence of an unvalued feature [u-SUR]. Being greed driven, this movement is due to the fact that the subject DP looks up in the structure, escaping its own VP phase, looking for a value on some head up that has an instance interpretable valued [i-SUR]. In order to make a fair understanding of this argument, we need to briefly highlight on key features of phase theory (Chomsky, 2000, 2001), which would account for phasal movement of the subject DP. Let us briefly highlight on some characteristics of phase and phase-hood.

Chomsky (2000: 106) refers to a phase as “the closest syntactic counterpart to a proposition: either a verb phrase in which all theta roles are assigned or a full clause, including tense and force”. A phase then is the step of a derivation at which some material is sent to the interface system (LF and PF) to be interpreted, in particular, the complement of the head of the phase, as we will see. A phase interacts with the interface systems. The LF interface requires a phase to be a complete thought from a semantic perspective while PF interface requires a phase to be a complete thought from a phonological perspective. This means that a phase cannot contain an instance of an unvalued feature (which is uninterpretable at the interface) since interfaces need only interpretable features so they can read and license as legitimate items that contribute to the full interpretation of the phase product (Chomsky, 1995: 27). For this, in syntax, Chomsky (2000) argues that once the derivation of a given phase is completed, the phase complement is transferred to the PF and LF interface levels. At this point, the phase complement becomes inaccessible for any further syntactic operations, including agreement. The content in the complement of a phase cannot take part in any syntactic operations triggered by material up in the structure. This logic of phase-hood and the constraints it imposes on syntax is captured in what Chomsky formulates as the Phase Impenetrability Condition (PIC), stated in (13) below (Chomsky, 2000: 108):

(13) In Phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.

With grasp of (13), to have a good visualization of a phase-hood and phase boundary, consider Figure 1 below, from Boeckx (2008:45).

PIC principle in (13) says that a phase YP, once derived, its complement WP (and content therein) cannot interact with any material outside, upper in the structure, and that only the phase head X and the

Figure 1. The phase structure.
phase edge YP can do. Another way to say (13) is that the complement of a phase is not accessible to any probing, agreeing or attracting items in a higher phase because they have been sent to the interface system.4

Given the standard assumption that the lexical verb in Arabic adjoins T (Ouhalla, 1997), it follows that post-verbal subject is conceptually at Spec vP (Alshamari, 2017; Ouhalla, 1997). This means that in (11b), the subject is visible to (hence, accessible to) hawerh, which at the moment is functioning as an active probe in its c-command domain. As we can see in (14) below, in which the dotted line marks the phase boundary, the subject is still in the vicinity of the CP phase and is a legitimate target for further syntactic operations activated on C (the circled DP ikorah is the only item that at the moment has already been transferred to the interfaces and that can no longer be engaged for further syntactic operations) (14).

![Diagram](https://example.com/diagram1.png)

It follows that the subject DP is visible to and seen by the head C of the higher CP phase, hawerh. But given that in (11b), in their linear order, the subject DP is located to the immediate right of hawerh, preceding the lexical verb, as in (15), it follows that the subject DP has undergone movement from at Spec vP, arguably to Spec TP (15).

![Diagram](https://example.com/diagram2.png)

Recall that in minimalism, movement is motivated if an occurrence of uninterpretable unvalued feature is present on the moving item (Bošković, 2007; Chomsky, 2001; Holmberg et al., 2017). Given that the
subject DP at Spec vP is visible to the probing head realized by haweh, the question we need to address now is, in association to interface considerations, why does the subject DP further move? And where to?

For this, we now need to make recourse to the logic we have developed in subsection 3.2. The subject DP has [u-SUR] in addition to [i-Ref] while haweh has [i-SUR], in addition to [u-Ref].

In minimalist phase-related assumptions, in principle, [u-SUR] on the subject DP triggers movement. However, that could all be fulfilled while the subject DP is at Spec vP; the subject DP at Spec vP is already accessible and visible to [i-SUR] on haweh in case haweh probes the subject DP, as we will shortly see. What, then, explains movement of the subject DP in (11b) represented in (15)? We address this inquiry in the following subsection.

4.2. haweh and marking of the DPs: Probe Goal Relation

Using probe goal configuration to agreement, as we have hypothesized in 3.2, haweh probes by virtue of [u-Ref], which requires holding Agree relation (Chomsky, 2001) with the closest DP, which would always have [i-Ref]. Again, the subject DP at Spec vP is both visible and closest.

At first glance, what seems to hold here is a minimalist condition named Minimal Link Condition (MLC) (Chomsky, 1995: 355–356):

(16) Minimal Link Condition

A feature F attracts the closest feature that can check F.

(16) seems to explain movement of the subject DP in a (11b), with respect to the semantics/pragmatics interface system. As pointed out in 3.2, the moved subject DP has now gained a topic reading, being what the sentence is about and what is being surprised at, an interpretive property achieved in syntax by splitting the subject DP marked by haweh and the marker haweh to the left periphery of the sentence. We therefore propose that PF interface requires syntax to activate a syntactic operation, i.e. Attract Closest, the actual practice of (16), in order to allow LF to properly read the subject DP as a Topic, in addition to reading it as an entity being surprised at. We represent the derived structure using probe goal relation as we go. We will at the moment obey the hypothesis that movement of the subject DP from Spec vP is to Spec TP. Thus, the scenario of (11b) is as follows. Derivationally, the subject DP is first merged at Spec vP. Being endowed with [i-Ref] and also [i-ψ], it is totally fine in syntax and at the interpretive system. However, [u-SUR] on the subject DP makes it need a value that matches [u-SUR] on it during the derivation. This point of the derivation is represented in (17).
In analogy to Figure 1, once the lower, vP phase is derived, its complement is transferred to the interfaces (the object DP, complement of V, is transferred). (17) shows the point of the derivation at which the subject DP is at the edge of the vP phase. It has [u-SUR] and it awaits a searching probe to which it is accessible, and so to hold further syntactic operations upper in the structure. Later, the CP phase is composed. At the head C, i.e. Prt, merges the discourse marker haweš being endowed with [i-SUR] which is legitimate, but with [u-Ref], which needs a value to get deleted and by which haweš probes. haweš starts u-SUR-probing its c-command domain. haweš finds the subject DP with [i-SUR]. Agree holds between haweš and the subject DP. [i-Ref] on the subject DP values [u-Ref] on haweš, while, in turn, [i-SUR] haweš values [u-SUR] on the subject DP (18).

Once valuation has been completed and all the instances of uninterpretable unvalued features are valued and deleted, the probing head haweš attracts the closest item carrying the matching feature. That is, haweš attracts the subject DP to be adjacent to it, via composing a Topic-comment structure, and that position, within minimalist considerations, is TP (at the moment, there is no motivation, on minimalist groundings, to assume a new projection in syntax as long as there is an already existent projection that can be utilized to host the subject DP that haweš attracts).

What happens in (11b), then, is satisfying interface conditions imposed on syntax. This satisfaction is carried out within an economical strategy of minimalist practice, what is frequently termed “MLC” which is translated into what is normally termed in minimalist practice as Shortest Move (Richards, 1999), in which Greed-movement proceeds as short as possible (Collins, 2002). This property of being economical can also be confirmed if we notice in passing that “Shortest Move” bans Spec head configuration of agreement, which, if allowed, would yield (19) grammatical, contra the fact.

(19) *‘I-l-lāfiḥ haweš s’arag l-korah

DEF-player PRT steal.PST.3SG.M PRT DEF-ball

Intended meaning: “As for the player, he stole the ball (I'm surprised he did so).”

Ill-formedness of (19) is attributed to the assumption that GA interface system imposes a restriction on GA syntax disallowing long movement.
This syntactic, economy-related operation is explained once we recall that *haweh* has \([u\text{-Ref}]\). We have seen that, with phase considerations, *haweh* can mark the subject DP in situ, as Spec vP. Movement of the subject DP further to the right of *haweh* is then explained if we assume that *haweh* needs to be adjacent to the referential DP, which has a topic reading and which *haweh* c-commands but should also be so local. In other words, attracts the closest DP (which always is referential) that has a topic interpretation. It is standard assumption that there is mapping between the syntactic domain (the computational system) and the phonological domain, the PF interface, in which the latter plays crucial roles in certain processes and operations activated in the former (Elordieta, 2008; Miyagawa, 2010). Deduced from this is the fact that GA PF system requires syntax in GA grammar that, in case that the SURPRISE-marked item is part of the proposition, i.e. a DP, this item must raise to be right adjacent to and preceding all the TP material, in what seems to be topic-comment structure. But this must be in compliance with economy nature of language (Chomsky, 2001).

Having worked out the cases in (11b), it seems that the case in (11c) goes in par with this logic. Holding to the analysis above, the object DP moves by Greed to the same position reemerged by the subject DP but that, by theory, we assume, is cycle. In this case, the object DP moves first from its canonical position, the complement of V, to the edge of the phase, the outer Spec of vP, as represented in (20) below.

![Diagram showing syntactic structure](image)

Given the linear order of the material in (11c), it seems that the condition imposed on (11b) still holds and extends to (11c). The same logic proceeds in this scenario of (11c). \([u\text{-SUR}]\) on the object triggers phasal movement and then gets valued by \([i\text{-SUR}]\) on *haweh* and so *haweh* gets its \([u\text{-Ref}]\) valued by \([i\text{-Ref}]\) on the object DP. *haweh* attracts the object DP to the available position, Spec TP, as in (21). The *haweh*-marked DP moves to the right of *haweh*, by virtue of Shortest Move.

Notice in passing that the object DP moves first to the edge of the phase, due to the Phase Impenetrability Condition (Chomsky, 2000), which requires the object to move out of the vP argument phase in order to escape Phase Transfer of the vP material, or otherwise the object DP would have been sent to the interpretative system carrying an unvalued feature. The second movement is due to Attract closest carried out by *haweh*, as we will explicate later.6,7
Now remains the facts displayed by (11a), in which no item moves in syntax. Notice that the interpretation of (11a) is that the speaker is being surprised about the event, the state of affairs that the player has stolen the ball. He is not concerned with part of the event, the subject or object. In technical terms, in the semantics of it, no part(s) of the propositional content is being marked (surprised at). Rather, the whole proposition is. This semantic/pragmatic interpretation is translated in syntax by the syntactic operation of unmoving any clause-internal constituents. The clause components remain in their positions since no part of is marked on its own. Thus, TP remains below the C head Prt while TP is semantically scoped by Prt (we come to this point in detail later).

Having dealt with the cases of contexts of single hawəḥ expressing SURPRISE, let us now move to the more complex issue in (4) and (5) above, repeated below as (22), where hawəḥ co-occurs with lejf, in a rigid order [hawəḥ > lejf], and where the discourse value is IMPATIENCE rather than SURPRISE.

(22)

(a) hawəḥ lejf s’arag l-la’fib l-korah

**PRT Q** steal.PST.3SG.M DEF-player DEF-ball

‘Why did the player steal the ball (I am impatient to know why this happened)?’

(a) hawəḥ l-la’fib lejf s’arag l-korah
PRT DEF-player Q steal.PST.3SG.M DEF-ball

‘As for the player, why did he steal the ball (I am impatient to know why he did so)?’
(a) hasheh l-korah lej s’araghha l-la’iib

PRT DEF-ball Q steal.PST.3SG.M-3SG.F DEF-player

‘As for the ball, why did the player steal it (I am impatient to know this happened to it)?’

Discussion of this issue is in the following section.

5. hasheh encoding IMPATIENCE information: the complex hasheh and lej

The data in (22) contain hasheh and lej, where the proposition in all instances in (22) carries IMPATIENCE information. One challenge the data in (22) display is that DP movement here is long, as evidenced from the fact that the DPs in (22b) and (22c) move across lej, which in turn, given Rizzi’s (1997) Split CP firework, is merged at Spec of FocP. It follows from this that the DPs in fact land in the left periphery, splitting the CP domain of the sentence. Movement is then not as economical as the cases above, a state of affairs which has to be accounted for, on minimalist basis.

Another challenging puzzle (22) displays is that the interpretation of the proposition is IMPATIENCE, rather than SURPRISE. At the first place, we link this fact to the observation that in syntax lej needs to co-occur with hasheh in the Numeration of the sentence. We will analyze the constructions involving DP movement and later arrive at an explanation to constructions void of movement.

5.1. hasheh lej and IMPATIENCE Interpretation

We follow the consensus that discourse markers are multi-functional (Bayer & Struckmeier, 2017; Biberauer & Sheehan, 2011; Struckmeier, 2014). Given the observation that in (22) hasheh expresses IMPATIENCE, while in (11) it expresses SURPRISE, we hypothesize that hasheh in (22) has an occurrence of interpretable valued [IMP], {i-IMP}, and also an occurrence of uninterpretable unvalued [u-Ref], making it an active probe. Keeping in mind this logic, let us at this moment pause here and turn to the syntax of lej and how it influences the full interpretation of the proposition of the cases in (22).

5.2. The syntax of lej, its impact on the proposition and IMPATIENCE interpretation

The obligatory co-occurrence of lej with hasheh is not co-incident but interface-conditioned, i.e., IMPATIENCE-information is retrieved at the LF if and only if lej co-occurs with hasheh and be co-commanded by hasheh in syntax. From a lexical-syntactic view, the lexical instance of the discourse marker hasheh that has IMPATIENCE-information is only licensed under the condition that lej co-occur with it, contra the lexical instance of the discourse marker hasheh that has SURPRISE-information. This can also be viewed through a semantico-pragmatic glance; this obligatory co-occurrence of lej with hasheh is an explanation of the fact that the Q-information carried by lej has a crucial relationship with the IMPATIENCE-information carried by hasheh at LF interface. That is, the propositional content that what is being impatient to know by the speaker is actually what is being questioned by the speaker, which is represented by lej. That is, the reason behind the player having stolen the ball represented by lej is being impatiently waited to know represented by hasheh.

With this at hand, we follow minimalist practice that lej is a wh-phrase endowed with {i-Wh} and [u-Q] that moves from its base position and reemerges at the Spec position of FocP and that (i) this wh-movement is triggered by [u-Q] on the wh-phrase and (ii) this movement also values [u-Wh] on Foc head of FocP (Koeneman & Zeijlstra, 2017; Rizzi, 1997). This is represented in (23).
We take the stand that merger of *leif* colors the proposition with a questioning flavor, which is not controversial. (22a) expresses the state of affairs that speaker is questioning why *the player stole the ball*. But, what about merger of *haweth*, given our generalization we have just formulated? How are *haweth* and *leif* interrelated or how do they interact in syntax in a way that they have an interpretive contribution for which they both contribute? Proceeding, then, we initially propose that once (23) is derived, the point of the derivation at which carries [u-Wh] on Foc and [u- Q] on the Wh-phrase are valued, *haweth* merges at Prt in the derivation, as in (24). Now the Q-part of the proposition is derived. The speaker is questioning the reason behind the player having stolen the ball.

*haweth* is now merged, carrying [i-IMP] and [u-Ref] and starts u-Ref-probing in its vicinity.

Back to the influence of *leif* on *haweth* and obligatory co-occurrence of *leif* with *haweth*, taking our stand that the Q-information carried by *leif* has a crucial relationship with the IMPATIENCE-
information carried by haweh, we will need to account for the fact that different word orders are motivated, as we see in (22), as will be discussed later. It is though reasonable to highlight a bit of our thought on this logic. As we just said, recapitulating, when lef co-occurs with haweh, haweh expresses IMPATIENCE-information, in which lef interacts with haweh. We stress that the semantic contribution of lef is that the speaker’s being wants to know why is represented by lef and this interacts with the speaker being impatiently waiting to know why. This is what we term here feature interaction. This interaction can simply be explained by the fact that what happens in (22a) is that the speaker is being impatient to know the reason behind the action of the player having stolen the ball. In (22b,c), the scenario is different, being that the speaker is being impatient to know why ball was stolen, not the reason behind action having taken place or the player having stolen the ball. Using recent terms, we can say that in (22a) haweh marks the propositional content including the information expressed by lef, while in (22b,c) haweh marks the subject and the object, respectively, in association with the reason being stealing the ball.

Summing up this logic, haweh interacts with lef in all cases. In some case haweh marks the information expressed by lef, the reason, with respect to the proposition. In some other cases, haweh marks the information expressed by lef with respect to the entities involved, expressed by the subject DP and the object DP (we will shortly see that this is explained by the fact that the DPs function as Topics of some sort, being what the sentence is about, as the reader might have already figured out by the translation lines).

With this logic, let us investigate (22b), repeated below as (25). Notice that intervention effects (Rizzi) is not a problem here. haweh is a head category, while lef is a phrasal category. Hence, haweh probes the closest syntactic item through lef while lef doesn’t block this probing. At this point of the derivation, the item that has [u-IMP] had already moved out of its vP internal phase, if need be (i.e, in case it is the object DP).

(25) haweh l-ḥašib lef s’arag l-korah

PRT DEF-player Q steal.PST.3SG.M DEF-ball

“As for the player, why did he steal the ball (I am impatient to know why he did so)?”

A pause, however, is imperative here. We have witnessed in cases where haweh occurs singly and where haweh encodes SURPRISE that the subject DP reemerges at Spec TP, on minimalist groundings. The scenario is more complicated in (25). But, at first glance, our theory seems to be consistent, given that the subject DP surfaces adjacent to the right of haweh but to the left of lef. So, this condition seems to hold in both cases. Following Rizzi’s (1997) Split CP skeleton, the syntactic position the subject DP reemerges at in (25) is not Spec TP. What happens here can be, again, analyzed by means of Attract Closest but the cost is that movement is to the left periphery, the Spec position of one functional projection in the Split CP, as will be elaborated on shortly.

We now come back to the syntactic apparatuses of how the syntax and interpretation of (25) is carried out. This is explicated in the following sub-section.

5.3. Analysis: the syntax of haweh lef
Proceeding, then, in (25), we propose that the subject DP has [u-IMP] and [i-Ref] as well as [i- φ]. haweh has [r-IMP] and [u-Ref]. Once the vP phase of (25) is derived and at the point where the subject

DP merges at Spec vP, it functions as an active item in syntax, looking up for a value to [u-IMP] on it. The CP phase is initiated, and there are two operations taking place there.
Firstly, Foc merges in the derivation, splitting the CP of the sentence. The wh-phrase le프 moves to Spec FocP, where [i-Wh] on le프 values [u-Wh] on Foc, while [i-Q] on Foc values [u-Q] on the wh-phrase. This results in propositional content of (25) being interrogative about the reason why the player stole the ball. Secondly, once FocP is derived, PrtP is initiated above FocP and haweth merges at Prt of PrtP, being endowed with [u-Ref] and [i-IMP]. At this point of the derivation, haweth u-Ref-probes in its vicinity. Simultaneously, the subject DP having [u-IMP] also seeks valuation, in Simultaneous Agree (Alshamari, 2017; Alshamari & Holmberg, 2019), as in (26).

We should further stress here that intervention effects (Rizzi, 2006) is not a problem here. Movement of the subject DP is legitimized in syntax and is not blocked. This is supported by Starke’s (2001) mechanism of intervention effects, the fact that intervention effects of an intervening item to a moving item is overcome if the moving item has richer featural grid than that of the intervening item, as schematized in (27).

\[(27)\]

```
\[
\text{PrtP}
\]
\[
\text{Prt}
\]
\[
\text{haweth}
\]
\[
\text{[u-Ref]}
\]
\[
\text{[i-IMP]}
\]
\[
\text{FocP}
\]
\[
\text{le프}
\]
\[
\text{Foc'}
\]
\[
\text{Foc}
\]
\[
\text{TP}
\]
\[
\text{T}
\]
\[
\text{s아rag}
\]
\[
\text{vP}
\]
\[
\text{Ila\tilde{\text{ib}}}
\]
\[
\text{[u-IMP]}
\]
\[
\text{[i-Ref]}
\]
\]
The schemata in (27a,b) represent Starke’s (2001) argument that intervention effects caused by Z blocking movement of Y to X is overcome if the moving Y has a richer feature set of features than the intervening Z. Under this view, the subject DP in (25 = 26) moves to Spec TP across leʃ with no consequences.

We now come to the case of (22 c), repeated in (28) below. As we see, the object is the item that is sandwiched between hawezh and leʃ.

(28) hawezh l-korah leʃ s’arag-ha l-latif

PRT DEF-ball Q steal.PST.3SG.M-3SG.F DEF-player

“As for the ball, why did the player steal it (I am impatient to know this happened to it)?”

We propose that the same logic applies. The object DP has [u-IMP] and [i-Ref] as well as [i-φ]. hawezh has [i-IMP] and [u-Ref]. Once merged at Prt, hawezh probes. Due to [u-IMP], the object DP had already moved at reemerged at the outer Spec of vP (the edge of vP phase). We represent this step of the derivation in (29).

The object DP moves to the edge of vP phase by virtue of [u-IMP] on it, escaping its vP phase Transfer (Bošković, 2007; Holmberg et al., 2017). Again, one would raise the wonder that the
subject causes intervention effects (Rizzi, 2006) or minimality effects (Rizzi 1990) being an intervening item with the same categorical nature as the object. Hence, the subject DP blocks movement of the object DP. We here further follow Starke’s (2001) though in that movement of the object DP is allowed in (29) since the featural grid of the object DP has an additional feature [u-IMP] that that of the subject DP.

What is now more important is the generalization we have formulated from all these phenomena; that the item marked by hawish must reemerge to the right of hawish. What is this position, then, given that it is not TP? We can make use of the fact we have already proposed, that the DP that moves to the right of hawish has a Topic reading (see subsection 3.2). For this puzzle, we refer back to our generalization that the DP marked and attracted by hawish carries a Topic interpretation. Given that the DP is located to the right of hawish but to the left of leʃ, we argue that the position hosting the relevant DP is Shifting Topic, S-TopP, in the sense of Frascarelli and Hinterhölzl (2007), as represented in (30) below.9

What we are dealing with, then, seems to be an information-structural projection with S-Topic information, contra our assumption of TP earlier. This can be further evidenced by the fact that S-Top of S-TopP is morphologically realized in G-Syntax, in par with Najdi (Alshamari, 2017; Alshamari & Holmberg, 2019), as the following sentence shows:10

(31) hawish l-haʃib ʃad leʃ s’arag l-korah
PRT DEF-player S-Top Q steal.PST.3SG.M DEF-ball

“As for the player, why did he steal the ball (I am impatient to know why he did so)?”

This being so, we have empirical evidence that the subject DP actually lands at the Spec of S-TopP, where the subject DP received S-Top interpretation, as represented in (31) below.11
The last inquiry we tackle here is some implications the issues at hand impose, the constructions in which no DP moves, where the clause displays VSO patterns. This is elaborated on in the following subsections.

5.4. Implications of the research

5.4.1. The issue of haweš’s marking of TP

We have argued above in section 4, in cases of constructions involving haweš without lejš, that the moving DP marked by haweš reemerges at Spec TP. With more articulated structural material in section 5 and more syntactic tests like S-Topicalization, we have seen that there is evidence both conceptual (semantic and pragmatic) and empirical (syntax) that the haweš-marked DP moves above TP to the left periphery, to Spec S-TopP. To make the argument consistent, then, haweš attracts the moving DP to the discourse domain, area of S-TopP. This can also be confirmed on theoretical groundings. There is good reason to believe that this is the case. The moving DP, being read as S-Topic, and also being marked by a discourse device like haweš, cannot conceptually be existent in a non-discourse domain like the functional TP. This conceptual assumption is translated into the practice of cartographic approach (Frascorelli & Hinterhölzl, 2007; Ouhalla, 1997; Rizzi, 1997); the DP is attracted to and reemerges at the discourse domain, CP, because it is marked by discourse features.

5.4.2. The issue of non-DP movement

Consider again VSO patterns, the cases void of DP movement.

(32) a. haweš s’arag l-lašš l-korah
   PRT steal.PST.3SG.M DEF-player DEF-ball
   “The player stole the ball (I’m surprised this happened).”

b. haweš lejš s’arag l-lašš l-korah
   PRT Q steal.PST.3SG.M DEF-player DEF-ball
   “Why did the player steal the ball? (I am impatient to know why this happened)?”
We can see that these cases display VSO word orders, in which no DP movement takes place. It seems that our intuitive judgment we raised earlier is right in that in these cases haweh marks the event expressed by the whole clause represented in syntax by TP, the whole propositional content expressed by TP, including the propositional participants, the subject, the object, the verb and its functional markers like tense inflections, where the lexical verb surfaces clause-initially, adjoining T (Ouhalla, 1997). In connection to this, within minimalist considerations, we have already attributed DP movement to features being present on them. Given that no DP moves in (32), it follows that what haweh marks is the event, the proposition in TP, rather than an entity represented by a DP. But we have some issues here. One is: why does a TP not move to Spec S-TopP, in par with the syntax of DPs we just investigated? The other issue is, given that haweh is always merged with [u-Ref] by which it probes, what values [u-Ref] on haweh? If [u-Ref] is transferred to the interface system unvalued, it results in derivation crash, following Chomsky (2007). The theory then predicts that this uninterpretable feature must be valued.

To address the second question, we follow Alshamari (2017) and Alshamari and Holmberg (2019), investigating the syntax of a set of discourse markers in the CP domain of in the syntax of North Hail Dialect of Arabic. Those discourse markers, with various Topic values, are of two types: Topic markers that bear φ-features and Topic markers that do not do. Those that bear φ-features mark a DP by getting suffixed with a clitic agreeing in φ-features with the DP while the DP remains in situ (the clitic on the Topic marker spells out the φ-content of the DP). However, as they conclude, when the Topic marker marks the proposition expressed by TP, the TP doesn’t move while the Topic marker surfaces to the left of TP. Deduced from this, they argue, is the assumption that TP movement in case of discourse markers marking system is heavy in the syntax of Najdi Arabic, which here, we assume, could be extended to Hijazi Arabic. Thus, TP, subsuming all the propositional components, cannot move to Spec S-TopP, be the S-Top null or morphologically identified, as (33) and (34) show respectively.
The explanation to this lies in the assumption we put forth that TP movement might be heavy in GA-syntax, a question that opens the door for further research. Valuation of [u-Ref] on hawezh, then, can be said to get valuated by [i-Ref] on the TP that hawezh probes. From a semantic view, we can simply see that the whole proposition contained in TP is referential; the event (involving the propositional parts) is the referent part of the sentence and it is the topic, or, in more technical terms, it is the result of propositional-topicalisation. As a consequence of this hawezh’s probing TP, [u-IMP] on TP is valued by [i-IMP] on hawezh, and the interpretation is that the speaker is being impatient to now why the event, which is referential and discourse-given, happened. Having tackled the valuation matter and reasonably explained non-TP movement while leaving it as a research question for further work, it is now time to conclude this research paper with the logic we lay, how the features interact in (32b) to assign a single item an interpretation of several values.

5.4.3. Interaction of CP-Features
What can be deduced from all these phenomena is what we here term feature interaction within the CP system of Syntax and the interface of Ghamdi grammar. We have shown that [u-Ref] on hawezh needs to be valued, under minimalist mechanism Agree that an instance of valued of [i-Ref] values [u-Ref] on hawezh. We have also seen that Attract Closest motivated by hawezh movement of occurrence of hawezh is due to the assumption that this moving DP has Topic interpretation, which is associated with the requirement that hawezh marks a referential category, including TPs. What is more, we have seen that the CP system of G-grammar splits, instantiating a Topic phrase with Shifting value. Additionally, the feature [Q] on the wh-phrase, which triggers its movement to Spec FocP, is associated with [IMP] on the DP. We have seen that the interpretation is that the speaker is impatient to know the reason why something happened. These two pieces of information are associated in syntax, giving the interpretation that IMPATIENCE and QUESTIONING are linked on the side of the speaker.

6. Conclusion
This paper sets a minimalist and cartographic exploration to the syntax of marking two discourse values, SURPRISE and IMPATIENCE, each being a feature morphologically realized as the discourse marker hawezh. It is argued that hawezh expresses SURPRISE when occurring alone while
it expresses IMPATIENCE when obligatorily co-occurring with the wh-phrase left. Using probe goal configuration, it is shown that haweh  [j-SUR] and [j-IMP], depending on the syntactic context, making it a legitimate item at the LF interface system. Further, haweh probes by [u-Ref], the case in which is valued by present on the category, DP or TP, having the matching [j-Ref]. This Agree, relation, thus, results in valuing [u-SUR] or [u-IMP] on the relevant category, the goal. One insight the analysis of haweh presents is related to assuming [u-Ref] on haweh and the theory of feature valuation in general. Analyses held show that haweh needs to hold an Agree with (hence, it marks) a category that has the property of being referential. This assumption accounts for movement of the DPs haweh marks to the right of it. Investigating more articulated structure in the spine of the explored data, including morphologically PF spelled out S-Top marker fad, it is shown that the marked DPs are attracted (by) to the Spec position of S-TopP, which can be assumed as an interface condition that haweh needs to be adjacent and c-commanding the referential, Topic DP it marks In syntax. This scenario the syntax of haweh shows makes, though, a challenge to the theory of movement. Though the features interaction the paper advances with respect to haweh, the assumption that non-movement of TP marked by haweh might be due to TP being heavy in syntax, this is a question that opens the door for further research.

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Notes
1. All discourse and functional marker are in bold print throughout the paper.
2. We will not analyse the syntax or morphosyntax of the clitic that ɗ-agrees with the object DP and spelled on lexical verb. We refer the reader to Alshamari (2017) for the argument that this clitic is evidence that the object DP has a Topic feature of the types of topics discussed in Frascarelli and Hinterholzl (2007).
3. We will capitalize the term when it refers to the information structural notion SURPRISE and IMPLICATION.
4. In a simple sentence, there are normally two phases: VP and CP, with VP being c-commanded by CP.
5. The feature [i-Ref] on the subject DP being interpretable valued might be logically explained by the fact that the subject DP inherently has a set of interpretable valued (h) “agreement” features.
6. Phase Impenetrability Condition is a syntax-interface condition that holds that movement be successively-cyclically from inside one phase to another phase. Chomsky (2000: 108) formulates PIC as follows: In Phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.
7. The reader notices that in the case the DP marked by hawēh is the object DP, the verb carries a clitic agreeing with the object in agreement features. According to Alshamari (2017), this is morpho-syntactic evidence that the object functions as a topic, in addition to other discoursal functions. Though deep elaboration on this issue is out of the scope of this paper, but it is good evidence to say the object indeed has topical property.
8. Head movement constraint (Travis 1984) doesn’t hold either.
9. Frascarelli and Hinterholzl (2007) argue that S-TopP is top most TopP in the typology of TopP they propose, above FocP in the following order [S-TopP > FocP > C-TopP > F-TopP].
10. The reader might want to entertain Criterial Freezing (Rizzi 2005, 2006), in which a category moves to the Spec position of a Topic phrase to satisfy a criterion on that projection. We, though, abstract away from this proposal and follow Alshamari (2017) and Alshamari and Holmberg (2019) in that the head of TopP has a Topic feature that agrees with the moving category.
11. This applies to the object DP, too.
12. We can say that the moving DP has [S-Top] on it but this is beyond the scope of the paper.
