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## LITERATURE, LINGUISTICS & CRITICISM | REVIEW ARTICLE

# Multi-Functionality of the Discourse Marker *hawēh* in Ghamdi Dialect of Hijazi Arabic: Interaction of CP-Features? – A Minimalist-Cartographic Account

Alshamari Murdhy<sup>1\*</sup> and Al-Ghamdi Naimah<sup>2</sup>

**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 *hawēh*, which instantiates the head Prt of PrtP. The novelty about *hawēh* is that its marking function is constrained in certain syntactic environments. While *hawēh* marks SURPRISE by default, it marks IMPATIENCE under the condition that it co-occur with a wh-phase *leif* “why”, a matter investigated and elaborated on by assuming cartographic assumptions, splitting the CP domain. Adopting standard minimalist strategies, it is argued that *hawēh* is endowed with a valued occurrence of the relevant discourse features, [*i*-SUR] or [*i*-IMP], by which it marks the proposition as a whole represented in syntax by TP or certain entities represented by clausal-internal DPs. Additionally, *hawēh* carries an unvalued of referential feature [*u*-Ref], by which it probes the targeted category, TP or DP, for a valued instance of [*i*-Ref]. Investigations show that marking of *hawēh* is accompanied with attracting the DPs it marks to the right of it, by means of Attract Closest, the exception being TP which is marked in situ. This movement, being Shortest Move, is in compliance with minimalist economy conditions, where long movement to Spec head

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## PUBLIC INTEREST STATEMENT

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, *hawēh*, depending on the syntactic environment *hawēh* occurs in. While it marks SURPRISE when it occurs singly, *hawēh* marks IMPATIENCE only when it co-occurs with a wh-phase *leif* “why”. What is more, interacts with the clause, in which *hawēh* marks the whole proposition expressed by the sentence while some other time it marks certain constituent DPs in the sentence. This latter involves movement of the DPs marked by *hawēh*. Using more spelled out data, like Topic markers, it is shown that movement of the DPs is to another discourse position in the spine of the sentence.

configuration is disallowed. Further investigations to more articulated structure show that the position *hawezh* attracts the DPs to is Shifting Topic Phrase, S-TopP, whose head is morphologically identified by the S-Topic marker *ʃad*, giving credence to recent advancement of Topics Typology. Instantiating this position might be an explanation of the referentiality feature being associated to *hawezh* and the clause and clause DPs, being the category marked by *hawezh*, hence, S-Topic. Thus, IMPATIENCE, S-Top and Referentiality all interact in syntax. This paper though concludes with advancing the challenge that *hawezh*'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 *Pó* marks SURPRISE (2a) while *Pa*, a phonologically variant of *Pó* (Hack, 2014: 51), marks IMPATIENCE (2b) (Hack, 2014: 52–56).

(2) a. **Pó** te digo!

Pó say you.1SG

“But I’m telling you!”

b. É-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 *hawezh* 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 *hawezh* is that it expresses different discourse values, depending on the syntactic contexts it occurs in. When used singly, *hawezh* marks SURPRISE information (Biberauer & Sheehan, 2011) while it marks IMPATIENCE information (Hack, 2014) when it co-occurs with the *wh*-phrase *lejf* “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 *hawezh* argue that discourse features expressing SURPRISE information and IMPATIENCE 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 *hawezh*, 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 *hawezh* 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<sup>1</sup>

Consider the following set of GA data.

(3) a. **hawezh** 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. **hawexh** l-laʕib sʕarag 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. **hawexh** l-korah sʕarag-ha l-laʕib

**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 *hawexh*, 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 *hawexh* on the propositional content of the propositional components in (3), we notice that the structure of the associate clause containing *hawexh* is altered, VSO in (3a), SVO in (3b) and OVS in (3 c), with the lexical verb carrying a clitic agreeing in  $\phi$ -features with the object DP in (3 c).<sup>2</sup>

These different word orders, we argue, are due to the impact of *hawexh* on the syntax of the clause and the clause constituents; the fact that *hawexh* 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 *hawexh* and different internal parts of the clause, which are semantic endowment 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, *hawexh* encodes SURPRISE information at the LF interface; in other word, SURPRISE information expressed at the LF interface is morphologically realised as *hawexh* 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 *hawexh* works, consider now how the semantics of *hawexh* is like when a *wh*-item co-occurs with it in (4) below.

(1) a. **hawexh leɪf** sʕarag l-laʕib 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. **\*leɪf hawexh** sʕarag l-laʕib 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 *hawexh* co-occurs with *leɪf*, 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: *hawexh* co-occur with *leɪf* in a rigid order [*hawexh* > *leɪf*] 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 *hawerh* 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 *leɟ*, 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 *hawerh*. This complex of *hawerh* and *leɟ*, 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 *hawerh* and *leɟ* licenses clausal constituents in the syntactic complex they initiate, as in (5).

(1) a. **hawerh** l-laɟib **leɟ** 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)?'

b. **hawerh** l-korah **leɟ** s'arag-ha l-laɟib

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 *hawerh* and the *wh*-phrase *leɟ*. Notice that the semantic distribution of *hawerh* 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 from its canonical syntactic position if it has another interpretation it needs to 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 *hawerh* and *leɟ* 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 *hawerh* in (3) and DPs remerging in a position between *hawerh* and *leɟ* in (5).<sup>3</sup>

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 Rizzi (1997) and Frascarelli and Hinterhölzl (2007). In light of this, the paper will investigate how *hawerh* maintains different interpretive values, when used singly and when co-occurring with *leɟ*. This will involve an account of minimalist

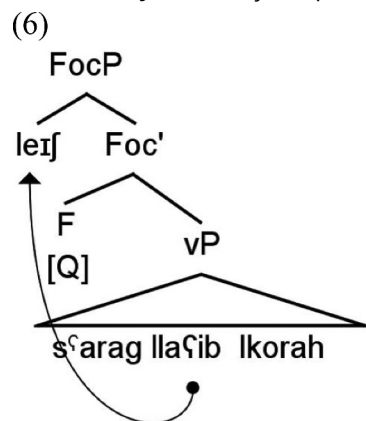
strategies and mechanisms behind the clausal constituents remerging between how *hawezh* maintains different interpretive properties, when used singly and when co-occurring with *leif*.

The paper is structured as follows. Section 2 elaborates on the categorical nature of *hawezh*, arguing that it has a head status. Section 3 displays the semantico-pragmatic distribution of *hawezh*, with reference to its impact on the word order patterns of the associate clause, showing that DPs marked by *hawezh* move. Further, a proposal on the status of the featural grid of *hawezh* is advanced, arguing that *hawezh* has an occurrence of valued [*i*-SUR] and unvalued [*u*-Ref]. Section 4 sketches the cases where *hawezh* expresses SURPRISE information, and introduces minimalist principles and strategies implemented in the analyses for the marking system of *hawezh* to the subject DP and object DP and the propositional content in TP, including DP movement to the right of *hawezh*. Section 5 is devoted to the impact of *leif* on *hawezh* and cases where *hawezh* expresses IMPATIENCE, where *hawezh* 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 *hawezh* does to the DPs it marks. Section 5 also subsumes implications imposed by the research, including, the phenomenon of *hawezh*'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 *hawezh*

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

We follow the generative practice in that *leif* 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 *leif* is represented in (6).

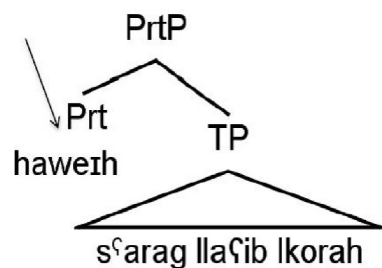


Extending this logic to *hawezh*, it turns out that we are dealing with a morphologically different category. Notice that unlike *leif*, which functions as an adjunct, in the pre-movement phase of the derivation, *hawezh* cannot have an impact on the proposition in the argument structure of the vP phase (Chomsky, 2000, 2001; Miyagawa, 2010). *hawezh* 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 *hawezh* 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 *hawezh* is not associated to the proposition lower in the vP structure. It follows from this that *hawezh* 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 categorial 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, *leɟ* 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** sʕarag l-laʕib 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 *hawexh*, resulting in IMPATIENCE interpretation.

(10) **hawexh leɪf** s’arag l-laʕib 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 *hawexh* is used singly) and how IMPATIENCE interpretation is delivered (when *hawexh* co-occurs with *leɪf*). 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).

(11) a. **hawexh** s’arag l-laʕib l-korah

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

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

b. **hawexh** l-laʕib s’arag 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. **hawexh** l-korah s’arag-ha l-laʕib

**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).”

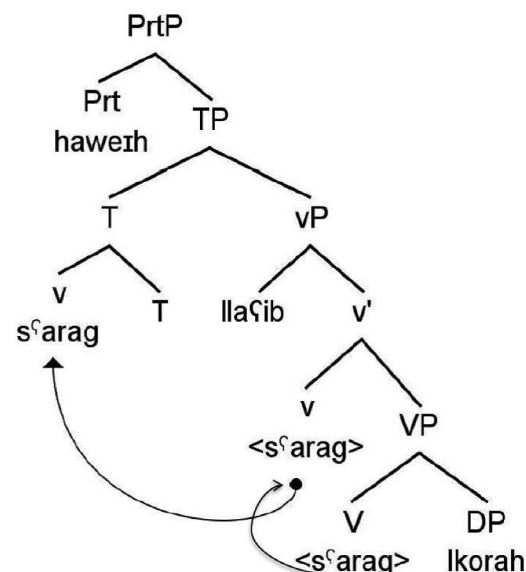
Considering the assumption that discourse markers map syntax to discourse (Biberauer et al., 2014), and categorized as a discourse marker that encodes SURPRISE information at the LF interface, and within minimalist assumptions (Chomsky, 2000, 2001), we argue that *hawexh* is endowed with a discourse 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 *hawezh*

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 *hawezh* is thus explained by assuming that, by means of the discourse feature it carries, *hawezh* marks the entity represented by the DPs. In other words, *hawezh* 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 *hawezh*, 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 *hawezh* 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 *hawezh* 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 *hawezh* 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 *hawezh* 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. Featural grid of *hawezh*

To formulate a minimalist interface-related fair argument about the feature grid of *hawezh* 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 *hawezh*, to borrow Ouhalla's (1997) term. This being so, *hawezh* 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 *hawezh* having only an instance of interpretable valued feature [SUR]. We wish to assume that [SUR] on *hawezh* is uninterpretable unvalued to allow for rendering *hawezh* active probe (Chomsky, 2001). However, this cannot be conceptually assumed since [SUR] is the only aspect of semantics that can logically make *hawezh* a licit expression at the LF. In other words, if [SUR] on *hawezh* is uninterpretable unvalued, would have no interpretation at the LF and the head Prt hosting *hawezh* 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 *hawezh* 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 *hawezh* 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, *hawezh* 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 *hawexh* expressing SURPRISE, we propose that *hawexh* has an occurrence of [*i*-SUR], which suffices to license *hawexh* 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 *hawexh*

##### 4.1. *hawexh* 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.

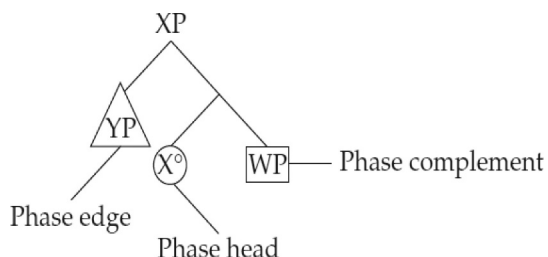
Chomsky (2000: 106) refers to a phase as “the closest syntactic counterpart to a proposition: either a verb phrase in which all theta roles are assigned or a full clause, including tense and force”. A phase then is the step of a derivation at which some material is sent to the interface system (LF and 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 though from a semantic perspective while PF interface requires a phase to be a complete though 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  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ , 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).

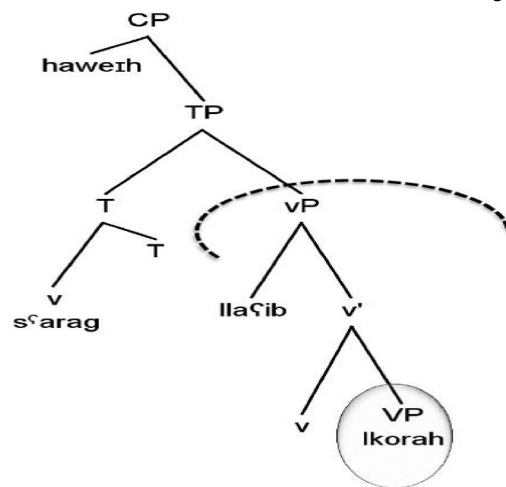
PIC principle in (13) says that a phase YP, once derived, its complement WP (and content therein) cannot interact with any material outside, upper in the structure), and that only the phase head X and the

Figure 1. The phase structure.

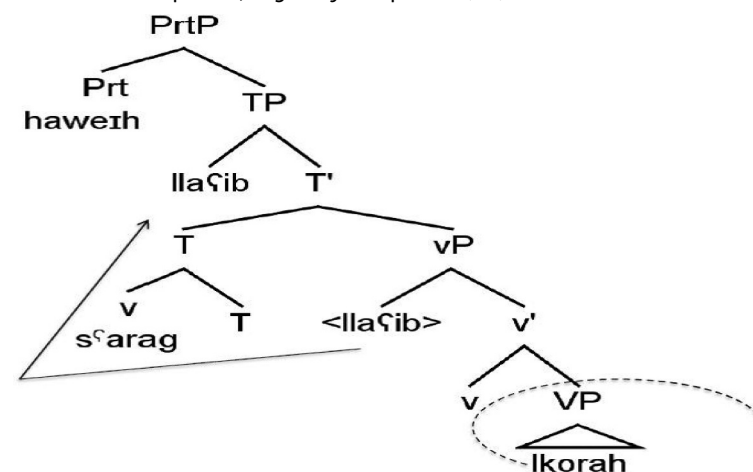


phase edge YP can do. Another way to say (13) is that the complement of a phase is not accessible to any probing, agreeing or attracting items in a higher phase because they have been sent to the interface system.<sup>4</sup>

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) *haweth*, 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 *lkorah* 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).



It follows that the subject DP is visible to and seen by the head C of the higher CP phase, *haweth*. But given that in (11b), in their linear order, the subject DP is located to the immediate right of *haweth*, 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).



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 *hawexh*, 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 *hawexh* has [*i*-SUR], in addition to [*u*-Ref].<sup>5</sup> 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 *hawexh* in case *hawexh* 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. *hawexh* and marking of the DPs: Probe Goal Relation

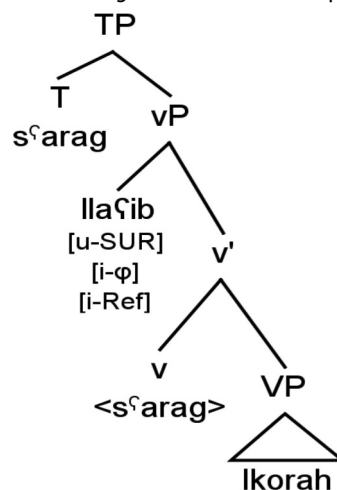
Using probe goal configuration to agreement, as we have hypothesized in 3.2, *hawexh* probes by virtue of [*u*-Ref], which requires holding Agree relation (Chomsky, 2001) with the closest DP, which would always have [*i*-Ref]. Again, the subject DP at Spec vP is both visible and closest.

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

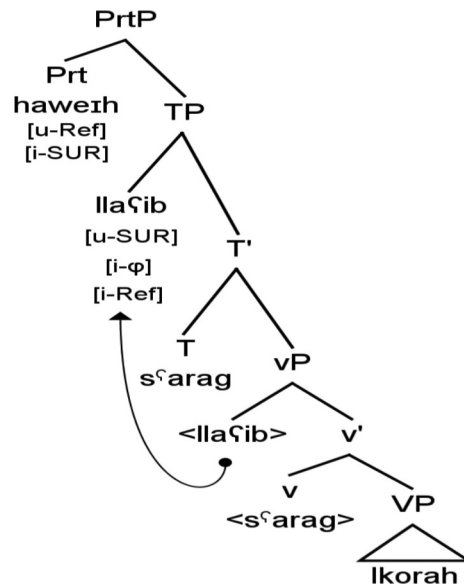
(16) Minimal Link Condition

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 *hawexh* and the marker *hawexh* 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*- $\phi$ ], 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 *hawezh* being endowed with [*i*-SUR] which is legitimate, but with [*u*-Ref], which needs a value to get deleted and by which *hawezh* probes. *hawezh* starts *u*-SUR-probing its c-command domain. *hawezh* finds the subject DP with [*i*-SUR]. Agree holds between *hawezh* and the subject DP. [*i*-Ref] on the subject DP values [*u*-Ref] on *hawezh*, while, in turn, [*i*-SUR] *hawezh* 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 *hawezh* attracts the closest item carrying the matching feature. That is, *hawezh* 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 *hawezh* 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-laʕib **hawezh** sʕarag I-korah

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

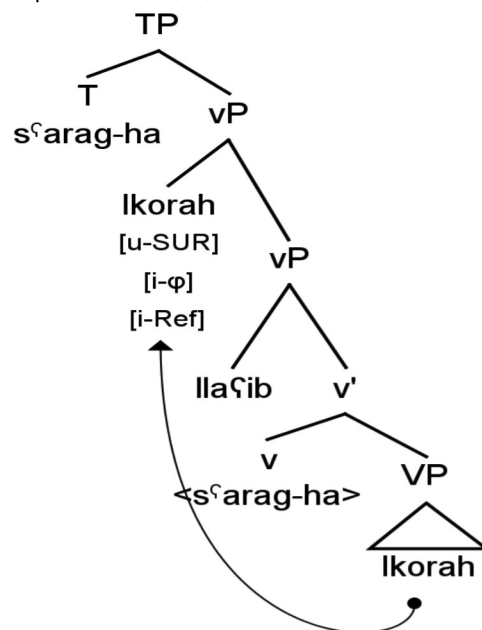
Intended meaning: “As for the player, he stole the ball (I’m surprised he did so).”

Ill-formedness of (19) is attributed to the assumption that GA interface system imposes a restriction on GA syntax disallowing long movement.



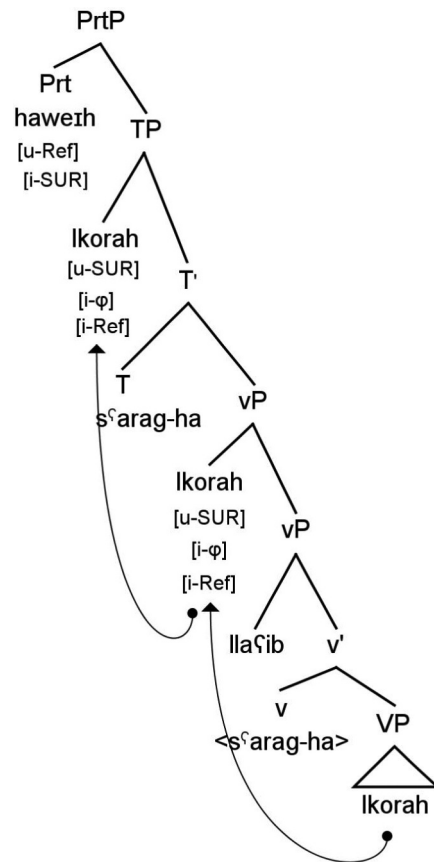
This syntactic, economy-related operation is explained once we recall that *hawerh* has [*u-Ref*]. We have seen that, with phase considerations, *hawerh* can mark the subject DP in situ, as Spec vP. Movement of the subject DP further to the right of *hawerh* is then explained if we assume that *hawerh* needs to be adjacent to the referential DP, which has a topic reading and which *hawerh* 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.



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- SUR*] on the object triggers phasal movement and then gets valued by [*i- SUR*] on *hawerh* and so *hawerh* gets its [*u-Ref*] valued by [*i-Ref*] on the object DP. *hawerh* attracts the object DP to the available position, Spec TP, as in (21). The *hawerh*-marked DP moves to the right of *hawerh*, 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 *hawerh*, as we will explicate later.<sup>6,7</sup>



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 *haweɪh* expressing SURPRISE, let us now move to the more complex issue in (4) and (5) above, repeated below as (22), where *haweɪh* co-occurs with *leɪf*, in a rigid order [*haweɪh* > *leɪf*], and where the discourse value is IMPATIENCE rather than SURPRISE.

(22)

(a) **haweɪh leɪf** sʕarag l-laʕib 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) **haweɪh** l-laʕib **leɪf** sʕarag 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) . *hawexh* l-korah *leɟ* 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)?’

Discussion of this issue is in the following section.

### 5. *hawexh* encoding IMPATIENCE information: the complex *hawexh* and *leɟ*

The data in (22) contain *hawexh* and *leɟ*, 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 *leɟ*, 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 *leɟ* needs to co-occur with *hawexh* 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.

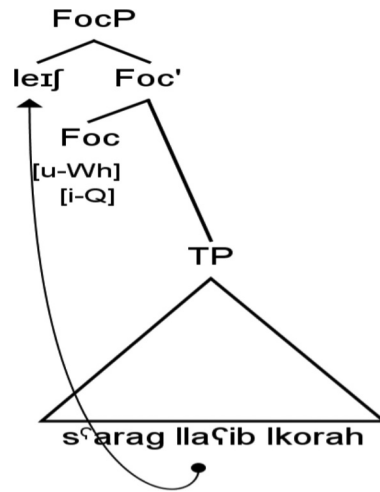
#### 5.1. *hawexh leɟ* and IMPATIENCE Interpretation

We follow the consensus that discourse markers are multi-functional (Bayer & Struckmeier, 2017; Biberauer & Sheehan, 2011; Struckmeier, 2014). Given the observation that in (22) *hawexh* expresses IMPATIENCE, while in (11) it expresses SURPRISE, we hypothesize that *hawexh* 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 *leɟ* and how it influences the full interpretation of the proposition of the cases in (22).

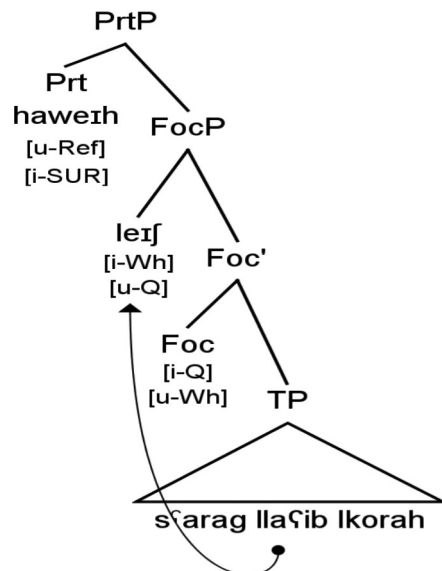
#### 5.2. The syntax of *leɟ*, its impact on the proposition and IMPATIENCE interpretation

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

With this at hand, we follow minimalist practice that *leɟ* 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 (Koenenman & Zeijlstra, 2017; Rizzi, 1997). This is represented in (23).



We take the stand that merger of *leɪf* 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 *hawerh*, given our generalization we have just formulated? How are *hawerh* and *leɪf* 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, *hawerh* 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.



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

Back to the influence of *leɪf* on *hawerh* and obligatory co-occurrence of *leɪf* with *hawerh*, taking our stand that the Q-information carried by *leɪf* has a crucial relationship with the IMPATIENCE-

information carried by *hawezh*, 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 *leif* co-occurs with *hawezh*, *hawezh* expresses IMPATIENCE-information, in which *leif* interacts with *hawezh*. We stress that the semantic contribution of *leif* is that the speaker's being *wants to know why* is represented by *leif* 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) *hawezh* marks the propositional content including the information expressed by *leif*, while in (22b,c) *hawezh* marks the subject and the object, respectively, in association with the reason being stealing the ball.

Summing up this logic, *hawezh* interacts with *leif* in all cases. In some case *hawezh* marks the information expressed by *leif*, the reason, with respect to the proposition. In some other cases, *hawezh* marks the information expressed by *leif* 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. *hawezh* is a head category, while *leif* is a phrasal category.<sup>8</sup> Hence, *hawezh* probes the closest syntactic item through *leif* while *leif* 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) **hawezh** l-laʕib **leif** 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 *hawezh* occurs singly and where *hawezh* 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 *hawezh* but to the left of *leif*. 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.

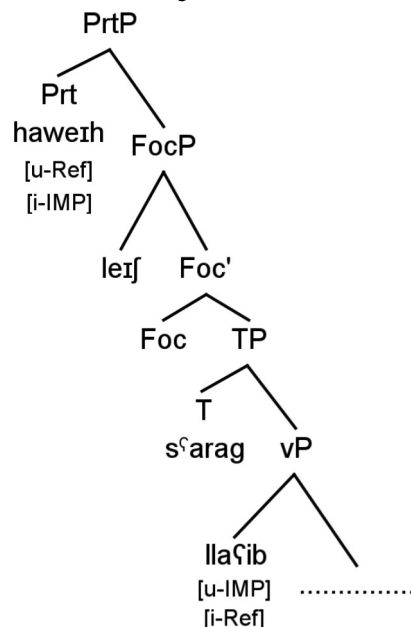
We now come back to the syntactic apparatuses of how the syntax and interpretation of (25) is carried out. This is explicated in the following sub-section.

### 5.3. Analysis: the syntax of *hawezh leif*

Proceeding, then, in (25), we propose that the subject DP has [*u*-IMP] and [*i*-Ref] as well as [*i*- $\phi$ ]. *hawezh* has [*i*-IMP] and [*u*-Ref]. Once the vP phase of (25) is derived and at the point where the subject

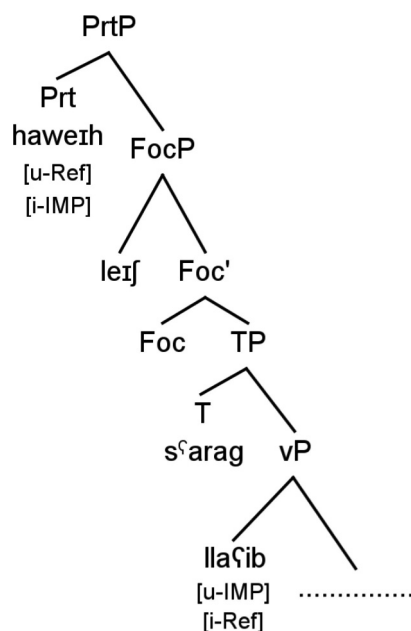
DP merges at Spec vP, it functions as an active item in syntax, looking up for a value to [*u*-IMP] on it. The CP phase is initiated, and there are two operations taking place there.

Firstly, Foc merges in the derivation, splitting the CP of the sentence. The wh-phrase *leiʃ* moves to Spec FocP, where [*i*-Wh] on *leiʃ* 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 *hawerh* merges at Prt of PrtP, being endowed with [*u*-Ref] and [*i*-IMP]. At this point of the derivation, *hawerh* *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)





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 *leɪf* with no consequences.

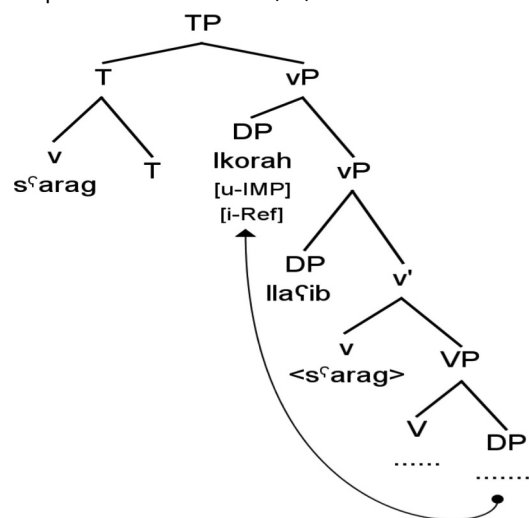
We now come to the case of (22 c), repeated in (28) below. As we see, the object is the item that is sandwiched between *hawerh* and *leɪf*.

(28) **hawerh** l-korah **leɪf** s'arag-ha l-laʕib

**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]. *hawerh* has [*i*-IMP] and [*u*-Ref]. Once merged at P<sub>rt</sub>, *hawerh* 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).

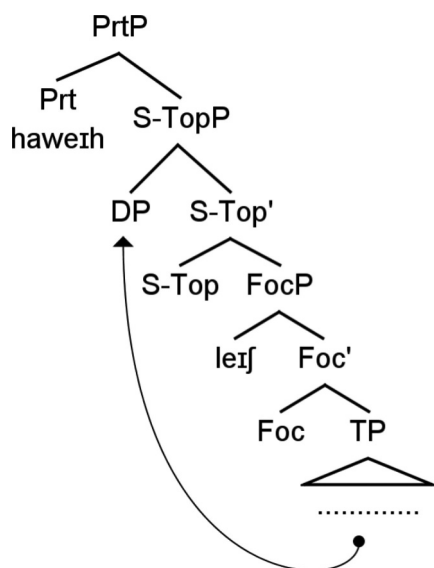


The object DP moves to the edge of vP phase by virtue of [*u*-IMP] on it, escaping its vP phase Transfer (Bošković, 2007; Holmberg et al., 2017). Again, one would raise the wonder that the



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 *hawexh* must reemerge to the right of *hawexh*. 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 *hawexh* has a Topic reading (see subsection 3.2). For this puzzle, we refer back to our generalization that the DP marked and attracted by *hawexh* carries a Topic interpretation. Given that the DP is located to the right of *hawexh* but to the left of *leif*, 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.<sup>9</sup>



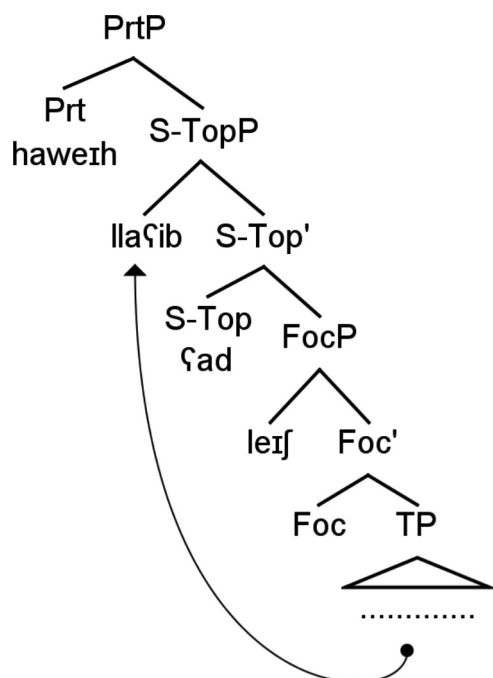
What we are dealing with, then, seems to be an information-structural projection with S-Topic information, contra our assumption of TP earlier. This can be further evidenced by the fact that S-Top of S-TopP is morphologically realized in G-Syntax, in par with Najdi (Alshamari, 2017; Alshamari & Holmberg,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

(31) *hawexh* l-laʕib ʕad leif sʕarag 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.<sup>11</sup>



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 *hawexh*'s marking of TP

We have argued above in section 4, in cases of constructions involving *hawexh* without *leɪʃ*, that the moving DP marked by *hawexh* 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 *hawexh*-marked DP moves above TP to the left periphery, to Spec S-TopP. To make the argument consistent, then, *hawexh* 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.<sup>12</sup> The moving DP, being read as S-Topic, and also being marked by a discourse device like *hawexh*, cannot conceptually be existent in a non-discourse domain like the functional TP. This conceptual assumption is translated into the practice of cartographic approach (Frascarelli & 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. **hawexh** sʕarag l-laʕib l-korah

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

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

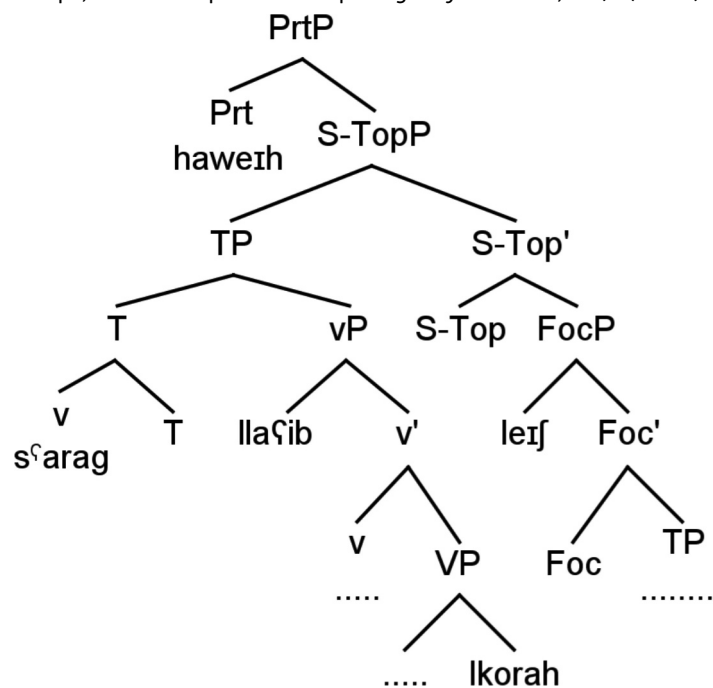
b. **hawexh leɪʃ** sʕarag l-laʕib l-korah

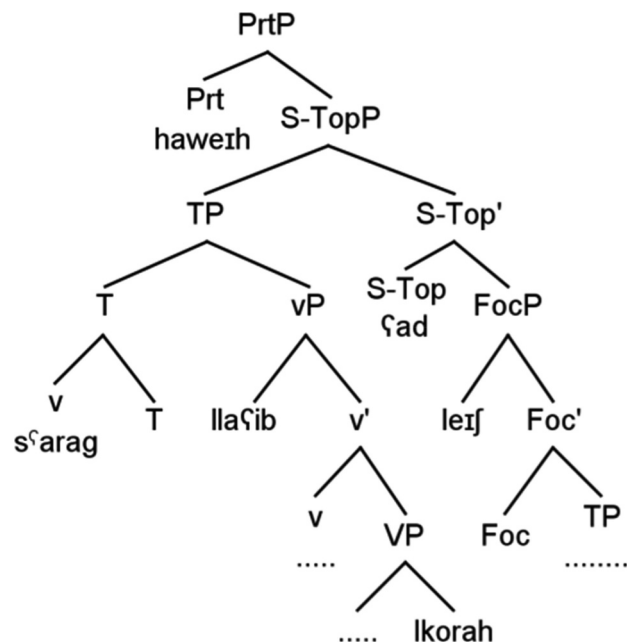
**PRT Q** steal.PST.3SG.M DEF-player DEF-ball

“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 *hawerh* 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 *hawerh* 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 *hawerh* is always merged with [*u*-Ref] by which it probes, what values [*u*-Ref] on *hawerh*? 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  $\phi$ -features and Topic markers that do not do. Those that bear  $\phi$ -features mark a DP by getting suffixed with a clitic agreeing in  $\phi$ -features with the DP while the DP remains in situ (the clitic on the Topic marker spells out the  $\phi$ -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 *haweɪh*, then, can be said to get valued by [*i*-Ref] on the TP that *haweɪh* 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 *haweɪh*'s probing TP, [*u*-IMP] on TP is valued by [*i*-IMP] on *haweɪh*, 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 *haweɪh* needs to be valued, under minimalist mechanism Agree that an instance of valued of [*i*-Ref] values [*u*-Ref] on *haweɪh*. We have also seen that Attract Closest motivated by *haweɪh* movement of occurrence of *haweɪh* is due to the assumption that this moving DP has Topic interpretation, which is associated with the requirement that *haweɪh* 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 *haweɪh*. It is argued that *haweɪh* expresses SURPRISE when occurring alone while

it expresses IMPATIENCE when obligatorily co-occurring with the wh-phrase *leɣf*. Using probe goal configuration, it is shown that *hawezh* [*i*-SUR] and [*i*-IMP], depending on the syntactic context, making it a legitimate item at the LF interface system. Further, *hawezh* probes by [*u*-Ref], the case in which is valued by present on the category, DP or TP, having the matching [*i*-Ref]. This Agree, relation, thus, results in valuing [*u*-SUR] or [*u*-IMP] on the relevant category, the goal. One insight the analysis of *hawezh* presents is related to assuming [*u*-Ref] on *hawezh* and the theory of feature valuation in general. Analyses held show that *hawezh* 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 *hawezh* 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 *ʕad*, 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 *hawezh* needs to be adjacent and c-commanding the referential, Topic DP it marks in syntax. This scenario the syntax of *hawezh* shows makes, though, a challenge to the theory of movement. Though the features interaction the paper advances with respect to *hawezh*, the assumption that non-movement of TP marked by *hawezh* 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  $\phi$ -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 Hinterhölzl (2007).
3. We will capitalize the term when it refers to the information structural notion SURPRISE and IMPATIENCE.
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  $[\phi]$  “agreement” features.
6. Phase Impenetrability Condition is a syntax-interface condition that holds that movement be successive-cyclically from inside one phase to another phase. Chomsky (2000: 108) formulates PIC as follows: In Phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ , only H and its edge are accessible to such operations.
7. The reader notices that in case the DP marked by *haweth* 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 discursial 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 Hinterhölzl (2007) argue that S-TopP is top most TopP in the typology of TopPs 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.



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