

## Hypothetical and Counterfactual Mood Markers: Hierarchical Placement<sup>\*1</sup>

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### الملخص

تفحص الورقة الأداتين (ب) و (راح) عندما تستخدمان في الحجازية للتعبير عن الاحتمالية أو الفرضية. هذه المعاني يعبر عنها في لغات أخرى بأشكال الفعل الماضية والمضارعة إضافة إلى أدوات قواعدية تلحق بتلك الأفعال. هذه الأدوات القواعدية تشمل بعض أدوات صيغة الفعل (النواسخ) والتي أصبحت قواعدية عبر تغيرات تمت عبر خط التحول القواعدي. وعلى سبيل المثال فإن (ب) و (راح) قد مرتا بهذا التحول القواعدي في العديد من اللهجات العربية لتدلا على الزمن المستقبل أو على صيغة الفعل الفرضية. وعلى ضوء هذا، فإن الورقة تفحص (ب) و (راح) كأداتي فرضية ضمن الإطار التوليدي وتبين أن مكانهما في الشجرة النحوية هو ما أسميته CnMP عندما تكون وظيفتهما فرضية، بخلاف تولدهما في FutP عندما تكون وظيفتهما للدلالة على زمن المستقبل. النتيجة الخطية هي:

.CP → TP → FutP/CnMP → AspP → AktP → Tax-AspP → VP

### Abstract

The current study explores the Hijazi Arabic elements *b-* and *raah* when used as irrealis mood markers expressing counterfactual and/or hypothetical meanings. Such meanings are coded in different languages by past and present tense morphology, i.e., by perfective and imperfective forms that are associated with some grammatical elements. These grammatical elements include some mood markers that have been grammaticalized through the "cline of grammaticality". For instance, *b-* and *raah* have been grammaticalized in several Arabic varieties to serve as either future tense markers or irrealis mood markers. In light of this, the paper investigates *b-* and *raah* as mood markers from a generative perspective and argues that they are projected in CnMP when functioning as irrealis markers and into FutP when functioning as future tense markers. The resulting linear representation is CP → TP → FutP/CnMP → AspP → AktP → Tax-AspP → VP.

**Keywords:** counterfactuality, hypotheticality, irrealis, mood, Hijazi Arabic, grammaticalization, projections, hierarchy

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<sup>1</sup> While the paper uses some common conventions and abbreviations, below are the abbreviation symbols adopted.

|      |                                  |          |                           |
|------|----------------------------------|----------|---------------------------|
| AktP | Aktionsart Projection            | IMPF     | Imperfective              |
| CFMP | Counter-Factual Modal Projection | M        | Masculine                 |
| CnMP | Conditional Mood Phrase          | P        | Preposition               |
| F    | Feminine                         | PF       | Perfective                |
| FutP | Future Projection                | Tax-AspP | Taxis – Aspect Projection |

## 1. Introduction

It is assumed that all natural languages have particular types of conditional clauses that grammatically encode conditional meanings "to reason about alternative situations, to make inferences based on incomplete information, to imagine possible correlations between situations, and to understand how the world would change if certain correlations were different" (Traugott, Meulen, Reilly, & Ferguson, 1986:5).

Those conditional meanings have been classified differently. Some linguists follow a tripartite classification. For instance, Azar (1981) and Carter & McCarthy (2006) classify the conditional meanings into real, hypothetical and unreal. In like fashion, Comrie (1986) classifies the conditional meanings into factual, hypothetical and counterfactual. Other linguists follow a binary classification where one can see Jarvis' (1971) classification of conditional meanings into counterfactual and non-counterfactual, Palmer's (1974) into real and unreal, and Dancygier's (1998) into open and hypothetical. What one can notice in the literature is that linguists use different classification terms that relatively refer to the same conditional meanings. The literature shows that the terms *open*, *real*, *realis*, *neutral* and *factual* have been used to relatively refer to a class of conditionals which, according to Dancygier (1998:34), does "not make any predictions about the fulfillment or non-fulfillment of the condition". Likewise, the terms *unreal*, *hypothetical*, *non-factual*, and *counterfactual* have been used to refer, more or less, to the similar conditional interpretations conveying the negative belief of the utterance about the fulfillment of the condition (Dancygier 1998:34). While the paper follows Comrie's (1986) classification of the conditional meanings into factual, hypothetical and counterfactual classes, it further limits itself to hypothetical and counterfactual meanings which fall within the purpose of the paper.

The purpose of this paper is to focus only on the description of the two Hijazi Arabic (HA) grammaticalized elements *b-* and *raaḥ* when they encode hypotheticality or counterfactuality. The exclusion of factual meanings is due to the fact that factual conditional meanings can be interpreted in HA without the use of *b-* and *raaḥ*. Hence, such meanings will not be addressed. The paper shows that *b-* and *raaḥ* have been grammaticalized from motion and volition verbs to serve as future markers or mood markers. I use the term *mood* to specifically refer to the irrealis mood where the events are unreal and the situations are imaginary, non-factual and regarded as not to have occurred. The irrealis mood covers the unreal events such as

hypothetical conditional (de Haan, 2012:107-111), and it "portrays situations as purely within the realm of thought, knowable only through imagination" (Mithun, 1999:173).

Focusing on the behavior of *b-* and *raaĥ* as mood markers, the paper shows that they convey the irrealis interpretation of the imperfective. It then suggests their placement in the hierarchy where it argues that they are projected into CnMP between TP and other functional categories. However, the paper does not explore the syntax of the various HA conditional particles, their clauses, and the type of verbs allowed in the apodosis and protasis clauses and their interpretations as this will take us too far afield. For the rest of this section, the paper briefly sheds light on the two conditional meanings: hypothetical and counterfactual.

Hypotheticality, according to Comrie (1986:88), refers to "the degree of probability of realization of the situations referred to in the conditional". It shows a continuum whose interpretations do not present clear-cut boundaries. Rather, the interpretations express different degrees ranging between "greater" and "lower" hypotheticality. Thus, "greater hypotheticality" indicates "lower probability", and "lower hypotheticality" indicates "greater probability". This shows that a hypothetical proposition can be realized in the real word and its realization can be strong or weak. Hypothetical conditions are also referred to in the literature as realis (Boubekri, 2019:9). Taylor (1997:302) holds that the content of hypothetical conditions is seen as a possibility that is "neither in accordance with reality, nor necessarily inconsistent with it". He considers hypothetical conditions a class standing between factual conditions, where the content of the conditional is presumably the case, and counterfactual conditions (shown below).

Counterfactuality refers to, as simply defined by Iatridou (2000:231), the constructions that "convey the meaning that the speaker believes a certain proposition not to hold". The literature, however, shows some degrees where counterfactuality and hypotheticality may overlap. Jalonon (2017:13) uses the expression "*impossible conditions*" to refer to counterfactuality and to conditions of high hypotheticality claiming that they have the same meaning. On the other hand, she uses "*possible conditions*" to refer to open or low hypotheticality. Since some degrees of counterfactuality and hypotheticality may overlap, I use counterfactuality for cases that are contrary to fact and impossible to occur or to have occurred, whereas I use hypotheticality for cases that may occur under some circumstances though they do not necessarily show a clear probability to occur. While the paper shows some instances of the overlap between counterfactuality and hypotheticality, it is not trying to discuss it as this is beyond its scope; it

explores the grammatical elements that precede the imperfective forms to encode counterfactual/hypothetical reading. The question that may rise at this juncture is how counterfactuality and hypotheticality are coded in different languages.

The literature shows that some languages (see below) use grammatical and lexical verb forms that may be associated with some conditional elements to encode counterfactuality in situations that are counterfactual to the past, and other elements that may be associated with some conditional elements to encode counterfactuality in situations that are counterfactual to the present. In such cases, the grammatical and lexical verb forms are either perfective or imperfective.

In this regard, Iatrido (2000:268) claims that English and Modern Greek use past tense morphology as the main element responsible for encoding counterfactuality. Some linguists call this past tense morphology form, when encoding counterfactuality, *fake past* (Iatrido 2000) while others call it *repurposed* past (Halpert & Karawani, 2011). It is *fake* as it does not mark a past interpretation, and it is *repurposed* as it is used for a purpose different from its standard interpretation. This linguistic phenomenon where the verb's function is "shifted" from indicating a temporal reference into another conditional function is referred to as *backshifting* (see Comrie (1986:96) and Dancygier (1998:37)). The use of the term "backshift" is applicable to all cases of language where "the time marked in the verb phrase is earlier than the time actually referred to" (Dancygier 1998:37). Fleischmann (1989) calls it "a basic linguistic metaphor of temporal distance" where the use of a past verb form encodes cases of non-actuality, i.e., cases with "distance from reality or belief" (Dancygier 1998, 37). In short, the role of the verb form, be it perfective or imperfective, in conditional clauses is not "unambiguously or necessarily indicative of time, but rather of hypotheticality" (Jalonen, 2017:13), which I argue is the case in HA as shown below.

While the literature shows that perfective and imperfective forms are used in hypothetical/counterfactual interpretations in different languages, their behavior is not always clear with respect to indicating higher/lower hypotheticality or counterfactuality. Focusing on Arabic varieties, Boubekri (2019:2) argues that, in Moroccan Arabic, perfective and imperfective forms occurring in the protasis and apodosis can be associated with different elements to convey factual and nonfactual (impossible/counterfactual) interpretations. In Damascus Arabic, Jalonen (2017:18-20) claims that the perfective and imperfective verbal forms can be used to convey

possible and impossible conditions with different degrees of hypotheticality. However, her hypotheticality continuum shows that the perfective is more to the left edge than the imperfective when indicating impossible conditions, and that the opposite is true for possible conditions. i.e., the imperfective (and some nonverbal forms) occur to the very right edge of the continuum, but are preceded by the perfective for possible conditions. Although Jalonon uses a continuum, both perfective and imperfective forms can indicate hypothetical and counterfactual meanings. Halpert & Karawani's (2011:100) study of counterfactuality in both Palestinian Arabic and Zulu, spoken in South Africa, concludes that the imperfective form is always required in Zulu to indicate counterfactual interpretations. Contrary, the presence of the perfective form in Palestinian Arabic is necessary in counterfactual interpretations, but such interpretations can also be indicated by a combination of a perfective auxiliary and an imperfective lexical form. The conclusion that can be drawn from this overview is that both forms (perfective and imperfective) can participate in a way or another to indicate either hypotheticality or counterfactuality.

Narrowing the discussion to the language of question, the growing literature in HA shows that Al Zahrani (2013) has investigated the counterfactual *kaan* in situations that are counterfactual to the past. He particularly confines his study to the modal meaning of the counterfactual *kaan* when only followed by a perfective lexical verb. His analysis is restricted to the use of the auxiliary *kaan* and a perfective form, but it does not include conditional structures. Consider example (1), adopted from Al Zahrani (2013:236).

- |     |             |                |             |                |
|-----|-------------|----------------|-------------|----------------|
| (1) | <i>kaan</i> | <i>saww-at</i> | <i>Hind</i> | <i>al-kaik</i> |
|     | CFM         | PF.make-3SG.F  | <i>Hind</i> | DET-cake       |

“*Hind* should have made the cake.” OR “*Hind* would have made the cake.”

(She did NOT make it.)

[CFMP<sup>kaan</sup> [TP<sub>PST</sub><sup>saww-at</sup><sub>t</sub> [AspP<sub>t</sub> [Tax-AspP<sub>t</sub> [VP [Spec<sup>Hind</sup> [V<sup>SWY</sup><sub>t</sub> [DP<sup>al-kaik</sup>]]]]]]]]]

In this example there are no conditional particles or conditional clauses (protasis and apodosis) and counterfactuality is expressed solely by the combination of the auxiliary *kaan* and the perfective lexical *sawwat*. This combination expresses a counter-to-fact proposition where Hind did not make the cake; it shows what would/should happen if the circumstances were different. Al Zahrani argues that the counterfactual *kaan* is projected into CFMP that is higher than TP, so it does not agree with the feminine subject since it is base-generated outside of the

boundary of the tense and agreement locus: TP. Being with a modal function, Al Zahrani, then, shows how CFMP interacts with other modal categories including epistemic modals (EModP), deontic modals (DModP), and dynamic modals (DyModP) in past and non-past modalized situations. In a footnote, Al Zahrani (2013:234) clearly states that his discussion does not include counterfactuality when expressed by any grammatical elements other than the combination of the counterfactual *kaan* and a perfective lexical form. Also, his study does not include imperfective verb forms nor does it include hypotheticality: neither lower nor greater. Hence, while this paper builds on Al Zahrani's (2013) findings, it tries to fill in some of this gap by looking at the grammaticalized elements *b-* and *raaḥ* in declarative clauses whose interpretations are counterfactual/hypothetical. It is rather important to notice that the meanings of the examples in this paper are ambiguous when treated out of contexts, so we assume that all examples are uttered to refer to an (imaginative) unreal world. In this paper I argue that the combination of *b-/raaḥ* and an imperfective form, in a hypothetical reading, conveys past and non-past/future hypotheticality/counterfactuality as opposed to the combination of the counterfactual *kaan* and a perfective form that, according to Al Zahrani (2013), is particular to past counterfactuality. The rest of the paper proceeds as follows. Section 2 presents the significance of the paper and the dialect of question. Section 3 sheds light on the grammaticalization of *b-* and *raaḥ* across Arabic dialects. Section 4 presents some properties of the imperfective to show its behavior and interpretations with and without *b-* and *raaḥ* as future markers. This, in turn, helps in understanding its behavior in hypothetical worlds with *b-* and *raaḥ* functioning as mood markers. Section 5 shows their syntactic placement along the hierarchy with other functional categories, and section 7 concludes the paper.

## **2. The significance of the study and the dialect**

The significance of this paper lies in the fact that it describes conditional structures in which the elements *b-* and *raaḥ* serve as irrealis mood markers in HA. The growing literature in HA (including Al Zahrani, 2013; and Alotaibi, 2014) has investigated these two elements as future tense markers. However, to the best of the author's knowledge, there is no one piece of work that has investigated these elements in HA as mood markers, shown their hierarchical placement or their interaction with other functional categories along the spine, which is what the

current paper tries to achieve. Besides, it shows how they are projected into different heads according to their functions (Section 5).

The importance of the study is linked to the importance of the dialect of questions. HA is a spoken in the western parts of Saudi Arabia including the two Holy cities of Makkah and Madinah and the main Saudi summer resort: Taif. On the one hand, the two Holy cities are always visited by millions of people across the year, and more specifically, between the holy months of *Ramadan* and *Thul-Hijjah* (Pilgrimage period). Taif, on the other hand, attracts visitors from the Gulf countries and other local cities during summer; it also attracts many international visitors who, after visiting Makkah, drive to Taif to visit some of its historical places, mountains, and mosques...etc. that have their history associated to the early periods of Islam. This shows that HA is the dialect which millions of the international visitors of SA are exposed to in these three main cities.

The significance of the dialect explains its growing literature over the last decade in comparison to the two pieces of work in 1970s by Siney (1978) and Margret (1975). The growing literature shows that many generative linguists have been exploring linguistic issues in HA, as can be seen in their work (including Al Barrag, 2007, 2014; Al Barrag & Al Zahrani, 2017; Al Zahrani, 2008, 2013, 2014a, 2014b, 2015, 2016, 2018; 2019; Alotaibi, 2014; Alzaidi M, 2014; Alzaidi M, Yi Xu, & Anqi Xu, 2019; Bardeas, 2005; Eifan, 2017; Feghali, 1991; Kheshaifaty, 1996, amongst others). The next section shows the development of the HA *b-* and *raah*.

### **3. Grammaticalization of the two mood markers**

The literature shows that the two elements *b-* and *raah* have been developed to serve some grammatical functions. In HA, they can serve as temporal markers as explored in Al Zahrani (2013) and shown in examples (10a-b) below. In addition, they can serve to mark hypothetical interpretations as shown in Section 5. Their development to mark grammatical functions shows the linguistic phenomenon of grammaticalization.

Grammaticalization, as defined by Hopper & Traugott (2003:5), is "the process whereby lexical items and constructions come in certain linguistics contexts to serve grammatical functions, and, once grammaticalized, continue to develop new grammatical functions". Hence, grammaticalization is one type of language change that explores the development of lexical elements as markers serving grammatical functions. This language change is witnessed across

languages, and it is, as argued by Bybee (2015:10), "an inevitable outcome of language use". Cross-linguistically, evidence shows that it is unsurprising that verbs of motion and volition change to future morphemes and mood markers. For instance, Hopper & Traugott (1993, 2003) claim that the English verb *go* is originally a verb of motion as in "*I am going to school*". It has been grammaticalized to serve as an auxiliary for an immediate future function as in "*I am going to go to school*". Also, the English future auxiliary *will* has developed out of the lexical form "*willan*" meaning "to want/desire" (Hopper & Traugott, 2003:97). Likewise, the Modern Greek future element *thelo* has developed out of the Classical Greek expression *thélo hina* meaning (I want to/wish that) (Hopper & Traugott, 2003, 99).

In like fashion, some recent papers have argued for the grammaticalization of *b-* and *raaḥ* in many concurrent Arabic dialects. Irrespective of the differences between these dialects and the distribution of the grammaticalized elements *b-* and *raaḥ*, the two elements have their origins in Classical Arabic and this explains why they are used widely in many Arabic dialects including HA. Jarad (2014:101) claims that Classical Arabic *raaḥ* has been grammaticalized from a verb of motion (andative = going) to a future marker in Syrian Arabic. He, further, claims that this is the case in other Arabic dialects including Palestinian, Lebanese, Jordanian, Egyptian, and Iraqi (Jarad, 2014:111-113). Johnstone (1967, 152, 163, 169 - cited in Jarad 2014:112) claims that the dialects Kuwaiti, Bahraini and Qatari use *raaḥ* as a particle for future intentions. Persson (2008:33) also notices that *raaḥ* marks future time reference in Gulf dialects; this includes Saudi (including HA), Emirate, Omani, Bahraini, Kuwaiti, and Qatari dialects. Jarad (2017:750-751) and Persson (2008:26-27) claim that *b-* is also used in all Gulf dialects, Levantine and Egyptian dialects as well as Yamani dialects.

For grammaticalization to occur, Hopper & Traugott (2003:7) claim that there is a "cline of grammaticality" showing the continuous series of changes in function. In their cline, represented in (2) below, they assume that an item occurring to the right of the extreme is more clearly grammatical than its preceding item.

(2) content item > grammatical word > clitic > Inflectional affix

Hopper & Traugott (2003:99) argue that grammaticalization is "prototypically a unidirectional phenomenon". This means that the direction of the developments of a grammaticalized item is from the left of the cline to the right. To make this cline practical, one can notice that the auxiliary forms in "*I will*" and "*I am going to*" have developed out of



contentive forms, which is the first stage of the cline, and that they serve grammatical functions (stage two). Further stages are also witnessed as they can be phonologically reduced to "I'll" and "I'm gonna". However, as argued by Jarad (2017:747), for an item to grammaticalize, it does not have to move through all these stages of grammaticalization development.

What is more interesting is the fact that the grammaticalization of an item does not require the elimination of the original content word, so the lexical word may still exist in the language. Hopper & Traugott (2003:114) describes this phenomenon as "divergence" where the grammaticalized and lexical forms can both be used side by side in one sentence as in "*I am going to go to school*".

This divergence phenomenon is witnessed in Arabic dialects, including HA. The form *raaḥ* is used lexically in HA as a motion verb "go.3sgM.PF = (he went)", as a future marker and as a mood marker. The last two uses suggest that the form *raaḥ* has moved across the cline of grammaticality from stage one (lexical use) to stage two (grammatical use). Furthermore, the literature shows that it has also been developed, and then phonologically reduced to the prefix (*ḥ*-). It, for example, can precede the imperfective *aktub* "I write" as in *ḥ-aktub* "I will/would write" (future/hypothetical reading). Jarad (2104:115), in his discussion about Syrian Arabic, claims that the creation of the dialectal prefix *ḥ*- must have undergone some phonological processes of metathesis from *raḥ* but the absence of any diachronic piece of evidence makes it hard to predict any answers to how and when that occurred. The reduction of the full form *raaḥ* to *h*- is also found in many Arabic dialects including Egyptian, Omani and Levantine dialects and Maltese (see Stewart, 1998:108).

Having presented *raaḥ* and *ḥ*-, I move on to show the developmental stages of the HA *b*-. It has developed out of the volition verb "*abya*" "I want" and it has gone through different stages where its form has been phonologically reduced to *b*- as shown in (3).

(3) *a-bya* > *a-ba* > *a-bi* > (*ba/bi*) > *b*

Once again, the divergence phenomenon is witnessed here as all the lexical and grammaticalized forms in (3) are used in HA. Notice that the prefix *a*- in the first three forms is the first person singular agreement marker, so it can be replaced by other markers including *y*- (3sg.M), *n*-(1pl) and *t*- (2sg). This development of *b*- out of a volitional verb to a prefix that marks future time reference is evidenced by data from other Arabic dialects as shown in the data represented in (4) – (8).

- (4) Emirati Arabic: *yabya* > *yabi* > *yaba* > *yibbi* > *ba* > *b-* (want, desire) Jarad (2017:751)
- (5) Levantine varieties: *bi-widd* > *bad* > *ba-*, *bi-*, *b-* (want) (Mitchell & Al-Hassan, 1994:19)
- (6) Yameni Arabic *yaʃaʔ* > *ʃa* (want) (Versteegh, 2014:109)
- (7) Libyan Arabic: *aba* > *yibbi* > *ba-* (want) (Stewart, 1998:109)
- (8) Moroccan Arabic: *bat*, *biti*, *bit*, *ba-* derived from *bʔa*, *bʔat*, *bʔit* (want) (Stewart, 1998:110)

Furthermore, other Arabic dialects have some future elements that have been grammaticalized from their relevant motion verbs. The Moroccan future element *yadi* and its variant prefixes *yad-* and *ya-* have been grammaticalized from *yada* "going" (Stewart, 1998:108). In like fashion, the Tunisian future elements *baf*, *baf*, *bef*, are all variants of "*maf*" which has been derived from the motion verb *mafi* "going" (Stewart, 1998:108). In addition, the Maltese *sejjer*, *sejra*, and *sejrin* precede imperfective forms to express future time reference. These Maltese forms have been reduced to the prefixes: *se-*, *sa-*, and *ser-* that have been derived from the form *sejjer* (going/becoming).

The set of data represented in (3) to (8) conforms to the cline of grammaticality in (2) where the Arabic future elements found in the data have been grammaticalized from content motion verbs and some have been reduced to clitics and prefixes.

While the literature has indicated that *b-* and *raaħ* have been grammaticalized to serve temporal functions in Arabic varieties, they are also used as mood markers in HA. Evidence for this claim relies on recalling the definition of grammaticalization above where Hopper & Traugott (2003:5) hold that when some elements have been grammaticalized, they "continue to develop new grammatical functions", I argue that HA *b-* and *raaħ* do not only function as future time markers, but they also function as mood markers, as this paper shows in Section 5. It might be the case that they have been grammaticalized to serve as temporal markers, but they have continued to develop their grammatical functions as mood markers. For this specific function, Persson (2008:27) holds that the element *b-* in Gulf Arabic also marks the irrealis mood. In HA it is actually the case that both *b-* and *raaħ* can serve as irrealis mood markers.

This section has shown how the morphemes *b-* and *raaħ* have been grammaticalized and developed in some Arabic varieties including HA. Now, I move on to show how they behave in verbal clauses and nonverbal clauses to indicate hypotheticality in HA. However, because they

always precede imperfective forms, it is rather important to throw some light on some properties of HA imperfective verbs.

#### 4. The Role of the Imperfective

Since the paper focuses on the hypothetical reading of the imperfective, it is rather important to briefly present an overview of Al Zahrani's (2013) insights about the role of the imperfective in a non-hypothetical reading. Consider the example in (9).

- (9) a. *Hind t-safir*  
*Hind* 3SG.F.IMPF.travel  
 “*Hind* travels.”  
 “*Hind* is traveling.”
- b. *Hind t-safir bistimrar/alaan/bukrah*  
*Hind* 3SG.F.IMPF.travel regularly/now/tomorrow

HABITUAL: “*Hind* travels regularly.”

PROGRESSIVE: “*Hind* is traveling now.”

FUTURE: “*Hind* travels/is traveling tomorrow.”

The example in (9a) shows that the imperfective form can convey habitual and progressive interpretations. This ambiguity is solved by the adverbial elements as shown in (9b). What is important to our discussion here is that the imperfective, unlike the perfective, is not marked for one specific reading and it is not associated with one specific time reference or aspectual point. It can indicate the present time reference or the future and it can also convey habitual or progressive aspectual senses. Notice that (9b) shows the adverbial element *bistimrar* 'regularly' to convey habitual aspect, and *alaan* 'now' to convey the present progressive aspect. However, the third translation of (9b) shows the adverbial *bukrah* 'tomorrow' that indicates the future time reference but the verb form can still be translated as "travels" or "travelling". To avoid this ambiguity, HA uses some future markers as shown in (10).

- (10) a. *Hind b-t-safir* (\**ams*)  
*Hind* FUT-IMPF.make-3SG.F (yesterday)  
 “*Hind* will travel (\*yesterday).”
- b. *Hind raah t-safir* (\**ams*)  
*Hind* FUT IMPF.make-3SG.F (yesterday)  
 “*Hind* will travel (\*yesterday).”

The presence of the future morphemes *b-* and *raah* has solved the temporal ambiguity as there is only one future interpretation in this neutral reading. Notice that the complex structures of the imperfective and the future morphemes in (10a-b) are incompatible with the adverbial marker *ams* "yesterday", which is not the case in hypothetical/counterfactual readings (Section 5). While Al Zahrani (2013) argues that these future elements are projected into the FutP when they mark future tense, this paper claims that they occupy the CnMP when they function as irrealis mood markers as presented in Section 5. However, before building the CnMP argument, the next section presents briefly the framework that has facilitated the arguments of this paper.

## 5. Framework

The Minimalist Program (MP) and its latest advancements by Chomsky (1995, 1999; 2000) and Radford (2004, 2009) have insightfully presented a descriptive framework that allows for an unambiguous account of the relevant facts and arguments in HA syntactic studies. Some of the MP elements used for describing and analyzing HA include hierarchical phrase structure and movement operations of the verbal forms, which are driven by the need to check functional features including person, number, gender agreement and aspectual properties. The use of these elements is clearly witnessed in the HA findings of Al Zahrani's (2013, 2014b, 2016, 2018) work that the hierarchical arguments in this current study heavily depend on (see below). Besides, the paper adopts some insights from Bahloul (1993, 1994, 2008).

The elements the paper has adopted from different theoretical works within the MP are summarized in (11) below. These elements help establish the arguments for the hierarchical position of *b-* and *raah* along the spine of the HA structure, and show how the hierarchical position interacts with other elements.

(11)

a) All complete clauses are CPs. A CP, which can be null or occupied, dominates a TP that dominates some other functional categories (Radford 2004, 2009).

b) The following hierarchy represents HA verbal clauses (AL Zahrani 2013, 2016).

CP → TP → FutP → AspP → AktP → Tax-AspP → VP

c) TP is the locus of tense and agreement (Radford 2009).

d) Non-past tense is the default unmarked tense in HA and it does not have to be marked morphologically; so the future morphemes *b-* and *raaḥ* may be absent but the reference to the time is future (AL Zahrani 2013).

e) Past tense must always be morphologically marked by the perfective auxiliary *kaan* or a perfective lexical verb in T. (AL Zahrani 2013). I show below that this is not always the case in hypothetical clauses.

f) AspP is the position of the imperfective auxiliary verb *ykuun*. This auxiliary is aspectual but never used to indicate present tense (AL Zahrani 2013).

g) NegP position is not fixed as it can occur in a range of places that mark its scope, i.e., according to the position of the negated element (AL Zahrani 2013, 2014b).

h) Tax-AspP is the position of all lexical verbs whose verbal roots must move from V to Tax-Asp to inflect for the taxis-aspectual features, which are inherent features of Arabic verbs (Bahloul 1994, 2008, AL Zahrani 2013).

Tax-AspP is a functional projection suggested first by Bahloul (1994) and then adopted by Al Zahrani (2013, 2014b, 2016, 2018) where Al Zahrani argues that while HA perfective and imperfective forms indicate the aspectual boundedness and unboundedness of the event, verb forms also mark some other temporal references in certain contexts. Thus, "not only aspect (completeness/boundedness) but also taxis (event time, time of one event or situation relative to another) are essential specifications of every HA verb that are realized morphologically" (Al Zahrani (2013)).

## 6. Hierarchical assumptions & Placement of mood markers

This section explores the syntactic position of the grammatical elements *b-* and *raaḥ* when used in hypothetical/counterfactual readings. It also explores the interaction of these grammatical elements with other functional categories. Note that the paper focuses only on the use of *b-* and

*raaḥ* in hypothetical/counterfactual readings and on their placement. It, however, does not attempt to explore the possible distribution of imperfective and/or perfective forms in both the apodosis and protasis clauses, which, in turn, may express different nuances. Nor does it attempt an investigation of the subtle differences between the conditional elements *law*, *iḏa* and *ʔn* "if" when associated with different verb form. Focusing on the different interpretations of the verb forms with different conditional elements is left for future research that requires a heavy corpus.

Before turning to show the placement of the mood markers in hypothetical readings, I need to recall that HA perfective forms are always associated with past time interpretations whereas non-past time interpretations are always associated with imperfective forms. I show that this is not the case in hypothetical interpretations of imperfective forms preceded by *b-/raaḥ*. Consider the examples in (12) and (13).

- (12) a. *laiḥ maa saafar-t maʔ-hum ams (\*alaan) (\*bukrah)*  
 Why Neg PF.travel-3sg.M P-3pl.Gen yesterday (\*now) (\*tomorrow)

*"Why didn't you travel with them yesterday (\*now) (\*tomorrow)?"*

- b. *law darai-t saafar-t maʔ-hum ams*  
 if PF.know-1sg.M PF.travel-1sg P-3pl.Gen yesterday

*"If I knew, I would have travelled with them yesterday."*

[lit: if I knew, I travelled with them].

The examples in (12) show that the event of travelling did not take place, so the examples explain current circumstances that presumably would be different if something different had happened in the past, i.e., if the addressee knew about their travel he would have travelled with them. While the combination of the negative and the verb *saafar-t* "did not travel" expresses the fact that the addressee did not travel in (12a), the example in (12b) does not contain a negative element but it indicates that the addressee did not travel either because the apodosis clause is introduced by the protasis clause containing *law* "if". Hence, this conditional clause presupposes negation = he did not travel. Notice that a perfective verb form is associated with the past time reference and indicates the completion of the event in normal non-hypothetical reading. However, this is not the case in (12b); the literal translation [*if I knew, I travelled with them*] may indicate that the event is completed, but it has not even taken place. Recalling Iatridou's (2000) term *fake past* and Halpert & Karawani's (2011) term *repurposed* (Section 1), one can notice that

the use of the perfective aspect here is fake and is repurposed. It is fake because it does not mark a past interpretation, and it is *repurposed* because it is used for a purpose different from its standard interpretation. This is the linguistic phenomenon of *backshifting* where the verb's function is shifted from indicating a temporal reference and an aspectual function into another conditional function (Comrie 1986:96, Dancygier 1998:37).

In light of the analysis in (10), we assume that the perfective *saafar-t* in the apodosis clauses occupies the T position after it has moved from Tax-AspP. Similarly, the perfective *darait* has moved from Tax-AspP to T; the conditional element *law* occupies C.

Now let us apply the scenario in (12) above to the clauses in (13a-b), which contain the imperfective counterpart of *saafar-t*, namely– *a-saafir* "I travel".

- (13) a. *law darai-t raah/b-a-saafir maʔ-hum*  
if PF.know-1sg. CnM-1sg-IMPF.travel P-3pl.Gen

"If I knew, I would travel with them." = He didn't know, so he didn't travel.

- b. *law darai-t kunt raah/b-a-saafir maʔ-hum*  
if PF.know-1sg PF.aux.1sg CnM-1sg-IMPF.travel P-3pl.Gen

"If I knew, I would travel with them."

What we see in (13a) is the protasis clause containing the perfective form *darai-t* in T preceded by the conditional *law* in C, and the apodosis clause containing the imperfective verb *a-saafir* "I travel" in Tax-Asp preceded by the hypothetical mood marker *b-/raah*. Notice that the scenario is in the past, so the combination of the marker *b-/raah* and the imperfective form is fake/repurposed in that the interpretation is shifted from the standard interpretation to a hypothetical one. Hence, *b-* and *raah* do not mark the future tense in this context, nor do they express a future intention. Recall that the markers *b-* and *raah* can only precede imperfective forms, and that imperfective forms do not move higher than Tax-AspP. This entails that the markers *b-* and *raah* occupy a position between TP and Tax-AspP.

Each example in (13) contains two TPs: the matrix clause whose T is occupied by *darai-t* (13a-b) and the lower TP whose T does not contain any phonological content in (13a), but contains the auxiliary *kunt* in (13b). Recall that the interpretation is past in (13). If one claims that the interpretation is past in (13a), it may seem contradictory to Al Zahrani's (2013) conclusions

about the necessity for the head of TP to always contain a perfective form in past time interpretations. However, I argue that there is no contradiction between Al Zahrani's findings about the past tense requirements and this paper. A suitable account that solves what may appear as a contradiction is that the lower TP is c-commanded by (i.e., in the domain of) the higher TP that is morphologically marked for past tense interpretations by the perfective *darai-t*, and in conditional clauses containing the protasis and apodosis the higher TP must be occupied and this suffices for the grammaticality of the entire clause/sentence. Evidence in support of the claim that the lower T does not need to have a morphological form in past time references can be drawn from the examples in (14).

- (14) a. *kunt*                      *raaḥ/b-a-saaḥir*                      *maʔ-hum*      *law*      *darai-t*  
PF.aux.1sg      CnM-1sg-IMPF.travel      P-3pl.Gen      if      PF.know-1sg.M  
*"I would travel with them, If I knew."*
- b. \**raaḥ/b-a-saaḥir*                      *maʔ-hum*      *law*      *darai-t*  
CnM-1sg-IMPF.travel      P-3pl.Gen      if      PF.know-1sg.M

In (14a) the apodosis clause precedes the protasis clause and its T is occupied by the perfective auxiliary *kunt*. In (14b), although the lower T is occupied by the perfective *darai-t*, the sentence is ungrammatical due to the absence of a past tense marker in the higher T. The conclusions are twofold. First, unlike non-hypothetical readings, if there is a perfective form, the head of the higher TP must be occupied to mark the past tense interpretations, whereas the lower TP may or may not be morphologically occupied in hypothetical readings. This shows an interaction between the position of *b-* and *raaḥ* in the lower clause and the TP projection of the higher clause where the presence of the hypothetical marker *b-/raaḥ* makes the presence of the auxiliary in the lower TP unnecessary. Second, the fact that the examples in (13) and (14) exhibit past time reference provides another piece of evidence backing up the main argument that the elements *b-* and *raaḥ* do not mark future time reference as they are in the domain of the higher TP that is morphologically marked for past tense.

Examples (12) to (14) can be interpreted as low hypotheticality or counterfactuality depending on the context. This, in turn, supports the claim in Section 1 that there are degrees



where the expressions of counterfactuality and hypotheticality may overlap. If we assume that the person may still be able to travel with them, the interpretation would be hypothetical. If we assume that they travelled and returned, so the speaker would never be able to travel with them, the interpretation would be counterfactual. Thus, *b-* and *raah* are mood markers marking hypothetical/counterfactual interpretations of imperfective forms. Another piece of evidence supporting this claim is the compatibility between adverbial time markers and the verb forms as shown in (15) below.

The examples in (15) show that the verb forms are used for hypothetical/counterfactual non-standard interpretations where the adverbial markers may seem contradictory to the standard interpretation of the verb forms.

- (15) a. *Iḍa ruḥ-t bukraḥ kallam-t-uh*  
 If PF.go-1sg tomorrow PF.talk-1sg-3sg.M  
*"If I go tomorrow, I would talk to him."*  
 [Lit: *If I went tomorrow, I talked to him.*]
- b. *law ḍi-t ams b-a-gaabil-ak*  
 If PF.come-1sg yesterday CnF-1sg-IMPf.meet-2sg.M  
*"If I came yesterday, I would have met you."*  
 [lit: *If I came yesterday, I would meet you.*]

The lexical verb forms in (15a) are both perfective, i.e., past-time reference, but the adverbial time marker is future (tomorrow). In (15b), the verb form *a-gaabil-ak* (I meet you) is imperfective, whose standard interpretation is present/future, but the adverbial time marker is past (yesterday). These examples provide evidence that in HA conditional clauses the verbal forms are back shifted to non-standard interpretations. In (15a) the interpretation is hypothetical as the speaker may go tomorrow, but in (15b) it is counterfactual as the incident was in the past, i.e., prior to the moment of speaking though the verb form is imperfective. Now we turn to the issue of the placement of these markers.

So far, we have seen that *b-* and *raah* occupy a position between TP and Tax-AspP. Recall that (11b) shows a range of projections occurring between TP and Tax-AspP. Consider the examples in (16) to see how *b-* and *raah* interact with the elements occupying those projections

listed in (11b). Notice that the mood markers *b-* and *raaḥ* are replaceable in the following examples.

- (16) a. *law kaan ʔindi ixtibar b-a-ḏaakir*  
 If aux have exam CnM-1sg-IMPF.study  
*"If I had an exam I would study."*
- b. *law kaan ʔindi ixtibar b-a-ḏʒlis a-ḏaakir*  
 If Aux have exam CnM-1sg-Akt.IMPF 1sg-IMPF.study  
*"If I had an exam I would be studying."*
- c. *law kaan ʔindi ixtibar b-a-kuun a-ḏʒlis a-ḏaakir*  
 If aux have exam CnM-1sg- 1sg-Akt.IMPF 1sg-  
 aux.IMPF IMPF.study  
*"If I had an exam I would be (in the state of) studying (from dawn to sunset)."*

Example (16a) presents the marker *b-* before the lexical imperfective occupying Tax-Asp. Example (16b) presents the same marker before the lexical aspectual (aktionsart) element, which is also in the imperfective form. This aspectual element exhibits inflectional agreement properties with the subject and it occupies the head of AktP that can only select for an imperfective lexical verb form (Al Zahrani, 2016). In (16b) the combination of the hypothetical marker and the lexical aspectual marker is followed by the imperfective lexical form *a-ḏaakir* in Tax-Asp. (16c) shows a consecutive sequence of three imperfective forms: the auxiliary *a-kuun* (I.be) occupying the head of AspP, the aspectual element *a-ḏʒlis* (progressive aspect) occupying the head of AktP, and the lexical element *a-ḏaakir* (I.study) occupying the head of Tax-AspP. However, the hypothetical element can only be prefixed to the highest imperfective form, i.e., the auxiliary: *b-a-kuun* (I.would.be). This analysis explains the ungrammaticality of the following structures in (17).

- (17) a. *\*b-a-kuun b-a-ḏʒlis b-a-ḏaakir*  
 CnM-1sg-aux.IMPF CnM-1sg-Akt.IMPF CnM-1sg-IMPF.study
- b. *\*a-kuun b-a-ḏʒlis a-ḏaakir*  
 1sg-aux.IMPF CnM-1sg-Akt.IMPF 1sg-IMPF.study

|    |                |                 |                    |
|----|----------------|-----------------|--------------------|
| c. | <i>*a-kuun</i> | <i>a-d̥glis</i> | <i>b-a-ḏaakir</i>  |
|    | 1sg-aux.IMPF   | 1sg-Akt.IMPF    | CnM-1sg-IMPF.study |

The examples in (17) are ill-formed since the mood marker is prefixed to every imperfective form in (17a), and to the second and third forms in (17b-c) respectively. Hence, it is only the higher imperfective form that can be suffixed to the mood marker. In light of this discussion, I propose that the mood markers occupy a position lower than TP but higher than AspP, Tax-AspP and VP as represented in (18).

(18) TP → *b-/raah* (mood markers) → AspP → AktP → Tax-AspP

Recall the list of projections in (11b) re-represented below in (19) for convenience.

(19) CP → TP → FutP → AspP → AktP → Tax-AspP → VP

What is interesting here is that the mood markers in (18) occupy the same position that the future markers occupy in (19), i.e., intermediating between TP and AspP. Interestingly enough, the mood markers and the future markers in HA are morphologically identical. Recall that the growing literature in HA suggests that these morphemes have different functions. If they function as future tense markers indicating future time reference they are projected in the head of FutP (Al Zahrani 2013). Contrary, as this paper has shown, if they function as mood markers where they interpret the hypothetical/counterfactual reading of the imperfective they occupy what I call CnMP = Conditional Mood Phrase. This conclusion is drawn from their investigation as irrealis markers in conditional clauses in this paper. According to this analysis, the linear order of HA functional categories in (18) can be modified as in (20).

(20) TP → CnMP → AspP → AktP → Tax-AspP

What is absent from (20) is FutP that is found in (19) above between TP and AspP. This suggests that CnMP and FutP occur in one position between TP and AspP as shown in (21).

(21) CP → TP → FutP/CnMP → AspP → AktP → Tax-AspP → VP

Showing FutP/CnMP together may seem strange but this phenomenon where some functional heads cannot be separated or should be dealt with together has evidence from different languages. To show this phenomenon, I first show how the linear order in (21) with FutP/CnMP occupying a position between TP and ApP is on a par with Cinque's (1999:76) proposal in (22).

(22) MOODspeech act > MOODevaluative > MOODevidential > MODepistemic > T(Past) > T(Future) > MOODirrealis > ASPhabitual > T(Anterior) > ASPperfect > ASPretrospective > ASPdurative > ASPprogressive > ASPprospective/MODroot > Voice > ASPcelerative > ASPcompletive > ASP(semel)repetitive > ASPiterative

In general, both my proposal in (21) and Cinque's proposal in (22) show that the irrealis mood markers follow the past tense head and precede the aspectual heads. We have seen that any HA past tense morpheme occupying T is higher than the aspectual auxiliary in AspP and the aspectual forms in AktP and Tax-AspP. Also, the irrealis markers are in a position between TP and other lower projections. However, in Cinque's analysis future morphemes are higher than irrealis mood markers, but this cannot be examined in HA as future and irrealis mood markers are morphologically identical and they cannot co-occur in a clause. I argue that they should be dealt with together.

To account for my claim that I should deal with the two heads FutP/CnMP together, we should recall the fact that Cinque's (1999) proposal is claimed to be universal. He has examined the adverbial elements and functional heads according to data from different languages and come up with the proposal in (22). What Cinque has done is putting together the functional heads that have been examined in a pairwise method. That is, he examines the order of two functional heads and provides some cross-linguistic pieces of evidence supporting that order; then he examines the order of one of the two heads examined so far with another head. The resulting analysis is one where all pairwise relative orders have been linearly put together in (22). However, his conclusions are not final across languages. Cinque has shown how the order can be reversed according to different data from different languages. For instance, the order of some aspectual heads "remains undetermined" and sometimes it is "without real evidence" in some languages (Cinque 1999:76). This explains why de Haan (2012:113) argues that it is probably the case that Cinque's analysis has not been examined completely in one language. In addition, Cinques (1999:73) also admits that in several cases it is not easy to distinguish between anterior tense and perfect aspect in some languages, so he, in those cases, deals with them together: T(Anterior)/ASPperfect. In like fashion, as can be noticed in (22), prospective aspect and root modality have been dealt with together: ASPprospective/MODroot.

By analogy, one can argue that HA FutP and CnMP categories must be dealt together as they are morphologically identical and cannot co-occur in a clause; hence, FutP/CnMP. To

conclude, these two functional heads occupy the same position between TP and AspP, but they are projected into different functional heads which are in complementary distribution: if one occurs the other does not.

## 7. Summary and recommendations

The paper has shown that the HA elements *b-* and *raaḥ* have passed through the "cline of grammaticality" to serve as future tense markers or irrealis mood markers. It has explored *b-* and *raaḥ* when functioning as irrealis mood markers to convey counterfactual/hypothetical meanings. We have seen how they immediately precede auxiliary and lexical imperfective forms to express unreal conditionals. In such a function, the paper shows that they occupy a position between TP and other lower aspectual and lexical heads, which is similar to the position when functioning as future tense markers. However, the paper concludes that *b-* and *raaḥ* are projected in CnMP when functioning as irrealis markers and into FutP when functioning as future tense markers. The resulting linear representation is as follows.

CP → TP → FutP/CnMP → AspP → AktP → Tax-AspP → VP.

The paper has also shown that the resulting linear configuration is on a par with Cinque's (1999) universal proposal of the adverbs and functional heads in (22) above, and that FutP and CnMP should be dealt with together: FutP/CnMP where the elements *b-* and *raaḥ* are in complementary distribution, so if one function is present that other one is absent.

The study has shown some interesting proposals for future research. A study depending on a heavy corpus can investigate the different senses and interpretations of the conditional elements and their association with the presence of perfective and imperfective forms in both the apodosis and protasis clauses. This may cover the greater and lower hypotheticality and the counterfactuality of the interpretations resulted from replacing a perfective form for an imperfective form in either clause (apodosis or protasis). This may account for the semantic overlap between hypotheticality and counterfactuality.

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