Epistemic *ʔilla* and Deontic *ʔilla* in Jordanian Arabic
Converge or Diverge in their Semantics and Syntax?

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Abstract

The goal of this study is to investigate the semantics and the syntax of the epistemic modal *ʔilla* in Jordanian Arabic (JA) and find-out if epistemic *ʔilla* and deontic *ʔilla* are comparable in their semantics and syntax. As for its semantics, it draws an inference based on previous knowledge and experience to expresses certainty. The proposal was that the epistemic and the deontic modal force that *ʔilla* has come as an extension of the exclusive focus property this modal particle has. With regard to its distribution, epistemic *ʔilla* appears in two patterns. A mono-clausal structure is assumed for *ʔilla* In Pattern 1. In Pattern 2, *ʔilla* comes before the copular verb kuun 'be' to be necessarily followed with any of the components of a declarative clause. In this pattern, the modal and the copular verb are assumed to be in a TP, and the complement of the copular verb is in a lower TP. The subject is able to raise to the higher TP. The epistemic modal may not occur in non-declarative clauses, as they cannot be judged true or false.

Keywords: Epistemic Modal, Deontic Modal, Modal Particle, Raising, Truth Conditions.

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"إلّا" الدالة على الاحتمالية و "إلّا" الدالة على الضرورة في اللهجة الأردنية هل تقتربان أم تبتعدان عن بعضهما في جانبيهما الدلالّي والنحوي؟

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ملّخص

تهدف هذه الدراسة إلى البحث في السمات الدلالية والسمات النحوية للأداة التركيبية "إلّا" في اللهجة الأردنية و لمعرفة إذا كان بين "إلّا" الدالة على الاحتمالية و "إلّا" الدالة على الضرورة أي تشابه في ملامحهما الدلالية والنحوية. ففيما يتعلّق بدلالة "إلّا" المقترنة بالاحتمالية، وجد أنها تشير إلى استنتاج مبني على معرفة وخبرات سابقة وهذا الاستنتاج يحتمل درجة عالية من الدقة. والمقترح الذي تم تقديمه هو أن دلالة "إلّا" في كلا النوعين هو امتداد لخاصية التوكيد الحصري التي تمتلكها هذه الكلمة بالأصل. أما بخصوص طبيعة التراكيب التي تظهر فيها هذه الأداة, فوجد أنها تظهر في نوعين من التراكيب. ففي النوع الأول تظهر هذه الأداة في تركيب من المفترض أنه أحادي العبارة, أما في النوع الثاني والذي تسبق فيه "إلّا" فعل الكينونة وأي من مكونات العبارة الإنشائية فالفرضية التي قدمها البحث هو أن الأداة وفعل الكينونة هما في عبارة والتكملة تأتي في عبارة أخرى أسفل من الأولى. والمسند إليه في العباراة السفلى يمتلك القدرة على الانتقال للعبارة الأعلى. ولا تمتلك "إلا" الدالة على الاحتمال القدرة على الظهور مع العبارات غير الإنشائية؛ لأن هذه العبارات لا يمكن الحكم عليها بالصدق أو الكذب.

الكلمات المفتاحية: أداة دالة على الاحتمالية، أداة دالة على الضرورة، أداة تركيبية، الانتقال باتجاه الأعلى، شروط الصحة.

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Introduction

In Jordanian Arabic (JA, henceforth), the modal particle *ʔilla* is used deontically (1) as well as epistemically (2). A deontic modal indicates the degree to which one is forced to do a certain action, such as the English modal 'have to', whereas an epistemic modal is used to express the degree to which the speaker is certain about the factuality of a proposition, such as 'will' (Palmer, 1990, 2001; de Haan, 2006; Nuyts, 2006, 2016). Interestingly, it may happen for the modal *ʔilla* in certain sentences to bear a deontic reading as well as an epistemic one, as evident in (3), which is ambiguous because this modal has the two readings referred to above.

(1) ʔilla tidfaʕ il-ɣaraamah alʔaan.
have.to pay.2SGM the-fine now
'You have to pay the fine now.'

(2) ʔilla jitʔaχχar ʕali.
must come.late.3SGM Ali
'Ali will definitely come late.'

(3) ʔilla jɣaadir raami il-ɣurfah.
have.to/must leave.3SGM Ramy the-room
'Ramy has to (i.e., is required to) leave the room.' Deontic
'Ramy will definitely leave the room.' Epistemic

It is worth mentioning that *ʔilla* has two other uses in JA, which are also found in other varieties of Arabic, including Standard Arabic. The first involves its use as an exclusive focus particle, exemplified in (4), where *ʔilla* is used to exclude the focused item that it precedes from all contextually induced alternatives (see König (1991) for more on the meanings of focus particles cross-linguistically). The second use is as an exceptive particle, illustrated in (5), where the item after *ʔilla* is taken from the quantifier phrase before *ʔilla*. This makes the proposition hold to all of the elements denoted in the quantifier phrase, except for the excepted item (see Aljeradaat (2016) and Soltan (2016) for more on the exclusive and the exceptive particle *ʔilla* in different Arabic varieties).

(4) maa ʔakal ʔilla laħmih.
NEG ate.3SGM but meat
'He ate nothing, but meat.'

(5) sˁallaħ kull is-sajjaaraat ʔilla sajjaar-ti.
fixed.3SGM all the-cars except car-my
'He fixed all cars, except mine.'

Aljeradaat (2023) addressed the semantic and syntactic properties of deontic *ʔilla* in JA. The current study comes to explore the grammar of epistemic *ʔilla* in JA, propose a syntactic analysis of this epistemic marker, and see if epistemic *ʔilla* is semantically and syntactically similar to the deontic one. This paper is structured as follows. Section 2 briefly reviews the analysis provided in Aljeradaat (2023) for deontic *ʔilla* in JA and briefly surveys analyses put-forward for modals in Arabic. Section 3 tackles the semantics/pragmatics of epistemic *ʔilla* undergoing inspection in the current study. Section 4 proposes a syntactic analysis for epistemic *ʔilla*. Finally, section 5 concludes the study with certain remarks about the relatedness the two modal flavors for the particle in issue.

JA refers to the mutually intelligible language varieties of Levantine Arabic that are spoken by the population of the Hashemite Kingdom of Jordan. The dialectal variation observed in these language varieties is basically in phonetics/phonology and morphology/lexicon. However, less variation exists at the level of syntax (Abdel-Jawad, 1986). Diglossia characterizes language use in the Hashemite Kingdom of Jordan, as well as in all Arabic-speaking countries (Fergusson, 1991). Standard Arabic is mainly used in formal contexts, as in education, media, religious settings, and formal meetings, whereas JA is used in informal and daily contexts. The corpus of the data in the current study is from the language variety spoken in Karak, in the south of Jordan, which is the native language variety of the researcher.

Deontic *ʔilla* in JA

It has been maintained in Aljeradaat (2023) that deontic *ʔilla* expresses what is desired, ideal, and favored from the perspective of the individual and/or the society, so it comes under the category of directive deontic modality (Searle, 1983; Palmer, 1990, 2001). It has been argued that the deontic function that this modal has is an extension of the exclusive focus property it originally has. For example, in (6) below, the speaker reports an

item of rule, in which it is maintained to the addressee that they have to stop their car in the parking lot. Based on this statement, it is understood that the car-driver, to whom the directive it uttered, is required, but not requested, to stop their car in the parking lot. Here, the deontic modal particle *ʔilla* focuses on the predicate tsˁuff sajjaartak filmawqif 'leave your car in the parking lot' and excludes it from its contextually stimulated alternative, which by and large involves the opposite of what the predicate expresses. In (6), the opposite alternative that is taken apart from the focused predicate includes not to stop the car in the parking lot.

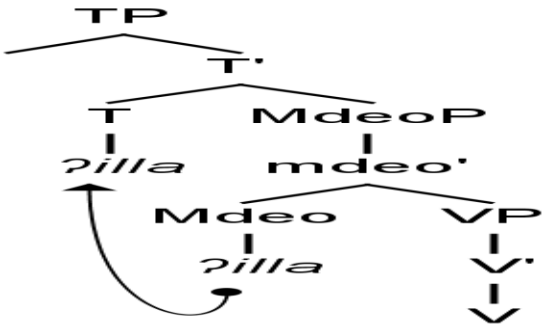
(6) ʔilla tsˁuff sajjaart-ak fi-l-mawqif.
have.to park car-your in-the-parking
'You have to park your car in the parking lot.'

As for the syntax of *ʔilla* in its deontic use, it has been argued in Aljeradaat (2023) that *ʔilla* behaves as a modal particle, rather than as a modal verb. Fassi-Fehri (1993), Aoun, Benmamoun, and Choueiri (2010), and Albaty (2019), among others, stress that modal verbs, in Arabic, are followed with CPs, whereas modal particles always precede verbs. English modal verbs, like can, should, must, will, and others, draw an analogy with Arabic modal particles, but not modal verbs. In (7), the modal janbaɣi 'had better' in Standard Arabic is taken as a modal verb on the ground that its complement is a CP. The complement of deontic *ʔilla* is invariably an imperfective verb, so it patterns with modal particles.

(7) janbaɣi ʔan turaadʒiʕ-a atˁ-tˁabiib-a.
had.better that visit.2SGM-SUBJ the-doctor-ACC
'You had better visit the doctor.'

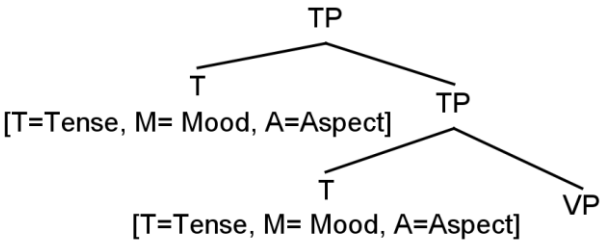
As the complement of deontic *ʔilla* is imperfective in form, the syntactic analysis proposed for clauses having *ʔilla* is sketched in (8), where it is represented that *ʔilla* first merges in the head position of MdeoP (Deontic Modal Phrase = MdeoP), and then it moves to the T position. This assumed movement captures the observation that this modal contributes for temporality as well as modality. This is why sentences having this modal undergoing investigation express what is desired to be (done) in the future.

(8)



It is of relevance to touch on the difference between the syntactic analysis proposed for deontic *ʔilla*, diagrammed in (8), and the one that Fassi-Fehri (1993, 2012) advances for modal particles in Arabic. For Fassi-Fehri, as sketched in (9), the clauses encompassing modals are temporally bi-inflectional. In this analysis, modal particles in Arabic, as for modal verbs in English (Lasnik, 1995), fill the T position of the higher TP as they have temporal and modal meaning, and the second TP is proposed in order to elucidate the bi-temporality of the clauses having modal particles.

(9)



The motivation behind the analysis Fassi-Fehri advocates is the observation that a modal particle in Standard Arabic like qad 'may' may be followed with an imperfective verb (10a) as well as a perfective verb (10b). Here, qad is in the T position of the superior TP, and the (im)perfective verb is in the lower TP.

(10) a. qad juɣaadir-u.
may leave.3SGM-SUBJ
'He may leave.'

b. qad ɣaadar-a.
just left.3SGM-INDIC
'He has just left.'

However, the verb after deontic *ʔilla* is always imperfective in JA, so Aljeradaat (2023) did not adopt the analysis portrayed in (9). As already mentioned, *ʔilla* is proposed to move from the head position of MdeoP to be the head of TP and the verb remains in the imperfective form because it does not move to T position, so it is not tense marked; hence, it remains in the default (i.e., imperfective) form (Benmamoun, 2000; Ouali, 2018).

In addition, two important things, pertinent to the distribution of deontic *ʔilla*, I should highlight. First, this modal does not occur in the context of sentential negation, so *ʔilla* is proposed to be a positive polarity item. Second, it has been documented in Aljeradaat (2023) that the deontic modal under examination may be found in non-assertive sentences, like ye-no questions, wh-questions, and protases of conditionals. The lack of ban on having deontic *ʔilla* in this type of sentences is expected, as this particle, which expresses what should be done, is immune to the truth conditions of the clauses in which it occurs.

Semantics/Pragmatics of Epistemic *ʔilla* in JA

Based on the type of judgment an epistemic modal expresses, Palmer (2001) refers to a typological classification of epistemic modality into three types: speculative, deductive, and assumptive. Speculative modality, as in (11), where it is contributed by may, denotes uncertainty about a proposition. A deductive modal, like must in (12), is used to draw an inference based on current evidence. Like a deductive modal, an assumptive modal, exemplified in (13) by will, draws an inference, but this inference is based on generally known facts, previous circumstances, and common sense.

(11) They may win the competition.

(12) They must win the competition.

(13) They will win the competition.

Having a look at the corpus of data instantiating the use of epistemic *ʔilla* shows clearly that it is an assumptive epistemic modal. To clarify, in (14), the speaker makes an inference that his/her father will surely have a nap after lunch. This judgment is based on previous experiences about that person. That is, it is inferred from regular patterns and circumstance about the speaker's father that he will have a nap after lunch. Likewise, the inference the speaker raises in (15) about the expected increase in Covid cases in winter is based on previous experiences, generally known facts, and common sense. This judgment about the certainty of the increase in Covid cases may be in the light of statistics about Covid cases from the last winter. Such a statement may come in the speech of an expert about the spread of Covid.

(14) ʔabuu-j ʔilla jnaam baʕd il-ɣada.
father-my must sleep.3SGM after the-lunch
'My father will definitely have a nap after lunch.'

(15) ʔilla tirtafiʕ il-ʔisˁaabaat b-kovid fii-bidaajjit iʃ-ʃatawjjih.
must increase.3F the-infections with-Kovid with-beginning the-winter
'Covid cases will definitely increase at the beginning of winter.'

Thus, *ʔilla* expresses certainty and suggests that the chances for the state of affairs are highly expected to be true. To use Kearns' (2011) terms, the modal *ʔilla*, in the aforementioned use, expresses epistemic necessity. A statement like (15), in this fashion, may be paraphrased as follows: "Given what we already know, it must be the case that Covid cases will be in increase this winter". Put differently, in (14-15), thanks to *ʔilla*, a speaker commits himself/herself to the truth of what they are saying to a large degree based on previous knowledge and experiences (Willett, 2020). This makes us able to conclude that there are two conditions that need to be met in order for epistemic *ʔilla* to be legitimately used. First, the source of knowledge that has led the speaker to make the inference is from previous

knowledge and experience. Second, the chances for the proposition to be true in reality are high (Palmer, 2001; Willett, 2020).

It should be mentioned that *ʔilla* that is under examination may express certainty about an action or a state in the future (15), in the present (16), or in the past (17).

(16) ʔilla jkuun baʕduh naajim.
must be.3SGM still.3SGM sleeping.3SGM
'He must be still asleep.

(17) ʔilla jkuun naam.
must be.3SGM slept.3SGM
'He must have slept.'

It seems that epistemic *ʔilla*, on a par with deontic *ʔilla*, acquires its modal force from the exclusive focus property it originally has (see Aljeradaat (2016)). That is, epistemic *ʔilla* focuses on the predicate, excludes it from its contextually induced alternatives, and, as a result, implicates that the predicate denotes a proposition that is factually judged as the only possible conclusion. Put differently, a proposition is highlighted, due to epistemic *ʔilla*, to be the only proposition that is judged possibly true, and all other competing propositions are judged possibly false.

It has to be pointed out that a sentence with *ʔilla* in its epistemic flavor entails that all other propositions, except for the one contained in the predicate preceded by *ʔilla*, are judged unexpected to be factually true. To take an example, if it is true that the speaker's father must be asleep after lunch in (13) (Proposition 1), then doing all other activities that the father may do is not true (proposition 2). One way to prove that proposition 1 entails proposition 2 is that contradiction results when asserting that the father must sleep after lunch and denying that he must, for example, watch TV (Hurford, Heasley, and Smith, 2007). In addition, when asserting that both proposition 1 and proposition 2 are true, redundancy becomes evident. That is, when saying that the father must sleep after lunch and, at the same time, that he will not, say, read a magazine or sit with the family, redundancy ensues (see Chierchia and McConnell-Ginnet, 2000 and Hurford, Heasley, and Smith, 2007 for more on entailment and its tests).

It can be noted that an inference with a high degree of certainty is conversationally implicated with epistemic *ʔilla*. There are two ways to support the observation that this degree of certainty in judgment is conversationally implicated, but not asserted. First, as evident in (18), the truthfulness of the proposition that *ʔilla* implicates can be overtly maintained without sacrificing the informational value of the utterance, so redundancy does not surface

(18) ʃaaratˁ-nii ʔinnuh ʔilla jfuuz barʃaloonah
bet.PST.3SGM that will win.3SGM Barcelona
bi-l-butˁoolah, w-fiʕlan faaz
in-the-championship and-really won.3SGM
bi-l-butˁoolah.
in-the-championship
'She bet me that Barcelona will win the championship, and they really won the championship.'

Second, contradiction does not result when the factual judgment that *ʔilla* constructs is cancelled, as found in (19).

(19) kunt mitʔakkid ʔinnuh ʔilla jiʕrif
was.1SG sure.1SGM that will know.3SGM
il-ħall bas maa ʕirf-uh
the-answer but NEG knew.3SGM-it
'I was sure that he will know the answer, but he didn't.'

To recap, it has been shown that *ʔilla* is an assumptive epistemic modal in JA. This modal draws an inference based on previous knowledge and experience, and it expresses certainty. On parallel with deontic *ʔilla*, the epistemic modal force that *ʔilla* has is an extension of the exclusive focus property that it has, and a sentence having epistemic *ʔilla* entails that all contextually induced alternatives of the focused predicate are judged factually unlikely.

The Syntax of Epistemic *ʔilla* in JA

I will start first, in section 4.1., with laying out certain facts about the occurrence of *ʔilla* and the lack thereof in the context of negation. Starting

with *ʔilla* and negation is intended in order to have a tool that is used to probe the structure of sentences having the modal undergoing inspection in the current study. The syntactic analysis for epistemic *ʔilla* is proposed in section 4.2. Finally, I will address the issue of the inability of *ʔilla* to occur in non-declarative clauses in section 4.3.

Epistemic *ʔilla* and Negation

In JA epistemic *ʔilla* patterns with deontic *ʔilla* in being a positive polarity items (PPI), discussed in section 2. This means that under no circumstances can *ʔilla* be immediately preceded or followed with the sentential negative particle maa, illustrated in (20). However, an important caveat is in order here: as represented in (20b), maa may be optionally positioned after epistemic *ʔilla*, but not in the negative sense of maa. Here, maa, which is homonymous with the sentential negative particle maa in JA, is used to emphasize the proposition in the clause; hence, it is glossed as EMPH (i.e., emphatic).

a. (*maa) ʔilla (*maa) tɣaadir il-maktab ʔalʔaan.
NEG have.to NEG leave.2SGM the-office now
'You are (*not) required to leave the office now.' Deontic

b. (*maa) ʔilla (maa) jħaakii-ni ʔaaχir il-ʔusbuuʕ.
NEG must EMPH call.3SGM-me end the-week
'He will (*not) definitely call me at the weekend.' Epistemic

Incidentally, the particle maa is frequently used in this emphatic sense both in Standard Arabic and in JA. (21) is illustrative of the use of emphatic maa after the conditional particle ʔiða 'if' in Standard Arabic (AssaamiraaʔI, 2000). In JA this emphatic particle is used in many contexts, one of which is after frequency adverbs (22), in addition to its use after epistemic *ʔilla* (20b).

(21) ʔiða (maa) dʒaaʔa-nii walad-u-n sa-ʔussammi-h
if EMPH came.3SGM-me son-NOM-INDEF will-name-him
muħħammad-a-n.
Mohammad-ACC-INDEF
'If I get a son, I will name him Mohammad.'

(22) naadiran (maa) zaar ʔamm-uh.
rarely EMPH visited.3SGM mother-his
'Rarely did he visit his mother.'

It will be pointed out below that epistemic *ʔilla* is argued to be located inside TP and the sentential negative particle in JA maa is maintained to reside above TP (see Alsarairah (2012) for more on negation in JA). Based on these grounds, an explanation for the inability of *ʔilla* to occur after negation can be given under the assumption that *ʔilla* is a PPI. One of the well-known facts about PPIs is that they may not be found in the scope of negation, like would rather (23) and already (24). Having said that, one may ask why *ʔilla* cannot move covertly to reside higher than negation on the LF and to be rescued there, as assumed for the PPI some in (24). This hypothesized movement for some in (25) helps the PPI some survive and makes the sentence true in a context in which Bill bought two or three books and did not buy ten books (Giannakidou, 2011; Iatridou and Zeijlstra, 2013).

(23) a. Bill would rather be in Montpellier.

b.*Bill wouldn't rather be in Montpellier.

(24) a. John is here already.

b.*John isn't here already.

(25) Bill did not buy some books.

(Giannakidou, 2011, p. 1665)

It is pertinent to recall that *ʔilla* in its epistemic use, as in its deontic one, shows two basic distributional properties of PPIs: i) it may scope under contrastive negation (26), and it may be out-scoped by clause-external negation (27) (Iatridou and Zeijlstra, 2013).

(26) ʔana twaqqaʕt muʃ [ʔinnuh ʔilla jitʔaχχar
I thought.1SG NEG that must come.late.3SGM
ʕa-l-ʔidʒtimaaʕ], twaqqaʕt [ʔinnuh ʔilla jɣiib].
on-the-meeting thought.1SG that must miss.3SGM
'I did not think that he would come late to the meeting, but I thought he would definitely miss it.'

(27) ʔana maa gult [ʔinnuh ʔilla jfuuz
I NEG said.1SG that must win.3SGM
fi-l-butʿuulah].
in-the-championship
'I did not say that he will definitely win the championship.'

Having established that epistemic *ʔilla* is a PPI, we will see how this conviction will be of assistance in checking whether a given sentence encompassing this modal is mono-clausal or bi-clausal. The next sub-section will address the clause structure of sentences with this modal.

The Clause-Structure of Epistemic *ʔilla*

Before digging deep into more technical details, a significant point that needs to be highlighted is that epistemic *ʔilla* appears in two types of syntactic construction, as exemplified in (28-29) below. In the first type, referred to as Pattern 1, this modal precedes an imperfective verb (28). In Pattern 2, instantiated below by (29 a-f), *ʔilla* comes before the copular verb kuun 'be', in its imperfective verb form that exhibits agreement in phi-features (Person-Gender-Number) with the subject, necessarily followed with one of different types of constituent, including a perfective verb (29a), an imperfective verb with a progressive reading (29b), a predicate referring to future (29c): a determiner phrase (DP) (29d), a prepositional phrase (PP) (29e), or an adjective phrase (AdjP) (29f).

Pattern 1:

(28) ʔilla jirfaʕuu siʕr il-banziin iʃ-ʃahr il-dʒaaj.
must raise.3PLM price the-gas the-month the-upcoming
'They will definitely raise the price of gas next month.'

Pattern 2:

(29) a. ʔilla *(jkuun) tχarradʒ min zamaan.
must be.3SGM graduated.3SGM from a.long.time.ago
'He must have graduated a long time ago.'

b. ʔilla *(tkuun) tudrus ʔalʔaan.
must be.3SGF study.PROG.3SGM now
'She must be studying right now.'

c. ʔilla *(jkuun) bidduh jsaafir maʕ
must be.3SGM intend.3SGM travel.3SGM with
bint-uh lheik bidduh jitqaaʕad.
daughter-his so intend.3SGM retire.3SGM
'Definitely he will travel with his daughter so that he intends to retire.'

d. ʔilla *(tkuun) duktor-ah.
must be.3SGF doctor-3SGF
'She must be a doctor.'

e. ʔilla *(jkuun) bi-l-beit.
must be.3SGM in-the-home
'He must be at home.'

f. ʔilla *(tkuun) mabsˤuutˤ-ah.
must be.3SGF happy-3SGF
'She must be happy.'

Importantly, in both patterns *ʔilla* acts as a modal particle, rather than as a modal verb, in light of the fact that it consistently selects a VP complement, as to be discussed below; a modal particle subcategorizes a VP complement, whereas a modal verb is followed with a CP or a TP (Fassi-Fehri, 1993, 2012; Aoun, Benmamoun, and Choueiri, 2010). Reasoning along the lines of the Minimalist Program (2000, 2001), the inability of epistemic *ʔilla*, as advanced for deontic *ʔilla* (Aljeradaat (2023), to host any agreement affixes can be explained if one posits that it does not have any semantically uninterpretable features to be checked, nor any lexically unvalued features to be valued.

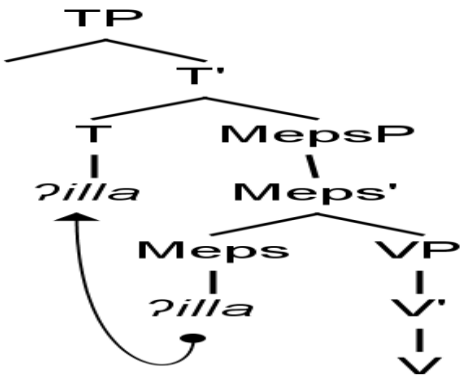
In what follows, the syntax of each pattern will be addressed in turn.

Epistemic *ʔilla* in Pattern One

The syntactic structure proposed for epistemic *ʔilla* in this pattern is not substantially different from the one advanced for deontic *ʔilla*, presented in section 2 (Aljeradaat, (2023)). As sketched in (30), it is assumed that the epistemic modal marker *ʔilla* first merges in the head position of epistemic

modal phrase (MepsP = epistemic modal phrase), and then it moves to the head position of TP.

(30)



The movement of *ʔilla* from the head position of MepsP to T position explains more than one fact. First, it is evident that this modal contributes for temporality as well as epistemic modality. As discussed in section 3, *ʔilla* signals an inference based on previous knowledge, and it, especially in Pattern 1, expresses what is certain to happen after the utterance time. For example, in (28), which is found again in (31), the speaker, establishing on experiences and knowledge about indicators of gas price and current factors affecting the price, makes the judgment that it is certain for the gas price to be raised next month.

(31) ʔilla jirfaʕuu siʕr il-banziin iʃ-ʃahr il-dʒaaj.
must raise.3PLM price the-gas the-month the-upcoming
'They will definitely raise gas price next month.'

One way to indicate that the utterance time precedes the event time in sentences modally marked with *ʔilla* in its epistemic flavor is the inappropriateness of past and present time adverbials in such sentences, as evident in (32), where it is shown that only a future time adverbial can be felicitously used.

(32) ʔilla jidʒii ʕa-l-mawʕid bukrah/ *ʔams/
must come.3SGM on-the-appintment tomorrow yesterday
*ħaaliijan
at.present
'He will definitely come on time tomorrow/*yesterday/*at present.'

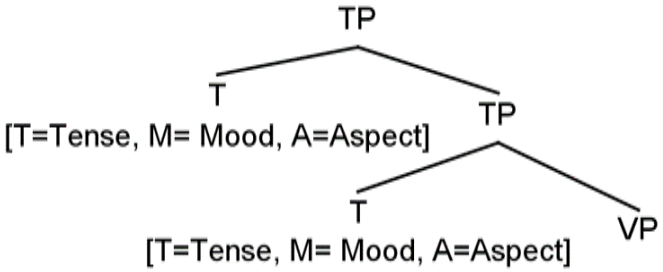
In addition, postulating that *ʔilla* moves to T position, after its first merge in the Meps position, theoretically captures the fact that a verb after *ʔilla* in Pattern 1 is invariably imperfective in form. As one may observe in the proposed structure in (30), the verb below the epistemic modal remains in the imperfective verb form as this is the default form. This verb is not tense marked since it is banned from movement to T position; the verb should stay forever in the V position, and any attempt to move it to T position, crossing the MepsP, induces a violation to Relativized Minimality, which disallows moving a head across another head (Rizzi, 1990).

In brief, the structure proposed for epistemic *ʔilla* in Pattern 1 parallels the one advanced for deontic *ʔilla*. This similarity is not unexpected having in mind that the verb after this modal in both flavors is constantly imperfective. Now, it is time to explore this epistemic modal marker in in Pattern 2. Other points about the hierarchy of clauses with *ʔilla* in Pattern 1 will be mentioned in the upcoming sub-section, while dealing with *ʔilla* in Pattern 2.

4.2.2. Epistemic *ʔilla* in Pattern Two

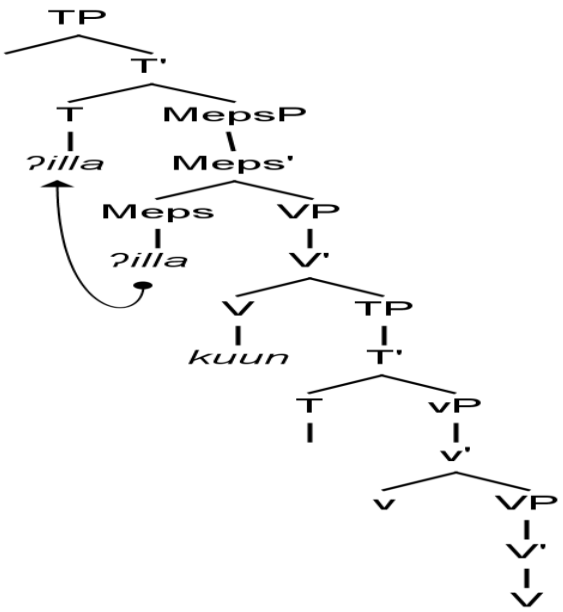
As already pointed out, in Pattern 2, *ʔilla* is followed with the copular verb jkuun in the imperfective form plus a perfective verb, an imperfective verb, a verbal predicate with a future meaning, a nominal constituent, a PP, or an AdjP, as exemplified in (29a-f) above. In order to account for the structure of such sentences and to elucidate many pertinent phenomena, I will take advantage of the analysis Fassi-Fehri (1993, 2012) proposes for the structure of modal particles in Standard Arabic. As discussed in section 2, Fassi-Fehri's analysis, diagrammed in (33), takes it as given that sentences marked with modal particles are underlyingly bi-clausal.

(33)



I propose that the sentences which encompass epistemic *ʔilla* in Pattern 2, like those in (29 a-f), are bi-clausal, as already discussed. However, I will add, as sketched in (33), that *ʔilla* moves from the head of MepsP to the T position of the higher TP, as in Pattern 1, and the copula verb kuun 'be' remains in the V position of the higher TP. The lower TP comes as a complement for the higher V. Roughly speaking, all sentences epistemically marked with *ʔilla* in Pattern 2 have the same structure for the first TP. The second TP has its own tense, aspect, modality, and all other structural properties, so, as evident in (29), after the copula verb jkuun/tkuun in the first TP comes the second TP. In the lower TP there may be a perfective verb (29a), which marks the past tense when it moves from V to T position, or an imperfective verb with the progressive aspect (29b). This TP may also be verbless, having a predicate of a DP (29d), a PP (29e), or an AdjP (29f) (see Fassi-Fehri (1993, 2012), Benmamoun (2000), and Aoun, Benmamoun, and Choueiri (2010) for more on the syntax of tense and aspect in Arabic as well as the clause structure of Arabic verbless sentences.

(34)



Before discussing issues related to the positioning of subject in matrix and embedded TPs, it is essential to support the hypothesis that sentences with *ʔilla* in Pattern 2 are underlyingly bi-clausal in structure, as proposed in (34). An important piece of evidence in favor of the bi-clausality assumed for the structure of *ʔilla* in the pattern undergoing inspection is that the complement of the copular verb may be overtly negated, as found in (35).

(35) a. ʔilla jkuun maa tχarradʒ baʕd-uh.
must be.3SGM NEG graduated.3SGM yet-him
'He cannot have graduated yet.'

b. ʔilla tkuun maa tudrus ʔalʔaan.
must be.3SGF NEG study.PROG.3SGM now
'She cannot be studying right now.'

c. ʔilla jkuun maa bidduh jsaafir

must be.3SGM NEG intend.3SGM travel.3SGM
maʕ bint-uh lheik maa bidduh jitqaaʕad.
with daughter-his so NEG intend.3SGM retire.3SGM
'Definitely he will not travel with his daughter so that he does not intend to retire.'

d. ʔilla tkuun muʃ duktor-ah.
must be.3SGF NEG doctor-3SGF
'She cannot be a doctor.'

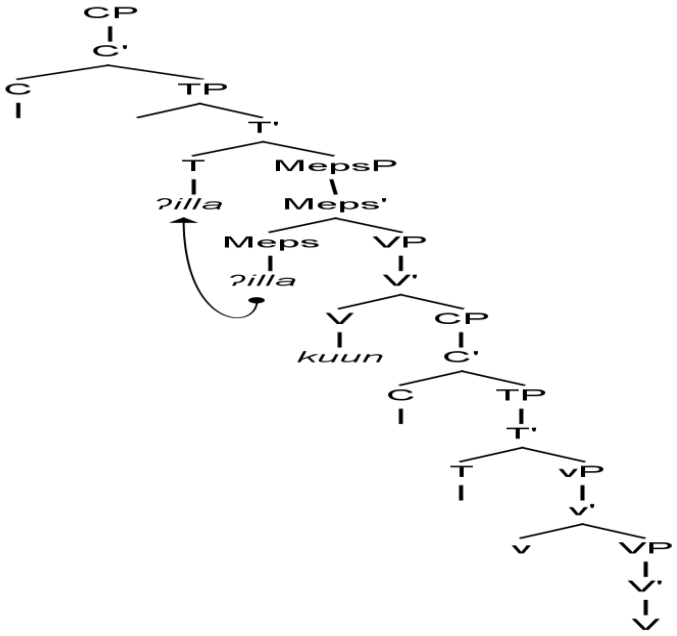
e. ʔilla jkuun muʃ bi-l-beit.
must be.3SGM NEG in-the-home
'He cannot be at home.'

f. ʔilla tkuun muʃ mabsˤuutˤ-ah.
must be.3SGF NEG happy-3SGF
'She cannot be happy.'

It has been established before, in subsection 4.1., that epistemic ʔilla is a PPI, as it may not occur in the scope of negation, also it was pointed out that sentential negation is located above TP, and since ʔilla is assumed to reside below TP, we reach the conclusion that maa and ʔilla may not coexist in one clause. The fact that the sentential negative marker maa may precede the complement of the copular verb (35a-c) can be easily explained under the assumption that this negative marker occurs in the second clause, and it negates the proposition there, exactly as proposed here.

Two remarks are in order here. First, as the negative marker may be found in the second TP, and since the first TP, as to be shown below, may have topicalized and focused constituents, the proposed structure for epistemic *ʔilla* in Pattern 2 (34) needs to be revised to put each TP within a CP, as in the following reformulated tree diagram:

(36)



Second, as may be noted in (36d-f), the predicate negative marker muʃ precedes the DP, PP, and AdjP complements of kuun, respectively. At first glance, that non-verbal constituents may host predicate negation does not prove that the complement of the copular verb establishes a separate clause. As widely known about predicate negation in Arabic, almost any non-verbal predicate may project its own predicate negative marker, which is structurally adjacent to it (Benmamoun, 2000; Aoun, Benmamoun, and Choueiri, 2010; Alsarayreh, 2012). Put differently, the ability of the predicate negative marker muʃ to join a non-verbal predicate after the copular verb kuun does not tell whether the sentences with the ordering ʔilla-kuun-DP/PP/AdjP are bi-clausal or mono-clausal.

A significant piece of evidence in favor of the assumed bi-clausal structure for all sentences having *ʔilla* in Pattern 2 may be provided with reference to the mobility of the subject between at least two positions in such sentences as (29a-f). In the sentences that have verbal predicates after the copular verb (29a-c), the subject may arise in three positions: i) in a

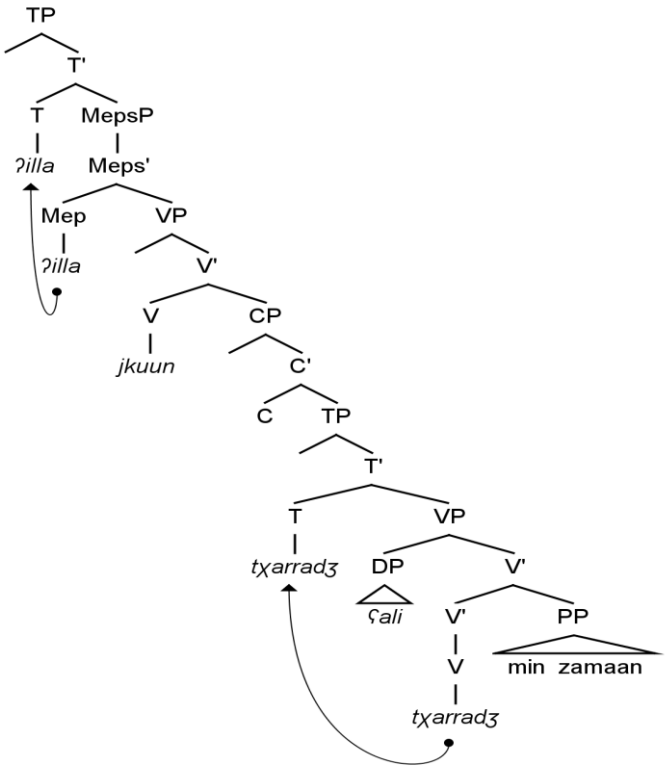
sentence-initial position, ii) after the copular verb, and iii) after the verb in the embedded clause. The sentences in (37) are examples of these three possible positions for the subject already mentioned. The two sentences in (38) show that a verbless clause after jkuun has only one vacant position for the subject (38b), and, needless to say, this subject may be positioned in a sentence-initial position (38a).

(37) a. ʕali ʔilla jkuun tχarradʒ min zamaan.
Ali must be.3SGM graduated.3SGM from a.long.tim
b. ʔilla jkuun ʕali tχarradʒ min zamaan..
must be.3SGM Ali graduated.3SGM from a.long.time
c. ʔilla jkuun tχarradʒ ʕali min
must be.3SGM graduated.3SGM Ali from
zamaan..
a.long.time
'Ali must have graduated a long time ago.'

(38) a. ʔabuu-y ʔilla jkuun muʃ bi-l-beit.
father-my must be.3SGM NEG in-the-home
b. ʔilla jkuun ʔabuu-y muʃ bi-l-beit.
must be.3SGM father-my NEG in-the-home
'My father cannot be at home.'

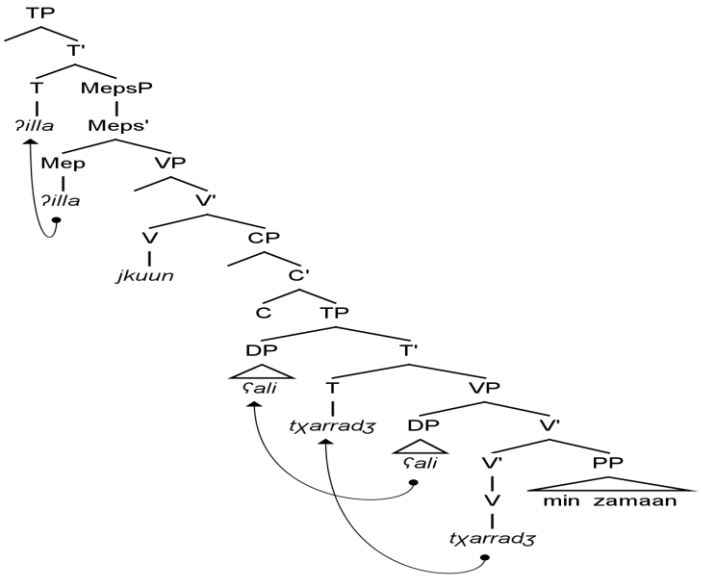
This multiplicity of the positions available for a subject in sentences with *ʔilla* in Pattern 2 needs to be theoretically encoded. It seems that *ʔilla* is a part of a raising predicate. That is, the subject of the assumed embedded clause undergoes first merge in Spec, VP, as displayed in the diagram in (39). I will follow Haddad (2012) in taking that the subject pro-drop occurs after the subject moves to Spec, TP. If the subject stops in Spec, VP, so Spec, TP in the lower clause and the upper clause hosts the null subject pro, the ordering in (37c) is obtained.

(39)



If the same subject moves to make a copy in Spec, TP of the lower TP, as displayed in (40), the result is the word order in (37b).

(40)

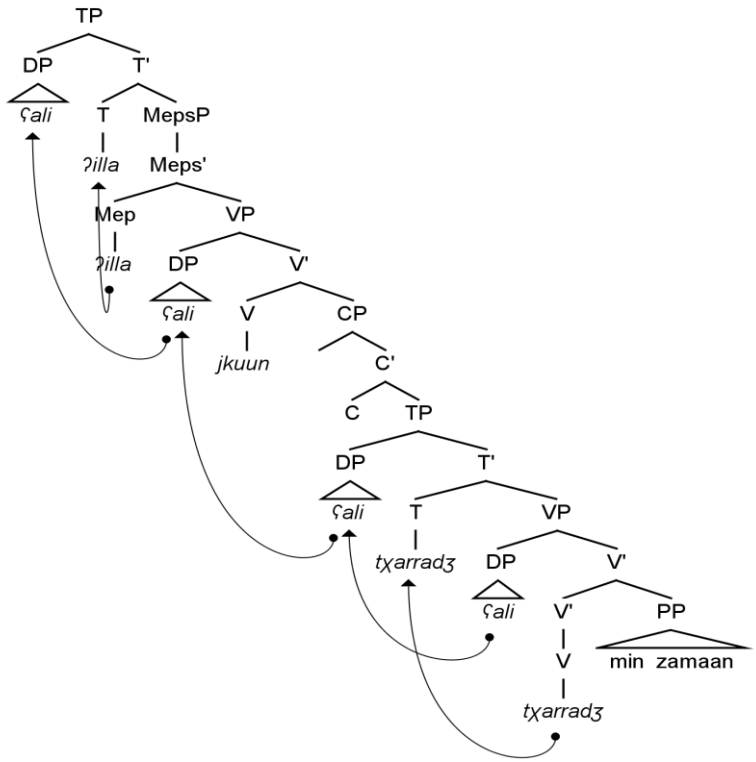


All movements the current study posits, including the movement of the subject in (40) from Spec, VP to Spec, TP, are assumed to take place in four operational steps: Copy, Merge, Form Chain, Chain Reduction (Nunes, 2004). The moving item makes a copy that merges in the position to which it moves. There, the two copies form a chain, only one of which is spelled-out. In (38), the DP moves from Spec, VP to merge in Spec, TP. Only one of the two DPs that form a chain undergoes reduction, so in (40), the lower copy of the DP is omitted.

The word orders in (40a-b), where the subject ʕali ‘Ali’ is found in a clause-initial position in the lower TP and the higher TP, respectively, are assumed to be resulting from subject-to-subject raising. As diagrammed in (41), the subject that first merges in Spec, VP of the lower TP moves to merge in Spec, TP of the embedded TP. Then, it raises to merge in Spec, VP, where it checks for agreement with the verb jkuun ‘be.3SGM’. Finally, this DP undergoes movement to a higher Spec, TP. Having the subject pronounced in a sentence-initial position (34a) is, as proposed here, a result of forward raising, where only the highest copy of the subject DP is spelled-out. On the other hand, the lower position of the same subject in Spec, TP (i.e. in the specifier position of the embedded TP) is hypothesized to be due

to backward raising, which involves the same number and types of movements as those that account for the word order in (37a), but the difference is that the higher copies of the same DP are deleted before they reach the Phonetic Form (PF) of the derivation (see Haddad (2012) for more on the syntax of different types of raising constructions in Arabic).

(41)



It may be noted that the subject ʕali may not show up between *ʔilla* and the copular verb jkuun, as observed in (42), even though it is assumed that this subject, at some stage of the derivation, merges in Spec, VP of the higher TP. The explanation is based on the premise that *ʔilla* is a modal particle that subcategorizes for a VP, so nothing can intervene on the PF between these items.

(42)*ʔilla ʕali jkuun tχarradʒ min
must Ali be.3SGM graduated.3SGM from
zamaan.
a.long.time

Finding that the predicate of epistemic *ʔilla* in Pattern 2 exhibits a raising structure is consistent with the cross-linguistically held view that epistemics are raising predicates (Brennan, 1993; Drubig, 2001). Importantly, two diagnostics of raising predicates can be successfully run on epistemic *ʔilla* in Pattern 2: idiom chunks and passive (Davies and Dubinsky, 2004; Haddad, 2012). As appears in (43), the subject of an idiom may appear as the subject of *ʔilla* without causing any loss in the idiomatic reading.

(43) a. il-ʔakil gad il-maħabbih.
the-eating.3SGM as.much.as the-love
Literal meaning: 'Eating is as much as love.'
Idiomatic meaning: 'Eating should measure love.'

b. il-ʔakil ʔilla jkuun gad
the-eating.3SGM must be.3SGM as.much.as
il-maħabbih.
the-love
Literal meaning: 'Eating must be as much as love.'
Idiomatic meaning: 'Eating will definitely measure love.'

Likewise, the active sentence and its passive counterpart in (44) are synonymous.

(44) a. ʔilla jkuun ħall il-muʃkilih. (Active)
must be.3SGM solved.3SGM the-problem

b. ʔilla tkuun il-muʃkilih inħallat. (Passive)
must be.3SGM the-problem.3SGF solved.PST.3SGF

Two points should be mentioned about the cartography of the left-periphery of clauses with *ʔilla* in Pattern 1 as well as in Pattern 2 (see Aoun, Benmamoun, and Choueiri (2010) for more on the syntax of the left-

periphery in Arabic). First, a clitic-left dislocated item may precede *ʔilla* in both patterns, as exemplified in (45).

(45) a. is-sajaarah$_i$ ʔilla tsˁalliħ-ha$_i$ il-wakaalih
the-car.3SGF must fix.3SG-it the-agency
il-ak. (Pattern 1)
for-you
'The car, the agency will definitely fix it for you.'

b. ʔatwaqaʕ il-walad$_i$ ʔilla jkuun maʕ-uh$_i$
think.1SG the-boy must be.3SGM with-him
korona. (Pattern 2)
Corona
'I think the boy must be infected with Coronavirus.'

Second, contrastive focus, which is typically located in Arabic in the left-periphery, may not precede *ʔilla* in both patterns (46). This finding comes in support of the principle of uniqueness of focus, which disallows existing more than one instance of focus in a sentence (Lambrecht, 1994; Dal Farra, 2018). Dal Farra (2018) maintains that uniqueness of focus is a universal rule by virtue of the fact that "there are no languages allowing two foci in the same sentence"(55). Polinsky (1999), however, found that this principle may be violated in some languages, like Korean.

(46) a. ʃaaj (*ʔilla) jʃrab muʃ gahwah. (Pattern 1)
tea must drink.3SGM not coffee
'It is tea that he will definitely drink, not coffee.'

b. bi-l-kweit (*ʔilla jkuun) judrus muʃ bi-
in-the Kuwait must be.3SGM study.3SGM not in-
l-ʔurdun. (Pattern 2)
the-Jordan
'In Kuwait he must be studying, not in Jordan.'

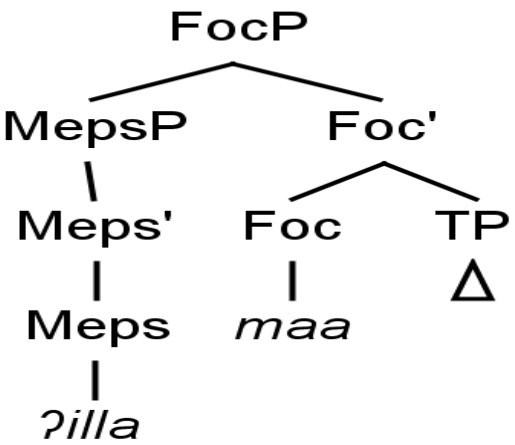
Before closing this subsection, I believe it is essential to go back to the issue of the occurrence of epistemic *ʔilla* with emphatic maa in JA, as found in (20b). The sentences in (47-48) are illustrative of the optional use of emphatic maa with epistemic *ʔilla* in Pattern I and Pattern II,

respectively. Here, one may wonder why we could not accept the position that emphatic maa resides in the head position of Focus Phrase (FocP), since its function is pertinent to focus, and that epistemic *ʔilla* occupies the spec position of that phrase, as diagrammed in (49).

(47) ʔilla (maa) jsaaʕd-ak.
must EMPH help.2SG-you
'He will definitely help you.'

(48) ʔilla (maa) jkuun wisʕil.
must EMPH be.3SGM arrived.3SGM
'He must have arrived.'

(49)



Such a possibility can be excluded on many grounds. First, especially if one keeps in mind that emphatic maa is optional, in case this maa does not exist in the clause, the question of what would license *ʔilla* in Spec, FocP will be left unanswered. Second, the assumption that the epistemic modal undergoing inspection and maa exist in the FocP in the left periphery fails to capture many observations, one of which is the essential adjacency between

ʔilla-maa and the imperfective verb or the copula verb kuun, as exemplified in the many examples given above, like (47-48). If epistemic *ʔilla* and emphatic maa were situated in the FocP in the left periphery, a topicalized item or a subject would be able to intervene between *ʔilla*-maa and the verb that follows. However, a caveat is in order here. As displayed in (50b-51b), when a subject surfaces between *ʔilla*-maa and the verb, *ʔilla* expresses judgment of certainty not about the whole proposition, but only about the subject. That is, epistemic *ʔilla* focuses on the subject and excludes it from all contextually induced alternatives. Thus, when uttering such a sentence as (50b), a speaker expresses the high degree of certainty that Ali, but no one else, will visit his mother this weekend.

(50) a. ʕali ʔilla (maa) jzuur ʔamm-uh
Ali must EMPH visit.3SGM mother-his
nihaajit il-ʔusbuuʕ.
end the-week
'Ali will definitely visit his mother at the weekend.'

b. ʔilla (maa) ʕali jzuur ʔamm-uh
must EMPH Ali visit.3SGM mother-his
nihaajit il-ʔusbuuʕ.
end the-week
'It is Ali who will definitely visit his mother at the weekend.'

(51) a. ʔamiin ʔilla (maa) jkuun sˁallaħ
Ameen must EMPH be.3SGM fixed.3SGM
il-laabtub.
the-laptop
'Ameen must have fixed the laptop.'

b. ʔilla (maa) ʔamiin jkuun sˁallaħ
must EMPH Ameen be.3SGM fixed.3SGM
il-laabtub.
the-laptop
'It is Ameen who must have fixed the laptop.'

Based on these grounds, one is led to conclude that epistemic *ʔilla* that precedes a verb is located within the TP, whereas epistemic *ʔilla* that precedes a nominal element is situated in the left-periphery. Importantly, epistemic *ʔilla* in the latter use is not a modal particle, since it is not followed with a verb (Fassi-Fehri, 1993; 2012). It seems to be an epistemic modal adverb in the left-periphery (see Palmer (1990, 2001) and de Haan (2006) for more on the lexical and grammatical markers of epistemic modality cross-linguistically). However, due to limitations in space, I opt to keep the syntax of epistemic *ʔilla* preceding a nominal element, in addition to the syntax of emphatic maa, for further research

In brief, the clauses having *ʔilla* in Pattern 2 are argued to be bi-clausal, with *ʔilla* and the copular verb in the first TP, and the complement VP, DP, PP, AdjP in the second TP, and the subject of the predicate in the second TP may stay in-situ or raise to the subject position of the higher TP. After supporting the hypothesis that epistemic *ʔilla* is a PPI, it has been advanced that the complement of the copular verb may host sentential negation, which provides evidence of having bi-clausality for sentences with the epistemic *ʔilla* in the pattern under examination. The diagnostics of idiom chunks and passive were carried-out, and they proved that the predicate with *ʔilla* is a raising predicate.

ʔilla in Non-Declarative Clauses

As already pointed out, a speaker of JA uses the epistemic modal *ʔilla* in order to signal certainty, establishing on previous knowledge and experience, about the factual proposition denoted in the main clause, so the speaker commits himself/herself to the truth of the statement to a high degree (Palmer, 1990, 2001; de Haan, 2006; Nuyts, 2006, 2016; Willett, 2020). Based on these grounds, it seems that the clause devoid of epistemic *ʔilla* must have its own truth-conditional content, to which the modal in question expresses the judgment of certainty. This means that epistemic *ʔilla* does not contribute to the truth conditional content of the statement in which it occurs. Here I will present some pieces of evidence in support of the view that epistemic *ʔilla*, in both of its patterns, is not truth-conditional (for a detailed review of these tests, see Jackendoff (1972), McDowell (1987), Drubig (2001), and Papafaragou (2006).

One of the diagnostics of truth conditionality is the scope test; only a truth-conditional element can lie in the scope of a conditional. As found-out in (52), a clause with the epistemic modal *ʔilla*, in both patterns, may not

fall in the scope the conditional particle, leading to the conclusion that the epistemic modal marker is non-truth-conditional.

(52) a. ʔiða (*ʔilla) tiθlidʒ, raħ nʕatˁtˁil. Pattern 1
if must snow.3SGF will have.break.1PL
'If it must snow, we will have a break.'

b. ʔiða (*ʔilla) jkuun ʔabu-uh fi-l-beit, maa
if must be.3SGM father-his in-the-home NEG
raħ nzuur-uh. Pattern 2
will visit.1PL-him
'If his father must be at home, we will not visit him.'

It is quite of pertinence to mention that epistemic modals by no means occur in the complement of factive predicates. As witnessed in (53), *ʔilla* fails to occur in the complement of the factive predicate *ʔadhaʃ* 'surprise' for the reason that the proposition epistemically qualified through *ʔilla* does not constitute a statement of fact. This way, it cannot follow a predicate which establishes and guarantees a fact. Importantly, this finding corroborates the idea that the epistemic modal marker *ʔilla* does not contribute to truth conditions.

(53)*ʔadhaʃ-ni ʔinnuh ʔilla faaz/
surprised.3SGM-me that must won.3SGM
jkuun jfuuz.
be.3SGM win.3SGM
'It has surprised me that he he must have won/will definitely win.'

In addition, an epistemic modal cannot exist in a yes-no interrogative, which cannot be judged true or false, as evident in (54).

(54)*ʔilla jiʕrif jsˁalliħ it-tilifon/ jkuun
must know.3SGM fix.3SGM the-telephone be.3SGM
ʕirf jsˁalliħ it-tilifon?
knew.3SGM fix.3SGM the-telephone
'Will he definitely know how to fix the telephone/Must he have known how to fix the telephone?'

All of the diagnostics of truth-conditions can be successfully implemented to prove that epistemic *ʔilla* does not contribute to the truth-conditional content of the clause to which it is incorporated. This explains the incompatibility of this modal with non-assertive contexts, like conditionals (52), yes-no questions (54), wh-questions (55), and imperatives (56), as found in Jackendoff (1972), McDowell (1987), and Drubig (2001), where it is pointed-out that epistemic modals are cross-linguistically disallowed in non-declarative clauses.

(55)*miin ʔilla jħill il-muʃkilih/
who must solve.3SGM the-problem
jkuun ħall il-muʃkilih?
be.3SGM solved.3SGM the-problem
'Who will definitely solve the problem?/Who must have solved the problem?'

(56)*ʔilla ħill il-muʃkilih/ kuun ħill
must solve.IMP the-problem be.IMP solve. IMP
il-muʃkilih.
the-problem
'*Will definitely solve the problem/*Must have solved the problem.'

This stance about the exclusion of epistemic modal markers from non-declarative clauses is not arbitrary. As already discussed, epistemic modals are utilized to express different degrees of possibility or certainty of truth of a proposition. For example, the assumptive epistemic modal undergoing inspection, *ʔilla*, draws an inference based on previous experience, and expresses certainty. That is, it indicates that the chances of the proposition to hold in reality (i.e., to have truth conditions) are high. This means that the proposition with all epistemic modals has to be truth-evaluable. Non-declarative clauses, however, lack truth conditions. Hence, a question, a conditional, or an imperative can by no means be judged true or false. In an attempt to formally encode the ban on having epistemic *ʔilla* in non-assertive contexts, I will assume that his modal is licensed in the head position of MepsP only if the head of ForcP in the left-periphery, which generally marks the type of the clause, has the feature [+Declarative] (see Rizzi (1997) for more on the syntax of left-periphery).

In brief, epistemic *ʔilla* in JA was shown not to have truth-conditions, but it indicates that the proposition in the clause in which it appears is certain to have truth conditions in reality. Due to this function, *ʔilla* is at odds with non-declarative clauses

Concluding Remarks

This goal of this study is twofold. The first is to investigate the semantics and the syntax of the epistemic modal marker *ʔilla* in JA. The second is to decide if epistemic *ʔilla* and deontic *ʔilla* in JA share the same semantics and syntax. As for the semantics of this particle, it was pointed out that the assumptive epistemic function and the directive deontic function of *ʔilla* are an extension of the exclusive focus property this particle has. Thus, *ʔilla* excludes the focused predicate from its contextually induced alternatives/s. As a result, only the focused predicate is implicated to exist in reality for the epistemic *ʔilla*. On the other hand, for the deontic one only what is mentioned in the predicate is implicated to be desirable and favored. With regard to the syntax of the particle under examination, both epistemic *ʔilla* and deontic *ʔilla* are proposed to first merge in the head position of their own phrase and then move to fill the T position of the TP, and both are positive-polarity items (PPIs). The epistemic one also appears in another type of structure where it has a lower TP in order to allow for a new clause with the past tense, with the progressive aspect, or with a verbless clause. This is predicted in light of the fact that the epistemic modal expresses judgment of reality about the proposition that has its own clausal polarity, tense, aspect, and modal properties. Because the function of the epistemic modal is to make judgment about the factual status of the proposition of the clause with the modal, it is not surprising that this proposition has to be truth-evaluable. Hence, epistemic *ʔilla* is specified to only join declarative clauses. On the other hand, deontic *ʔilla* expresses what is desirable and optimal to be (done). Because of this, there is no restriction on the type of clause with deontic *ʔilla* in terms of truth conditions. One may state what is desirable to be done, and may ask, for example, when and why something should be done. This makes deontic *ʔilla* in harmony with declarative as well as with non-declarative clauses.

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