Nominative Case of the Embedded Subjects in Control Structures in Modern Standard Arabic and English within Chomsky's Minimalism

Youmna Samir Abu El-'ela Hasan, Wafaa Batran Wahba

English Department, Ain Shams University, Cairo, Egypt
Email: samiryoumna@gmail.com, wbwahba1952@yahoo.com

Abstract

Case Theory posits that every argument within the syntactic structure is assigned case. According to Theta Theory, each argument receives only one theta role, in light of the visibility condition which demands that only theta-marked constituents be visible to case assignment. While case assignment is universal across languages, arguments receive the nominative case differently in English and Modern Standard Arabic (MSA) due to the distinct morphological systems of each language. Case assignment operation sheds light on the interplay between syntax and morphology, all within the framework of Chomsky's theory (Chomsky, 1995). This paper adopts an explanatory comparative approach to analyze the control structure [ʔarada: want] in both English and MSA. The study explores the operation of case assignment to the embedded subjects and employs a theoretical framework grounded in Chomsky's theory particularly focusing on the Split-INFL hypothesis (Pollock, 1989; Chomsky, 1989). It conducts a comparative analysis of control structures to examine the interaction between case assignment and agreement. The findings reveal that while subjects in English are assigned the nominative case via the head tense in finite clauses, the embedded subjects in MSA carry the nominative case in non-finite embedded clauses by the head agree. This suggests a close relationship between the nominative case assignment and the valuation of phi-features via Agree operation in MSA, within the Split-INFL hypothesis. However, when the subject structurally precedes the infinitival particle [ʔan: to] in Arabic, it receives case by the closest case assigner.

Keywords

Nominative Subject, Non-Finite Embedded Clauses, Control Predicates, Split-INFL Hypothesis, Case Theory

1. Introduction

1.1. Overview

Control structures present in both English and Modern Standard Arabic (MSA) and constitute a significant area of research within theoretical linguistics. This introduction aims to provide a review of this phenomenon to identify the importance of this proposed study. Control verbs have been extensively studied in theoretical linguistics. However, this study examines this structure in MSA with its rich morphological system in comparison to English. Previous studies have examined various aspects of control structures in MSA, including the interaction between tense, agreement, and case assignment. However, a comprehensive analysis of the correlation between the non-finiteness of the embedded clause and the nominative case assignment of the embedded subject remains unclear. The current study aims to address this gap by investigating the control structures in MSA within Chomsky's theory and the Split-INFL hypothesis. By adopting a comparative approach that juxtaposes the control structures in English and MSA, this research seeks to shed light on the underlying operation governing case assignment in both languages.

The control predicate [want] subcategorizes for an infinitival CP complement. At the Surface Structure (SS), the head complementizer (C) of this CP would either be null as shown in (1b) or an overt spell out as [for] in (1a):

1a. I want [CP Mary to come to Japan] and [CP for her to see my parents]

(Radford, 2009: p. 102)

1b. She wanted ~~for~~ him to apologize (Radford, 2009: p. 102)

The grammaticality of the coordinated structure in (1a) suggests that these clauses are CPs introduced by the head C, either a covert or an overt head. The head C [for] is a null empty preposition that assigns case to the embedded subject to satisfy the case filter condition. It is a coincidence that both oblique case and accusative case are homophonous in English. However, in Arabic, case assignment is controversial as shown below:

2a. ʔu-riid-u   zayd-an   ʔan   ya-rħal-a
    pro-want-ind   Zayd-acc   to   he.leave-subj

2b. ʔu-riid-u   mɪn   zayd-in   ʔan   ya-rħal-a
    pro-want-ind   from   Zayd-obl   to   he.leave-subj

2c. ʔu-riid-u   ʔan   ya-rħal-a   zayd-un
    pro-wantto   to   he.leave-subj   Zayd-nom

                             'I want Zayd to leave.'

Although the sentences above are paraphrases of each other, the subject carries different case according to the available case assigner. In (2a), the DP [zayd-an] carries the accusative case [i.e., an]; in (2b), the DP [zayd-in] carries the oblique case [i.e., in]; and in (2c), this embedded subject carries the nominative case [i.e., un]. Within Chomsky's theory, the subject receives its nominative case via Tense. However, it is questionable how the embedded subject in (2c) carries the nominative case while the embedded clause lacks tense. To provide a principled answer for this question, the paper adopts the Agree operation and the split-INFL hypothesis.

1.2. Literature Review

Many studies have been conducted on features in finite and non-finite structures in Arabic. However, they did not tackle the correlation between the non-finiteness of the embedded clause and the nominative case assignment of the embedded subject.

Greshler et al. (2017) dealt with the control structure in MSA examining the interaction between TNS and case, assuming that those structures are finite. However, we argue against their assumption since the embedded clauses here are non-finite.

Al-Aqarbeh (2011) examines the finiteness in Jordanian Arabic with respect to case. The study follows the same analysis with respect to MSA, in accordance with the split-INFL hypothesis (Pollock, 1989; Chomsky, 1989).

Jalabneh (2009) studies the subjunctive structures in Arabic without analyzing the case assignment of the lexical subject assuming that they are finite clauses. However, we argue against his assumptions suggesting that the lexical embedded subjects in this structure carry the nominative case though the clause is non-finite.

Soltan (2007) assumes that the subjunctive T in Arabic assigns the nominative case. He assumes that want-class could have an extra argument with a different thematic role in Arabic. However, we argue against his assumption, providing evidence that want-class verbs, both in English and Arabic, are two-place predicates taking one internal CP complement.

In brief, this paper hypothesizes that tense cannot assign the nominative case to the subject in the non-finite embedded clauses in MSA. Rather, it is the AGR that does so, in accordance with the Split-INFL hypothesis.

2. Theoretical Background

This section addresses Chomsky's Generative Enterprise that serves as a theoretical framework for the phenomenon of the non-finiteness of the embedded clauses in MSA and English.

2.1. Minimalism (Chomsky, 1995)

Minimalism provides the most economical mode of investigation satisfying the minimal requirements of the derivational representations (Chomsky, 1995: p. 92). It seeks to simplify the analysis of language by reducing the number of syntactic rules required to generate a sentence. Thus, it gets rid of any superfluous steps and derives the structures as economical as possible (Chomsky, 1995: pp. 112-113). Minimalism deals with the Agree operation and agreement features. Each constituent enters the derivation carrying a set of features either interpretable or uninterpretable (Chomsky, 1999). The uninterpretable features are the ones that enter the derivation unvalued (i.e., the arguments carry unvalued case features), yet the interpretable features enter the derivation valued (i.e., the arguments carry valued φ-features).

2.2. VP-Internal Subject Hypothesis/VPISH (Koopman and Sportiche, 1991)

The VP-Internal Subject Hypothesis states that all subjects originate internally within the VP projection. Worded differently, subjects are base-generated under the specifier (spec) position of the Verb Phrase (VP). Nonetheless, word order is a parametric variation. English has strict word order where the subject moves to the spec-TP satisfying the Extended Projection Principle (EPP) resulting in SVO word order. However, in MSA, subjects could remain *in-situ* in VSO word order where the verb moves to the head T due to the strength of TNS in Arabic. It is intertwined with Agree, Case Theory, and Theta Theory.

2.3. Agreement in Agree-Based Syntax (Chomsky, 1999)

Agreement is the relation between α and β under the condition of having interpretable and uninterpretable features, respectively. Through Agree, these features get valued and checked. This operation is subject to four conditions (Citko, 2014: pp. 20-21):

Agree Conditions:

3a. The Activity Condition: The probe and goal must be active, hence, carrying uninterpretable/unvalued features.

3b. The Matching Condition: The features of the probe and goal must match with respect to their feature identity.

3c. The Domain Condition: The goal must be c-commanded by and be within the domain of the probe.

3d. The Locality Condition: The probe must be local, hence, being the closest one to the goal.

Thus, through Agree between the subject and the head T, case assignment takes place as shown below:
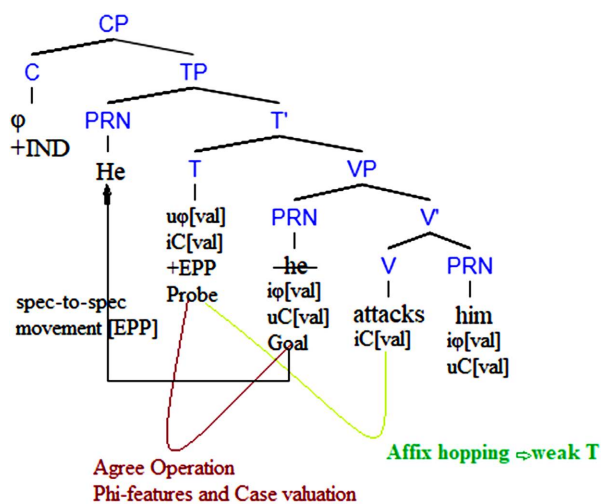
4a. He attacks him

4b. see Figure 1

Figure 1. A tree showing agree conditions and syntactic operations.

In light of the VPISH (Koopman and Sportiche, 1991), the subject originates within the VP projection in a position lower than the head T. Agreement operates between a probe and a matching goal through a c-command relationship. This means that X (e.g., the head T) c-commands Y (e.g., the PRN) if X and Y are not sisters, and the first branching node that dominates X also dominates Y. Therefore, the head T is the probe that assigns the nominative case to the subject within the domain of TP as shown in (4b) above. In light of Agree, the head T as a probe carries uninterpretable φ-features, whereas the goal [he] carries the uninterpretable/unvalued case feature (Chomsky, 2000, 2004). These features get valued through Agree to have the surface structure representation shown in (4a). Moreover, since movement is a feature driven operation (Chomsky, 1995), the spec-VP [he] moves to the spec-TP to satisfy the Extended Projection Principle that requires that each English sentence should have a subject (unlike Arabic as will be shown later). Therefore, subjects carry the nominative case in finite clauses.

2.4. Case Theory and Theta Theory (Chomsky, 1981)

Case Theory (Chomsky, 1981) is concerned with licensing the noun phrases, in accordance with the Case Filter condition. This condition requires that every NP must carry case (Chomsky, 1981: p. 49). It is interrelated with the Theta Theory and the Theta Criterion (Chomsky, 1981: p. 101). Theta Criterion requires that each argument must carry only one θ-role, and each θ-role must be assigned to only one argument, in light of the visibility condition (Chomsky, 1986). As a result, only theta-marked constituents are visible to case assignment. Therefore, case assignment functions as a biunique relationship (Wilder, 1994: p. 297) between two constituents called a probe and a goal. These two constituents must be active by the fact that they carry uninterpretable/unvalued features (Chomsky, 2000: pp. 122-123). They "must be active for Agree to apply" (Chomsky, 2001: p. 3).

In English, the nominative case is assigned to the subjects by tense in finite clauses; however, in MSA, the lexical subjects could carry the nominative case in non-finite embedded structures (as in control structures). The study observes that the embedded non-finite verb shows partial agreement with the subject. Thus, the embedded subject carries the nominative case through agreement, in light of split-INFL hypothesis (Pollock, 1989; Chomsky, 1989).

2.5. Split-INFL Hypothesis

Pollock (1989) assumes that the features tense (TNS) and agree (AGR) should project as different phrases (i.e., the head T which contains the tense selects for AgrP which contains the AGR features). Moreover, Chomsky (1989) builds on this and suggests that there are two AgrPs. One is higher than the head T that is associated with the subject agreement, whereas the other one is lower than the head T that is associated with the object agreement as in (5a-c) below (Figure 2).

(5a) (Adger, 2006: p. 7)   (5b) (Chomsky, 2015: p. 110)

(5c) (Borsely and Roberts, 1996: p. 10)
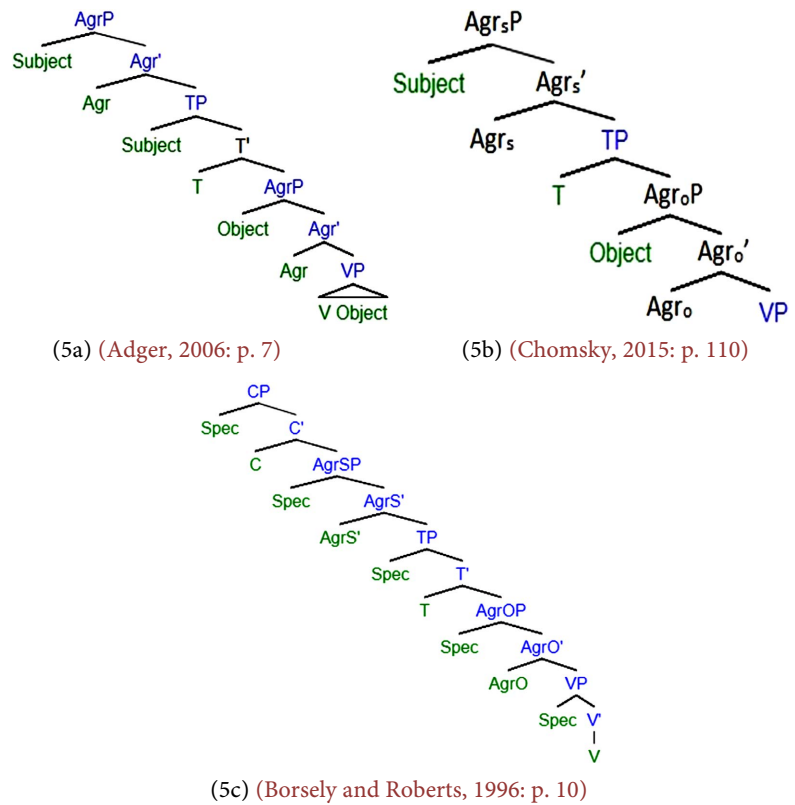
Figure 2. The trees in (a/b/c) represent the split-INFL hypothesis in different references.

The paper focuses on the split-INFL hypothesis of the subject-agreement (hence, it focuses on the split Agr$_s$P and disregards Agr$_o$P since Arabic is a language that shows agreement with the subject). As shown in (5a-c), there are two functional heads, namely, the Agr which hosts the inflections and the T which hosts the TNS. The Agr valuates the case feature on the subject; hence, it is assigned the nominative case (Chomsky, 2015: p. 53; Adger, 2006: pp. 4-6). In accordance with the four conditions of Agree operations, the head Agr is an active probe carrying uninterpretable φ-features [uφ], and the DP is an active goal carrying an uninterpretable case feature [uC] as shown in (6).

6. see **Figure 3**

Figure 3. A representation of features valuation and case assignment.

In conformity with the locality and the domain conditions, the subject, under the spec-VP, is the closest constituent within the domain of the head Agr$_s$. Therefore, the split-INFL hypothesis, in light of Agree operation, accounts for the fact that the subject of the non-finite embedded verb carries the nominative case as shown below:

7. yu-riid-u   zayd-un   ʔan ta-rħal-a   ʔal-bɪnt-u
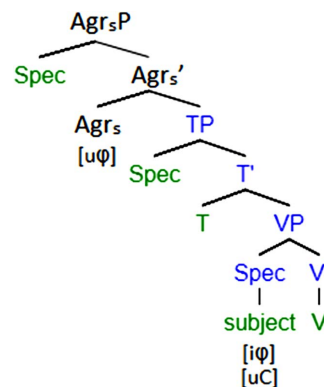   he-want-ind Zayd-nom   to   she-leave-subj   the-girl-nom
                                 'Zayd wants the girl to leave.'

The sentence in (7) is a two-clause structure. The main verb [yu-riid-u: want] is a two-place control predicate. It takes an external argument (i.e., [zayd-un: Zayd-nom]) and an internal CP non-finite complement introduced by the subjunctive infinitival particle [ʔan: to] (i.e., [ʔan ta-rħal-a ʔal-bɪnt-u: the girl-nom to leave-subj]). In Arabic, [ʔan: to] is a mood particle. It requires that the following verb should carry the subjunctive mood and be non-finite. Although the main verb in (7) above is finite and the embedded verb is nonfinite (imperfective), the subject in both cases carries the nominative case represented by the diacritic [u]. This provides a piece of evidence for the credibility of the split-INFL hypothesis where the embedded T splits into the Agr$_s$P and the TP. Consequently, the embedded subject receives the nominative case regardless of the non-finiteness of the embedded clause. Although in some languages [-TNS] implies [-AGR], it is a parametric variation since this implication is inactive in European Portuguese, Turkish (Adger, 2006: p. 6), and MSA as well. It is a fact that there are languages that allow nominative subjects in non-finite clauses, e.g., Haegeman (1986) and Raposo (1987) argue that West Flemish and European Portuguese, respectively, allow nominative subjects in inflected infinitival clauses; and George and Kornfilt (1981) argue that Turkish allows nominative subjects in inflected gerunds (as cited in Al-Aqarbeh, 2011: p. 34). Similarly, the paper argues for the fact that nominative subjects are allowed in the embedded non-finite control structures in Arabic as well.

In brief, agreement between the probe (the head Agr) and the goal (the subject) in the nonfinite clauses results in case feature valuation on the subject and agreement features valuation on the verb. In Arabic, among other languages, the embedded subjunctive verbs inflect for agreement though they are -TNS [i.e., -T/+AGR]. Consequently, the embedded subject carries the nominative case.

3. Methodology and Data Collection

This study adopts a comparative qualitative methodology to analyze data collected from a corpus consisting of Modern Standard Arabic (MSA) and English texts within Chomsky's theory and remarks (Chomsky, 2019). Despite the inherent morphological differences between English and Arabic, this research demonstrates how Chomsky's theory can provide a unified framework for analyzing the control structure in both languages in terms of case assignment and

agreement features. One of the central focuses of this study is to elucidate the distinctive behaviors exhibited by English and Arabic in terms of the morphological systems, particularly in the domains of case assignment and agreement operation.

The data collection process encompasses diverse resources, including grammar books and authentic texts in both English and Arabic, such as works by Radford (2009), Baker (1988), and publications by Chomsky among others. These resources show how case, agreement, and tense intersect in light of Chomsky's theory. The corpus employed in this study is chosen from linguistic samples in both languages, ranging from syntactic structures to discourse-level phenomena. This diverse corpus not only ensures the richness and depth of the data but also allows for a comprehensive analysis. Throughout the analysis, the study explores how MSA and English can be unified by Chomsky's theory. It elucidates how the embedded subject is assigned the nominative case despite the non-finiteness of the embedded clause in comparison to its counterpart found in English.

The methodology employed in this study is rooted in reproducibility. Detailed citation of the corpus sources, data collection procedures, and linguistic analysis are provided to facilitate a thorough understanding of the research methodology. Moreover, supplementary materials, such as transliteration, glossing, and translation of the Arabic data, are made available to ensure the authenticity of the study's findings. This methodology helps investigate Arabic linguistic phenomena. It is important to acknowledge potential limitations due to the richness of the Arabic language. By adhering to the methodological standards, this study aims to contribute to the advancement of linguistic research.

4. Results and Discussion

This section addresses the analysis of the data and how they are unified by Chomsky's Generative Enterprise.

4.1. Control Structure in English and Modern Standard Arabic

Control structures, want-class, subcategorizes for a CP internal complement and are interpreted as states of affairs (Pesetsky, 1982: p. 26). Chomsky and Lasnik (1977) assume that this embedded CP is nonfinite whose subject is a null category/PRO due to its non-finiteness. This PRO carries the null case (Martin, 2001: p. 141). It could be controlled by a c-commanding antecedent as in (8a) or arbitrary controlled by the discourse as in (8b):

8a. It is common [PRO to hurt oneself] (Chomsky, 2015: p. 31)

8b. John$_i$ tried [$_{CP}$ PRO$_i$ to ~~PRO~~$_i$ quit] (Radford, 2009: p. 380)

The structures in (8) are two-clause structures with two predicates. Commonly, the embedded clause is non-finite whose subject is PRO. This PRO is arbitrary in interpretation in (8a) and subject controlled in (8b). Subject control is when the embedded PRO is controlled by the matrix subject [e.g., John in (8b)].

Similarly, this phenomenon takes place in MSA, yet Agree is a prevalent phenomenon due to the morphological richness of Arabic:

9a. ʔu-riid-u   [PRO ʔan ~~PRO~~ ʔa-rħal-a]
    pro-want-ind   to   I.leave-subj
                                    'I want to leave.'

9b. yu-riid-u   ʔal-walad-u   [PRO ʔan ~~PRO~~ ya-rħal-a]
    he.want-ind   the-boy-nom   to   he.leave-subj
                                                'The boy wants to leave.'

In light of Chomsky's minimalism, a small pro exists in finite clauses whereas a big PRO exists in non-finite clauses. On one hand, English only allows embedded big PROs as in (8b) where the matrix subject is lexicalized as [John]. On the other hand, Arabic allows both occurrences due to its rich morphological system. It is a drop language that allows covert subjects. Thus, the matrix subject/controller in MSA is either a small pro as in (9a) or a lexicalized subject as in (9b). In all cases, in light of Chomsky's theory, the embedded big PRO must be bound by a co-indexed antecedent carrying the same phi-features. In (9a), the PRO carries the 1st person feature and is co-indexed with the matrix subject, i.e., a small pro interpreted as [I]. However, in (8b) and (9b), it carries the 3rd singular masculine features, and it is co-indexed with [John] and [ʔal-walad-u: the boy-nom], respectively. Evidence comes from the use of reflexives as follows:

10a. John$_i$ tried   [$_{CP}$PRO$_i$ to ~~PRO$_i$~~ help himself$_i$]

10b. yu-riid-u   ʔal-walad-u$_i$[$_{CP}$ PRO$_i$ ʔan ~~PRO$_i$~~ yu-saaʕɪd-a   nafs-a-hu$_i$]
     he.want-ind the-boy-nom   to   he.help-subj   soul-acc-him
                                                'The boy wants to help himself.'

In (10), [himself] and [nafs-a-hu: himself] are reflexives that are co-indexed with the embedded subject [PRO] which, in turn, shares the same features as the matrix subjects.

Due to the morphological richness of MSA, the inflections of the embedded verb in (9) indicate the identity of the embedded subject. The verbs [ʔa-rħal-a: I.leave-subj] in (9a) and [ya-rħal-a: he.leave-subj] in (9b) agree with the embedded PRO that is, in turn, co-referential with the matrix subjects [pro: I] in the former and [ʔal-walad-u: the boy] in the latter. Thus, although the PRO is null, it retains its φ-features as 1st person and 3rd.sg.masc, respectively. In MSA, these features surface as a reflex of agreement due to its rich inflectional morphology.

4.2. Agreement and Nominative Case of the Embedded Subject

Arabic has an extremely rich inflectional morphological system where the verb shows agreement (φ-features) with the subject. In (11) below, the matrix predicate [ʔu-riid-u: want] inflects for agreement and TNS. The matrix subject is dropped since its identity can be detected by the inflections on the verb. The internal argument is a non-finite clause whose embedded predicate is introduced by the infinitival particle [ʔan: to]. Soltan (2007: p. 143) considers [ʔan: to] a

mood particle. It affects the mood of the following verb to be subjunctive represented by diacritic [a] at the end of the verb (n.b. [ʔan] is the infinitival [to] (Haddad, 2012: p. 3)):

11a. ʔu-riid-u   ʔan   yu-saaʕɪd-a   zayd-un   hɪnd-an
     pro-want-ind   to   3rd.masc-help-sub   Zayd-nom   Hind-acc
                            'I want Zayd to help Hind.'

11b. ʔu-riid-u   ʔan tu-saaʕɪd-a   hɪnd-un   zayd-an
     pro-want-ind   to 3rd.fem-help-sub   Hind-nom   Zayd-acc
                            'I want Hind to help Zayd.'

11c. ʔu-riid-u   ʔan   yu-saaʕɪd-a   ʔal-ʔawlaad-u   zayd-an
     pro-want-ind   to   3rd.masc-help-sub the-boys-nom   Zayd-acc
                            'I want the boys to help Zayd.'

11d. ʔu-riid-u   ʔan   tu-saaʕɪd-a   ʔal-banaat-u   zayd-an
     pro-want-ind   to   3rd.fem-help-sub   the-girls-nom   Zayd-acc
                            'I want the girls to help Zayd.'

The structures in (11) are two-clause structures where the matrix subject is a small pro represented on the verb [ʔu-riid-u: pro-want] and identified as [I]. However, the embedded subjects are different. It is 3rd sg masc [zayd-un] in (11a), 3rd sg fem [hɪnd-un] in (11b), 3rd pl masc[ʔal-ʔawlaad-u: the boys] in (11c), and 3rd pl fem [ʔal-banaat-u: the girls] in (11d). In all cases, the embedded subjects carry the nominative case through agreement with the verb. This embedded verb shows the default partial agreement as always 3rd and singular [yu-saaʕɪd or tu-saaʕɪd] depending on the gender of the subject (regardless of the number feature). This partial agreement is a feature of languages with rich morphology where the word order is VSO (Roberts, 2005: p. 58). Despite the fact that all embedded clauses are non-finite and conditioned by the non-finite subjunctive mood marker [ʔan: to], the embedded lexical subjects carry the nominative case, in light of the split-INFL hypothesis.

As shown in (11a), the matrix verb [yu-riid: want] is a control verb that takes two arguments. The external argument is a small pro [I], whereas the internal argument is a CP clausal complement. The derivation of the embedded clause proceeds as follows. The embedded verb merges with [hɪnd] as its internal argument to form a V' projection. Therefore, the DP is assigned the accusative case by the transitive embedded verb, in accordance with the Configurational Condition on Case Assignment (Chomsky, 1981: p. 170). In light of the VPISH (Koopman and Sportiche, 1991), this V' projection takes the DP [zayd] as its external argument to form the VP [zayd yu-saaʕɪd hɪnd-an: Zayd help Hind]. In light of the split-INFL hypothesis, this VP merges with the head T to form the TP. The head T hosts the mood marker [ʔan: to] which functions as a subjunctive particle requiring the following verb to be non-finite. Moreover, this subjunctive particle assigns the subjunctive mood, shown as the diacritic [a], to the verb [yu-saaʕɪd-a: help-subj]. The TP, in turn, merges with the Agr$_s$P by which the embedded verb agrees partially with the embedded subject; consequently, the subject receives its nominative case as [zayd-un: Zayd-nom].

At this juncture, to have the SS [ʔan yu-saaʕɪd-a zayd-un hɪnd-an] where both the particle [ʔan] and the verb [yu-saaʕɪd] precede the subject, the paper assumes that [ʔan] as a mood marker moves to a position higher than the Agr$_s$P indicating that the embedded clause is in the subjunctive mood. The paper argues for the need of both the Split-TP analysis (Felser, 1999, as cited in Radford, 2009: p. 287) and the Split-INFL hypothesis (Pollock, 1989; Chomsky, 1989). According to the former, the TP is split into Mood, Tense, and Aspect. According to the latter, this Tense (head T) is split into Agr and TNS. Thus, the Mood phrase (MP) is in a position higher than the Agr$_s$P as shown in (12) below:

12. see **Figure 4**
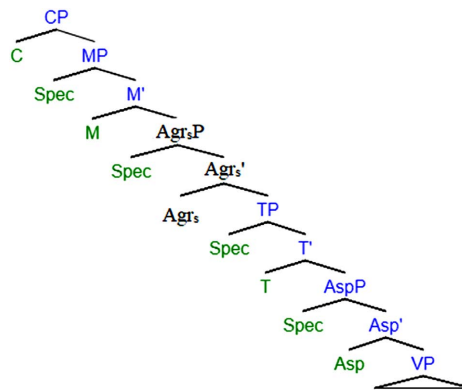
Figure 4. A representation of the split-TP analysis.

Because movement is a feature-driven operation (Chomsky, 1995), the paper assumes that the mood maker [ʔan] moves to the head Mood to assign the following verb its subjunctive mood, and the embedded verb moves the head Agr to acquire the φ-features. This accounts for the embedded SS shown in (11a) and represented in (13) below where [ʔan] moves to a place where it c-commands the embedded clause, hence, assigning the subjunctive mood to the verb (n.b., AspP is dropped as per the relevance and brevity):
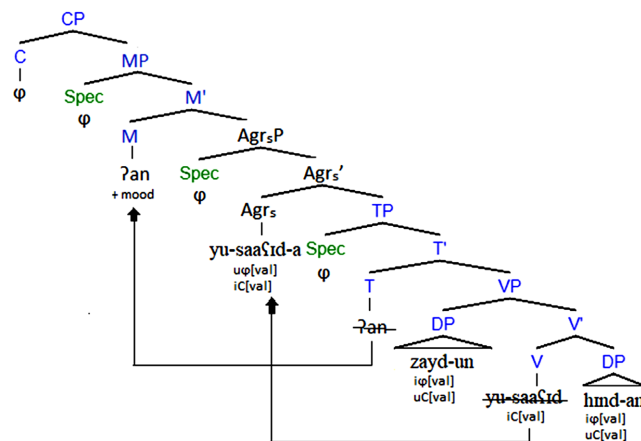
13. see **Figure 5**

Figure 5. A representation of the split-TP analysis and the split-INFL hypothesis.

AGREE operates between the Probe [Agr$_s$] and the goal [DP] resulting in nominative case assignment. According to Chomsky (2015: pp. 53-110), AGR is "involved" in subject agreement, and the nominative case is a "reflex of agreement". Thus, in this control structure, the head Agr$_s$ is what assigns the nominative case to the embedded subject. This, in turn, refutes Soltan's assumption (Soltan, 2007: p. 138) that the subjunctive T assigns the nominative case. The same analysis applies to the structures in (14) below.

14a. ħaawal-a muħammad-un ʔan ta-ktub-a hınd-un maqaal-an
tried-he Muhammad-nom to she-write-subj Hind-nom article-acc
'Muhammad tried that Hind would write an article.'

(Greshler, Melnik and Wintner, 2017: p. 5)

14b. tu-riid-u hınd-un ʔan tu-saaʕıd-a ʔal-banaat-u zayd-an
she.want Hind-nom to 3rd.fem-help-subj the-girls-nom Zayd-acc
'Hind wants the girls to help Zayd.'

Although the matrix verbs are finite and the embedded ones are non-finite, the thematic subjects in both clauses carry the nominative case shown as [hınd-un] in (14a) and [ʔal-banaat-u] in (14b) via Agree in light of the split-INFL hypothesis. This analysis argues against Greshler et al.'s assumption (Greshler et al., 2017: p. 6) who assume that the subjunctive structures with [ʔan] in Arabic are finite clauses. Therefore, the subject is assigned the nominative case. However, the paper argues for the fact that the particle [ʔan] is a subjunctive mood marker that requires the following verb to be nonfinite. Evidence comes from the ungrammaticality of (15) below:

15a. *tu-riid-u hınd-un ʔan saaʕad-at ʔal-banaat-u zayd-an
she-want-ind Hind-nom to 3rd.past-help.fem the-girls-nom Zayd-acc
'*Hind wants the girls to helped Zayd.'

15b. *tu-riid-u hınd-un ʔan sa-tu-saaʕıd-a ʔal-banaat-u zayd-an
she-want Hind-nom to future-3rd.fem-help the-girls-nom Zayd-acc
'*Hind wants the girls to will help Zayd.'

Consequently, it could be safely concluded that the embedded clauses in control structures are nonfinite introduced by the infinitival mood marker [ʔan: to].

In brief, the embedded subjunctive verb is non-finite, yet it agrees with the embedded subject. In conformity with the split-INFL hypothesis and the Agree conditions, the head Agree is the closest active probe. As a consequence, the verb shows the default partial agreement, and the head DP receives its nominative case. In light of the split-TP analysis, the mood marker [ʔan: to] moves to the head mood to c-command its domain. Since case is controversial in Arabic, the DP carries different case when it precedes the infinitival mood marker yet with the same theta role.

4.3. Case Assignment to the Embedded Subject Outside the Domain of [ʔan: to]

This section analyzes the structure where the DP surfaces in a pre-verbal position (i.e., outside the Domain of [ʔan: to]). In light of Chomsky's theory, case

feature is a structural feature. It depends on the available adjacent case assigner, in accordance with the adjacency condition (Chomsky, 1981: p. 94):

16a. I will arrange for him to see a specialist. (Radford, 2009: p. 102)

16b. She wanted ~~for~~ him to apologize. (Radford, 2009: p. 102)

16c. She wanted ~~for~~ John to apologize. (Radford, 2009: p. 107)

The verb want is a for-deletion verb (as cited in Radford, 2009: p. 107). It takes a CP clausal complement introduced by the head C. This head C is either the overt complementizer [for] as in (16a) or the null spell-out as in (16b/c). Therefore, want-class, in English, subcategorizes for an infinitival complement CP whose subject carries the accusative case assigned by the empty preposition [for] (Radford, 2009: p. 102). Evidence comes from the ungrammaticality of (17a) below:

17a. *John was wanted [for to apologize] (Radford, 2009: p. 107)

17b. He is believed to be innocent (Radford, 2009: p. 106)

The contrast between (17a) and (17b) shows that want-class takes a CP complement since the subject cannot be passivized, in accordance with the Impenetrability Condition (IPC) (Chomsky, 2001: p. 5). This condition prevents any constituent within the domain of the head complementizer from any further syntactic operations. In contrast, the Exceptional Case Marking verb (ECM) [believe] in (17b) takes a TP complement; therefore, the derivation is grammatical where the embedded thematic subject moves to the matrix syntactic subject position. Thus, the verb [want] takes a CP internal complement, unlike the ECM verbs that take TP internal complements. Put differently, the subject of the infinitival CP of want-class cannot be passivized. The same analysis applies to (18) below where passivization is blocked:

18. *zayd-un   yu-raad-u   ʔan   ya-rħal-a
    Zayd-nom   passive-want   to   he.leave-subj
                         '*Zayd was wanted to leave.'

The ungrammaticality of (18) above argues against Ahmad's assumptions (Ahmad, 2015: p. 146) who argues that the verb [want] is an ECM verb in Arabic. In accordance with the impenetrability condition, the embedded subject [zayd] cannot get passivized. This provides evidence that the verb [yu-riid: want] is a control predicate that takes a CP clausal complement, yet the head C is transparent according to the Government Transparency Corollary (Baker, 1988: p. 79). The head C adjoins the matrix verb which, in turn, governs the original structural domain of the Complementizer. As shown in (19) below, the embedded subject carries case by the closest case assigner. It is assigned the accusative case in (19a) but the oblique case in (19b):

19a. ʔu-riid-u   ʔal-walad-a   ʔan ya-rħal-a
     pro-want-ind   the-boy-accto   he-leave-subj
                          'I want the boy to leave.'

19b. ʔu-riid-u   mɪn ʔal-walad-ɪ ʔan   ya-rħal-a
     pro-want-ind   from   the-boy-obl   to   he-leave-subj
                          'I want the boy to leave.'

The minimal difference between (19a) and (19b) is the presence of the preposition [mɪn: from] in the latter. The sentences in (19) above are two-clause structures. The matrix verb [yu-riid: want] is a control verb whose external argument is the small pro, and the internal argument is the infinitival CP. This CP is introduced by a null C in (19a) and by the empty preposition [mɪn: from] in (19b) to satisfy the case filter condition since [yu-riid: want] in Arabic is not an ECM verb. The embedded verb [ya-rħal: leave] is an unaccusative verb that takes one internal complement [ʔal-walad-u: the boy-nom]. Thematically, this DP belongs to the embedded verb, yet it moves structurally to be in a pre-verbal position giving the SVO word order, due to the presence of a preposition. Similarly, in (20) below, the embedded subjects move outside the domain of [ʔan: to]; however, the SS shows full agreement:

20a. ʔu-riid-u   ʔal-ʔawalaad-a   ʔan   yu-saaʕɪd-uu   zayd-an

     pro-want-ind the-boys-acc   to   3rd.help-pl.masc Zayd-acc

                'I want the boys to help Zayd'

20b. ʔu-riid-u   ʔal-banaat-ɪ ʔan   yu-saaʕɪd-nna   hɪnd-an

     pro-want-ind   the-girls-acc to   3rd.help-pl.fem   Hind-acc

                'I want the girls to help Hind'

In (20), the embedded subject surfaces in a pre-verbal position giving SVO word order. Therefore, the verb shows full agreement in number, person, and gender (Fehri, 1993: p. 31; Aoun et al., 1994: p. 196). The difference between the embedded SVO word order shown in (20) above and the embedded VSO word order shown in (11c/d) is the presence of the number feature in the former. Worded differently, the verb, in Arabic, shows full agreement with the subject in SVO but "impoverished" agreement in VSO (Mohammad, 1990: p. 95).

However, in light of the Uniformity of Theta Assignment Hypothesis (UTAH) (Baker, 1988), the embedded subject in both cases belongs thematically to the embedded verb. This analysis refutes Soltan's assumption. Soltan (2007: p. 143) defines the difference between the two structures in (21a) and (21b) as "thematic in nature" (Soltan, 2007: p. 143). Although the embedded CP (i.e., the state of affairs) in both is the internal argument of the matrix verb, the accusative DP in (21b) seems to function as a "second thematic argument" (Soltan, 2007: p. 144):

21a. ʔaraad-a   zayd-un   ʔan   ya-rħal-a   ʔal-ʔawlaad-u

     he.want-past Zayd-nom to   3rd.sg.masc.leave-subj   the-boys-nom

        'Zayd wanted the boys to leave'   (Soltan, 2007: p. 144)

21b. ʔaraad-a   zayd-un   ʔal-ʔawlaad-a   ʔan   ya-rħal-uu

     he.want-past Zayd-nom   the-boys-acc   to   3rd.masc.leave-pl

        'Zayd wanted the boys to leave'   (Soltan, 2007: p. 143)

In conformity with the UTAH, the verb [yu-riid: want] is a two-place predicate that takes two arguments. Thus, the assumption that the accusative DP is an extra argument of the matrix verb violates the theta-theory. The internal argument of [ʔaraad-a] is clausal in both cases whether the DP surfaces in a

post-verbal position as in (21a), or it surfaces in a pre-verbal position as in (21b). This DP [ʔal-ʔawlaad: the boys] belongs thematically to the embedded predicate; evidence comes from the realization of verb agreement, yet it receives its case by the adjacent case assigner.

In brief, in both English and MSA, want-class verbs take an internal complement that can be introduced by an empty preposition. In Arabic, when the subject stays *in-situ* within the VP, it carries the nominative case through Agree with the Agr$_s$ due to the rich inflectional morphology. However, when it surfaces outside the domain of [ʔan], it could be c-commanded by either the matrix verb or an empty preposition; thus, it is assigned case accordingly. Although the embedded V is non-finite, it shows full agreement in SVO word order. With respect to the θ-theory, the embedded subject retains its θ-role assigned by the verb to which it thematically belongs.

5. Conclusion

The paper has shed light on the universality of Chomsky's Generative Enterprise by investigating the distinctive behavior of English and Arabic regarding tense feature and case assignment in the control structure. This study has highlighted that Chomsky's framework can capture the drastic differences between two completely different languages under a unified analysis. This analysis has illustrated the unique characteristics of MSA, particularly regarding the non-finiteness of the embedded clause and the nominative case assignment to the embedded subject. Despite the non-finiteness of the embedded verb, the embedded subject carries the nominative case, due to Arabic rich inflectional morphology. It has been concluded that the head Agr$_s$, as posited by the split-INFL hypothesis, assigns the nominative case to the subject in VSO word order where the verb demonstrates the default partial agreement. However, in SVO word order, the subject surfaces in a preverbal position, and the verb shows full agreement with the subject. It has been demonstrated that the morphological system in Arabic is inflectionally rich; therefore, the subject receives case from the adjacent c-commanding case assigner, whether accusative or oblique. Moreover, it has been presented that the infinitive mood marker [ʔan: to] necessitates the following verb to be nonfinite carrying the subjunctive mood. Accordingly, the paper has adopted the split-TP analysis suggesting the movement of the mood marker to the head mood to c-command its domain. Throughout these analyses, it has been shown that the subject in Arabic retains its θ-role assigned at the Deep Structure, in line with Theta Theory and the UTAH. In contrast, in English, the embedded subject in control structures is a big PRO and controlled by the matrix subject. However, if the embedded subject is lexicalized, it carries the accusative case assigned by the empty preposition [for], either overt or covert. While the scope of this study is limited to a comparative examination of Arabic and English, further research is warranted to validate the proposed hypotheses and findings in other languages with distinct syntactic structures and morphological systems. Future research

could explore various aspects of subject agreement, object agreement, or complementizer agreement within the framework of Agree operation, Case Theory, and Theta Theory. Examining how other languages show the interrelation between tense, case, and agreement in different syntactic structures would provide valuable insights to the universality of Chomsky's generative enterprise.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Adger, D. (2006). Three Domains of Finiteness: A Minimalist Perspective. In I. Nikolaeva (Ed.), *Finiteness: Theoretical and Empirical Foundations* (pp. 23-58). Oxford University Press. https://doi.org/10.1093/oso/9780199213733.003.0002

Ahmad, H. I. (2015). *Verbal Complementizers in Arabic*. Ph.D. Thesis, University of Utah.

Al-Aqarbeh, R. (2011). *Finiteness in Jordanian Arabic: A Semantic and Morphosyntactic Approach*. Ph.D. Thesis, University of Kansas.

Aoun, J., Benmamoun, E., & Sportiche, D. (1994). Agreement, Word Order, and Conjunction in Some Varieties of Arabic. *Linguistic Inquiry, 25,* 195-220.

Baker, M. (1988). *Incorporation: A Theory of Grammatical Function Changing*. Ph.D. Thesis, MIT Press.

Borsely, R. D., & Roberts, I. (1996). *The Syntax of Celtic Languages: A Comparative Perspective*. Cambridge Press. https://doi.org/10.1017/CBO9780511586279

Chomsky, N. (2019). *The UCLA Lectures*. https://linguistics.ucla.edu/noam-chomsky/

Chomsky, N. (1981). *Lectures on Government and Binding*. Foris.

Chomsky, N. (1986). *Knowledge of Language: Its Nature, Origin, and Use*. Praeger.

Chomsky, N. (1989). Some Notes on the Economy of Derivation and Representation. In R. Freidin (Ed.), *Principles and Parameters in Comparative Grammar* (pp. 53-82). MIT Press.

Chomsky, N. (1995). *The Minimalist Program*. MIT Press.

Chomsky, N. (1999). Derivation by Phase. In M. Kenstowwicz, & K. Hale (Eds.), *A Life in Language* (pp. 1-52). MIT Press. https://doi.org/10.7551/mitpress/4056.003.0004

Chomsky, N. (2000). Minimalist Inquiries. In R. Martin, D. Michaels, & J. Uriagereka (Eds.), *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik* (pp. 89-156). MIT Press.

Chomsky, N. (2001). *Beyond Explanatory Adequacy*. MIT Press. (Unpublished Manuscript)

Chomsky, N. (2004). Beyond Explanatory Adequacy. In A. Belletti (Ed.), *Structures and Beyond: The Cartography of Syntactic Structures Vol. 3* (pp. 104-131). Oxford University Press. https://doi.org/10.1093/oso/9780195171976.003.0004

Chomsky, N. (2015). *The Minimalist Program*. MIT Press. https://doi.org/10.7551/mitpress/9780262527347.001.0001

Chomsky, N., & Lasnik, H. (1977). Filters and Control. *Linguistic Inquiry, 8,* 425-504.

Citko, B. (2014). *Phase Theory: An Introduction*. Cambridge University Press.

https://doi.org/10.1017/CBO9781139644037

Fehri, A. F. (1993). *Issues in the Structure of Arabic Clauses and Words*. Springer Dordrecht. https://doi.org/10.1007/978-94-017-1986-5

Felser, C. (1999). *Verbal Complement Clauses. A Minimalist Study of Direct Perception Constructions*. John Benjamins. https://doi.org/10.1075/la.25

George, L., & Kornfilt, J. (1981). Finiteness and Boundedness in Turkish. In F. Heny (Ed.), *Binding and Filtering* (pp. 27-105). Croom Helm.

Greshler, T. A., Melnik, N., & Wintner, S. (2017). Seeking Control in Modern Standard Arabic. *Glossa: A Journal of General Linguistics, 2,* 1-41.
https://doi.org/10.5334/gjgl.295

Haddad, Y. (2012). Raising in Standard Arabic: Forward, Backward, and None. In R. Bassiouney, & E. Graham (Eds.), *Arabic Language and Linguistics* (pp. 61-78). Georgetown University Press.

Haegeman, L. (1986). INFL, COMP and Nominative Case Assignment in Flemish Infinitivals. In P. Muysken, & H. van Riemsdijk (Eds.), *Features and Projections* (pp. 27-123). Foris. https://doi.org/10.1515/9783110871661-006

Jalabneh, A. (2009). *Syntactic Analysis of Pro in Embedded Clauses in Arabic Syntax: Chomsky's (1981-1986)*.
https://www.researchgate.net/publication/283895901_syntactic_analysis_of_pro_in_embe dded_clauses_in_arabic_syntax_chomsky'_1981-_1986

Koopman, H., & Sportiche, D. (1991). The Position of Subjects. *Lingua, 85,* 211-258.
https://doi.org/10.1016/0024-3841(91)90022-W

Martin, R. (2001). Null Case and the Distribution of PRO. *Linguistic Inquiry, 32,* 141-166.
https://www.jstor.org/stable/4179140
https://doi.org/10.1162/002438901554612

Mohammad, M. A. (1990). The Problem of Subject-Verb Agreement in Arabic: Towards a Solution. In M. Eid (Ed.), *Perspectives on Arabic Linguistics: Papers from the First Annual Symposium on Arabic Linguistics* (pp. 95-125). John Benjamins.
https://doi.org/10.1075/cilt.63.07moh

Pesetsky, D. (1982). Complementizer-Trace Phenomena and the Nominative Island Condition. *Linguistic Review, 1,* 297-343. https://doi.org/10.1515/tlir.1982.1.3.297

Pollock, J. (1989). Verb Movement, Universal Grammar and the Structure of IP. *Linguistic Inquiry, 20,* 365-424.

Radford, A. (2009). *An Introduction to English Sentence Structure*. Cambridge University Press. https://doi.org/10.1017/CBO9780511800924

Raposo, E. (1987). Case Theory and Infl-to-Comp: The Inflected Infinitive in European Portuguese. *Linguistic Inquiry, 18,* 85-109.

Roberts, I. (2005). *Principles and Parameters in A VSO Language*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195168211.001.0001

Soltan, U. (2007). *On Formal Feature Licensing in Minimalism: Aspect of Standard Arabic Morphosyntax*. Ph.D. Thesis, University of Maryland, College Park.

Wilder, C. (1994). Coordination, ATB, and Ellipsis. *Groninger Arbeiten Zur Germanistischen Linguistik, 37,* 291-331.

List of Phonetic Symbols

Consonants/Vowels		List of Phonetic Symbols	
Consonants			
IPA Symbol	Description	IPA Symbol	Description
/b/	bilabial voiced stop (boy)	/t/	denti-alveolar voiceless stop (to)
/k/	velar voiceless stop (kite)	/q/	uvular voiceless stop (qaal: said)
/s/	alvealor voiceless fricative (so)	/h/	glottal voiceless fricative (hat)
/ɦ/	pharyngeal voiceless fricative (ɦayaah: life)	/ʕ/	pharyngeal voiced fricative (ʕalii: Ali)
/ʔ/	glottal voiceless stop (ʔınna: that)	/r/	retroflex voiced fricative (rat)
/n/	alveolar voiceless nasal (no)	/m/	bilabial voiced nasal (man)
/l/	alveolar voiced lateral (love)	/y/	palatal voiced gliding (yellow)
Vowels			
/ı/	high front short unrounded (sit)	/a/	low mid short unrounded
/u/	high back short rounded (put)		
Length of a vowel is shown by doubling the vowel			
Gemination is shown by doubling the consonant letter			

List of Abbreviations

Abbreviation form	Meaning	Abbreviation form	Meaning
φ-features	Phi-features	θ-role	Theta Role
sg	Singular	fem	Feminine
pl	plural	masc	Masculine
pro	small pro (in +TNS clauses)	PRO	Big PRO (in –TNS clauses)
TNS	Tense feature	AGR	Agree features
VP	Verb Phrase	NP	Noun Phrase
TP	Tense Phrase	CP	Complementizer Phrase
Agr$_s$P	Agree Subject Phrase	AspP	Aspectual Phrase
M	Mood	MP	Mood Phrase
V	Verb	VP	Verb Phrase
DP	Determiner Phrase	EPP	Extended Projection Principle
SVO	Subject + Verb + Object	VSO	Verb + Subject + Object
DS	Deep Structure	SS	Surface Structure
VPISH	VP-Internal Subject Hypothesis	INFL	Inflection
IPC	Impenetrability Condition	ECM	Exceptional Case Marking
Ind	Indicative mood	Subj	Subjunctive mood
MSA	Modern Standard Arabic	nom	Nominative case
obl	Oblique case	acc	Accusative case
i	Symbol for co-indexation/ co-reference	-	Morpheme Boundary