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On Agreement Affixes, Incorporated Pronouns, and Clitics in Standard Arabic[1]

Abstract

Verbal affixes which index the subject in Standard Arabic (SA) are almost unanimously treated as pure agreement affixes in the generative literature. Using a number of diagnostics, it is shown that subject verbal affixes are functionally ambiguous in that they exhibit some of the properties of pure agreement affixes and some other properties of incorporated pronouns. The study therefore lends support to the functional ambiguity hypothesis of subject verbal affixes in SA, which is proposed in Fassi Fehri (1990, 1993). The paper uses the framework known as Distributed Morphology (Halle & Marantz 1993, 1994; Noyer 1997) to show that Fassi Fehri's characterization of the morphological realization of some of these affixes is inaccurate. The study also uses other diagnostics to claim that object verbal affixes are better treated as clitics rather than incorporated pronouns, contrary to the incorporation analysis originally proposed in Fassi Fehri (1990, 1993).

1. Introduction

In the generative literature on Standard Arabic (SA), there are two approaches to the status of the verbal affixes which index the subject, and these are the incorporation analysis of Fassi Fehri (1990, 1993) and Jamary (1993) and the almost unanimous pure agreement analysis of all others (e.g. Mohammad 1990, 2000; Benmamoun 2000; Soltan 2007, 2011; Aoun, Benmamoun & Choueiri 2010; Al-Balushi 2011).[2] In this paper, I use a

[2] Jamary (1993: 83–84) claims that the subject in the VSO order is either a lexical NP or an incorporated pronoun. As for the preverbal DP position in the VSO order, he claims that it is occupied by an empty (i.e. null) topic. While one can make the case for

number of diagnostics to decide on the status of verbal affixes. I show that Fassi Fehri's (1990, 1993) functional ambiguity hypothesis is on the right track despite the fact that these affixes are almost unanimously treated as pure agreement affixes in the modern literature on SA.

This paper is organized as follows: Section 2 is an overview of the status of verbal affixes in traditional Arabic grammar. In section 3, I discuss the functional ambiguity hypothesis of Fassi Fehri (1990, 1993). In section 4, I use the framework to morphology known as Distributed Morphology (DM) (Halle & Marantz 1993) to claim that the verbal affixes in the Subject Verb (SV) order do not necessarily discharge all the phi-features of person, number and gender, contrary to the claim made in Fassi Fehri (1990, 1993). In section 5, I use a number of diagnostics to support the claim that the verbal affixes which index the subject can be treated as pure agreement affixes. In section 6, I use other diagnostics which support the pronominal analysis of these affixes.[3] In section 7, I consider the status of object affixes and claim that they are better treated as clitics, as opposed to incorporated pronouns, a claim made in Fassi Fehri (1990, 1993). Section 8 concludes the paper.

2.   The status of verbal affixes in traditional Arabic grammar

The majority of traditional Arab grammarians (see Ibn S-sarraaj 10th c./1996: 115–116; Ibn Yaʕiš 13th c.: 87–88, 101–102) adopt a mixed approach to whether verbal markers indexing the subject in SA are agreement markers or pronominal markers.[4] Starting with the suffixes

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incorporated subjects, it is difficult to maintain the view that the preverbal position in the VSO order is occupied by a null topic. If the discourse function of topics is to make something salient, it is difficult to see how saliency can be achieved by a phonetically null element.

[3]   Note that the major goal of this paper is not to advocate a particular theoretical framework, but rather to decide on the status of subject (and object) verbal markers in SA. Some of the arguments used assume a generative framework, given that the modern literature reviewed is all generative.

[4]   Other traditional Arab grammarians such as Al-Mazini, a 9th century grammarian (as cited in Al-Saaʕidi 2009: 19), claim that all of the subject verbal affixes are pure agreement markers, which help to identify hidden/covert subject pronouns located in the postverbal position. Among the other traditional Arab grammarians who reject the pronominal analysis of subject verbal affixes is Ibn Maḍaaʔ (12th c./1979). Among the modern linguists who reject the pronominal analysis of the subject verbal markers,

which attach to the past/perfect form of the verb, traditional Arab grammarians treat all of them except one as bound pronouns attached to the verb. Some illustrative examples are given in (1).

(1) a. *qum-tu.*[5]
      stood.up-1SG
      'I stood up.'

    f. *qum-tum.*
      stood.up-2MPL
      'You stood up.'

    b. *qum-ta.*
      stood.up-2MSG
      'You stood up.'

    g. *qum-tunna.*
      stood.up-2FPL
      'You stood up.'

    c. *qum-ti.*
      stood.up-2FSG
      'You stood up.'

    h. *qaam-aa.*
      stood.up-3MDU
      'The two (m) of them stood up up.'

    d. *qum-naa.*
      stood.up-1PL
      'We stood up.'

    i. *qaam-uu.*
      stood.up-3MPL
      'They (m) stood up.'

    e. *qum-tumaa.*
      stood.up-2DU
      'Both of you stood up.'

    j. *qum-na.*
      stood.up-3FPL
      'They (f) stood up.'

The major diagnostic that traditional Arab grammarians use to tell whether a certain verbal affix is an agreement marker or a bound pronoun is the following: if the verbal affix can be followed by a postverbal overt subject, then the affix is an agreement marker; if, on the other hand, the verbal affix cannot be followed by an overt subject, then the affix is a bound pronoun (see Ibn S-sarraaj 10th c./1996: 115; Al-Astrabaði 13th c./1996: 125). To illustrate, let us consider (2).

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which index the third person (singular, dual and plural) subject, is the German historical linguist Bergsträsser (1929/1994).

[5] The following abbreviations are used. 1, 2, 3 = first, second and third persons; Ø = null morpheme; ACC = accusative; CAUS = causative; DU = dual; F = feminine; GEN = genitive; INDIC = indicative; M = masculine; N = (see footnotes 8 and 10); NEG = negative marker; NOM = nominative; PL = plural; SG = singular.

    The following non-IPA characters are used in the examples: ṭ, ḍ = pharyngealized alveolar stops; j = voiced palato-alveolar affricate; ṣ = pharyngealized alveolar fricatives; ṯ = interdental fricative; š = palato-alveolar fricative; ḥ, = voiceless pharyngeal fricative; y = palatal approximant.

(2) *faʕala-t   hind-un*
     did-3FSG   Hind-NOM
     'Hind did.' (Ibn S-sarraaj 10th c./1996: 115)

According to traditional Arab grammarians, the suffix *-t* in (2) is an agreement affix, not a pronoun. This is because the verbal suffix can be followed by the overt subject *hind* 'Hind'.

A second diagnostic that traditional Arab grammarians (see, for example, Siibawayhi 8th c., as cited in Al-Saaʕidi 2009: 17–18) use is that a pronoun cannot be omitted at all, whereas an agreement marker may be omitted. They use this diagnostic to show that the subject verbal suffix *-t*, which encodes the feminine marker is actually an agreement marker rather than a bound pronoun given that it can be omitted, as in (3).

(3) *wa   laa ʔarḍ-a   ʔa-bqala   ʔibqaal-a-haa.*
     and   NEG land.F-ACC   caus-grow.3MSG   plants-ACC-its
     'And no land caused its plants to grow.' (Siibawayhi 8th c., as cited in Al-Saaʕidi 2009: 18)

In (3), the verb encodes a third masculine singular subject even though the preverbal determiner phrase (DP) *ʔarḍ* 'land' is inherently marked as third feminine singular.

A third diagnostic used by traditional Arab grammarians (see, for example, traditional Arab grammarians, as cited in Al-Saaʕidi 2009: 17) to argue that the suffix *-t* is an agreement marker is that an agreement marker indexing the subject can be suffixed by a bound subject pronoun, whereas a bound subject pronoun cannot. They thus take the fact that the suffix *-t* in (4) can be suffixed by a subject bound pronoun (here taken to be the third dual marker *-aa*) as evidence that *-t* itself cannot be a subject pronoun, or otherwise, the sentence ends up having two subjects, which is impossible.

(4) *ʔal-Hindaani   qaama-t-aa.*[6]
     the-Hind.DUAL.NOM   stood-F-3.DU
     'The two Hinds stood.' (Al-Saaʕidi 2009: 17)

Turning to the affixes attached to the verb in the present/imperfect form, the majority of traditional Arab grammarians (see, for example, Ibn

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[6] It is worth noting in this regard that traditional Arab grammarians specifically of the Basra school of grammar treat the preverbal DP in (4) as a topic rather than a subject. The subject is, for them, the pronominal suffix *-aa* which is attached to the verb.

S-sarraaj 10th c./1996: 115; Al-Astrabaði 13th c./1996: 126) treat all prefixes as agreement markers, and all suffixes as bound pronouns. The examples in (5) are examples of the jussive form of the verb, given for illustration.

(5) a. *ʔ-afʕal*   e. *t-afʕal-ii*
        1SG-do.SG   2-do-FSG
        'I do.'   'You do.'

     b. *n-afʕal*   f. *t-afʕal-aa*
        1PL-do   2-do-MDU
        'We do.'   'You (both) do.'

     c. *t-afʕal*   g. *t-afʕal-uu*
        2-do.MSG   2-do-MPL
        'You do.'   'You do.'

     d. *t-afʕal*[7]   h. *y-afʕal-na*
        F-do.3SG   3-do-FPL
        'She does.'   'They (f) do.'

The reason why traditional Arab grammarians (see, for example, Ibn S-sarraaj 10th c./ 1996: 115; Al-Astrabaði 13th c./1996: 126) consider (5a–b) to be agreement affixes is that the prefixal markers *ʔ-* and *n-* make it clear that the subject is *ʔanaa* 'I' in the case of (5a) and *naḥnu* 'we' in the case of (5b) in the sense that speakers cannot be confused with others; therefore, there is no need for an overt pronoun to mark the speaker. The prefix *t-* in (5c) may denote a second person, but it may also denote a feminine marker, as in (5d). The reason why traditional Arab grammarians consider this marker to be an agreement marker rather than a bound pronoun is due to their attempt to give all prefixes in the imperfective form of the verb a uniform treatment.

Table 1 is a summary of the status of verbal affixes indexing the subject in traditional Arab grammar.

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[7] The prefix /*t-*/ is glossed as [2] in (5c) but as [F] in (5d). These are, according to Noyer (1997), two separate but homophonous morphemes.

Table 1. Agreement markers and bound pronouns in traditional Arabic grammar

Subject verbal markers	Tense/Aspect	Agreement markers identifying *hidden/ covert pronouns*	Bound pronouns
*qum-**tu*** 'I stood up'	Past/Perfect		YES
*qum-**ta*** 'you (MSG) stood up'	Past/Perfect		YES
*qum-**ti*** 'you (FSG) stood up'	Past/Perfect		YES
*qum-**tumaa*** 'you (DU) stood up'	Past/Perfect		YES
*qum-**tum*** 'you (MPL) stood up'	Past/Perfect		YES
*qum-**tunna*** 'you (FPL) stood up'	Past/Perfect		YES
*t-aquum-**aa*** 'you (DU) stand up'	Present/Imperfect		YES
*t-aquum-**uu*** 'you (MPL) stand up'	Present/Imperfect		YES
y**-aqum-**na 'they (FPL) stand up'	Present/Imperfect		YES
*qaama-**t*** 'she stood up'	Past/Perfect	YES	
ʔ-aquum 'I stand up'	Present/Imperfect	YES	
***t**-aquum* 'you (MSG) stand up'	Present/Imperfect	YES	
***t**-aquum* 'she stands up'	Present/Imperfect	YES	
***y**-aquum* 'he stands up'	Present/Imperfect	YES	
***n**-aquum* 'we stand up'	Present/Imperfect	YES	

As for object verbal markers, they are unanimously held by traditional Arab grammarians (see Ibn S-sarraaj 10th c./1996: 115–116; Ibn Yaʕiš 13th c.: 87–88, 101–102) to be incorporated pronouns. To the best of my knowledge, traditional Arab grammarians do not provide evidence as to why these affixes should be treated as pronouns rather than as agreement

markers. Table 2 is a summary of the object verbal markers and their status in SA. The present/imperfect form of the verb is used for illustration.

Table 2. Object bound pronouns in traditional Arabic grammar

Object incorporated pronouns

y-aḍribu-n-ii 'He hits me.'[8]

ʔ-aḍribu-ka 'I hit you.MSG.'

ʔ-aḍribu-ki 'I hit you.FSG.'

ʔ-aḍribu-kumaa 'I hit you.DU.'

ʔ-aḍribu-kum 'I hit you.MPL.'

ʔ-aḍribu-kunna 'I hit you.FPL.'

ʔ-aḍribu-hu 'I hit him.'

ʔ-aḍribu-haa 'I hit her.'

ʔ-aḍribu-humaa 'I hit them.DU.'

ʔ-aḍribu-hum 'I hit them.MPL.'

ʔ-aḍribu-hunna 'I hit them.FPL.'

To summarize, traditional Arab grammarians use a mixed approach in their treatment of subject verbal affixes. For the majority of them, the suffixes in the past/perfect form of the verb are bound pronouns, except for /-*t*/ of the third feminine singular; in the present/imperfect form of the verb, the majority of traditional Arab grammarians treat all prefixes as agreement markers, and all suffixes as bound pronouns.

The next section introduces the functional ambiguity hypothesis of Fassi Fehri (1990, 1993), which departs from the approach of traditional Arab grammarians in two major respects. First, in traditional Arabic grammar, some subject verbal affixes are agreement markers; others are bound pronouns. In the functional ambiguity hypothesis of Fassi Fehri (1990, 1993), all subject verbal affixes in SA are functionally ambiguous in that they can be either agreement markers or incorporated (bound) pronouns. Second, traditional Arab grammarians claim that SA has hidden/covert pronouns in addition to the phonetically overt pronouns. By contrast, the functional ambiguity hypothesis claims that SA has no null (hidden/covert) pronominal subjects.

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[8] The -*n*- is inserted to avoid hiatus. It is not part of the object pronoun -*ii*.

3. The functional ambiguity hypothesis of subject verbal affixes in SA (Fassi Fehri 1990, 1993)

To discuss Fassi Fehri's (1990, 1993) functional ambiguity hypothesis, let us consider the distribution of the verbal affixes indexing the subject in (6–9) below. Looking at the examples, the following pattern emerges: when the verb is marked for third person singular number, as in (6–7) below, it allows a postverbal lexical subject but disallows a postverbal pronominal subject. In contrast, when the verb is marked for third person plural number, as in (8–9), it does not allow any type of postverbal subject.

(6)   a. *jaaʔ-a*   (**huwa*).[9]
         came-3MSG   he
         'He came.'

      b. *jaaʔ-a*   *zayd-un.*[10]
         came-3MSG   Zayd-NOM
         'Zayd came.'

(7)   a. *jaaʔ-at*   (**hiya*).
         came-3FSG   she
         'She came.'

      b. *jaaʔ-at*   *zaynab-u.*
         came-3FSG   Zaynab-NOM
         'Zaynab came.'

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[9]   According to Fassi Fehri (1990, 1993), the suffix *-a* is a default realization of the third masculine singular, and when followed by a lexical subject, it shows agreement in gender only. That *-a* is the unmarked realization of the features [3 M SG] in SA is also the position taken in Noyer (1997: 51). For clarity reasons, I gloss the affixes using the full set of phi-features. It should, however, be borne in mind that the affixes do not necessarily bear all these features morphologically, although they do so in the syntactic component. Unless it is crucial for the analysis to point out the exact phi-features that the affix morphologically bears, I continue to provide the full set of phi-features for each affix.

[10]   Strictly speaking, the *-un* part of the DP *zaydun* 'Zayd' is two morphemes. The *-u* marker is a nominative case morpheme, and the *-n* marker is either an indefinite marker (Kouloughli 2007) or the head of a possessive phrase, which marks the absence of the possessor (Fassi Fehri 2012: 294, fn 2). Throughout this paper, I gloss the *-n* morpheme as part of the case marker unless the separation is essential for the point under discussion.
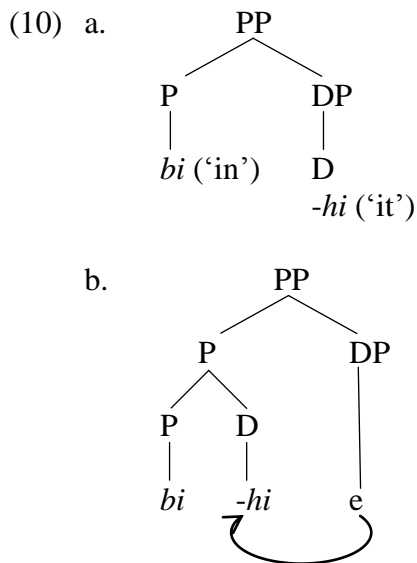
(8)   a. *jaaʔ-uu*   (**hum*).
    came-3MPL   them.MPL
    'They (m) came.'

    b. *jaaʔ-uu*   (**ʔal-ʔawlaad-u*).
    came-3MPL   the-boys-NOM
    'They (m) came.'

(9)   a. *jiʔ-na*   (**hunna*).
    came-3FPL   them.FPL
    'They (f) came.'

    b. *jiʔ-na*   (**ʔal-banaat-u*).
    came-3FPL   the-girls-NOM
    'They (f) came.'

Fassi Fehri (1990, 1993) claims that the verb in (6a) shows rich agreement in that the verb is marked for person, number and gender, but in (6b), the verb shows poor agreement in that it is marked for gender only (see footnote 9). By contrast, the verbs in (8–9) always show rich agreement in that the verbs are marked for person, number and gender.[11]

    Fassi Fehri (1990, 1993) makes the following proposal: all the affixes which mark the subject in SA are functionally ambiguous in the sense that that they can either function as pure agreement markers, or they can function as subject pronouns incorporated into the verb. Incorporation in the modern generative framework means that pronouns are base-generated in argument positions, where they occupy the head determiner (D) of the projection determiner phrase (DP). Then they move in a head-to-head adjunction to lexical heads in order to be morphologically supported. For example, Fassi Fehri (1993: 102) assumes that the structure of the prepositional phrase (PP) *bi-hi* 'in it' in SA is as shown in (10a) before incorporation. After incorporation, the structure is as shown in (10b).

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[11] The idea that rich agreement discharges the full set of phi-features is challenged later on in this paper.

(10) a.

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              PP
             /  \
            P    DP
            |     |
        bi ('in')  D
                   -hi ('it')
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     b.

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                PP
              /    \
             P      DP
            / \      |
           P   D     e
           |   |
          bi  -hi
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Fassi Fehri (1990, 1993) advances the following conjecture: A singular verb, which allows a postverbal lexical subject shows poor agreement (i.e. agreement in gender only) and which therefore does not qualify for the function of an incorporated pronoun. In this scenario, the affix which marks poor agreement can only function as a pure agreement marker. Fassi Fehri claims that we cannot really assume that the affix in this order, namely the VS order, is an incorporated pronoun; if we did, the sentence would end up having two subjects, and this would induce a violation of the Theta Criterion.[12] Thus, the affixes in (11) can only function as pure agreement markers. The examples are from Fassi Fehri (1990: 103, 106, 107).

(11) a. *jaaʔ-at*   *l-banaat-u.*
         came-3FSG   the-girls-NOM
         'The girls came.'

      b. *jaaʔ-a*   *l-rijaal-u.*
         came-3MSG the-men-NOM
         'The men came.'

Fassi Fehri (1990, 1993) then makes the following proposal: given that the verb which is marked for third person singular number disallows a postverbal pronominal subject, we can assume that the verb in this case

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[12] The Theta Criterion states the following (see Chomsky 1981):
      (a) Each argument is assigned one and only one theta role.
      (b) Each theta role is assigned to one and only one argument.

shows rich agreement (i.e. agreement in person, number and gender), and rich agreement enables the affix to function as an incorporated pronoun. Thus, the affixes in (12) must be incorporated pronouns. The examples are from Fassi Fehri (1990: 106, 110).

(12) a. *waqaf-a.*
         stood.up-3MSG
         'He stood up.'

      b. *jaaʔ-at.*
         came-3FSG
         'She came.'

To handle the functional ambiguity of subject verbal affixes, Fassi Fehri (1993: 124) proposes that languages differ with respect to the pronominality parameter in (13).

(13) "AGR[eement] may or may not be pronominal."

Fassi Fehri claims that the proposal that subject verbal affixes are functionally ambiguous parallels another functional ambiguity found in the free forms of pronouns in SA. To illustrate, he points to the fact that some third person pronouns in SA can function as true arguments as in (14a). In this example, the pronoun is fully specified for the features of person, number and gender. In other cases, pronouns, according to Fassi Fehri, can also function as pronominal copulas, as in (14b) where the pronoun *huwa* 'he' lacks the feature of person, as indicated by the ungrammatical example in (14c). Fassi Fehri points out that third person pronouns can also function as expletives, as in (14d–e), in which case they also lack the person feature.

(14) a. *huwa   jaaʔ-a.*
         he   came-3MSG
         'He came.'

      b. *ʔanta   huwa   l-masʔuul-u.*
         you   he   the-responsible-NOM
         'You are the responsible.' (Fassi Fehri 1993: 117, ex. 55)

      c. **ʔanta   ʔanta   l-masʔuul-u.*
         you   you   the-responsible-NOM
         Intended meaning: 'You are the responsible.' (Fassi Fehri 1993: 118, ex. 56)

    d. *huwa   l-kasal-u*
       he   the-laziness-NOM
       'It is laziness.' (Fassi Fehri 1993: 118, ex. 57)

    e. *hiya   l-ḥayaat-u*
       she   the-life-NOM
       'It is life.' (Fassi Fehri 1993: 118, ex. 58)

To handle the agreement facts in the SV order, Fassi Fehri (1990, 1993) advances the following conjecture: the verb in this order always shows rich agreement (i.e. agreement in person, number and gender). The preverbal DP has two readings. In one reading, the preverbal DP is interpreted as a topic phrase, and in the other reading, the preverbal DP is interpreted as a subject. When the preverbal DP has a topic reading, then the rich agreement on the verb functions as a subject pronoun incorporated into the verb; when, on the other hand, the preverbal DP is interpreted as a subject, then rich agreement on the verb functions as a pure agreement marker. Thus, the affixes in (15–16) can be either incorporated pronouns or pure agreement markers depending on how the preverbal DP is interpreted.

(15) a. *ʔal-bint-u   jaaʔ-at.*
       the-girl-NOM   came-3FSG
       'The girl came. / The girl, she came.'

     b. *ʔal-banaat-u   jiʔ-na.*
       the-girls-NOM   came-3FPL
       'The girls came. / The girls, they came.'

(16) a. *ʔal-walad-u   jaaʔ-a.*
       the-boy-NOM   came-3MSG
       'The boy came. / The boy, he came.'

     b. *ʔal-ʔawlaad-u   jaaʔ-uu.*
       the-boys-NOM   came-3MPL
       'The boys came. / The boys, they came.'

As for why the verbal affix shows rich agreement when the preverbal DP is a subject, Fassi Fehri (1993: 112) claims that this is regulated by his proposed AGR criterion, as in (17).

(17) "(Rich) AGR is licensed by an NP in its Spec[ifier], and an N[oun]P[hrase] in Spec AGR is licensed by (rich) AGR."

To summarize, Fassi Fehri (1990, 1993) claims that subject verbal affixes in SA are functionally ambiguous in that they can either function as pure agreement markers agreeing with a subject, or they can function as incorporated pronouns.

Having discussed Fassi Fehri's (1990, 1993) functional ambiguity hypothesis of subject verbal markers in SA, the next section shows that some of the arguments that Fassi Fehri (1990, 1993) uses to make the case for the functional ambiguity hypothesis of subject verbal markers in SA are problematic once we consider the featural realization of these affixes in the morphological component of the grammar.

4. A DM analysis of subject verbal affixes in the past/perfect form and the present/imperfect form of SA

In what follows, I discuss the subject verbal markers in the past/perfect form and the present/imperfect form of SA using the framework of DM (Halle & Marantz 1993, 1994; Noyer 1997). I show that some of the verbal affixes, particularly those that realize the number feature, do not discharge all the phi-features of person, number and gender, contrary to the claim made in Fassi Fehri (1990, 1993).

The particular implementation of DM that I follow in this paper is that of Noyer (1997). According to Noyer (1997), when a given syntactic input is sent to morphology, one of the two principles in (18) will order the Vocabulary Items (i.e. the phonetic form and the features these forms discharge).

(18) a. "Panini's Principle: If one rule's structural description is contained in the other's, the rule with the more specific structural description applies first.

b. Feature Hierarchy: If the structural descriptions are disjoint or overlapping, then the rule referring to the hierarchically higher feature applies first." (Noyer 1997: 44)

To explain these two principles, which order the Vocabulary Items in the morphological component, we can present some hypothetical situations. Suppose, for example, that two Vocabulary Items have the feature [1], but that only of them discharges the number feature [PL]. In this scenario, the Vocabulary Item with the features [1 PL] should rank higher in the Vocabulary Item hierarchy than the Vocabulary Item with the feature [1]. This ranking is in essence an application of Panini's Principle. This is because the rule with the structural description [1 PL] is more specific than

the rule with the structural description [1]. Therefore, the rule with the structural description [1 PL] applies first. Suppose now that one Vocabulary Item has the features [1 PL] and the other has the features [PL F]. In this scenario, the two Vocabulary Items are overlapping or disjoint in the sense that no one rule is contained within (i.e. a subset) of the other. The principle that orders these two Vocabulary Items is the Feature Hierarchy hypothesis of Noyer (1997). In this hypothesis, Noyer (1997: 44) states that

> "all the rules can be aligned according to the principle that person features have greater priority than number features which in turn have greater priority than gender features".

In other words, any rule that discharges person features has a priority over any other rule that discharges number features, and any rule that discharges number features has a priority over any rule that discharges gender features. Given our second hypothetical scenario, a rule that discharges the features [1 PL] should rank higher than a rule which discharges the features [PL F], given that the first rule discharges a person feature, whereas the second one does not. Suppose now we have a scenario where one rule discharges the features [1], whereas the other discharges the features [PL F]. Here again the Feature Hierarchy hypothesis applies because the [person] feature has a priority over the [number] and [gender] features.

Having discussed the particular implementation of DM adopted in this paper, namely that of Noyer (1997), I begin with a discussion of the past/perfect form of verbal agreement in SA. Consider, for example, the past/perfect paradigm of the root *k-t-b* in (19), which bears the notion of writing, followed by the syntactic input to morphology and the ranking of Vocabulary Items of past/perfect subject verbal markers.[13]

(19)

	1	2	3
(M)SG	katab-***tu***	katab-***ta***	katab-***a***
(F)SG	katab-***tu***	katab-***ti***	katab-***at***
(M)SGPL[14]	katab-***naa***	katab-***tumaa***	katab-***aa***
(F)SGPL	katab-***naa***	katab-***tumaa***	katab-***ataa***
(M)PL	katab-***naa***	katab-***tum(uu)***	katab-***uu***
(F)PL	katab-***naa***	katab-***tunna***	katab-***na***

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[13] The term *Vocabulary Item* in DM technically means the phonological forms and the contexts of their insertion (see Embick & Noyer 2005: 7–8).

[14] Following Adger (2003: 27), I assume that the number feature [DU] is a compound feature, which is made up of the features [+ SG] and [+ PL].

The syntactic input to the morphological component of DM and the ranking of the Vocabulary Items in the morphological component are shown in (20).

(20)

Syntactic input to morphology	**Ranking of Vocabulary Items in the morphophonological component** (The phonetic forms + the syntactic features they discharge)
a. [[1 PL], [1 SG PL]]	/-naa/ ↔ [1 PL]
b. [1 SG]	/-tu/ ↔ [1]
c. [[2 SG PL M], [2 SG PL F]]	/-tumaa/ ↔ [2 SG PL][15]
d. [2 PL F]	/-tumna/ ↔ [2 PL F]
e. [2 PL M]	/-tumuu/ ↔ [2 PL]
f. [2 SG F]	/-ti/ ↔ [2 SG F]
g. [2 SG M]	/-ta/ ↔ [2]
h. [3 SG PL F]	/-ataa/ ↔ [SG PL F]
i. [3 SG PL M]	/-aa/ ↔ [SG PL]
j. [3 PL F]	/-na/ ↔ [PL F]
k. [3 PL M]	/-uu/ ↔ [PL]
l. [3 SG F]	/-at/ ↔ [F]
m. [3 SG M]	/-a/ ↔ Elsewhere

According to DM, lexical items (i.e. morphemes in the syntactic derivation) are no more than bundles of abstract features, which do not have a phonetic form. Furthermore, in this framework, lexical items come from the syntax fully specified for their features, but once they are sent to the morphological component, these features may or may not be fully realized morphophonologically. For example, the Vocabulary Item in (20b) shows that the lexical item is fully specified in the syntactic input for the features of person and number [1 SG]. However, in the morphological

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[15] Fassi Fehri (2000: 87) treats -*tumaa* as two separate morphemes, namely -*tum* and -*aa*. While this is true, I assume that the two morphemes are subject to the morphological process of fusion, which turns them into one morpheme before Vocabulary Insertion takes place. I also assume that fusion is responsible for turning the two morphemes -*tum* and -*na* into one morpheme before Vocabulary Insertion. This morpheme is phonetically pronounced as -*tunna* rather than -*tumna*. The morpheme -*tumuu* is phonetically realized as -*tum*. That -*uu* is underlyingly part of the morpheme is confirmed by the fact that when another suffix is added to it, the -*uu* part of the morpheme appears, as in *qatal-tumuu-hu* 'you killed him'. This approach is also in line with Aoun et al. (2010: 21), where -*tumaa*, -*tunna* and -*ataa* are treated as one morpheme.

component, the phonetic form /-*tu*/ realizes only a subset of the syntactic set of features, namely the person feature [1]. Similarly, the lexical item in (20k) is fully specified in the syntax as [3 PL M]. However, in the morphological component, the phonetic form /-*uu*/ realizes only a subset of the syntactic set, namely the number feature [PL].[16]

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[16] If, as I claim in (20), the gender feature is not realized on Vocabulary Items such as -*uu*, a reviewer inquired how such an analysis would account for cases of gender agreement or resolution in the following constructions:

(i)   *katab-uu*   *waaqif-ii-n.*
      wrote-3.PL   standing.up-PL.ACC-N
      'They wrote while standing up.'

(ii) *katab-na*   *waaqif-aati-n.*
      wrote-3.PL.F   standing.up-PL.F.ACC-N
      'They (female) wrote while standing up.'

(iii) *katab-uu*   *wa-katab-na*   *waaqif-ii-n.*
      wrote-3.PL   and-wrote-3.PL.F   standing.up-PL.ACC-N
      'They (male and female) wrote while standing up.'

Note that the Vocabulary Items in (20) should not be understood to mean that a lexical item such as -*uu* is not marked for gender. Instead, the Vocabulary Items in (20) are simply the morphophonological realizations of fully specified bundles of abstract features in the syntax. In other words, the syntactic analogue of -*uu* is fully specified as [3 M PL], but the morphophonological counterpart realizes only a subset of the syntactic feature complex, namely the number feature [PL]. Thus, the present participle *waaqif-iin* 'standing up' in (i) agrees with the fully specified feature complex in the syntax rather than with the morphological realization of these features in the morphological component. That is, this type of agreement occurs syntactically rather than postsyntactically. The same analysis carries over to (ii). As for the agreement in (iii), this sentence actually provides evidence for, rather than against, the DM analysis in (20). In this sentence, the subject of the first sentence *katabuu waaqifiin* 'they (m) wrote while standing up' is fully specified in the syntax as [3 M PL], while the subject of the second sentence *katabna waaqifaatin* 'they (f) wrote while standing up' is fully specified in the syntax as [3 F PL]. Given this clash in the features of the subjects of the two sentences, the accusative affix /-*iin*/ of the participle morphologically realizes the feature [PL]; it does not realize the gender feature [M]. Note that I am oversimplifying things because it could very well be the case that the participle is a predicate inside an adjunct clause whose subject is a null subject PRO (Non-obligatory PRO), and the latter inherits its features from the antecedents in the preceding sentences. In other words, the participle may actually be in agreement with a null subject PRO rather than with the incorporated subjects directly. The analysis of (iii) carries over to the following two other sentences provided by the reviewer:

(iv) *ʔal-kilaab-u*   *waaqif-at-un*   (*waaqif-uun*).

The Vocabulary items in (20) are ordered hierarchically in accordance with one or the other of the two principles stated in (18) above. Thus, the Vocabulary Item in (20a) ranks higher than the Vocabulary Item in (20b). This is in accordance with Panini's Principle given that [1 PL] is more specific than [1]. The Vocabulary Item in (20c) ranks higher than the Vocabulary Item in (20d). This is in accordance with the Feature Hierarchy Principle given that [number] has priority over [gender]. The Vocabulary Items in (20a) through (20g) rank higher than the rest of the Vocabulary Items in (20h) through (20m) because the former have [person] features, which are lacking in the latter.

To see how the above DM analysis casts doubt on Fassi Fehri's (1990, 1993) characterization of features on the verbal affixes in SA, consider one of the examples given by Fassi Fehri (1990, 1993) in (15b) above and repeated below as (21) for convenience.

(21) *Ɂal-banaat-u   jiɁ-na.*
       the-girls-NOM   came-3FPL
       'The girls came.'

Fassi Fehri (1990, 1993) argues that the verb in (21) shows the features of [person], [number], and [gender], as shown in the gloss. However, if we look at the Vocabulary Item in (20j), the suffix *-na* [PL F] does not actually realize the feature [person], but only [number] and [gender]. Similarly, consider (22).

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the-dogs-NOM   standing.up-F-NOM   (standing.up-PL.NOM)
'The dogs are standing up.'

(v)   *Ɂal-kilaab-u   wa-l-rijaal-u   waaqif-uun   (*waaqif-at-un)*.
       the-dogs-NOM   and-the-men-NOM   standing.up-PL.NOM   standing.up-F-NOM
       'The dogs and the men are standing up.'

Thus, the subject of (iv) is specified in the syntax as [3 F PL], and the participle agrees with this feature complex by simply realizing a subset of this feature complex in the morphological component, namely [F]. In (v), the first DP in the conjoined subject is fully specified in the syntax as [3 F PL], while the second DP in the conjoined subject is fully specified in the syntax as [3 M PL]. Given this clash in features, the participle morphologically realizes the form *-uun*, which realizes the feature [PL] only for the following reasons. First, the participle lacks the feature [person]; therefore, this feature cannot be morphologically realized on the participle. Second, in a situation where there is a clash between the two conflicting feature matrices [3 F PL] and [3 M PL], the participle realizes the form *-uun*, which is a realization of the feature [PL], which is part of the featural makeup of each of the two conflicting DPs inside the conjoined subject. Here again, the participle does not morphologically bear a gender [M] feature.

(22) *Ɂal-Ɂawlaad-u   jaaɁ-uu.*
      the-boys-NOM   came-3PLM
      'The boys came.'

Fassi Fehri (1990) would argue that the verb in (22) bears the agreement features of [person], [number] and [gender]. However, as the Vocabulary Item in (20k) above shows, the suffix *-uu* [PL] bears nothing more than a [number] feature.

   Having discussed the past/perfect form of the subject verbal markers in SA, I now offer the present/imperfect paradigm of the root for *k-t-b* in SA together with how the Vocabulary Items for these forms are ranked in DM.[17] The jussive mood of the verb is selected for illustration.

(23)

	1	2	3
SG(M)	*Ɂ-aktub-Ø*	*t-aktub-Ø*	*y-aktub-Ø*[18]
SG(F)	*Ɂ-aktub-Ø*	*t-aktub-ii*	*t-aktub-Ø*
SGPL(M)	*n-aktub-Ø*	*t-aktub-aa*	*y-aktub-aa*
SGPL(F)	*n-aktub-Ø*	*t-aktub-aa*	*t-aktub-aa*
PL(M)	*n-aktub-Ø*	*t-aktub-uu*	*y-aktub-uu*
PL(F)	*n-aktub-Ø*	*t-aktub-na*	*y-aktub-na*

The syntactic input to the morphological component of DM and the ranking of the Vocabulary Items in the morphological component are shown in (24).

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[17] The DM analysis of the SA imperfect/present form of the verb adopted in this paper is in essence that of Noyer (1997). For an alternative way of doing a DM analysis of the present/imperfect form of the verb in SA, the reader is referred to Halle (2000).

[18] The postulation of a zero morpheme /-Ø/ in the suffix position of the present/imperfect form of the verb in SA is dictated by Noyer's (1997: 56, 215) claim that suffix positions are obligatory in SA in the present/imperfect form of the verb.

(24)

Syntactic input to morphology	Ranking of Vocabulary Items in the morphophonological component (The phonetic forms + the syntactic features they discharge)		
a. [[1 PL], [1 SG PL]]	/n-/	↔ [1 PL]	/ Prefix
b. [1 SG]	/ʔ-/	↔ [1]	/ Prefix
c. [[2 SG M], [2 SG F]]	/t-/	↔ [2]	/ Prefix
d. [[2 SG M], [2 SG F]]	/-aa/	↔ [SG PL]	/ Suffix
e. [2 PL F]	/-na/	↔ [PL F]	/ Suffix
f. [3 PL M]	/-uu/	↔ [PL]	/ Suffix
g. [2 SG F]	/-ii/	↔ [SG F] (2)	/ Suffix[19]
h. [2 SG F]	/t-/	↔ [F][20]	
i. [3 SG M]	/y-/	↔ Elsewhere / Prefix	
j. [3 SG M]	/-Ø/	↔ Elsewhere / Suffix	

The first thing to note about the Vocabulary Items in (24) is that the agreement features of the imperfect/present form of the verb are split into prefixes and suffixes. This is the result of a morphological rule known as fission in DM. In the context of SA, this means that the agreement morpheme, which comes from the syntax in the form of a bundle of features, is fissioned in the morphological component, and the rule of fission applies to the morpheme before Vocabulary Insertion (on Fission in SA, see Noyer 1997; Halle 2000). Noyer (1997) and Halle (2000) state that when fission occurs, Vocabulary Insertion does not stop when a Vocabulary Item is inserted. Instead, Vocabulary Insertion continues until all the Vocabulary Items of a syntactic morpheme are inserted or all the features of a syntactic morpheme are discharged.

The ordering of Vocabulary Items in (24) follows the two principles stated in (18). Thus, the Vocabulary Item in (24a) ranks higher than the Vocabulary Item in (24b). This is in accordance with Panini's Principle given that [1PL] is more specific than [1]. As for the Vocabulary Item in (24d), it ranks higher than the Vocabulary Item in (24e). This is in accordance with the Feature Hierarchy Principle given that [number] is higher than [gender]. The same principles are followed in ordering the other Vocabulary Items in the hierarchy in (24).

Going back to Fassi Fehri's (1990, 1993) analysis, consider (25).

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[19] This Vocabulary Item should read as follows: the suffix -ii can only be inserted when the [2] feature is discharged first.

[20] Following Noyer (1997), I assume that there are two separate affixes which are homophonous. These are the prefix /t-/ [2] and the prefix /t-/ [F].

(25) *ʔal-ʔawlaad-u   y-alʕab-uu-n.*
      the-boys-NOM   3-play-MPL-INDIC
      'The boys are playing.'

Fassi Fehri (1990, 1993) would argue that verbal agreement markers (prefixes and suffixes) in (24) bear the features [person], [number] and [gender]. However, this position is untenable, given that the prefix *y-* in the above example is an elsewhere feature, as shown by (24i), while the suffix *-uu* discharges the feature [pl], as shown by (24f). In other words, these verbal affixes do not morphologically discharge all the phi-features of person, number and gender, contrary to the claim made in Fassi Fehri (1990, 1993).[21]

In section 4, I have used a number of diagnostics, which point to an agreement analysis of the subject verbal markers in SA. In section 5, I use other diagnostics, which point to a pronominal incorporation analysis of these markers.

5.   Evidence for the agreement analysis of subject verbal affixes in SA

In this section, I show that there is evidence to support the agreement analysis of subject verbal affixes. Let us begin with cases where there can be no functional ambiguity involved in the SV order, and where suffixes bearing the plural marker such as *-uu* and *-na* can only be interpreted as pure agreement affixes, rather than incorporated pronouns.

(a) Weak quantifier phrases, such as cardinal phrases cannot be topicalized (see Kearns 2011), as the ill-formedness of (26) indicates.

(26) **As for five men, they don't like to do this.*

Given this assumption, weak quantifier phrases can only be said to occupy the subject position (i.e. Spec, TP position). Assuming this, the subject verbal affixes in these structures can only be agreement markers. This is illustrated in (27).

(27) a. *xamsat-u   rijaal-in   faʕal-uu / *faʕal-a   haaðaa.*
         five-NOM   men-GEN   did-3MPL / did-3MSG   this.ACC
         'Five men did this.'

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[21] Fassi Fehri (2000: 93, fn. 28) suspects that rich agreement in SA might not morphologically discharge all phi-features. In his words, "Pers[on] may also not be expressed even with rich agreement".

   b. *ʕiddat-u*   *ʔašxaaṣ-in*   *faʕal-uu* / **faʕal-a*   *haaðaa.*
       several-NOM   persons-GEN did-3MPL / did-3MSG this.ACC
       'Several people did this.'

   c. *biḍʕ-u*   *nisaaʔ-in*   *y-afʕal-na-Ø* / **t-afʕal-Ø-u*   *haaðaa.*
       some-NOM   women-GEN 3-do-FPL-INDIC / F-do-FSG-INDIC this.ACC
       'Some women do this.'

On the assumption that the weak quantifiers in (27a–c) are subjects, the suffixes bearing the plural marker, namely *-uu* and *-na*, can only be interpreted as pure agreement markers.

     (b) Another case, where no functional ambiguity can be implicated is observed in the interaction between verbal affixes and preverbal DPs, when the latter are used as *wh*-words. Thus, it is well-established that *wh*-words universally encode the function of focus (Bresnan & Mchombo 1987: 58; Rizzi 1997). If this is true, then the verbal affix cannot be an incorporated pronoun anaphorically linked to a preverbal clitic left-dislocated element; if it did, the preverbal DP would function as both a topic and a focus phrase at the same time, which is impossible, as this creates a function clash (Bresnan & Mchombo 1987: 760). Therefore, the verbal affixes can only be agreement markers. Thus, the examples in (28) illustrate that only a verb with the plural number is possible; a verb lacking a plural number is ungrammatical.

(28) a. *ʔayy-u*   *ʔawlaad-in* *jaaʔ-uu*   / **jaaʔ-a?*
        what-NOM boys-GEN   came-3MPL / came-MSG
        'What boys came?'

     b. *ʔayy-u*   *banaat-in* *jiʔ-na*   / **jaaʔ-at?*
        what-NOM girls-GEN came-3FPL / came-FSG
        'What girls came?' (Jaḥfa 2006: 234, ex. 35)

On the assumption that the *wh*-phrases in (28) are subjects which raise to the specifier position of a focus phrase (FocP), the verbal suffixes *-uu* and *-na* can only be interpreted as agreement makers.

     Other cases, where the subject verbal affixes should be treated as agreement markers include the following:

     (a) Subject markers display a property, which characterizes canonical agreement, namely the fact that they are obligatory for all DPs (Corbett 2006: 14–15), as in (29a–b).

(29) a. *ʔal-ʔawlaad-u   jaaʔ-uu   / *jaaʔ-a.*
          the-boys-NOM   came-3MPL   **/** came-3MSG
          'The boys came.'

     b. *ʔayy-u   ʔawlaad-in   jaaʔ-uu   / *jaaʔ-a?*
         what-NOM boys-GEN   came-3MPL   / came-3MSG
         'What boys came?'

The example in (29a) shows that agreement is obligatory when the subject is definite; the example in (29b) shows that agreement is also obligatory when the subject is quantified indefinite.

    (b) Preminger (2009) shows that when the Agree relation between a probe and a goal fails for some reason (such as the existence in the structure of an intervening inactive goal), and a default morpheme surfaces, then the relevant morphemes are agreement morphemes. There are cases in SA, where Agree fails between a probe (T[ense]) and a goal (subject) due to the existence in the structure of an intervening element, here taken to be the exclusive particle, *ʔillaa* 'except'. In this kind of structures, a default morpheme surfaces on T, the latter hosts the lexical verb, which raises to it from v (also called little v in the generative literature). This is shown by the contrast in (30).

(30) a. *jaaʔ-uu.*
          came-3MPL
          'They came.'

     b. *maa jaaʔ-a/*-uu   ʔillaa   hum.*
         NEG came-3MSG/3MPL except they.M
         'No one came but them.' (with a deictic reading of *hum* 'they')

It is worth noting here that the agreement morpheme *-a* in (30b) is default agreement rather than poor/partial agreement (in gender), as the same morpheme surfaces even when the pronominal subject is marked for feminine gender. This is shown in (30c).

(30) c. *maa xaraj-a/*at   ʔillaa   hind-un.*
          NEG went.out-3MSG/3FSG   except   Hind.F-NOM
          'No one went out but Hind.' (Ibn Al-Anbari 11th c./1961: 174)

Given that the agreement relation is blocked in the structure in (30b–c), and the fact that a default morpheme surfaces instead, according to this diagnostic, it follows that the relevant morpheme, namely *-uu* in (30a), can only be treated as an agreement marker rather than an incorporated pronoun.

     (c) Fassi Fehri (1990, 1993) claims that the morphemes *-uu* and *-aa* in (31a–b) can in one of the readings of the sentence be treated as incorporated pronouns, which are coindexed with the preverbal topics, *Ɂal-Ɂawlaad* 'the boys' and *Ɂal-walad-aani* 'the two boys'.

(31) a. *Ɂal-Ɂawlaad-u   jaaɁ-uu.*
         the-boys-NOM   came-3MPL
         'The boys came. / The boys, they came.'

      b. *Ɂal-walad-aani   jaaɁ-aa.*
         the-boys-DU.NOM   came-3MDU
         'The two boys came. / The two boys, they came.'

Note, however, that the same morphemes also surface on adjectives in the noun phrases in (32a–b), which agree with the head nouns in number, gender, definiteness and case.

(32) a. *Ɂal-muʕallim-uu-n*   *Ɂal-muxliṣ-uu-n.*
         the-teachers-3MPL.NOM-N   the-honest-3MPL.NOM-N
         'the honest teachers'

      b. *Ɂal-muʕallim-aa-n*   *Ɂal-muxliṣ-aa-n.*
         the-teachers-3MDU.NOM-N   the-honest-3MDU.NOM-N
         'the two honest teachers'

If this is the case, then it cannot be that the adjectives in (32a–b) have pronouns incorporated into them. Instead, the most natural assumption is that the morphemes *-uu* and *-aa* on adjectives mark agreement with the head nouns in the same way that the morphemes are found in the verbal stems to mark agreement with their subjects. According to Corbett (2006: 23), one of the canonical features of agreement systems is the fact that the same morphemes surface in different domains, here taken to be the phrasal and clausal domains.

     (d) Another piece of evidence supporting the agreement analysis of subject affixes is that some of these affixes are sensitive to the category of

their hosts (Zwicky & Pullum 1983: 503). Thus, these affixes can only attach to verbs (technically the functional head Tense) (33a), but cannot attach to nouns (33b), prepositions (33c) or adjectives (34d).

(33) a. *jiʔ-na.*
          came-3FPL
          'They (f) came.'

      b. **muʕallim-na*
          teacher-3FPL

      c. **la-na*
          for-3FPL

      d. **mujtahid-na*[22]
          hard.working-FPL

(e) There are lexical gaps in the set of lexical items that host these affixes, a property, that, according to Zwicky and Pullum (1983: 504), characterizes agreement affixes. This is shown in (34).

(34) a. *jiʔ-tumaa.*   c. *jaaʔ-aa.*
          came-2DU   came-3MDU
          'Both of you came.'   'Both of them (m) came.'

      b. *jaaʔ-ataa.*   d. **jiʔ-aa.*
          came-3FDU   came-3MDU
          'Both of them (f) came.'   Intended: 'We both came.'

The examples in (34) show that the number feature (dual) is morphologically realized in the second person (34a) and third person (34b–c), but not the first person (34d). The fact that there are lexical gaps in the set of items that host these affixes suggests that they are pure agreement markers.

      (f) Another argument supporting the agreement analysis of subject affixes comes from the fact that these affixes sometimes cause phonological changes to the host, a property, that, according to Caink

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[22] Adjectives are not specified for a person feature, hence the lack of this feature in the gloss.

(2006: 492), characterizes agreement affixes but not incorporated pronouns. This is shown in (35).

(35) a. *baaʕ-a*
     sold-3MSG
     'he sold'

c. *baaʕ-uu*
   sold-3MPL
   'they (m) sold'

b. *baaʕ-at*
   sold-3FSG
   'she sold'

d. *baaʕ-aa*
   sold-3MDU
   'they (m) both sold'

e. *baaʕ-ataa*
   sold-3FDU
   'they (f) both sold'

f. *biʕ-na*
   sold-3FPL
   'they (f) sold'

The examples in (35) show that the phonological form of the stem is the same in (35a–e). However, when then suffix *-na* is added, the stem has a different phonological form, as shown in (35f).

(g) Another argument for the agreement status of verbal affixes comes from a criterion called the 'Balance of information' in Corbett (2006: 175). According to this criterion, pronominal affixes index the same number of features and feature values as those of an NP and free pronouns. Agreements affixes, on the other hand, may index features that are not reflected in the controlling argument, or that the controlling argument may have features that are not reflected or fully reflected in the agreement affix. Applied to SA, this criterion also points to the agreement status of verbal affixes. To illustrate, let us consider the examples in (36).

(36) a. *ʔal-nisaaʔ-u   jiʔ-na*
       the-women-NOM   came-FPL
       'The women came.'

b. *ʔal-ʔawlaad-u   jaaʔ-uu.*[23]
   the-boys-NOM   came-PL
   'The boys came.'

The example in (36a) shows that the verbal affix does not fully index all the phi-features of the lexical DP subject. The verbal affix encodes the

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[23] In (36), the glossing reflects the morphological realization rather than the syntactic feature specification of the affixes.

features of number [plural] and gender [feminine] but not person. The verbal affix in (36b) indexes only the number [plural] feature of the postverbal lexical subject. It is crucial to note here that the affixes do not morphologically realize all the features of the controlling argument. They do, however, bear all the features of the controlling argument in the syntactic component.

To summarize, I have shown that a number of diagnostics suggest that the subject verbal affixes are pure agreement markers. In the next section, I consider other diagnostics, which suggest that subject verbal affixes are pronominal affixes.

6.   Evidence for the incorporation analysis of subject verbal markers

Having discussed the evidence for an agreement analysis of subject verbal affixes, I now consider other evidence, which supports a pronominal analysis of these affixes. Corbett (2006: 172–180) offers a number of criteria to distinguish pronominal affixes from agreement affixes. These criteria are as follows:

(a) Case roles: According to this criterion, agreement affixes normally index only one argument. By contrast, pronominal affixes typically index all the main arguments of the sentence. Applied to SA, this criterion points to the pronominal status of affixes, which mark the subject in SA. This is illustrated in (37).[24]

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[24] Aoun et al. (2010: 78–80) argue against the incorporation analysis of subject verbal markers in SA. They claim that affixes such as /-uu/ and /-na/ are pure agreement markers. To account for the well-known asymmetry in agreement between the SV order and the VS order in SA, they adopt the theory of Benmamoun (2000). In this study, Benmamoun argues that the reason why the verb in the VS order lacks number agreement has to do with the fact that at the morphological (i.e. postsyntactic) level of the grammar, the verb forms a phonological unit with the subject such that the subject realizes the number feature. This makes the realization of the number feature on the verb redundant. This analysis, as the authors acknowledge, has its own shortcomings. Some of the shortcomings of the morphological merger analysis that the authors note are the following: first, the analysis is based on the stipulation that merger between the verb and the subject occurs only in the VS order but not in the SV order. Second, in cases where the object intervenes between the verb and the subject, the authors have to claim that both the object and the subject form a phonological unit with the verb.

Soltan (2007, 2011) adopts a null *pro* analysis to account for the agreement asymmetry. Thus, in cases where the verb bears affixes that encode the plural number, as is the case with /-uu/ and /-na/, Soltan claims that these affixes are pure agreement

markers, which identify a postverbal null subject, *pro*. As for agreement in the VS order, Soltan claims that the affixes lack the plural number feature because the verb shows a default agreement in person and number. As for why the verb still shows the gender feature in the VS order, Soltan (2007) claims that this is due to the fact that gender can probe separately from person and number. For Soltan, the preverbal DP in the SV order is a topic phrase. This analysis rests on the assumption that agreement in number occurs only when the subject is a null *pro*. However, as shown in Fassi Fehri (1990), there is no distinction between agreement with pronouns and agreement with overt lexical NPs since the asymmetry is attested in both cases. This means that agreement in number is realized on the affix only in the SV order regardless of whether the subject is a lexical DP or a pronominal DP. To illustrate, Fassi Fehri (1990: 104) provides the examples in (i–ii).

(i)   a.   *ʔal-nisaaʔ-u   nabiil-aat-un   /   *nabiil-at-un.*
              the-women-NOM   noble-FPL-NOM   /   noble-FSG-NOM
              'The women are noble.'

       b.   *ʔa-nabiil-at-un   l-nisaaʔ-u?*
              Q-noble-FSG-NOM   the-women-NOM
              'Are the women noble?'

(ii)   a.   *ʔantunna   nabiil-aat-un.*
              you.FPL.NOM   noble-FPL-NOM
              'You (FPL) are noble.'

       b.   *ʔa-nabiil-at-un   ʔantunna?*
              Q-noble-FSG-NOM   you.FPL.NOM
              'Are you (FPL) noble?'

The examples in (i) show that there is a plural agreement in the DP + adjective order, but plural agreement is lacking in the adjective + DP order. This is the case when the DP is a lexical DP. The examples in (ii) show that the same agreement asymmetry is observed when the DP is a pronominal DP. Based on examples like these, Fassi Fehri (1990) concludes that there is no distinction between agreeing with lexical DPs and agreeing with pronominal DPs since in both cases, the same asymmetry is observed. Note that the same asymmetry is also observed in other cases such as the DP + participle vs. participle + DP orders, as is shown by the examples in (iii–iv) (the examples in iiib–ivb are from Al-Astrabaði 13th c./1996: 127):

(iii) a.   *humaa   qaaʔim-aan   /   *qaaʔim-un.*
              they.MDU.NOM   standing.up-MDU.NOM / standing.up-MSG.NOM
              'The two of them are standing up.'

       b.   *ʔa-qaaʔim-un   humaa?*
              Q-standing.up-MSG.NOM   they.MDU
              'Are they standing up?'

(iv)   a.   *ʔantumaa   qaaʔim-aan   /   *qaaʔim-un.*
              you.MDU.NOM   standing.up-MDU.NOM / standing.up-MSG.NOM
              'You two are standing up.'

(37) a. *jaaʔ-uu.*
          came-3MPL
          'They came.'

      b. *katab-uu-hu.*
          wrote-3MPL-it.ACC
          'They wrote it.'

      c. *ʔaʕṭaa-n-ii-hi.*
          gave.3MSG-N-me-IT.acc
          'He gave it to me.' (Classical Arabic)

The examples in (37) clearly show that the verbal affix can index one argument (37a), two arguments (37b) and three arguments (37c). Based on this criterion, these verbal affixes are pronominal affixes rather than agreement affixes.

(b) Referentiality: According to this criterion, agreement affixes have the lowest degree of referentiality, whereas pronominal affixes are frequently referential. Applied to SA, this criterion also points to the pronominal status of verbal affixes, as these affixes are referential. This is illustrated in (38).

(38) a. *jaaʔ-uu.*   d. *jiʔ-naa.*
          came-3MPL   came-1PL
          'They came.'   'We came.'

      b. *jaaʔ-aa.*   e. *jiʔ-tunna.*
          came-3MDU   came-2FPL
          'They (m) both came.'   'You (pl.f) came.'

      c. *jaaʔ-at.*
          came-3FSG
          'She came.'

The examples in (38) show that the verbal affixes which encode first, second and third person in SA can stand on their own and are referential in that they index the verbal arguments.

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      b. *maa   qaaʔim-un   ʔantumaa.*
          NEG   standing.up.MSG-NOM   you.MDU
          'You two are not standing up.'

(d) Multirepresentation versus unirepresentation: This criterion refers to the degree to which the same referent in the clause is indexed by more than one element. According to this criterion, pronominal affixes represent unirepresentation or dropping of the full DP in the presence of the pronominal affix. In contrast, agreement affixes represent multirepresentation, where the full DP is present and its features are indexed on one or more elements in the clause. Applied to SA, this leads to the suggestion that some verbal affixes are pronominal affixes, whereas others are agreement affixes. This is illustrated by the contrast in (39).

(39) a. *jaaʔ-uu*   (**l-rijaal-u*).
          came-3MPL   the-men-NOM
          'They came.'

      b. *jaaʔ-at*   *l-nisaaʔ-u.*
          came-3FSG   the-women-NOM
          'The women came.'

      c. *jaaʔ-at.*
          came-3FSG
          'She came.'

The example in (39a) shows that the verbal affix *-uu* can encode the main referent in the clause, and that the lexical DP is obligatorily dropped. By contrast, the example in (39b) shows that the verbal affix *-at* indexes the plural referent of the clause, *l-nisaaʔ* 'the women', and the DP cannot be dropped while maintaining the same meaning. When the postverbal DP is dropped, as in (39c), the verbal affix can only refer to a singular third person female human (or non-human) referent. On the basis of these examples and the criterion in question, it seems that the evidence indicates that the verbal affix *-uu* has a pronominal nature in (39a), whereas the verbal affix is an agreement affix in (39b) but a pronominal affix in (39c).

Another diagnostic is proposed in Zwicky and Pullum (1983: 506) according to which clitics, but not inflectional affixes, can attach to material already containing clitics. Applied to SA, this suggests that subject affixes in SA are pronominal since they can attach to hosts that already contain clitics. This is shown in (40).

(40) *katab-uu-haa.*
        wrote-PL-it.F.ACC

'They wrote it.'

On the assumption that the object clitic, *-haa* in (40) is attached to the lexical head V(erb), this suggests that the subject affix *-uu* is attached to T later in the derivation. If this is the case, then it follows that the subject affix must be pronominal rather than inflectional, since only the former can attach to hosts already containing clitics.

      To summarize, in section 5, I have shown that there are diagnostics, which suggest that the subject verbal affixes are pure agreement markers. In section 6, I have shown that there are other diagnostics, which suggest a pronominal analysis of the subject verbal markers. This indicates that the status of the subject verbal markers is indeed ambiguous, as was first proposed in Fassi Fehri (1990, 1993).

7. Object verbal affixes as clitics

Fassi Fehri (1990: 105) argues that assuming an incorporation analysis of subject verbal markers is conceptually desirable given the fact that object agreement features are clearly "incorporated pronouns". However, this is not entirely true, as object verbal affixes seem to be better treated as clitics rather than as incorporated pronouns.[25] To see why, let us consider the examples of object agreement markers in (41–43).

(41) a. *y-aḍribu-n-ii.*
       3-hit-N-me
       'He hits me.'

     b. *kitaab-ii*
       book-my
       'my book'

     c. *l-ii*

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[25] A reviewer suggests that the claim that object verbal markers are clitics is not new. The reviewer states that Musabhien (2008) "*names* the object verbal affixes as pronominal object clitics" [emphasis added]. It is true that object verbal markers are treated as clitics in Musabhien (2008), but the difference between this paper and the work of Musabhien (2008: 223–270) is that the status of object verbal markers as clitics is assumed rather than argued for in Musabhien (2008). This differs from the current paper, where the status of object verbal markers as clitics is argued for rather than assumed.

for-me
'for me'

(42) a. *ʔ-aḍribu-ka*
          1SG-hit-you.MSG
          'I hit you.'

      b. *kitaabu-ka*
          book-your.MSG
          'your book'

      c. *la-ka*
          for-you.MSG
          'for you'

(43) a. *ʔ-aḍribu-hu*
          1SG-hit-him
          'I hit him.'

      b. *kitaabu-hu*
          book-his.MSG
          'his book'

      c. *la-hu*
          for-him.MSG
          'for him'

A number of things can be noted with regards to object verbal markers (i.e. first, second and third object verbal markers, and the same applies to all other forms of object verbal markers). First, they can attach to any host, be it a verb, a noun or a preposition. This clearly shows that object verbal markers in SA are not exactly incorporated pronouns, but are rather clitics, as it is a signature property of clitics that they are insensitive to the category of their hosts (Halpern 1998: 106).[26]

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[26] Gerdts (1998: 84) discusses noun incorporation and states that "[m]uch less is known about pronoun incorporation, due largely to the difficulty of distinguishing incorporation from agreement or cliticization". However, object markers in SA do not seem to share properties that are characteristic of noun incorporation. For example, Sadock (2006: 585) states that "the more animate a noun is, the harder it is to incorporate, and the more definite it is, the harder it is to find in a N[oun]I[incorporation] structure". Neither of these properties applies to object markers

Second, object verbal markers are in complementary distribution with other lexical DP arguments, a property which, according to Halpern (1998: 105), characterizes clitics. This is illustrated in (44), where the sentence is grammatical with only the object verbal marker, but ungrammatical when a lexical DP object is also used.

(44) *kallam-tu-haa*   (**l-bint-a*).
      spoke-1SG-her.ACC   the-girl-ACC
      'I spoke to her.'

Third, clitics may be optional (Nevins 2011: 961). This is borne out in SA, where there are certain contexts in which the object marker is optional, as in (45).

(45) *Ɂal-kitaab-a   qaraɁ-tu-(hu)*.
      the-book-ACC   read-1SG-it.ACC
      'It was the book that I read.'

Fourth, clitics appear outside of inflectional morphology, or appear adjacent to the stem, but not between inflectional suffixes (Woolford 2010; Nevins 2011). This is borne out in SA, as is shown in (46).

(46) *katab-at-hu   zaynab-u.*
      wrote-3FSG-it.ACC   Zaynab-NOM
      'Zaynab wrote it.'

Given the co-occurrence of a lexical postverbal subject, the *-at* suffix can only be considered an agreement morpheme in (46), and the affix *-hu* appears outside of it. This is an indication that the affix *-hu* is a clitic rather than an incorporated pronoun.

Fifth, object verbal markers exhibit another property of clitics, namely, they form a cluster with a fixed order such that the person of the clustered object markers must follow the following hierarchy: 1< 2< 3 (Ibn S-sarraaj 10th c./1996: 117–118; Fassi Fehri 1993: 104). This is illustrated by the examples in (47–49), which show that the first person object verbal marker must precede the second, and the latter must precede the third person object verbal marker; otherwise, the sentence is ill-formed.

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in SA, which attach to their host regardless of their animacy and despite the fact that they are all definite.

(47) a. *ʔaʕṭaa-ka-hu*   *l-ʔustaað-u.*   (2 > 3)
          gave.3MSG-you-him   the-teacher-NOM
          'The teacher gave you him.'

      b. **ʔaʕṭaa-hu-ka*   *l-ʔustaað-u.*   *(3 > 2)
          gave.3MSG-him-you   the-teacher-NOM
          'The teacher gave him you.' (Fassi Fehri 1993: 104, ex. 21a)

(48) a. *ʔaʕṭaa-n-ii-ka*   *l-ʔustaað-u.*   (1 > 2)
          gave.3MSG-N-me-you   the-teacher-NOM
          'The teacher gave me you.'

      b. **ʔaʕṭaa-ka-n-ii*   *l-ʔustaað-u.*   *(2 > 1)
          gave.3MSG-you-N-me   the-teacher-NOM
          'The teacher gave you me.' (Fassi Fehri 1993: 104, ex. 21b)

(49) a. *ʔaʕṭaa-n-ii-hi*   *l-ʔustaað-u.*   (1 >3)
          gave.3MSG-N-me-him   the-teacher-NOM
          'The teacher gave me him.'

      b. **ʔaʕṭaa-hu-n-ii*   *l-ʔustaað-u.*   *(3 >1)
          gave.3MSG-him-N-me   the-teacher-NOM
          'The teacher gave him me.' (Fassi Fehri 1993: 104, ex. 21c)

Sixth, the behavior of object verbal affixes differs from that of subject verbal affixes, which can only attach to verbs, as shown in (50).

(50) a. *jiʔ-tu.*
          came-1SG
          'I came.'

      b. **kitaabu-tu*
          book-1SG
          Intended meaning 'my book'

      c. **li/a-tu*
          for-1SG
          Intended meaning 'for me'

The examples in (50) show that the subject verbal affix, *-tu* (and the same applies to all other subject verbal affixes) can only attach to verbs, as in (50a); it cannot attach to nouns or prepositions, as in (50b–c). It follows,

therefore, that subject verbal affixes are of a different nature from object verbal affixes.

To summarize, I have provided evidence to suggest that the object verbal markers in SA are better treated as clitics rather than incorporated pronouns, contrary to the claim made in Fassi Fehri (1990, 1993).

8. Conclusion

I have shown that traditional Arab grammarians treat some subject verbal affixes as agreement markers, and others as bound pronouns. I have shown that their approach is different from Fassi Fehri's (1990, 1993) functional ambiguity hypothesis of subject verbal affixes in SA. I have argued that the functional ambiguity hypothesis is indeed valid, contrary to the claims made in Aoun et al. (2010) and to the almost unanimous treatment of these affixes as pure agreement markers. Using DM, I have demonstrated that some of Fassi Fehri's (1990, 1993) arguments with regard to the morphological realization of the featural make-up of subject verbal affixes are not robust, once we consider the morphological realization of affixes. I have also shown that object verbal affixes are better treated as clitics rather than incorporated pronouns, contrary to the proposal made in Fassi Fehri (1990, 1993).

References

Adger, David (2003) *Core Syntax: A Minimalist Approach*. Oxford: Oxford University Press.

Al-Astrabaði, Al-Raḍi (13th c./1996) *Šarḥu Ar-Raḍi li-Kafiyati l-ḥaajibi, Al-mujalladu l-Awwalu* [Ar-Raḍi's interpretation of Al-Haajib's [book] Al-Kafiya Vol.1]. Saudi Arabia: Al-Iimam Mohammad Bin Suʕuud University Press.

Al-Balushi, Rashid (2011) *Case in Standard Arabic: The Untravelled Paths*. Unpublished doctoral dissertation. University of Toronto.

Al-Saaʕidi, suʕuud (2009) *ʔal-ḍamiiru l-mustatiru fii l-darsi l-naḥawi* [The Covert/Hidden Pronoun in the Grammatical Lesson]. Unpunblished doctoral dissertation. University of Um Al-Quraa.

Aoun, Joseph; Benmamoun, Elabbas & Choueiri, Lina (2010) *The Syntax of Arabic*. Cambridge: Cambridge University Press.

Benmamoun, Elabbas (2000) *The Feature Structure of Functional Categories: A Comparative Study of Arabic Dialects*. Oxford: Oxford University Press.

Bergsträsser, Gotthelf (1929/1994) *ʔal-taṭawuru l-naḥawi li-lluǧati l-ʕarabiyati, Al-ṭabʕatu l-ṯaaniyatu* [The Grammatical Development of Arabic, second edition]. Translated by Ramaḍaan Abdultawaab. Cairo: ʔal-Khaniji Publishing Company.

Bresnan, Joan W. & Mchombo, Sam A. (1987) Topic, pronoun and agreement in Chichewa. *Language* 63 (4): 741–782.

Caink, Andrew D. (2006) Clitics. In Keith Brown (ed.), *The Encyclopedia of Language and Linguistics*, second edition, pp. 491–495. Oxford: Elsevier.

Chomsky, Noam (1981) *Lectures on Government and Binding*. Dordrecht: Fortis.

Corbett, Greville G. (2006) *Agreement*. Cambridge: Cambridge University Press.

Embick, David & Noyer, Rolf (2005) Distributed morphology and the syntax/morphology interface. In Gillian Ramchand & Charles Reiss (eds.), *The Oxford Handbook of Linguistic Interfaces*, pp. 1–28. Oxford: Oxford University Press.

Fassi Fehri, Abdelkader (1990) *ʔal-binaaʔu l-muwaazi: Naḏariytun fii binaaʔi l-kalimati wa l-jumlati* [The Parallel Structure: A Theory of Word and Sentence Structures]. Casablanca: Tuubqaal Publishing House.

—— (1993) *Issues in the Structure of Arabic Clauses and Words*. Dordrecht: Kluwer Academic Publishers.

—— (2000) Distributing features and affixes in Arabic subject verb agreement paradigms. In Jacqueline Lecarme, Jean Lowenstamm & Ur Shlonsky (eds.), *Research in Afro-Asiatic Grammar*, pp. 79–100. Amsterdam: John Benjamins.

—— (2012) *Key Features and Parameters in Arabic Grammar*. Amsterdam: John Benjamins.

Gerdts, Donna (1998) Incorporation. In Andrew Spencer & Arnold M. Zwicky (eds.), *The Handbook of Morphology*, pp. 84–100. Oxford: Blackwell Publishers.

Halle, Morris (2000) Distributed morphology: Impoverishment and fission. In Jacqueline Lecarme, Jean Lowenstamm & Ur Shlonsky (eds.), *Research in Afro-Asiatic Grammar*, pp. 125–148. Amsterdam: John Benjamins.

Halle, Morris & Marantz, Alec (1993) Distributed morphology and the pieces of inflection. In Ken Halle & Samuel Jay Keyser (eds.), *The View from Building 20*, pp. 111–176. Massachusetts: MIT Press.

—— (1994) Some key features of Distributed Morphology. *MIT Working Papers in Linguistics* 21: 275–288.

Halpern, Aaron (1998) Clitics. In Andrew Spencer & Arnold M. Zwicky (eds.), *The Handbook of Morphology*, pp. 101–122. Oxford: Blackwell Publishers.

Ibn Al-Anbari, Abdulraḥmaan Ibn Muḥammad (11th c./1961) *Al-Insaafu fii masaaʔili l-khilaafi bayna l-naḥawiina l-Baṣriyiina wa l-Kuufiyiina, Al-ṯabʕatu l-raabiʕatu* [The Proper Judgment on the Issues of Contention between the Basran and the Kufan Grammarians, fourth edition]. Cairo: Al-Saʕaada Publishing Company.

Ibn Maḍaaʔ, Abulʕabaas (12th c./1979) *ʔar-raddu ʕalaa l-nuḥaati* [A Reply to Grammarians]. Cairo: Daaru l-ʔiʕtiṣaam.

Ibn S-sarraaj (10th c./1996) *Al-ʔuṣuulu fii n-naḥwi, Al-ṯabʕatu l-ṯaaliṯatu, Al-mujalladu l-ṯaanii* [The Principles of Grammar, Vol. 2, third edition]. Beirut: Al-Resalah Publishing Company.

Ibn-Yaʕiš (13th c./n.d.) *Šarḥu l-mufaṣṣali, Al-mujalladu l-ṯaaliṯu* [Interpreting the Detailed Book [of Az-Zamaxshari], Vol. 3]. Egypt: Al-Muniiriyya Publishing Company.

Jaḥfa, ʕabdilmajiid (2006) *Dilaalatu Z-zamani fii l-ʕarabiyati: diraasatu l-nasaqi Z-zamanyyi li-l-ʔafʕaali* [The Semantics of Tense in Arabic: A Study of the Temporal Patterning of Verbs]. Casablanca: Tuubqaal Publishing Company.

Jamary, Abderrahim (1993) *Clitic Phenomena in Arabic*. Unpublished doctoral dissertation. University of London.

Kearns, Kate (2011) *Semantics*, second edition. Hampshire, UK: Palgrave Macmillan.

Kouloughli, Djamel (2007) Sur la valeur du tanwiin: Nouvelle contribution à l'étude du système determinative de l'arabe. *Arabica* 54: 94–131.

Mohammad, Mohammad (1990) The problem of subject-verb agreement in Arabic: Towards a solution. In Mushira Eid (ed.), *Perspectives on Arabic Linguistics I*, pp. 95–125. Amsterdam: John Benjamins.

—— (2000) *Word Order, Agreement, and Pronominalization in Standard and Palestinian Arabic*. Amsterdam: John Benjamins.

Musabhien, Mamdouh (2008) *Case, Agreement and Movement in Arabic: A Minimalist Approach*. Unpublished doctoral dissertation. Newcastle University.

Nevins, Andrew (2011) Multiple agree with clitics: Person complementarity vs. omnivorous number. *Natural Language and Linguistic Theory* 29: 939–971.

Noyer, Rolf (1997) *Features, Positions, and Affixes in Autonomous Morphological Structure*. New York: Garland Publishing.

Preminger, Omer (2009) Breaking agreements: Distinguishing agreement and clitic doubling by their failures. *Linguistic Inquiry* 40: 619–666.

Rizzi, Luigi (1997) The fine structure of the left periphery. In Liliane Haegeman (ed.), *Elements of Grammar*, pp. 281–337. Dordrecht: Kluwer Academic Publishers.

Sadock, Jerrold M. (2006) Incorporation. In Keith Brown (ed.) *The Encyclopedia of Language and Linguistics*, second edition, pp. 584–587. Oxford: Elsevier.

Soltan, Usama (2007) *On Formal Feature Licensing in Minimalism: Aspects of Standard Arabic Morphosyntax*. Unpublished doctoral dissertation. University of Maryland, College Park.

—— (2011) On issues of Arabic syntax: An essay in syntactic argumentation. *Brill's Annual of Afroasiatic Languages and Linguistics* 3: 236–280.

Woolford, Ellen (2010) Active-stative agreement in Choctaw and Lakota. *Revista Virtual de Estudos da Linguagem* 8: 6–46.

Zwicky, Arnold & Pullum, Jeffery (1983) Cliticization vs. inflection: English *n't*. *Language* 59: 502–513.

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