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Arabic Profession-Denoting Nouns and Gender: A Morphosyntactic Analysis of Agreement

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***Abstract*—The goal of this paper is to present a minimalist feature-based analysis that captures the verbal agreement triggered by female referent profession-denoting nouns in Modern Standard Arabic. In this language, nouns are classified as masculine or feminine based on the natural gender of their referents. Masculine nouns trigger masculine agreement on verbs, whereas feminine nouns trigger feminine agreement. However, some profession-denoting nouns are sometimes gender-neutralized; a masculine noun could be used when the natural gender of its referent is female. In this case, the masculine noun triggers feminine agreement on the verb. This unexpected type of agreement requires analysis under the latest assumptions of the Minimalist Program. The paper shows that the gender-neutralized nouns are initially selected from the numeration and introduced into the derivation with their gender feature specified as feminine. After their features are valued in narrow syntax, these nouns undergo a post-syntactic morphological operation that targets and deletes the feminine morphemes, leaving behind the masculine roots.**

***Index Terms*—Agree, Arabic, φ-features, gender, Minimalism**

I. Introduction

The correlation between gender and language is a hotly debated issue in the field of linguistics; it is a salient topic that is intensely researched in various areas such as typology (Corbett, 1991; Corbett & Fedden, 2016), sociolinguistics (Lakoff, 1975), morphosyntax (Kramer, 2015, 2016), language acquisition (Hopp, 2016) and translation (Flotow, 1997). Gender is defined as classifying nouns into two classes that determine the grammatical forms of associate words such as verbs, demonstratives and modifying adjectives in a grammatical context. In such a case, it is referred to as grammatical gender. Grammatical gender assigned to nouns is heavily dependent on natural gender (the biological sex of the referent). A male referent noun is assigned masculine grammatical gender, whereas a female referent noun is assigned feminine grammatical gender. This system of grammatical gender assignment is referred to by Corbett (1991) as the semantic system. However, grammatical gender is not only dependent on natural gender. Corbett (1991) identifies a different system that he calls the formal system; according to this system, grammatical gender is assigned to nouns based on their morphological or phonological properties.

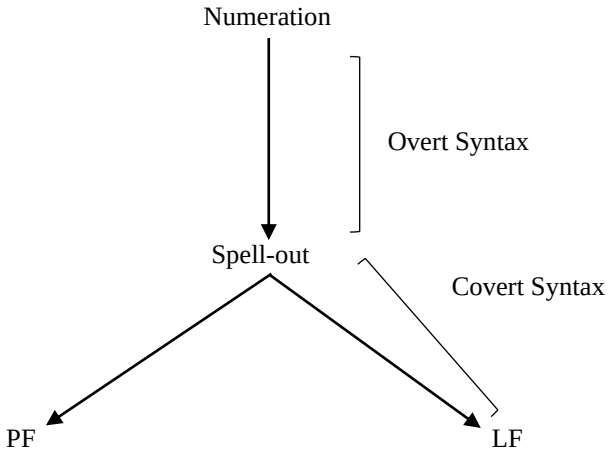
Gender feature is prominent in Modern Standard Arabic (MSA); nouns fall into two gender classes based on the semantic value of gender or the morphological form: masculine and feminine. The class of gender on the noun controls agreement on the verb as we shall see in section 3 below. In this work, we focus on MSA profession-denoting nouns used to refer to men and women. Typically, these nouns are classified as masculine and feminine. However, it is observed that some profession-denoting nouns are undergoing a process of gender neutralization where the masculine form has become used to refer to both men and women. Although the form is masculine, it triggers feminine agreement when it has a female referent. This study concerns itself with unexpected agreement patterns where a masculine noun triggers feminine agreement on the verb. It adopts the latest assumption within the Minimalist framework as developed in Chomsky (1995 and later) and shows that these nouns are introduced in their structure as feminine. After their features, including gender, are valued under Agree in the narrow syntax, the feminine gender-marking morpheme is deleted at the PF interface level; we adopt Arregi and Nevins' (2007) notion of *obliteration*, which is developed within Distributed Morphology to refer to a post-syntax operation that deletes a morpheme from the structure of a word. The rest of the paper is structured as follows. Section 2 reviews the theoretical framework. Section 3 introduces MSA data and demonstrates that grammatical gender is dependent on natural gender and how grammatical gender is assigned to inanimate nouns. Section 4 discusses the literature on gender and syntactic agreement and represents our proposed analysis. Section 5 concludes the paper.

II. Theoretical Framework

Gender feature on nouns is certainly relevant to syntax as it participates in agreement that is morphologically manifested on verbs and plays a major role in deriving structures. Within Chomsky's framework of the linguistic theory, the features of person, number and gender collectively referred to as phi-features (φ-features) play a crucial role in the derivation. Under the most recent assumptions of the Minimalist Program (MP) adopted in this paper, these features are specified in the lexicon. Depending on whether they contribute to the semantic interpretation of the lexical item or not, they are introduced differently. When φ-features appear on nominals, they contribute to the interpretation of these nominals. Therefore, they are described as interpretable φ-features. Quite the opposite, φ-features on functional heads such as v, T and C are uninterpretable φ-features because they do not contribute to the interpretation. The classification of φ-features as interpretable and uninterpretable results in representing them in the lexicon as valued and unvalued, respectively. Building structure is feature-based and it takes place within the computational system that has the valued and unvalued sets of φ-features as the underlying force that triggers the computation to build structures during the stages of the derivation and representation. The derivation is initiated by the need to value and delete the unvalued uninterpretable features as they cannot be handled by the interfaces; the Full Interpretation Principle (Chomsky, 1995) requires that all the unvalued φ-features that do not contribute to the semantic interpretation of the lexical items be deleted before they reach the representation PF and LF interface levels.

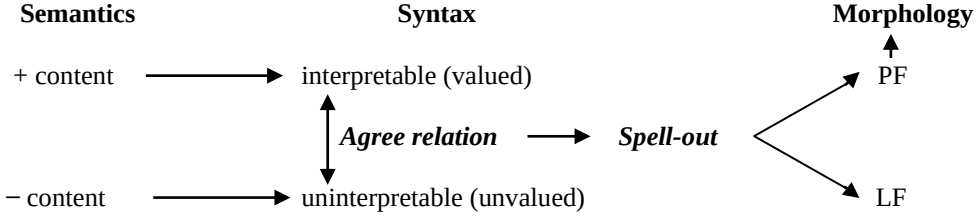
The computational system has four components involved in the process of φ-features valuation, interpretation and association with morph-phonological forms. This structure-building system starts operating from the Numeration where the lexical items with their φ-features, that have been selected from the lexicon, are placed before they enter the derivation. The diagram (1) below illustrates the components of the computational system.

(1)



Derivation takes place mainly within overt syntax. The selected lexical items in the Numeration undergo the operation Merge. Then, the operation Agree takes place to value the uninterpretable φ-features. Subject-verb agreement, which is relevant to the topic of this paper, is the product Agree between T and the DP subject under a probe-goal configuration. The former has unvalued set of uninterpretable φ-features. By contrast, the DP subject has a valued set of these features in addition to unvalued Case feature. Since both items are active, Agree operation applies and it values and deletes all the unvalued features. As a result, agreement is projected on the verb and the subject carries nominative Case value. Once this level of the derivation is achieved, the computation proceeds to spell-out, a point after which we reach PF and LF interfaces. The computational system relates sound (the morphophonological form) and meaning (semantic interpretation) to PF and LF interfaces respectively. Thus, at these two levels of representation, only interpretable features are allowed (Chomsky, 2000). Apparently, gender feature, as one of φ-features, is present and active at semantic, syntactic and morphological levels. its presence and participation in the syntactic derivation and agreement is schematized as follows:

(2)



Agreement in MSA has been extensively investigated (see Fassi Fehri, 1993; Aoun et al., 1994; Mahfoudhi, 2002; Soltan, 2006; Alenazy & Saidat, 2015a; among many others). While there is consensus among authors that agreement on the verb results from the feature-based Agree operation, various analyses have been concerned with the subject positions

and word order and their implications for agreement. The agreement pattern where a masculine noun triggers feminine agreement (as we shall see in the next section) has not received attention; therefore, this anomalous agreement requires discussion within the Minimalist framework. Before we embark on our discussion in section 4 below, the next section introduces MSA data.

III. Gender in Arabic

MSA is the official language in the Arab World countries. It is the language of documentation, correspondence, instruction and media. It is also the language in which fiction, reports and studies are written. One property of this language is its rich morphological system that marks words in accordance with their grammatical functions and the contexts in which they exist. All nouns are inflected morphologically depending on their number, gender and Case. Verbs are also inflected to show agreement with their nominal subjects. MSA is one of the highly gendered languages, which has a binary gender system that classifies all nouns as masculine or feminine. Gender feature is an integral part of MSA morphosyntax as all animate and inanimate nouns are assigned grammatical gender that is congruent with their semantic gender; on the one hand, the grammatical gender assignment to animate nouns is based on their semantic (natural or biological) gender. Males and females are necessarily masculine and feminine, respectively. Inanimate nouns, on the other hand, are assigned grammatical gender depending on their morphophonological forms. Some nouns in MSA are represented lexically as pairs. As the Table 1 below shows, the semantic gender is lexicalized. Accordingly, the masculine and the feminine nouns have different lexical roots.

Table 1
Nouns With Lexicalized Semantic Gender

Masculine	**Feminine**
ab ‘father’	um ‘mother’
rajul ‘man’	imraʔah ‘woman’
walad ‘boy’	bint ‘girl’
shaikh ‘old man’	a’jooz ‘old woman’
asad ‘lion’	labouʔah ‘lioness’
jamal ‘male camel’	naqah ‘female camel’

In contrast to the nouns in the Table above, the majority of masculine and feminine animate nouns in MSA share the same lexical root. As the examples in Table 2 below illustrate, the feminine form is derived from the masculine form by adding the feminine suffix *-ah*. This suffix is used when it is final in the word; in connected speech or when this suffix is followed by the Case marker, it is produced as *-at* (see (4b) below, for example).

Table 2
Masculine and Feminine Nouns With a Shared Lexical Root

Masculine	**Feminine**
ibn ‘son’	ibn-ah ‘daughter’
jad ‘grandfather’	jad-ah ‘grandmother’
a’m ‘paternal uncle’	a’m-ah ‘paternal aunt’
khal ‘maternal uncle’	khal-ah ‘maternal uncle’
zawj ‘husband’	zawj-ah ‘wife’

Unlike animate nouns in Table 1 and Table 2 above, Inanimate nouns do not exhibit gender binarity. An inanimate noun that has a masculine grammatical gender does not have a feminine counterpart and vice versa. This means that these nouns are assigned either masculine or feminine grammatical gender based on their morphophonological forms. All inanimate nouns are conceived of as masculine by default unless they end with one of the sounds -ah, which is homophonous with the feminine marker in Table 2 above, the long vowel -aa or the long vowel -aa followed by the glottal stop (cf. Ryding, 2005), as can be seen from the Table 3 below.

Table 3
Nouns With Morphology-Based Grammatical Gender

Masculine	**Feminine**
-	saiyarah ‘car’
kitab ‘book’	-
-	sahraaʔ ‘desert’
Sharea’ ‘street’	-
-	ðikraa ‘memory’
qalam ‘pen’	-

There are two classes of nouns that do not exhibit gender binarity, as those in Table 1 and 2 above; these nouns are referred to in Ryding (2005) as crypto-masculine and crypto-feminine. The former class refers to a masculine noun that ends with *-ah* sound. A crypto-feminine noun, by contrast, is a feminine referent noun, but it is not suffixed with the feminine marker. Examples of crypto-masculine nouns are 3alamah ‘scholar’ and khalifah ‘caliph’, whereas nouns such as shamis ‘sun’ and aredh ‘earth’ are examples of crypto-feminine (Ryding, 2005).

Being referent to human beings, profession-denoting nouns in MSA exhibit gender binarity. There is consistency between the grammatical gender assigned to the noun and the natural gender of the person to whom the noun refers. Put differently, these nouns are assigned grammatical gender as masculine or feminine building on whether they refer to men or women. MSA profession-denoting nouns follow the pattern found in Table 2 above, where the masculine form is the base to which the feminine suffix is added. As can be seen from Table 4 below, the feminine form shares with the masculine form the lexical base.

TABLE 4
MASCULINE AND FEMININE PROFESSION-DENOTING NOUNS

Masculine	**Feminine**
Tabeeb ‘male physician’	Tabeeb-ah ‘female physician’
mumaridh ‘male nurse’	mumaridh-ah ‘female nurse’
wazeer ‘male minister’	wazeer-ah ‘female minister’
mudeer ‘chairman’	mudeer-ah ‘chairwoman’
muðee’a ‘male newsreader’	muðee’a-ah ‘female newsreader’
raʔees ‘male president’	raʔees-ah ‘female president’

The grammatical gender assigned to a noun is reflected on all the elements associated with the noun such as adjectives, demonstratives, and verbs. At the sentence level, verbs show masculine or feminine agreement depending on whether the nominal subject is male or female. The features of person number and gender (i.e. φ-features) are conceived of as the underlying force that derives the computation and determines the agreement patterns (Chomsky, 2008). Morphological agreement manifested on the verb is the outcome of an underlying syntactic process that establishes a relationship between the subject and the tensed verb. For example, in the pair of sentences below, the verb shows masculine agreement with the masculine subject, as in (3a), and it shows feminine agreement, as in (3b).

(3) a. jaaʔ al-walad-u
came.3ms the-boy.nom
‘The boy came.’

b. jaaʔ-at al-bint-u
came-3fs the-girl-nom
‘The girl came.’

Profession-denoting nouns such as those in Table 4 above are not exceptions to agreement patterns in (3). As the examples in (4) below illustrate, the masculine noun *mumaridh* dictates masculine agreement on the verb, whereas the feminine noun *mumaridh-ah* dictates feminine agreement in much the same way the nouns in (3) above behave.

(4) a. jaaʔ al-mumaridh-u
came.3ms the-nurse.m-nom
‘The male nurse came.’

b. jaaʔ-at al-mumaridh-at-u
came-3fs the-woman-F-nom
‘The female nurse came.’

However, there seems to be an ongoing slow process of gender neutralization. The masculine form has become in use to refer to both men and women in some contexts; while all the profession-denoting nouns with male referents are unchangeably masculine, the nouns associated with women are sometimes represented in masculine forms, which we consider as gender-neutralized forms. There is inconsistency in the use of these gender-neutralized masculine forms. The following examples, taken from the two most popular newspapers in Jordan, illustrate this discrepancy.

(5) a. tafaqad-at **wazeer-u** at-tanmeyat-i al-ejtema’iyat-I a’dadan min wiħdatiha
inspected.3s-f minister.m-nom the-development the-social a number of units-its
‘The minister of Social development inspected a number of the ministry’s units.’
(Addustour newspaper 1/7/2019)

b. baħath-at **wazeer-at-u** aθ -θaqafati wa naʔib-u wazeer aθ-θaqafati al-qubrusi
discussed-3s-f minister-f-nom the-culture with deputy.3ms minister the-culture the-Cypriot
subula taa’zeez al-a’laqat aθ-θaqafiat-i
means enhancing the-ties the-cultural
‘The minister of culture discussed with the Cypriot deputy minister the means to enhance the cultural ties.”
(Addustour newspaper 5/3/2024)

c. qal-at **al-ʔmeen-u** **al-a'aam-u** li-al-ħizb-i ad-demoqrati al-iTali inna-hu
said-3s-f the-secretary.m-nom the-general.m-nom of-the-party the-democratic the-Italian that-it
ħana al-waqt-u li-al-ea'trafi be-dawlati filsTeen
comes the-time of-the-recognition of-state Palestine
'The secretary general of the Italian Democratic Party said the time to recognize the state of Palestine has come.'

(Al-Rai newspaper 28/5/2024)

d. wasaf-at **al-ʔmeen-at-u** **al-a'aam-at-u** li-munadhamat-i al-a'fwi ad-dawliat-i
described.3s-f the-secretary-f-nom the-general-f-nom of-organization the-amnesty the-international
at-tahjeera al-qasria li-sukaani Gaza-ta bi-anna-hu min jaraʔim al-ħarb-i
the-displacement the-forced of-population Gaza that-it from crimes the-war
'The general secretary of Amnesty International described the forced displacement of Gaza population as one of the war crimes.'

(Al-Rai newspaper 17/11/2023)

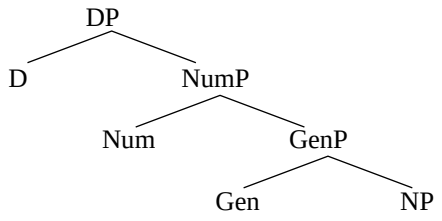
In all these examples, the profession-denoting nouns have female referents. Although the examples (5a) and (5b) come from the same source, the masculine form *wazeer-u* 'minister' and the feminine form *wazeer-at-u* are used in the same way. The examples (5e) and (5c) show the same contrast observed between (5a) and (5b). The titles in both sentences have female referents; however, it is masculine in (5a) and feminine in (5b). The inconsistent use of these female referent titles is not limited to media. Rather, similar cases to those in (5) are found in official documents such as letters of appointment, letters of communication between different governmental and private sector institutions. Whether the profession-denoting noun used to refer to a female is masculine as in (5a) and (5c) or feminine as in (5b) and (5d), agreement shown by the verb is insensitive to this discrepancy as long as the noun has a female referent. This suggests that the verb shows feminine agreement because gender feature is present when agreement is established; gender neutralization is a mere morphological process that targets the feminine marker and deletes it. In order to capture the behavior of gender-neutralized profession-denoting nouns, we will show that this morphological neutralization takes place at a post-syntactic stage following agreement that takes place in the overt syntax. Before we present our analysis, we will shed some light on previous literature in the following section.

IV. Analysis

A. Previous Studies

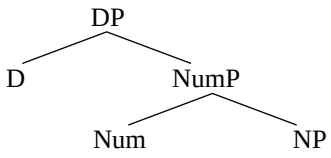
In this subsection, we review some of the prominent analyses of gender feature and show why these analyses are not applicable to MSA data and they do not account adequately for the discrepancy shown by the examples in (5) above. The literature on gender is vast and spans multiple linguistic disciplines. Syntactically, most of the studies have been concerned with the location of the gender feature and how it triggers agreement on the associate words such as verbs and adjectives. It has been assumed that gender feature occupies different locations within the structure of the DP. Picallo (1991) argues that gender appears as a separate gender projection (GenP) in Catalan DP; GenP dominates NP headed by the noun that carries this feature. Number also appears as another separate projection (NumP) according to Picallo who builds her proposal on the idea that a feature with a morphological form is represented as a separate projection. According to Picallo, the Catalan DP has the following structure:

(6)



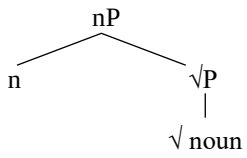
Contra Picallo (1991), Ritter (1993) claims that gender does not exist as a separate projection while number feature does. Building on the contrast between noun phrases in Modern Hebrew and Romance languages, she assumes that number is a functional projection within DP. She further postulates that gender is a feature that exists either on Num or the head N. The DP structure, according to her view, is as follows:

(7)



Ritter argues that gender feature in Romance languages is generated on Num; its appearance on N is ascribed to the fact that it is attached to the noun that undergoes movement from N to Num. In Modern Hebrew, on the other hand, gender is located on N in the lexicon. This means that this feature accompanies the noun in all syntactic levels of representation. Kramer (2015, 2016) argues against the view gender has its own projection. Also, Kramer rejects Ritter's view that the Num head hosts gender. Instead, she assumes that gender feature is located on the head noun, alternatively it is located on a nominalizing n head. The analysis that suggests the existence of a nominalizing n head is an approach referred to as lexical decomposition; it assumes that the noun as a lexical category has two parts: the category-neutral root (represented as √) and the category-defining nominalizer n head that hosts gender feature. This view is schematized as follows:

(8)



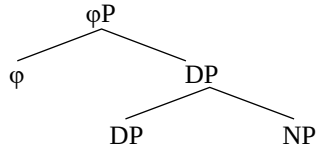
Whether we follow the assumption that gender feature is located on the head noun or another projection within DP, the behavior of the MSA profession-denoting nouns in (5) above remains unaccounted for. Following the latest minimalist assumptions discussed in Chomsky (2008), we posit that gender feature, as one of the φ-features, is located on the head noun that constitutes the lexical core within the DP structure. Consequently, we assume that multiple projections are not necessary as they are not motivated conceptually, therefore, they should not exist (cf. Chomsky, 1995). Gender feature and its correlation with agreement have given rise to the so-called mixed agreement phenomenon (Corbett, 1991; Matushansky, 2013; Pesetsky, 2013; among others). Mixed agreement refers to the situation when a masculine noun dictates masculine or feminine agreement on a target (a verb for example) depending on whether this noun has a male or female referent. Nouns that behave in such a way are referred to as hybrid nouns (Corbett, 1991). In Russian, it has been observed that profession-denoting nouns such as vrač 'doctor' are masculine. However, they trigger mixed agreement on the verb; the noun vrač, for example, triggers feminine agreement on the verb as in (9a) when it has a female referent. By contrast, when it has a male referent, the verb shows masculine agreement as (9b) illustrates.

(9) a. vrač prišl-Ø
doctor arrived-MASC
'The doctor [male] has arrived.' (Corbett, 1991, p. 231)

b. vrač prišl-a
doctor arrived-FEM
'The doctor [female] has arrived.' (Corbett, 1991, p. 232)

In the literature, various analyses have been proposed to capture (9b) where the masculine form triggers feminine agreement. The proposed analyses agree on the idea that a feminine gender feature exists somewhere within the DP structure of the hybrid noun. However, there is no consensus among authors on the exact location of the feminine gender feature (see also the discussion above). Pesetsky (2013) argues that the feminine reading of the hybrid noun is ascribed to the merger of phonologically null morpheme that he terms a feminizing head Ж.[1] This head is merged within NP structure, and once it is merged the nominal becomes feminine. Accordingly, it triggers feminine agreement. A different view is found in Sauerland (2004) who proposes that φ-features (including gender feature) form a projection φP whose φ-head selects the DP as a complement, as in (10) below:

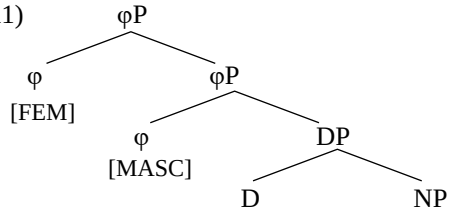
(10)



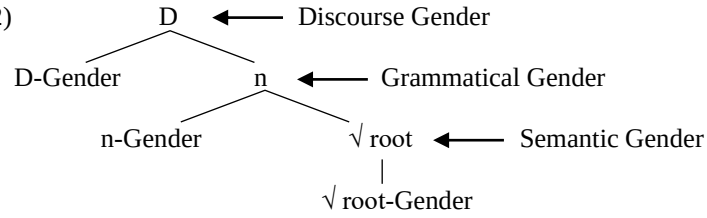
[1] Pesetsky (2013, p. 39) clarifies that he represents the feminizing head "with the Cyrillic letter Ж (pronounced "že"), the first letter of ženščina 'woman' and many related words".

Sauerland argues that φP is recursive. Therefore, in hybrid nouns, two layers of φ-features exist with the feminine gender located in the second layer as (11) below illustrates.

(11)



(12)



The lower φ-head in this structure is uninterpretable and exists to license the head noun. The higher feminine head, by contrast, is interpretable and triggers feminine agreement. In fact, this proposal is questionable according to Steriopolo (2019), who asserts that it is problematic when it comes to the DP-internal agreement mismatches between the noun and the attributive adjectives because φ-features are located above the DP. Steriopolo and Wiltschko (2010) argue for Distributed Gender Hypothesis which proposes that gender feature is not located in one single projection; rather, gender feature is distributed across three different positions in the syntactic structure of the hybrid noun. According to this approach gender is divided into three levels: semantic gender which exists on the root (or the head noun), grammatical gender which exists on n (this corresponds to the nominalizing n in Kramer's analysis in (8) above), and finally discourse gender on the determiner D; it is semantic gender that is dependent on the natural gender of the discourse referent. Steriopolo and Wiltschko further assume that the higher gender in the structure of the hybrid nouns overrides the lower gender. This hypothesis is represented in (12) below.

However, Steriopolo and Wiltschko (2010) are skeptical about the idea that discourse gender (the higher) overrides grammatical gender (the lower) in hybrid nouns. The only explanation they provide is that Russian hybrid nouns are unique in that they, unlike other nouns, have both discourse gender and grammatical gender at the same time. Steriopolo (2018) revisits Steriopolo and Wiltschko's (2010) analysis and dispenses with grammatical gender. Accordingly, she argues that gender is distributed across two positions: semantic gender located on n, and discourse gender located on D; the root is categorial and does not have features.

The problem with these analyses, we would argue, is that they are objectionable on theoretical grounds and are not extendable to Arabic DP. Theoretically, multiple projections within the structure of DP pose a challenge to Agree Theory and complicate the derivation. If gender feature occupies different positions at the same time, then each projection which has its own gender feature needs to probe independently for an active goal to value this feature. Other features, such as number and person, also need to be valued and consequently initiate Agree with matching goals. This would mean that multiple agreement patterns are expected to arise on the verb. Furthermore, the assumption that masculine and feminine gender coexist within the structure of the hybrid noun, as in (11) above, to justify why the masculine noun triggers feminine agreement seems an ad hoc solution whose only purpose is to capture the behavior of the Russian hybrid noun; its application does not extend far beyond these nouns. Arabic gender-neutralized nouns such as those in (5) and above do not lend themselves easily to the analyses outlined in this subsection because they are significantly different from hybrid nouns. Although, the masculine profession-denoting noun triggers feminine agreement when its referent is female, it has a usable feminine counterpart. This strongly indicates that these nouns should not be treated on par with the Russian hybrid nouns. With this in mind, we turn now to our proposed analysis.

B. The Proposed Analysis

For the sake of clarity and ease of reference, we give the following short examples that parallel those in (5) above; in the examples below, the noun has a female referent. However, it has feminine grammatical gender in (13a), whereas it has masculine grammatical gender in (13b). In both cases it triggers feminine agreement on the verb.

(13) a. ħadar-at al-wazeer-at-u al-ejtimaa'-a
attended.3fs the-minister-f-nom the-meeting-acc
'The minister attended the meeting.'

b. ħadar-at al-wazeer-u al-ejtimaa'-a
attended.3fs the-minister.m-nom the-meeting-acc
'The minister attended the meeting.'

When the noun has a male referent, it has only one possible variant: a masculine form that triggers masculine agreement on the verbs as (14) below shows.

(14) ħadara al-wazeer-u al-ejtimaa'-a
attended.3ms the-minister.m-nom the-meeting-acc
'The minister attended the meeting.'

Of these examples, only (13a) (also those in (5b) and (5c) above) is of particular interest. The well-formedness of sentence like (13b) indicates clearly that feminine gender is present even if it is not morphologically marked. Evidence supporting this conclusion comes from the attributive adjectives internal to the DP structure. These adjectives show full agreement with the noun they modify in all the features carried by the noun including the gender feature. Adjectives that modify masculine nouns are masculine and adjectives that modify feminine nouns are invariably feminine; whether the profession-denoting noun that has a female referent is feminine or masculine, the adjective that modifies it must be feminine, as (15a) and (15b) illustrate. (15c) is ruled out because the modifying adjective is masculine.

(15) a. ħadar-at al-wazeer-at-u al-muħtaram-at-u al-ejtimaa'-a
attended.3fs the-minister-f-nom the-respected-f-nom the-meeting-acc
'The minister attended the meeting.'

b. ħadar-at al-wazeer-u al-muħtaram-at-u al-ejtimaa'-a
attended.3fs the-minister.m-nom the-respected-f-nom the-meeting-acc
'The minister attended the meeting.'

c.* ħadar-at al-wazeer-u al-muħtaram-u al-ejtimaa'-a
attended.3fs the-minister.m-nom the-respected.m-nom the-meeting-acc
'The minister attended the meeting.'

It is a standard assumption in the syntactic literature that the features on the adjective in MSA match those on the modified nouns and the two items agree with each other at the DP level (see Fassi Fehri, 1999; Kremers, 2003; Alenazy, in press; among others). Irrespective of the analyses proposed to capture how agreement between the noun and the modifying adjective is established, the use of the attributive adjectives in (15b) above suggests that the noun is feminine. However, the question that remains unanswered at this juncture is: how does the masculine form trigger feminine agreement on the verb?

One possible way to explain how the masculine noun triggers feminine agreement is to assume, following Alenazy and Saidat (2015b), that the masculine profession-denoting noun with a female referent is a hybrid lexical item. In their analyses of animal nouns used metaphorically to refer to human beings, Alenazy and Saidat notice that certain feminine animal names in Jordanian Arabic are used to refer to males and vice versa. For example, the feminine noun in (16a) below has a male referent so it triggers masculine agreement. In (16b), on the other hand, a masculine noun is used to refer to a female, which is why it triggers feminine agreement. (In (16a), the intended meaning of the noun is *coward*, whereas in (16b), the intended meaning is beautiful).

(16) a. ad-dajajeh sharad
the-hen.3fs escaped.3ms
'The hen escaped.'

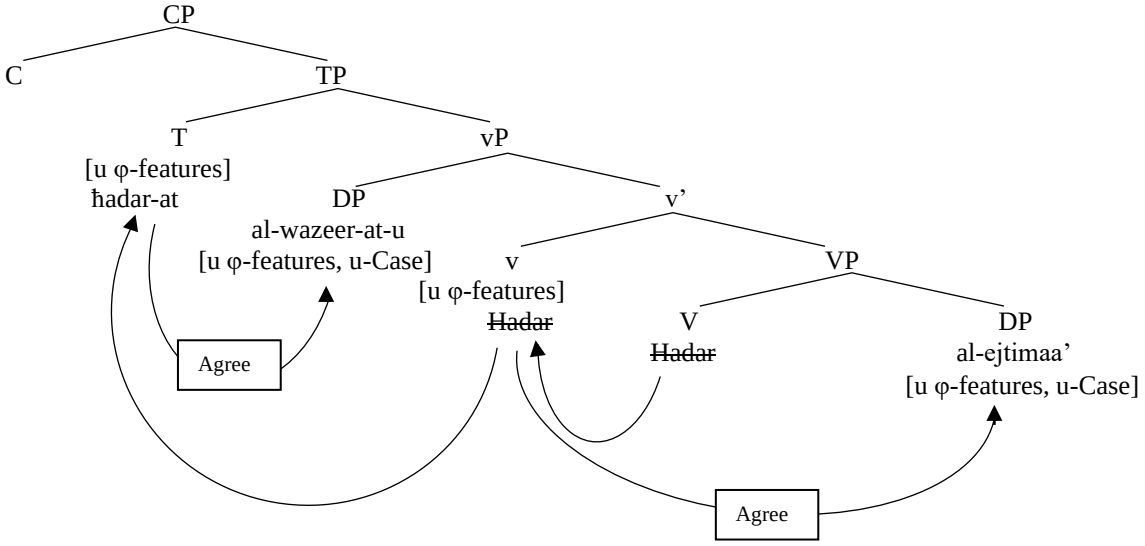
b. al-jamal raaHat
the-camel.3ms left.3fs
'The camel left.' (Alenazy & Saidat, 2015b, p. 105)

The analyses they propose to capture these sentences builds on Chomsky's (2001) feature system and Lakoff and Johnson's (1980) theory of conceptual metaphor. Accordingly, they argue that animal metaphors such as those in (16) above are hybrid lexical items that result from a mapping process between the animal domains (the source) and the human domain (the target). Mapping of φ-features is part of this process; the φ-features of the human target are mapped onto the animal source. Therefore, when these nouns function as subjects the mapped φ-features on them trigger the relevant agreement pattern on the verb. This line of analysis seems prima facie applicable to the gender-neutralized profession-denoting nouns; we could straightforwardly claim that the nouns in (5b), (5c), and (13b) above are treated on par with the

metaphors in (16) above. However, this line of analysis is not attainable because a close comparison reveals two significant differences between the two nouns. First, contrary to the animal metaphor which is a noun with the properties of two distinct nouns conceptually mapped to produce a hybrid lexical item as explained few lines above, the gender-neutralized noun is not a product of a mapping process. Second, in each case where a profession-denoting masculine noun is used with a female referent, there is a feminine version of the same noun. Taking these two differences into consideration, we are left with two scenarios to capture the behavior of the gender-neutralized nouns. The first scenario is to assume that these nouns are lexicalized in that neutralization of gender takes place in the lexicon before the nouns are merged in the structure; in other words, the noun enters the derivation and becomes part of Agree without having gender feature. During the course of the derivation, gender feature as feminine is specified depending on the context and the clues available in the sentence that help recover gender feature. However, this scenario does not account for the attributive adjectives (see 15 above) that retain gender feature. In fact, the behavior of the attributive adjectives provides support for the second scenario in which we initially assume that the feminine feature, as one of the φ-features, is present in the narrow syntax and it contributes to agreement. To put things into perspective, let us consider how the derivation of (13a) above, where the profession-denoting noun is feminine, proceeds.

The noun is merged in the specifier of vP as an external argument of the verb. Its valued φ-features and unvalued Case feature, which means that the noun is rendered an active goal that is available for Agree with a higher probe T that is active too by virtue of having unvalued φ-features. The lexical verb undergoes head movement from V to v. Then, after it agrees with its object, it undergoes a further head movement from v to T. This level of derivation is schematized in the structure (17) below.

(17)



The head T initiates Agree relation with the DP subject in the specifier of vP to value its φ-features by matching them with their valued counterparts on the DP. In return, T values the unvalued Case feature. The outcome of this Agree relation is the valuation and deletion of all the unvalued features; T projects agreement in φ-features, and Case feature on the DP is valued as nominative. Once this unit of computation is completed it is transferred to spell-out, a point at which no further syntactic operations apply to value features. As regards the masculine noun in (13b) above, which triggers feminine agreement, we argue that this noun enters the derivation feminine. As such, the derivation of the sentence in which it exists is identical to the derivation of (13a) represented in (17). However, the point of departure between the two structures is that gender neutralization takes place at the PF interface level after spell-out; this neutralization is a post-syntactic morphological operation that deletes the feminine morpheme. We base our claim that a post-syntactic operation exists on Bonet (1991) who proposes *impoverishment* as a post-syntactic operation within the field of Distributed Morphology that results in the deletion of a feature on a terminal node. Arregi and Nevins (2007) propose *obliteration* as another post-syntactic process which is, unlike impoverishment, targets a terminal node and deletes a morpheme from the structure of the word. This is exactly what happens when it comes to the gender-neutralized nouns in MSA. As mentioned earlier, attributive adjectives support this conclusion as they are not influenced by the post-syntactic obliteration; the deletion of the feminine morpheme of the noun, but not of the adjective, indicates clearly that the deletion of the feminine morpheme is a morphological operation that operates at the level of the word.

V. Concluding Remarks

The minimalist feature-based analysis proposed in this paper directly accounts for subject-verb agreement and how it is established in narrow syntax. In the case where some masculine profession-denoting nouns trigger feminine agreement, the paper has shown that these nouns enter the derivation feminine, and they become part of the feature-valuation Agree

operation. At spell-out, the morphological operation *obliteration* applies and deletes the feminine morpheme. This deletion of the feminine gender marker, we would posit, is a gender-neutralization process that is motivated by sociopolitical factors to promote the status of women by using less-gendered language. Obviously, the discrepancy in the use of the gendered and gender-neutralized forms is an indication that slow syntactic change is taking place. Gender neutralization in profession- denoting nouns is limited to singular nouns; plural nouns are either masculine or feminine. In contrast to (13) above, only a feminine plural is allowed to be used with female referents, as can be seen from (18) below:

(18) a. ħadar-at al-wazeer-aat-u al-ejtimaa'-a
attended.3fs the-minister-fp-nom the-meeting-acc
'The female ministers attended the meeting.'

b.* ħadar-at al-wuzaraa'-u al-ejtimaa'-a
attended.3fs the-minister.mp-nom the-meeting-acc
'The minister attended the meeting.'

We tentatively assume that there is a regulating condition that requires the obliteration of the feminine morpheme only. When this morpheme is obliterated, a singular form (the masculine root) that lacks feminine gender remains. Conversely, the morpheme *-aat* in (18a) above is a feminine plural morpheme that is added to a singular masculine root to derive a feminine plural noun. Its deletion means that both gender and number features are deleted. This deletion results in a singular form lacking the essential interpretable number plural feature. If the analysis proposed in this paper is on the right track, it paves the way for further discussions of the phenomenon. It also can be extended to account for related issues and structures in MSA and other languages.

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