Syntactic investigation of nunation in Haili Arabic

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Abstract

This research study investigates nunation (Arabic *tanwi:n*) in Haili Arabic (HA). Haili Arabic is a dialect spoken mainly in Hail, the Kingdom of Saudi Arabia (KSA). It argues that the nunation suffix, *-n*, is used to fill the position of the head in a determiner phrase (i.e. the head D° position) when the latter is not occupied by the definite article or a personal pronoun. The filling follows from a proposed condition that demands the head D° position to be filled by an overt element in the Arabic dialect under investigation. This accounts for the lack of *-n* with definite entities (i.e. definite determiner phrases, DPs) headed by the definite article *ʔal,* on the one hand, and the presence of *-n* in indefinite entities and proper nouns, on the other. Additionally, to account for the use of *-n* with adverbs, the current study assumes that adverbs in HA are underlyingly DPs headed by D°; hence, the demand to fill D° due to the head D° condition. With regard to the semantic function of *-n*, the study argues that the nunation suffix creates a predicational relation between the noun and the remnant of the DP through forcing the given noun to move to the Specifier position of the associating DP. What forces this movement is the [EDGE] feature, which is part of the featural bundle of the nunation suffix, requiring the edge of a phrase to be filled.

Keywords: Haili Arabic, definiteness, DP theory, nunation

1 Introduction

Nunation is the suffixation of the so-called nunation suffix *-n* to nouns, nominal modifiers and adverbs. Several studies have maintained that nunation is still retained in some Arabic varieties and, thus, not restricted to

Standard Arabic. Consider the following examples from Haili Arabic
(nunation suffix is glossed as -NUN):[1]

(1)   a. *ʔismiʕi-t   gisˤsˤiti-n   ħazi:nah*
          heard-1SG   story-NUN   sad.3SG
          'I heard a sad story.'

       b. *ʔismiʕi-t   gisˤsˤiti-n   ħazi:nati-n   gadi:mah*
          heard-1SG   story-NUN   sad.3SG-NUN   old.3SG
          'I heard an old sad story.'

       c. *ʔismiʕi-t   gisˤsˤiti-n   ʔamsi-n   ʔasˤ-sˤubuħ*
          heard-1SG   story-NUN   yesterday-NUN   DEF-morning
          'I heard a story yesterday morning.'

In (1a), *-n* is suffixed to the noun *gisˤsˤit* 'story', whereas it is suffixed to
the nominal modifier *ħazi:nat* 'sad' and to the temporal adjunct *ʔams*
'yesterday' in (1b) and (1c), respectively. Of note here is that *-n* cannot be
suffixed to definite determiner phrases headed by the definite article *ʔal*
'the'. Consider the following ill-formed examples:

(2)   a. **ʔismiʕi-t   ʔal-gisˤsˤiti-n   ʔas-sˤubuħ*
          heard-1SG   DEF-story-NUN   DEF-morning
          Intended: 'I heard the story in the morning.'

       b. **ʃif-t   ʔaʃ-ʃamsi-n   ʔasˤ-sˤubuħ*
          saw-1SG   DEF-sun-NUN   DEF-morning
          Intended: 'I saw the sun in the morning.'

       c. **ʃif-t   ʔal-gumari-n   ʔasˤ-sˤubuħ*
          saw-1SG   DEF-moon-NUN   DEF-morning
          Intended: 'I saw the moon in the morning.'

This complementarity against the suffixation of *-n* to definite determiner
phrases headed by *ʔal* 'the' has been the main motivation for the commonly
suggested assumption that this suffix is a morphological realisation of the
indefinite article in Standard Arabic (see Fischer & Rodgers 2002; Schulz
2004; Ryding 2005; Versteegh 2014). However, data from Haili Arabic

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[1] All sentences in this study are from Haili Arabic (HA) unless stated otherwise.
Additionally, all HA sentences that appear in this study were supplied by ten native HA
speakers.

casts doubt on this assumption in that *-n* can be suffixed to proper nouns, which are definite on their own (cf. Fraurud 1990; Wacholder et al. 1997; Longobardi 2001).[2] Consider the following examples:

(3)   a.   *ʃif-t*   *sali:mi-n*   *ʔamsi-n*   *ʔasˤ-sˤubuħ*
            saw-1SG   Salim-NUN   yesterday-NUN   DEF-morning
            'I saw Salim yesterday morning.'

       b.   *ʔidʒa*   *fahdi-n*   *ʕala* *ʔad-da:r*
            came.3SG.M   Fahd-NUN   on   DEF-house
            'Fahd came to the house.'

The examples in (3) make clear that the analysis of *-n* as an indefinite article is empirically untenable. Proper nouns are widely counted as definite entities. Additionally, what rules out the possibility that *-n* is an indefinite article is its suffixation to adverbs (see 1c). The (in)definiteness dichotomy is basically linked to nominal entities. An adverb cannot be definite/indefinite, since adverbs are not used for referentiality, the main notion behind definiteness (cf. Bellert 1977; Traugott 2014; Valera 2014 and numerous others).

     This study brings nunation to the fore, attempting to provide a new account of its role in the relevant determiner phrase (DP) derivation. Here, we focus on examples from a regional variety of Najdi Arabic, namely, Haili Arabic (henceforth, HA) in which nunation is used.[3] The article is organised as follows: Section 2 reveals that the relevant approaches already advanced to account for the nunation suffix and its distribution in Standard Arabic and Dialectal Arabic lack evidence and suffer from empirical problems. Section 3 introduces our account of *-n* as a device to fill the head D° position due to the *Head D° Condition* (HDC), which demands that the head D° position be overtly filled. The HDC accounts for the presence of the nunation suffix in nominal elements with empty D°, including indefinite

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[2] The nunation suffix can also be attached to proper nouns in Standard Arabic, an observation ignored by some approaches. Consider the following example from Standard Arabic:

(i)   *ðahaba muħammad-u-n*   *ʔila* *ʔal-masdʒid*
      went   Muhammad- NOM-NUN   to   DEF-mosque
      'Muhammad went to the mosque.'

[3] See Alshamari (2015a; 2015b) and Alshamari & Jarrah (2016) for recent works on Haili Arabic.

entities and proper nouns. Section 4 tackles some residual issues: the use of
-n with adverbs and its absence with verbs, prepositions and personal
pronouns. The section argues that adverbs in HA are underlyingly DPs
headed by D°; hence, the use of the nunation suffix to fill the head D°
position due to the HDC. The lack of the nunation suffix with verbs and
prepositions is reduced to the lack of D° in these constructions. As for the
lack of the nunation suffix with personal pronouns, we assume that the
head D° position is filled by the personal pronoun, meeting the demands of
the HDC. Section 5 concludes the study.

2   Nunation

This section touches on the major arguments proposed for nunation
treatment in Standard Arabic as well as Dialectal Arabic. We focus here on
the traditional perspectivists' approach to nunation, approaches on some
Arabic varieties proposed by Holes (1990), Ingham (1994) and Brustad
(2000), and finally Fassi Fehri's (1993; 2012) approaches on Standard
Arabic. This section introduces these approaches with what we think are
arguments against them.

2.1   Traditional perspectivists' approach

Traditional perspectivists' approach to nunation is highly descriptive; they
argue that nunation mainly differentiates between nouns and verbs (Al-
Rajihi 1988; Abdel-Hamid 1995a; 1995b). Contrary to nouns, *-n* never
appears on verbs. Nunation, in this sense, is a sign of *tamki:n*, literally
'complete nominality'; so a line between nouns and other categories can be
drawn (Al-Rajihi 1988: 11; Abdel-Hamid 1995a: 21–22). However, this
argument is seriously weakened by the fact that the nunation suffix *-n* is
still used with adverbs and nominal modifiers. Following this, nunation is
what distinguishes nouns, adverbs and adjectives from verbs. Additionally,
the nunation suffix cannot be used in conjunction with prepositions. Here,
one must ask what makes verbs and prepositions resistant to the suffixation
of the nunation suffix, as compared with nouns, adjectives and adverbs.
Any account of nunation must consider this observation; otherwise facts
are obfuscated (we return to this observation in the following sections,
arguing that the nunation suffix is a head; hence its complementarity with
other heads).

Furthermore, traditional perspectivists use nunation to differentiate between what they call diptotes (entities which do not accept Genitive Case when they are indefinite) and non-diptotes (entities which accept Genitive Case when they are indefinite). The former cannot be marked with the nunation suffix *-n*, as in (4a) – compare with (4b) –, while the latter can, as in (4c) (Abdel-Hamid 1995b: 293). The following examples are from Standard Arabic.[4]

(4) a. **marar-tu*   *bi-ʕumari-n*
         passed-1SG   by-Omar-NUN
         Intended: 'I passed by Omar.'

     b. *marar-tu*   *bi-ʕumar-a*
         passed-1SG   by-Omar-ACC
         'I passed by Omar.'

     c. *marar-tu*   *bi-xa:lid-i-n*
         passed-1SG   by-Khalid-GEN-NUN
         'I passed by Khalid.'

This account is again descriptive at best and provides no actual manifestation of the true nature of nunation, and how it functions in relation to various types of nouns. For instance, the reason why diptotes are unable to bear nunation has not been investigated yet (see Holes 2004 for the refutation of the dichotomy of diptotes and non-diptotes as well as the types of structures in which nunation can appear in some Arabic dialects). Additionally, the dichotomy between diptotes and non-diptotes does not hold true in HA. This is because diptotes in HA can be attached with the nunation suffix. Consider the following examples.

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[4] Following the rules to differentiate between diptotes and non-diptotes in Arabic, the proper noun *Omar* is a diptote, since its morphological template is CV.CVC. This indicates that *Omar* is neither marked with the Genitive Case nor suffixed with nunation as opposed to non-diptotes. Other nouns that have the same template as *Omar* are *Mudʕar* and *Hubal*. Not only nouns are treated as diptotes in Standard Arabic, but also certain adjectives are regarded as diptotes, e.g. adjectives realising the template CVC.CVVC as in *ʕatʕʃa:n* 'thirsty' (see Abdel-Hamid 1995b for a complete list of diptotes vs. non-diptotes rules). Reviewing the literature on diptotes, perspectivists provide no justifiable reason for classifying certain nouns and adjectives as diptotes. Arguing that a number of diptotes are of non-Arabic origin does not justify why they do not accept nunation, given the fact that other nouns of Arabic origin are also diptotes. However, such a phenomenon is beyond the scope of this study and is thus not pursued any further here.

(5)   a. *marre:-t*   *bi-ʕumari-n*   *ʔamsi-n*   *ʔasˤ-sˤubuħ*
         passed-1SG   by-Omar-NUN   yesterday-NUN   DEF-morning
         'I passed by Omar yesterday morning.'

      b. *marre:-t*   *bi-xa:lid-in*   *ʔamsi-n*   *ʔasˤ-sˤubuħ*
         passed-1SG   by-Khalid-NUN   yesterday-NUN   DEF-morning
         'I passed by Khalid yesterday morning.'

Therefore, the dichotomy between diptotes and non-diptotes is irrelevant to HA and to any syntactic proposal to nunation in the dialect.

   Another function of nunation, for traditional perspectivists, is what they label "non-specification" when *-n* is used with proper nouns (Al-Rajihi 1988). If the proper noun is not marked with *-n*, then the speaker has a specific referent of the person in mind (see 6a). Conversely, the realisation of *-n* on a proper noun indicates that the referent of the given noun is non-specific, as in (6b). The presence vs. absence of *-n* on proper nouns gives a clue as to whether the person in question is known to the speaker or not. Consider the following examples from Standard Arabic:

(6)   a. *raʔay-tu*   *si:bawayh*
         saw-1SG   Sibawayh
         'I saw Sibawayh.'

      b. *raʔay-tu*   *si:bawayh-a-n*
         saw-1SG   Sibawayh-ACC-NUN
         'I saw a Sibawayh.'

The question to ask here is: if proper nouns are definite by virtue of their properties (of naming), then why would they be marked with a device that de-specifies them? The dichotomy between specific proper nouns and non-specific proper nouns is far from plausible, even within intuitive terms. Moreover, this is not the case in HA, in which the nunation suffix is attached to a proper noun, even if the proper noun is specific. Consider the following natural example, reported by one of the HA native speakers.

(7)   *ʔamsi-n*   *ʔaxu:-y*   *fahdi-n*   *ʔiftara*   *siyya:rti-n*
      yesterday-NUN brother-my   Fahd-NUN   bought.3SG.M   car-NUN
      'Yesterday, my brother Fahd bought a car.'

In (7), the speaker talks about his brother, *Fahd*, who is specific in such a context. The nunation suffix is still attached to it, indicating strongly that

the dichotomy of specific/non-specific proper nouns does not play any role in nunation assignment in HA.

Given that nunation is not exclusive to Standard Arabic as hinted at above, the realisation of *-n* in spoken Arabic has been attested and analysed by several researchers (e.g. Holes 1990; 2004; Ingham 1994; Brustad 2000). The following section provides a discussion of the approaches to nunation in spoken Arabic.

2.2   Nunation in spoken Arabic

Contrary to common belief at the time, Brustad (2000) stated that nunation does appear in spoken Arabic dialects. In particular, a significant number of spoken dialects of Arabic use *-n* with adverbs, such as *ʔabadan* 'ever', *da:yman* 'always', *ʕa:datan* 'usually', etc. and indefinite nouns used in Bedouin dialects, such as Najdi Arabic (Brustad 2000). Holes (1990) argues that such a type of nunation is only a relic of the lost case marking system of Standard Arabic, which persisted in a number of spoken dialects. Yet, Holes's (1990) assumption is inaccurate as far as HA is concerned. This is because nunation still holds irrespective of the syntactic position of the respective noun.[5] Consider the following examples, in which the noun *ridʒa:l* 'a man' occupies different syntactic positions (a subject in 8a, a direct object in 8b, a predicate position in 8c and an indirect object in 8d).

(8)   a. *ʔidʒa   ridʒa:li-n   ʕala   ʔad-da:r*
      came.3SGM   man-NUN   to   DEF-house
      'A man came to the house.'

    b. *ʃuf-t   ridʒa:li-n   bi-d-da:r*
       saw-1SG   man-NUN   in-DEF-house
       'I saw a man in the house.'

    c. *fahd   ridʒa:li-n   muħtaram*
       Fahd   man-NUN   respected
       'Fahd is a respected man.'

    d. *ʔaʕtˤeː-t   ridʒa:li-n   l-kta:b*
       gave-1SG   man-NUN   DEF-book
       'I gave a man the book.'

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[5] Thanks to a *SKY JoL* reviewer for pointing that out to us.

The obvious conclusion is that nunation is not paired with Case in HA. This assumption had already been suggested and argued for by Ingham (1994) and Brustad (2000) for other Arabic dialects. Ingham (1994) and Brustad (2000) assume that *-n* is not connected to case assignment. For them, the lack of *-n* on definite nouns, which are usually marked with the definite article *ʔal-*, is a clear indication that *-n* is "an indefinite-specific marker" (Brustad 2000: 28). Brustad (2000) employs Ingham's (1994) account on Najdi Arabic to support her argument on the nunation suffix, which acts for her as an indefinite-specific marker (the examples in 9a–c are from Najdi Arabic, cited in Ingham 1994: 49):

(9)   a. *be:t-in*   *kibir*
          house-NUN   large
          'a large house'

       b. *wɑ̃ħd-in*   *min*   *ar-rabuʕ*
          one-NUN   of   DEF-group
          'one of the group'

       c. *kalmit-in*   *gɑ̃l-õ-hɑ̃-li*
          word-NUN   said-they-it-to.me
          'a word which they said to me'

In a related vein, although Ingham (1994) observes that *-n* appears on nouns usually modified by an adjective, a prepositional phrase or a relative clause (see examples 9a–c, respectively), he failed to account for his own observation that the indefinite noun marked with nunation always accompanies further information. If we assume that the noun marked with nunation is followed by some material, the sole function of which is to specify the given noun, Ingham's (1994) account follows. In this regard, Jarrah and Zibin (2016) argue that nunation is an information-trigger device that motivates the speaker to add further information to specify the noun marked with *-n*. Thus, the accompanying adjectives, prepositional phrases or relative clauses serve as what they call *balancing materials* that level the definiteness status of the sentence and promote its acceptability. Such analysis sounds reasonable and accounts for the true pragmatic/semantic function of nunation (first noticed by Ingham 1994).

     Other arguments that depart from anaphoricity and informativity are supplied by Fassi Fehri (1993; 2012). The following subsection illustrates his point.

2.3 Fassi Fehri (1993; 2012)

Fassi Fehri (1993: 216) points out that Arab grammarians have puzzled over the function of nunation for centuries. The seeming complementary distribution between the definite article and nunation has driven Arab grammarians to treat the latter as an indefinite marker, which is for Fassi Fehri (1993) hardly logical. The main contention against the argument that nunation is an indefinite marker is the observation that proper nouns can also bear the so-called indefinite marker. Additionally, examining NPs and adjectival genitive possessive constructions, Fassi Fehri (1993: 216) assumes that while in NP genitive constructions, both the definite article *ʔal-* and the nunation *-n* are banned from appearing on the head of the NP construction (see examples 10a–b), only nunation is lacking in adjectival genitive constructions. Compare example (10c) with (10d) (all examples are from Standard Arabic, cited in Fassi Fehri 1993: 217–218).

(10) a. **daxal-tu   ʔad-da:r-a   ʔar-rajul-i*
         entered-1SG   DEF-house-ACC   DEF-man-GEN
         'I entered the house of the man.'

   b. **daxal-tu   da:r-a-n   ʔar-rajul-i*
         entered-1SG   house-ACC-NUN   DEF-man-GEN
         'I entered a house of the man.'

   c. *hind-un   ħasan-at-u   ʔal-wajh-i*
         Hind-NOM   nice-F-NOM   DEF-face-GEN
         'Hind has a nice face.'

   d. *ša:had-tu ʔal-bint-a   ʔal-ħasana-t-a   ʔal-wajh-i*
         saw-1SG   DEF-girl-ACC   DEF-nice-F-ACC   DEF-face-GEN
         'I saw the girl with the nice face.'

Examples in (10) demonstrate that both the definite article and nunation are absent in nominal genitives, while only nunation is absent from adjectival genitives. Based on this, Fassi Fehri (1993) proposes that nunation is a realisation of Poss(essive) head, since *-n* realises Poss only when the Possessor is absent. The main argument is that genitive nominal constructions receive a possessor role not within the lexical projection of N, but rather from an abstract functional theta marker referred to as Poss. In this way, similar to a preposition, Poss construes a relational category,

incorporating N, which enables it to assign a theta role to the possessor indirectly (Fassi Fehri 1993: 220).

On the other hand, Fassi Fehri's (1993) analysis is evidently exclusive to the behaviour of nunation in nominal and adjectival constructions. The "Poss marker" account provides no explanation as to why proper nouns and adverbs are marked with *-n*. Furthermore, being a Poss marker entails that the relevant constructions in which nunation appears must have possessive interpretative reading, a conclusion whose exception is much broader than the regular pattern (see Kouloughli 2001 for refutation of Fassi Fehri's 1993 account of nunation).

Later, Fassi Fehri (2012: 160–169) takes nunation to be comparatively equivalent to Ezafe in Persian or in Hawrami, where Ezafe is best analysed as a case marker or a nominal linker.[6] However, this analysis is inapplicable as far as HA is concerned. Unlike the case in HA, (temporal) adverbs are neither marked with the Ezafe clitic in Persian nor Hawrami (cf. Karimi & Brame 2008). Secondly, the Ezafe clitic is never used with bare nouns (without accompanying nominal modifiers) either in Persian or Hawrami; this state of affairs is not required in HA, in which nunation must be adjoined to non-modified nominal entities. Consider sentence (1c), reproduced below for convenience:

(11)   *ʔismiʕi-t   gisˤsˤiti-n   ʔamsi-n   ʔasˤ-sˤubuħ*
        heard-1SG   story-NUN   yesterday-NUN   DEF-morning
        'I heard a story yesterday morning.'

The nunation suffix is attached to the DP *gisˤsˤit* 'a story' although the latter is not modified.

In the following section, we provide our approach to nunation in HA from a syntactic perspective, assuming that this suffix is used in conformity with some syntactic condition, namely the Head Dº Condition, which demands the head Dº position in HA to be overtly occupied.

3   Analysis

We argue that the nunation suffix is used when the Dº head is not filled by the definite article or another element that occupies this position, including

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[6] Fassi Fehri (2012) builds his argument on Larson & Yamakido (2008) on Persian and Holmberg & Odden (2004) on Hawrami.

personal pronouns. We appeal here to the DP theory first pioneered by Abney (1987). For Abney, noun phrases are syntactically determiner phrases (DPs) in the sense that the maximal projection housing the noun is DP, rather than NP. The head of the phrase is D°, rather than N°. Evidence for the DP theory has been adduced cross-linguistically, and the DP is now considered the main practice within the generative enterprise (Stowell 1991; Longobardi 1994; Siloni 1997; Coene 2003; Choi 2014).

We claim that the nunation suffix is a head having the same position of the definite article *ʔal* 'the', which is widely assumed to occupy the head D° position (see Fassi Fehri 1993; 1999; 2012; Siloni 1997; Shlonsky 2004; Ouhalla 2011). At face value, the nunation suffix and the definite article may have different positions in syntax, given their position vis-à-vis the associating noun: *-n* is a suffix, rather than a prefix like the definite article in Arabic. Consider the ungrammatical example:

(12)   **in-walad   in-ðaki:*
      NUN-boy   NUN-smart
      Intended: 'a smart boy'

Despite this observation being only preliminary and in need of closer analysis, we argue that the nunation suffix and the definite article occupy the same position in syntax, namely, D°. This proposal is supported by the fact that they are mutually exclusive. Consider the ungrammatical example:

(13)   **ʔal-walad-in*
   DEF-boy-NUN
      Intended: 'the boy'

Either *ʔal-* or *-n* is used, not both. The obvious observation is that the use of the nunation suffix *-n* is only triggered when the definite article *ʔal* 'the' is not used. We argue that this trigger boils down to a demand of one condition which is operating in HA grammar. This condition is the *Head D° Condition* (HDC), which demands the head D° position in HA to be overtly occupied. In case the definite article is used, no HDC violation is incurred. On the other hand, when the definite article is not used, the nunation suffix is used to fill D° in compliance with the demands of the HDC. What supports this assumption is the use of the nunation suffix with proper nouns in this language. Research in a wide variety of languages has argued for the assumption that proper nouns have empty D° (Longobardi 1994; Berk 1999; Givón 2001). If we extend this approach to proper nouns

in HA, the use of the nunation with such entities follows. Proper nouns in HA are headed by D°, which must be filled by the HDC; hence, the use of the nunation suffix (this entails that proper nouns in HA neither have articles nor NUN-to-D with proper nouns, as Longobardi has argued for in some languages).

This analysis can be situated within the minimalist views. Following Chomsky (1995), if the subarray of the DP includes an overt D°, like the cases of definite nouns, then the D° head will be occupied and, hence, there will be no demand for the nunation suffix. When the subarray lacks overt D°, like the cases of indefinite DPs or proper nouns (cf. Coene 2003), the D° head will not be occupied, and hence the nunation suffix is used, forced by the HDC.

The question that promptly arises is how we can account for the different position the two affixes occupy with respect to the respective noun. Couching within the main assumptions of the Minimalist Program (Chomsky 1995; 2005), we argue that *ʔal-* and *-n* are both heads but with different feature sets (cf. Baker 2008). One difference is that *-n* has the [EDGE] feature within its featural grid (see Chomsky 2005), whereas the definite article *ʔal* 'the' is not endowed with the [EDGE] feature. Given the [EDGE] feature, the noun must vacate its position to the Specifier of DP headed by *-n* (see Epstein & Seely 2006; 2008; Miyagawa 2010, for similar approaches). Consider the syntactic derivation of the DP in (15) (all irrelevant details are skipped).[7]

(14) *walad-in*
      boy-NUN
      'a boy'

(15)

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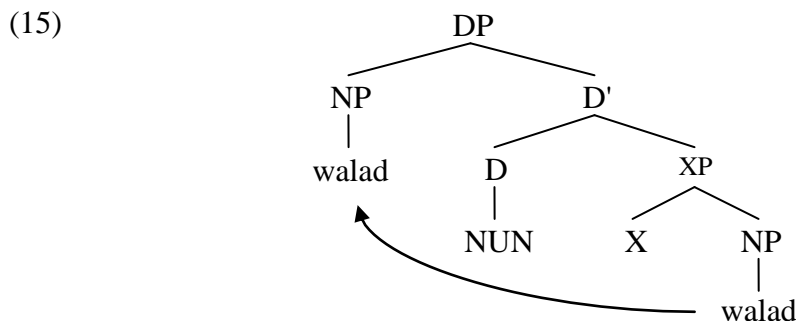
[7] XP projection in the tree stands for any projection between the D° and the NP headed by the given noun.

In case D° is headed by *ʔal-*, no movement of the NP *walad* 'boy' is forced to the Specifer of DP, given that D° is not endowed with the [EDGE] feature. One may ask here why *ʔal-* has no [EDGE] feature, whilst *-n* does. It can be postulated that the [EDGE] feature derives a predicational reading. What is in the Specifier position of the DP is predicated by what remains unmoved, i.e. the remnant of the DP. The belief is that the movement of the associating N to the Specifier of DP must be envisioned as an attempt to place the N in a position with other entities predicating about it. That is to say, the N, while being in situ, has no advantage to be the locus of information inside the DP. Only the Specifier position of the DP (within the DP construction) can provide this advantage to the N (see Higginbotham 1985; 1987; Rapoport 1987; Doron 1988; Rothstein 1995; Adger & Ramchand 2003). The predicational reading approach provides a plausible account of why indefinite entities having the nunation suffix are in most cases followed by nominal modifiers (see Ingham's 1994 observation on the relation between nunation and the presence of nominal modifiers). Given that the nunation suffix triggers the noun to target a Specifier position with a predicational locus, the use of nominal modifiers is seen as an outcome of the movement of the noun to a position expressing predicate-argument relationships. In saying that, we do not think that the [EDGE] feature is motivated to account for linearisation or phase formation, as assumed by some researchers (cf. Chomsky 1999; 2005 and related work). For us, the [EDGE] feature is motivated to place the given element in a position in which the remnant material of the construction predicates about it.[8]

Following this line of thought, the appearance of *-n* as a suffix follows. Once the DP computation is handed over to the morphological computations, *-n* appears appended to the associating N in morphological components (see Chomsky 1995). The nunation *-n* materialises the head D°, forcing the associating N to move to Spec DP to satisfy its [EDGE] feature, which cannot be fulfilled by a probe-goal configuration in the sense of Chomsky (1999). Based on this, it follows that there is no option but movement; otherwise the derivation crashes.

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[8] Having said this, we should not neglect the cases in which the nunated noun can appear without any accompanying nominal modifiers. Under such cases, the nunation suffix would, as a *SKY JoL* reviewer pointed out, precede the bare noun. For this, we assume that the [EDGE] feature on the nunation marker has another function beside creating a predicational relation between the noun and accompanying nominal modifiers. This function can be something like setting a host for the nunation suffix.

Here, one may wonder about the level of syntax in which *-n* is introduced. Following our approach that *-n* is introduced to fill the head D° position and it has the [EDGE] feature, we claim that *-n* is inserted in the narrow syntax level (in pre-morphological, phonological syntax) as an overt D°. It seems that the numeration of DP in HA always has an element to fill the head D° position.

The next issue we address here is the fact that nunation can appear multiple times within a single DP as in (1b), repeated below for convenience.

(16) *ʔismiʕi-t   gisˤsˤiti-n   ħazi:nati-n   gadi:mah*
      heard-1SG   story-NUN   sad.3SG-NUN   old.3SG
      'I heard an old sad story.'

It appears that the nunation suffix is marked on the adjectives that modify the nunated noun.[9] If the adjective modifies a definite noun (with the definite article), the former must be attached to the definite article rather than the nunation suffix. Consider the following example:

(17) *ʔismiʕi-t   ʔal-gisˤsˤiti-n   ʔal-ħazi:nat*(-n)   ʔal-gadi:mah*
      heard-1SG   DEF-story-NUN   DEF-sad.3SG.F(-NUN)   DEF-old.3SG
      'I heard an old sad story.'

The straightforward assumption is that there is nunation spreading where the nunation suffix spreads all over the nominal modifiers within the same DP, as is the case with the well-known assumption of definiteness spreading (cf. Borer 1999). The exact nature of this spreading and its evidence are left open for further research.

In the next section, we investigate certain issues that support our analysis to the nunation suffix as an element to fill the head D° position.

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[9] The question that arises here is why the nunation suffix does not appear on the final adjective *gadi:mah* in example (16). It can be assumed that the nunation suffix is dropped out of *gadi:mah* by some phonological rule that prohibits [n] at the end of speech. The evidence for this assumption is that if *gadi:mah* is followed by a PP, the nunation suffix must be pronounced. Consider the following sentence:

(ii) *ʔismiʕi-t   gisˤsˤiti-n   ħazi:nati-n gadi:mati*(-n)   fi-s-su:g*
      heard-1SG   story-N   sad.3SG-N   old. 3SG(-N)   in-DEF-market
      'I heard an old sad story in the market.'

4   Residual issues

4.1   Use of the nunation suffix with adverbs and adverbial PPs

As noted above, the nunation suffix is used with adverbs and adverbial PPs. Consider sentence (1c), reproduced below for convenience:

(18) *ʔismiʕi-t   gisˤsˤiti-n   ʔamsi-n   ʔasˤ-sˤubuħ*
      heard-1SG   story-NUN   yesterday-NUN   DEF-morning
   'I heard a story yesterday morning.'

The temporal adjunct *ʔams* 'yesterday' is attached with the nunation suffix. To account for this observation, we follow here a line of research instantiated by Bresnan (1994) and further developed by Kayne (2006). These researchers argue that some adjuncts, especially temporal and locative, are underlyingly DPs headed by phonetically-null temporal or locative head Dº.[10] The assumption is that (temporal) adjuncts in HA are underlyingly DPs headed by Dº. Evidence for this assumption can be found in that the temporal adverb *ʔams* 'yesterday' can be suffixed with the definite *ʔal-*, forming *ʔal-ʔams*, literally 'the yesterday'. As such, Dº heading such adjuncts must be filled overtly due to the HDC. The nunation suffix is used to meet the demands of the HDC when the definite article is not used.

It should be noted here that not all adjuncts in HA can be suffixed with the definite article. For example, the habitual adverb *da:yim* 'always' does not accept the addition of the definite article *ʔal* (*da:yim* → **ʔal-da:yim*). This may predict that the nunation suffix is also barred, contrary to fact (*da:yim* → *da:yimin*). In view of this, it is postulated that habitual adverbs are headed by Dº which must be filled due to the demands of the HDC. Given that the definite article cannot be used in conjunction with habitual adverbs, the nunation suffix is the only possible device to satisfy the HDC. The adverb *da:yim* moves to the Specifier position of DP, forced by the [EDGE] feature on Dº.

As for manner adverbs, they come in HA as adverbial PPs headed by the preposition *bi* 'with'. For instance, the manner adverb 'quickly' is rendered into HA as *bi-surʕah*, literally 'with quickness'. In such cases, the noun must be indefinite, attached with the nunation suffix. See the following schematic derivation of the adverbial PPs *bi-surʕah* 'quickly':

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[10] See Stanton (2016) for a similar approach to locative and temporal adjuncts.

(19)
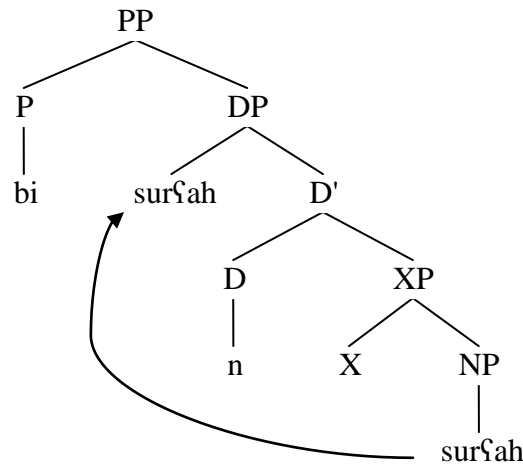
The observation that adverbs are adverbial PPs has been attested in several Semitic languages, including Hebrew. For instance, Siloni (1997: 77) made it clear that adverbs in Hebrew are mostly adverbial PPs, as in the following Hebrew examples taken from Siloni (the adverbial PP is in boldface).[11]

(20) *ha-harisa   ʃel   ha-batim   **be-'axzariut***
      DEF-destruction of   DEF-houses   in-cruelness
      'The destruction of the houses cruelly/in cruelness'

However, HA is different from Hebrew in that NPs within the adverbial PP are not attached to the nunation suffix. This entails that the HDC is not operating in Hebrew.

Taken together, the examples in this subsection show that adverbs and adverbial PPs in HA are underlyingly DPs headed by D°, which is lexicalised by the nunation suffix due to the HDC.

4.2 Absence of the nunation suffix on verbs, prepositions and pronouns

The absence of the nunation suffix on verbs and prepositions follows from our analysis with reference to the HDC, which demands the D° position to be filled. Consider the following examples:

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[11] The gloss of example (20) is modified to be consistent with this paper.

(21) a. *ʔismiʕi-t*(-n)*   *gisˤsˤiti-n*
          heard-1SG(-NUN)   story-NUN
          Intended: 'I heard a story.'

      b. *ʔidʒa*   *ridʒa:li-n*   *ʕala*(-n)*   *ʔad-da:r*
          came.3SGM   man-NUN   on(-NUN)   DEF-house
          'A man came to the house.'

As is clear from the examples in (21), the respective sentence becomes
ungrammatical if the nunation suffix is attached to a verb, as in (21a), or to
a preposition, as in (21b). Since neither verbs nor prepositions have D°
position, the lack of the nunation suffix with such phrases directly follows.
The HDC is not activated in such expressions. This observation lends
further support to our assumption that the nunation suffix is a zero-level
element. In the case of verbs and prepositions, the head position is
occupied by a preposition and a verb, respectively.

    As for personal pronouns, it is quite clear that neither the definite
article nor the nunation suffix can be attached to such entities (consider
(*ʔal-)hu:* 'he', (*ʔal-)hi:* 'she', *hu:-n*, *hi:-n*). The account of this
observation is simple following our approach. Such pronouns occupy the
head D° position, and hence there is no need to fill it (see Cardinaletti 1994;
Baggaley 1998; Fassi Fehri 2012, among others, for arguments that
personal pronouns occupy the head D° position). For demonstrative
pronouns, the situation is different. Such pronouns precede or even follow a
DP headed by the definite article. Consider the following examples (the
demonstrative pronoun is in boldface):

(22) a. **ha:ða**   *ʔar-radʒil*
          this   DEF-man
          'this man'

      b. *ʔar-radʒil* **ha:ða**
          DEF-man   this
          'this man'

If the DP appears without the definite article, the resulting structure will be
ungrammatical under the DP-reading.[12]

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[12] Examples in (23) are grammatical under sentential readings. See Alrasheedi (2016)
for details on this matter.

(23) a. *__ha:ða__ *radʒil*
          this   man
          'this man'

     b. *__radʒil__ __ha:ða__*
          man   this
          'this man'

Such behaviour of demonstrative pronouns in HA is captured assuming that they occupy a distinct functional layer, DemP, in the sense of Cinque (2000; 2005), that c-commands the DP. DemP sub-categorises for a DP the head of which is filled by the definite article, *ʔal*.[13] This analysis predicts that the nunation suffix is not attached to demonstrative pronouns, given that sub-categorisation properties of DemP will not be met. HA data confirms this prediction, because adding the nunation suffix to nouns in examples (23a–b) does not either ameliorate them.

(24) a. *__ha:ða__ *radʒili-n*
          this   man-NUN
          Intended: 'this man'

     b. *__radʒili-n__ __ha:ða__*
          man-NUN   this
          Intended: 'this man'

Here, one may ask whether quantifiers occupy the head D° position in HA or not. The answer, for both this dialect and other Arabic varieties, is no. Quantifiers in Arabic can be prefixed with the definite article as in *ʔal-kull* 'the all' and suffixed with nunation *-n*, as in *kulli-n*. Recent approaches to Arabic quantifiers treat them as NPs rather than Ds (see Abdel-Ghafer 2015).

4.3   Lack of the nunation clitic with possessive constructions

The question that arises here is whether there is NUN-to-D raising in NA. If such raising takes place, there is no need for the nunation suffix to fill the head D° position which is already filled by the raising N. Additionally, the

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[13] For cases when the demonstrative pronoun is preceded by the DP, it is assumed that the DP moves to the Spec of DemP, following Cinque (2000; 2005). However, a full analysis of this matter lies beyond the scope of this study.

definite article is banned in such an environment for the same reason. As far as HA is concerned, a possible context for NUN-to-D raising is possessive constructions in which the head noun is suffixed with a pronominal clitic as in *bint-i* 'my daughter', literally 'daughter-my'. In such constructions, neither the definite article nor the nunation suffix is allowed. Consider the following examples:

(25) a. **ʔal-bint-i*
          DEF-daughter-my
          Intended: 'my daughter'

      b. **bint-t-n*
          daughter-my-NUN
          Intended: 'my daughter'

      c. **bint-n-t*
          daughter-NUN-my
          Intended: 'my daughter'

The definite article is disallowed, as in (25a), and so is the nunation suffix irrespective of whether the nunation suffix is inserted to the end of the Dº, as in (25b), or between the head noun and the possessive clitic, as in (25c). If we assume here that the head noun is raised to the head Dº position, the ban on the use of the definite article and nunation suffix follows. Note, here, that such a ban lends further support to the idea that the definite article and the nunation suffix vie for the same position in narrow syntax, which is the head Dº position.

      In view of this, the observation that no cases in HA whereby a DP contains no Dº are found can be straightforwardly accounted for. Consider the following examples.

(26) a. *ʔismiʕi-t   gisˤsˤiti*(-**n**) ʔamsi-n   ʔasˤ-sˤubuħ*
          heard-1SG   story(-NUN)   yesterday-NUN   DEF-morning
          'I heard a sad story yesterday morning.'

      b. *ʔismiʕi-t   *(**ʔal**)-gisˤsˤa ʔamsi-n   ʔasˤ-sˤubuħ*
          heard-1SG   DEF-story   yesterday-NUN   DEF-morning
          'I heard the sad story yesterday morning.'

In (26a), the nunation suffix is obligatory, and the same applies to the definite article in (26b). Otherwise, the DP, *gisˤsˤit* 'story' appears plain,

i.e. without *-n* or *ʔal-*, which leads to the ungrammaticality of the respective sentence. It can be generalised that DPs in HA must be either marked by the definite article or the nunation suffix, following the HDC.

5   Conclusion

In this study, we pursued a research agenda that seeks to account for the use of nunation in HA. The main argument we put forward was that the nunation suffix, *-n*, is Dº, in accordance with the Head Dº Condition (HDC), which requires the head Dº to be overtly filled. The HDC provides feasible explanation to 1) the lack of *-n* with definite DPs the head of which is the definite article *ʔal-*, and 2) the presence of *-n* in indefinite DPs and proper nouns. The discussion also revealed that adverbs in HA are underlyingly DPs headed by Dº, which explains the appearance of *-n* on adverbs. We proposed that the nunation suffix, *-n*, is employed to establish a predicational relation inside the DP under examination. What lends credence to our argument is the fact that the nunation suffix is neither suffixed to verbs, personal pronouns nor prepositions; the categories occupying the head position in their relevant constructions.

Acknowledgements

Abbreviations

1 = first person; 2 = second person; 3 = third person; ACC = accusative; DEF = definite; F = feminine; GEN = genitive; M = masculine; NOM = nominative; NUN = nunation; SG = singular

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