# ANIMACY: THE OVERLOOKED FEATURE IN PERSIAN<sup>∗</sup>

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## 1.     Introduction

Animacy is an overlooked feature among the set of Φ-features. Person, number, and gender have drawn more attention than animacy in the literature. This feature has recently been the subject of some discussion. For instance Ormazabal & Romero (2002) propose that Bonet's (1991) PCC constraint[1] is in fact triggered by the presence of animacy in object agreement. Moreover, animacy in Russian has been of particular interest in the literature, since it is reflected in the accusative case form of certain nouns and in the agreement of adjectives (Fraser & Corbett, 1994, among others).

In this paper, I show that animacy in Persian has morphological exponent and imposes a restriction on the subject-predicate agreement.  I propose a treatment within the Distributed Morphology framework for this restriction.

It is a common belief that only person and number have morphological exponent in subject-predicate agreement in Persian (Meshkat-al dini 1987, Thacktson 1983, among others). In other words, only person and number need to be values/checked on tense. However, I introduce and discuss constructions in Standard Persian with inanimate plural subject/external argument that exhibit a constraint on subject-predicate and appear with default agreement on the verb.

In standard Persian, only animate subjects induce number agreement on the verb and plural inanimate subjects appear with singular agreement morphology. This is shown below.

(1)     toofan-ha-ye peyapey  dehkæde ra   [viran    kærd-Ø]
        storm-pl-of   constant village  Acc. destroyed did-3sg
        constant storms destroyed the village

In (1) the subject *toofan-ha* is in plural while the verb bears a singular morphology. This is against the subject-predicate agreement in Persian.

The same phenomenon exists in Georgian (Harris, 1981). The example is in (2).

(2)     a.      knutebi goraven                          *Gerogian*
                Kittens they-roll
                The kittens are rolling

[1] The Person Case constraint states that in ditransitives with a combination of dative and accusative clitic, the accusative must be 3rd person.

b.  burtebi goravs
    balls    it-rolls
    the balls are rolling

(Harris, 1981: 149)

Again, it can be seen that inanimate external argument in (2.b) *burtebi* appears with third person singular morphology (it-rolls).
In Modern Persian however, this constraint may or may not surface, and the plural in-animate subjects may select a verb either in plural or singular form as shown in (3.a, b).

(3)  a.  toofan-ha-ye peyapey dehkæde ra  [viran    kærd-Ø]
         storm-pl-of   constant village   Acc. destroyed did-3sg
          constant storms destroyed the village

     b.  toofan-ha-ye peyapey dehkæde ra  [viran    kærd-ænd]
         storm-pl-of   constant village   Acc. destroyed did-3pl
          constant storms destroyed the village

In  (3.a) where the subject *toofan-ha* is in plural and the verb is in singular. In (3.b) however, the subject *toofan-ha* is in plural and the verb is in singular.
    This paper is to demonstrate that Animacy is a crucial feature in Persian and more importantly to explain the subject-agreement restriction caused by Animacy. I adopt the framework of Distributed Morphology (DM) to capture this constraint. I propose that one of the core operations of DM, namely, *Impoverishment* is responsible for such constraint on agreement.
In addition I argue in favor of "Optionality" for Modern Persian (3), where both agreeing and non-agreeing forms are possible.
    The Outline of this paper is as follows. In section two, I demonstrate the morphological realization of animacy in Persian and introduce the subject-verb agreement paradigm as well as constructions with in-animate plural subjects. In section three, an overview of the fundamental concepts of DM will be introduced and discussed. In section four I provide an analysis for the Persian constructions with agreement restriction.

## 2.    Animacy in Persian

### 2.1   Morphological Realization

Bonet (1995: 645) states that animacy is a feature that seems often to have an active syntactic and/or semantic role in many languages but not very often have a morphological correlate. Persian however, is among the languages in which animacy does have a morphological correlate. Below I provide an environment in which animacy is morphologically realized.

In Persian plural markers agree with DP with respect to animacy. That is, animate DPs take a different plural morpheme that inanimates. This is shown below[2].

(4)     a.      mæn doxtær-**an** ra      did-æm
                I      girl-pl      Acc.  saw-1sg
                I saw the girls

        b.      mæn ketab-**ha** ra      did-æm
                I      book-pl Acc.  saw-1sg
                I saw the books

In (4.a) the plural marker for animate DP *doxtær* is  -*an*, while in (4.b) the plural marker for inanimate DP *ketab* is –*ha*.
In general, in Standard Persian the Plural marking affix and verbal inflection agree with the noun in the animacy feature. This is shown in (5) with the bold constituents showing the distinction.

(5)     a.      dozd-**an**-e gostakh [færavan **ænd**] æz an-**an**      [doori   kon-id]
                thief-pl-of bold   plenty  are  from that-pl    farness do-2pl
                There are a lot of bold thieves, stay away from them.

        b.      ændishe-**ha**-e gostakh-ane [færavan **æst]** æz an-**ha**[doori   kon-id]
                thought-pl-of bold        plenty   is  from that-pl farness do-2pl
                There are a lot of bold thoughts, stay away from them.

The subject in (5a) is animate and plural (the bold thieves); therefore the complex predicate [are plenty] is in plural form. The plural marker for the NP (the thieves) has the affix -*an***.** In (5b) the subject (the bold thoughts) is inanimate and plural, however, the compound verb *færavan æst* is in singular form. The plural marker *ha* also differs from the one in (5a).

## 2.1     Plural inanimate Subjects and Agreement

Traditionally, subject-predicate agreement is absent when the subject is plural inanimate, as illustrated below.

(6)     a.      khiyaban-ha [khælvæt æst-Ø]
                street –pl     quiet  is-3sg
                The streets are quiet

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[2] This distinction is violated in Modern Persian and animate DPs may take –*ha* as the plural marker, but inanimate DPs cannot appear with –*an* in plural form.

b.　　toofan-ha-ye peyapey  dehkæde ra　[viran　kærd-Ø]
　　　storm-pl-of　constant village　Acc. destroy  did-3sg
　　　constant storms destroyed the village

c.　　ghætre-ha-ye baran be zæmin  chekid-Ø
　　　drop-pl-of　rain　to ground  dropped-3sg
　　　drops of rain dropped to the ground

As can be seen in the examples above, the inanimate subjects, which in some cases are also external arguments (*the streets, constants storms, the drops of rain*) are in the plural form while the verb is in singular form. Saadat (1996) states that the philosophy behind this restriction is that in Old Persian inanimates have been considered as not being real agents in the sense of having control over their actions.

In Modern Persian however, subject-predicate agreement for plural inanimate external arguments/subjects is possible, as shown in (7).

(7)　a.　　bærg-ha rikht-Ø
　　　　leaf-pl　fell-3sg
　　　　The leaves fell off

　　b.　　bærg-ha rikht-ænd
　　　　leaf-pl　fell-3pl
　　　　The leaves fell off.

In (7) the same inanimate plural subject *the leaves* appears with singular or plural verb agreement.

Meshkat al-dini (1987) and Thacktson (1978) among others have pointed out the possibility of using both agreeing and non-agreeing forms for inanimate plural subjects in Modern Persian. However neither a syntactic nor a morphological account has been provided in any of the literature.

Meshkat al-dini (1987) argues that there is a restriction on [-animate +pl] NPs in Persian and they may appear with either singular or plural agreement. He argues that when the emphasis is on the individual members of the plural inanimate NP, the agreeing form is used, and when the plural NP is used as a unit and suing singular morpheme on the verb does not cause ambiguity, the verb can appear in singular form:

(8)　dær bagh  gol-ha-ye　　ziba-y-i　　　[shekofte æst/ænd]
　　in　garden flower-pl-Ez  beautiful-indef.　bloomed is/are
　　*Beautiful flowers are (have) bloomed in the garden.*

In (8) Meshkat al-dini (1987) argues that if we are talking about every single flower the verb must be used in plural form, and if we are talking about the flowers as a whole the verb may be used in singular form.

One thing is clear; Modern Persian exhibits a variation on subject-verb agreement when it comes to [-ani, +pl] NPs.
So far, it was shown that animacy affects subject-predicate agreement and the plural marker morpheme in Persian.

Returning to the subject-predicate restriction; recall that in modern Persian subject-predicate agreement is optional when the subject is plural inanimate. Below is an additional example.
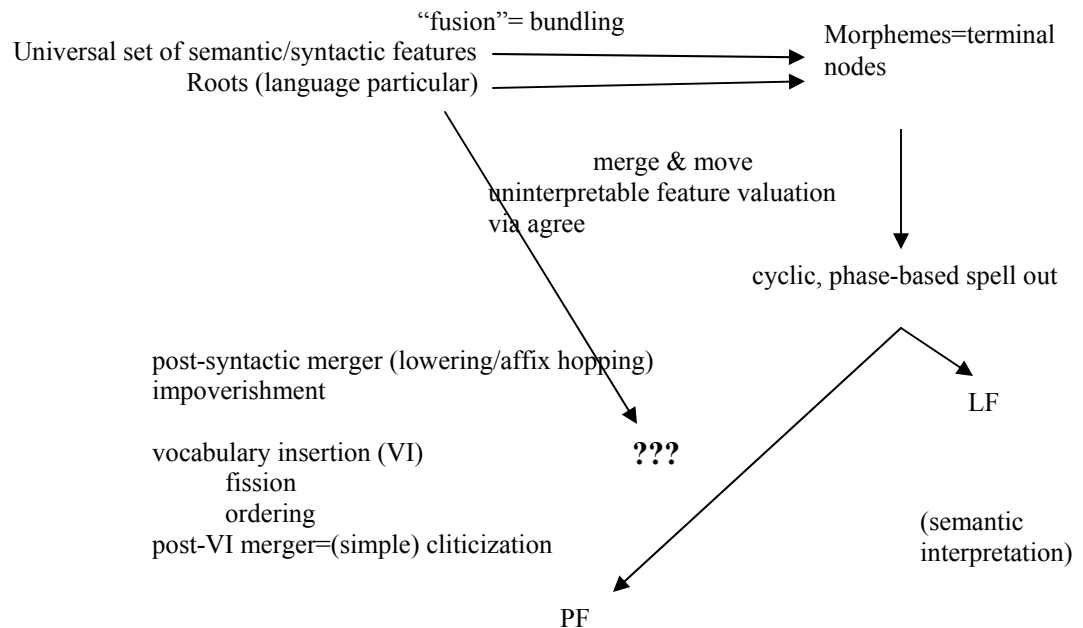
(9)     in    lebas-ha    be to   ne-miya-d/n
        this  clothes-pl  to you neg-to suit-3sg/pl
        these clothes don't suit you

Example (9) demonstrates that the plural inanimate subjects *these clothes* may select a singular or plural verb.
In the next section, I provide a summary of the core concepts of DM.

## 3.     Distributed Morphology

The background information about DM provided in this section unless otherwise mentioned is from Marantz's (2003) LSA summer institute course material. The frame work of Distributed Morphology (Halle and Marantz 1993) sees Morphological Component as a distinct level of grammatical representation. It is believed that morphology operates on its own principles and mediates between syntax and phonology. Unlike in traditional morphology, the morphological principles may apply at various points of the syntactic derivation and therefore, morphosyntactic information can be changed in the course of the derivation. Only after all morphological operations have applied at the syntactic and post syntactic level, morphological structure inserts Vocabulary items in response to the morphosyntactic information present at the terminal nodes at spell-out (Late insertion).  The structure of the Grammar according to DM is demonstrated below.

(10) <u>Distributed Morphology: The structure of the Grammar</u>

"fusion"= bundling

Universal set of semantic/syntactic features ⟶ Morphemes=terminal nodes

Roots (language particular) ⟶

merge & move
uninterpretable feature valuation
via agree

cyclic, phase-based spell out

post-syntactic merger (lowering/affix hopping)
impoverishment

vocabulary insertion (VI)
    fission
    ordering
post-VI merger=(simple) cliticization

**???**

LF

(semantic interpretation)

PF

     As can be seen in (10) the structure of the grammar is still from the classic Y-type. The sub-set of universal features chosen by a language are combined or bundled into morphemes for the computational system. This is called "*fusion*". Fusion is the pre-syntactic bundling of features to create merge-able nodes for Syntax. These morphemes contain only the features relevant for the computational system of syntax and nothing else. An example for fusion would be bundling of Φ-features of the subject with the Tense features into a single morpheme. Whereas in German, these two sets of features are separate. This is shown in (11) for English and German.

(11)  a. say             said

     b. sag-  te-  st       sag-  Null-  st
       'say'  past  2sg     'say'  Pres     2sg

                                (Halle, 1997: 427)

     Syntax then generates structures from Roots (language Particular) and the set of universal features by "move" and "merge" and uninterpretable feature valuation via Agree. Spell-out delivers these syntactically generated structures to

the morphophonology and to LF for interpretation in a "phase-based"[3] cyclic way.

One of the post-syntactic processes that would be of particular interest for this paper is Impoverishment. **Impoverishment** or blocking across positions is when one morpheme or vocabulary item deletes the features of another independent morpheme before vocabulary insertion at the other morpheme. According to Marantz, Impoverishment is the key reason of doing morphophonology after syntax. In simple words, it is deletion of some of the features operating in syntax prior to doing phonological realization of features. Impoverishment rules were first introduced by Bonet (1991) as delinking rules. Impoverishment as delinking means that delinking of a certain feature entails delinking of features dependent on them. This is shown in (18).

(12)    Impoverishment as Delinking

            2               2
            |
            pl
            |
            f

                                        (Harley & Noyer, 1999:17)

In (12) Person feature dominates number features which dominate gender features. And the impoverishment (delinking) of number entails delinking of gender as well.

In DM impoverishment is one of the ways that the morphology can manipulate the morpho-syntactic structure and that is the deletion of a feature in a specific context. Two examples of impoverishment rules for English and Russian are given below:

(13)    a.      [person, Num] → Ø /[+perf] (or +past)   English
        b.      [gender] → Ø / [plural]                Russian
                                                       (Bobaljik, 2002:15)

Form (13.a) means that by deleting person and number features in the context of [+perf] in English, no vocabulary insertion rules will be able to access these features and thus no verb in English will have person or number distinction in the context of perfect tense (Bobaljik, 2002). Therefore, even though a particular verb may be in [3sg +perf] in the syntax, the 3sg features are deleted after syntax and prior to Vocabulary insertion by the impoverishment rule in (19.a). Consequently, the context for insertion of the –z affix does not exist at the vocabulary insertion. Accordingly, (19.b) indicates that in Russian

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[3] For Chomsky, C and little v are considered strong phases (Beyond Explanatory Adequacy).

no gender distinctions will be marked in the plural form. In other words, this impoverishment rule deletes all gender features in the context of plural as part of the mapping from a syntactic representation to vocabulary insertion. Therefore, [plural, feminine] cannot survive to vocabulary insertion. In plural contexts it is the feature [plural] that survives and the feature [feminine] is impoverished.

Noyer (1997) rejects the geometries used by Bonet in impoverishment (), rather, following Calabrese (1995) he argues that impoverishment is feature co-occurrences restrictions or "filters" for phonological segment inventories. For example in Arabic, the absence of a first person dual is represented as the filter *[1 dual] and because according to the Universal Hierarchy of Features Number is higher than Person, dual is impoverished automatically. Furthermore, Noyer (1998) argues that impoverishment can also be change of feature as opposed to feature deletion. But it will always be from more marked to lees marked value and never vice versa.

## 3.1    Blocking and Impoverishment

As mentioned earlier, in DM affixes compete with each other for to be inserted to the same terminal node and the most highly specified one wins and therefore *blocks* the other affixes. Blocking then happens *at* a position is therefore is featurally coherent. Since the competing affixes carry the same type of feature (but not exactly the same). In the case of impoverishment, one morpheme or vocabulary item deletes features in a different (independent) morpheme before vocabulary insertion at the other morpheme. Impoverishment therefore is not featurally coherent (usually spelling out different features, but one agreement morpheme might impoverish a feature of another morpheme). Therefore, the impoverishment blocking happens *across* positions but in a local domain.

Another difference between Impoverishment (Blocking across positions) and (competition) Blocking (at a position) is that Impoverishment causes less specified/marked form to block the more specified/(marked form, while Blocking at a position causes a more marked form to cause a less marked one. For example the more marked irregular past tense form (*went*) blocks the less marked form (*\*goed*). These operations can happen on stems (as *went* example) or on morphemes. Therefore, blocking is emergence of the *marked* feature where as impoverishment is emergence of *unmarked* feature. Marantz provides the examples of Inkelas (1993) Nimboran subject-verb agreement structure where the difference between competition blocking and Impoverishment is more evident. In Nimboran, the 'dual' vocabulary item is more highly specified than the default 'plural' vocabulary item. Therefore the dual vocabulary item is inserted to the number agreement node, blocking the less marked 'plural' when the subject is dual. An example of competitional blocking is below.

(14)    a.    [ngedou]-[k-d-u]
               draw (here) dual-Fut-1$^{st}$
               we two will draw here

b. [ngedói]-[<i>-d-u]
draw (here) plural-Fut-1$^{st}$
we (many, not two) will draw here

In (14), more highly specified dual '*k*' blocks less specified *<i>* when the number feature of subject is dual.
An example blocking across positions or Impoverishment causing less specified form blocking more specified form is below.

(15) a. [ngedói]-[<i>-tam-t-u]
draw plural-DUR-Pres-1$^{st}$
we two (or many) are drawing

b. *[ngedói]-[k-tam-t-u]

In (15) the Durative morpheme '*tam*' impoverishes number features on the number agreement node, destroying the features that dual vocabulary item '*k*' needs for insertion. Therefore in the context of Durative when the subject is dual instead of the dual morpheme the default 'plural' vocabulary item *<i>*is inserted.
Other theories of morphology would have a hard time explaining why a word with a plural (less marked) morpheme may be interpreted as having a dual (more marked) subject. That is why impoverishment is considered as one of the key elements of DM.

**4. Analysis**

Let us consider the Persian data again. Example (1) is repeated below.

(16) a. toofan-ha-ye peyapey dehkæde ra [viran kærd-Ø]
storm-pl-of constant village Acc. destroyed did-3sg
constant storms destroyed the village

b. toofan-ha-ye peyapey dehkæde ra [viran kærd-ænd]
storm-pl-of constant village Acc. destroyed did-3pl
constant storms destroyed the village

In Standard Persian (16.a) the verb does not agree with in-animate subject in number and appears in default form (3$^{rd}$ person singular).
Whereas in Modern Persian the verb may agree with plural in-animate subject (16.b) or may appear in default form.
I first discuss the problematic form (16.a). The following paradigm can be said for structures like this.

(17)  <u>Subject-verb agreement Paradigm in Modern Persian</u>

|  | *subject* | *Agreement* |
|---|---|---|
| +Animate | -pl | + |
|  | +pl | + |
| -Animate | -pl | + |
|  | +pl | Default |

In (17), agreement is obtained for animate subjects both in plural and singular form. Whereas for in-animate subjects agreement in obtained only for singular/-plural subjects and +plural subjects appear with default morphology on the verb. Therefore, I propose that in Persian, number is impoverished by [-ani] feature. This rule is shown below.

(18)  [N]→ Ø / [-Ani]

The impoverishment rule in (18) means that in the context of –animate subjects number feature is deleted leaving verb with default morphology. The reason for appearance of 3rd person is not related to the impoverishment rule and is simply related to the nature of in-animates that can never be a participant (speaker or addressee) (Ritter & Harley, 1998: 5). Therefore anytime this impoverishment rule is applied we automatically have [-P] as well. The [-P] feature therefore corresponds to the nature of in-animates. So the impoverishment rule in (18) states that 'number' feature is impoverished in the context of [-Ani]. It is obvious that the singular form or [-N] is not affected by this impoverishment rule and remains intact (in singular form).
According to DM, subject-verb agreement originally existed in Syntax. However, after syntax and before Vocabulary insertion an impoverishment rule/operation deletes Number features of T by (or in the context of) [-Ani] feature of the subject which is in a local domain of T. Similar to any other impoverishment (blocking across positions) rule the product of this operation leads to emergence of a less marked feature in this case no Number feature/singular.
Note that this impoverishment rule is occurring in the context of [–Ani] subjects but only and affecting [-Ani +pl] subjects since there is no dual in Persian and Number has only two exponents: singular and plural and deletion of the feature [+pl] is entails singular morphology which is no/default Number and is clearly less marked than [+pl][4].

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[4] The fact that there is no dual in Persian also entails that the more precise way of stating the impoverishment rule is +pl → Ø / -Ani, since we don't have the evidence of the result on duals (if they hypothetically existed) but the intuitive idea for in-animate subjects as not being true agents in the sense of having control over their action entails not being able to induce agreement on the verb, therefore, I stand the position of considering Number as the impoverished feature.

As mentioned in section (1) in Modern Persian both agreeing and non-agreeing forms are possible[5] (19).

(19)  a.      toofan-ha-ye peyapey dehkæde ra   [viran     kærd-Ø]
              storm-pl-of   constant village   Acc. destroyed did-3sg
              constant storms destroyed the village

      b.      toofan-ha-ye peyapey dehkæde ra   [viran     kærd-ænd]
              storm-pl-of   constant village   Acc. destroyed did-3pl
              constant storms destroyed the village

I argue in favor of 'Optionality' of the impoverishment rule in (18). In (19.b) where subject-verb agreement with [+pl, -Ani] subjects is obtained, the agreement obtained in Syntax has not been affected by the impoverishment rule (18) before the Vocabulary insertion and therefore, full agreement surfaces. Whereas in (19.a) the impoverishment rule does apply after syntax and before vocabulary insertion; causing the default form of the verb. Where exactly Optionality fits within DM is a question that remains unanswered at this point.

## 4.1.   Summary

In this work animacy was introduced in Standard Persian as a feature of particular interest. It was shown that this feature induces agreement on plural marking affixes. It was also demonstrated that inanimate subjects induce a constraint on subject-verb agreement and cause the verb to appear with singular/default morphology. This constraint was captured by an impoverishment (blocking across positions) rule deleting the number feature in the context of inanimate subjects (or when the subject carries -animate feature). The impoverishment rule proposed for Standard Persian was reported to be optional in Modern Persian.

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[5]  Saadat (1996) argues that semantics of the verb dictates which verbs will bear agreement and which verbs will not depending on their external argument selection (animate or inanimate). This issue will remain to be further explored.

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