# Another look to the Construction of Present Stem in Persian Language

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**Abstract:** In Persian language, the second person singular of imperative verb is used to make the present stem. We present a pattern for making present stem directly from infinitive verbs of Persian language instead of using imperative form. In this study, the Persian verbs are categorized in 12 groups regarding the methods used to make their present stems, and the making pattern of each group is presented here.

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#### 1. Introduction

In Persian language, the intransitive verb is used to make present stem of transitive verbs, subjective noun, subjective adjective and gerund form of verbs. The present stem form of any verb is used to make the indicative and subjunctive present forms of that verb. "It is necessary to make past stem and imperative form of a verb for everybody who wants to identify a verb and all forms of its conjugations" (Gharib et al, 1993).

In grammar books (especially in traditional grammar), it is stated that "the present stem of each verb is the imperative form of that verb without initial (b), but no pattern is presented for making imperative form of verbs". In some books it is stated that "The verb stem of simple present tense of a verb is the present stem of that verb" (Meshkatodini, 2001), but again no pattern is available for making verb stem form.

Nowadays, more concrete patterns are needed for more linguistically study of language patterns to conjugate verbs and specially to meet computer requirements in natural language processing. These patterns should be available and more obvious for Persian language learners who are at the beginning steps.

Consider the infinitive kâshtán (planting). The question is how the present stem of this verb can be made? According to traditional grammar, to make the present stem of a verb, first, the imperative form of that verb should be made, and then letter (b) should be added to the beginning of the imperative form.

The second question is about construction of imperative form of verbs, because without having the knowledge of conjugating verbs, a computer or a person who is not familiar with Persian language is not able to make the second singular imperative form of a verb. However, in order to make imperative form

of a verb from the infinitive, the simple present tense of that verb should be made first, then the letter (b) should be added to the beginning of the verb to make second person singular imperative form of that verb. In this study a pattern will be presented to make present stem of verbs by just using Infinitive forms, but not imperative verb.

#### 2. Method

Studying the methods of constructing present stem using infinitives has done in two steps:

Step one "Data collection and information": In this study all main infinitives such as transitive and intransitive one are extracted from Moein sixvolume Persian dictionary (Moein Persian Dictionary, 2001), regarding the wide range of verbs in Persian language.

Step two "Categorization of infinitives": After linguistic study, infinitives are categorized regarding their appearances.

## 3. Results

List of simple verbs of Persian language:

First, all verbs of Persian language (including simple, prefix and compound verbs, the numbers of which are estimated about 8100) were extracted from Moein Persian dictionary, and since all prefixes and compound verbs are derived from simple verbs and conjugated like them, we just considered and discussed simple Persian verbs which include about 1480 verbs.

According to traditional grammar, the Persian infinitives can be presented based on their appearance," The infinitives of Persian language are generally ended with (tán) or (dán) (Dehkhoda, 1994).

Example:

ráftán (to go) goftán (to say) khordán (to eat) kándán (to dig)

But from another point of view the following specifications can be considered for Persian infinitives comprehensively:

All Persian infinitives are ended with (án).

# Example:

| âmádán    | (to com)  |
|-----------|-----------|
| khordán   | (to eat)  |
| davidán   | (to run)  |
| afrukhtán | (to fire) |
| koshtán   | (to kill) |

The last syllable of Persian infinitives that are ended with (tán) or (dán).

### Example:

| ándâkhtán  | (to throw)   |
|------------|--------------|
| bárdâshtán | (to pick up) |
| bâftán     | (to weave)   |
| âvárdán    | (to bring)   |
| társândán  | (to scare)   |
| ráhândán   | (to release) |

In Parthian agonistic texts, infinitive suffix ends with (tán), (dán) and (zán) (Dehkhoda, 1994).

In Dari (Persian language), there are 12 phonemes which are placed before the infinitive suffix: the vowels (i, o, u, â, á), two voiced consonant (n, r) and four voiceless consonant (kh, s, sh, f) (Dehkhoda, 1994).

In some other words, there are infinitives that their penultimate phoneme end with vowel (i, o, u, â, á) (Dehkhoda, 1994).

### Example:

| árzidán | (to cost) |
|---------|-----------|
| oftâdán | (to fall) |
| áfzudán | (to add)  |

The infinitives that their penultimate phoneme are ended with consonants such as (s sh, f, kh), two voiced consonant (r, n) or (m) (Dehkhoda, 1994).

# Example:

| gozâshtán  | (to put)    |
|------------|-------------|
| négáristán | (to look)   |
| ráftán     | (to go)     |
| gorikhtán  | (to escape) |
| gostárdán  | (to spread) |
| dávândán   | (to run)    |

(Tán) is the basic sign of infinitives. But, if (tán) proceeded with vowels (i, o, u, â, á) or voiced

consonants (r) or (n), it changes to (dán), and if (tán) proceeded with voiceless consonants (kh, s, sh, f), it remains without change (shariat, 2005).

#### Stem:

Stem is a part of verb which implies condition, function and existence of verbs.

The word "radical" is French equivalence for stem. Some linguists have used some other words for stem such as root, base, radical, etc (Anvari, Givi, 2008).

### Types of stem

Any Persian verb has two stems:

#### Past stem:

Past stems are constructed by omitting letter (án) from the end of infinitives. The past and future tenses of Persian languages are constructed by past stems.

#### Present Stem:

Present stems are constructed by omitting letter (b) from the beginning of second person singular of imperative form of verbs. The present and imperative tenses of Persian languages are constructed using present stems.

Method of constructing Persian language stems from infinitives:

As it mentioned before, past stems will be constructed by omitting (án) from the end of infinitives

There is no "Rule Base" for making Persian present stems from infinitives. Exploring on comparison of infinitives and present stem after conjugating all extracted simple verbs from Moein Persian dictionary, we will present 12 base rules to make Persian present stems from infinitives.

Note: All verbs that are dependant on any of these rules are considered as one category.

### These 12 Categories are as follow:

All verbs which their infinitives end with (dán), except (idán), (âdán) and (udán).

### Example:

khândán= khân (to read)

This category forms approximately 24.8% of Persian verbs, and is divided to two groups regarding the changes of their vowels and consonants.

The infinitives which their vowels and consonants remain unchanged when they are converted from infinitive to present stem.

### Example:

mândán= mân (to stay) khândán= khân (to read) The infinitives which their vowels change when they are converted into present stem (after omitting dán). Example:

bordán= bár (to take) rásândán= resân (to deliver)

The infinitives which their present stems are constructed by omitting (tán) from the end of them.

# Example:

koshtán= kosh (to kill) táftán= táf (to heat) bâftán= bâf (to weave)

The infinitives which their present stems are constructed by omitting (idán) at the end of them include 56.4% of Persian infinitives and divided into two categories.

The infinitives which their vowels and consonants remain unchanged when they are converted into present stem.

#### Example:

ârâmidán= ârâm(to repose)bákhshidán= bákhsh(to forgive)khorushidán= khoroosh(to shout)boridán= bor(to cut)khárâmidán= khárâm(to strut)khâbidán= khâb(to sleep)

The infinitives which their vowels change after omitting "idán".

### Example:

davidán= dow (to run)

The present stems of infinitives end with (âdán) are constructed by omitting (âdán).

### Example:

náhâdán= neh (to establish) oftâdán= oft (to fall) istâdán= ist (to stand)

The present stems of infinitives end with (stán) are constructed by omitting (stán).

### Example:

dânstán= dân (to know)
zistán= zi (to live)
ârâstán= ârâ (to decorate)

The present stems of the infinitives are constructed by omitting (stán) and adding (h) to the end of them.

#### Example:

kâstán= kâh (to decrease) khâstán= Khâh (to want) rástán= ráh (to flourish)

Infinitives end with (udán) which their present stems are constructed by omitting (udán) and adding (âi) to the end of them.

### Example:

Âsudán= âsâi(to rest)Nemudán= nemâ (i)(to do)Âzmudán= âzmâ (i)(to examine)Zodudán= zodâ (i)(to remove)

Infinitives end with (ftán) which their present stems are constructed by omitting (ftán) and adding (b) to the end of them.

### Example:

ruftán= rub (to sweep) kuftán= kub (to knock)

Infinitives end with (dán) which their present stems are constructed by omitting (dán) and adding (n) to the end of them.

### Example:

gozidán= gozin(to bite)chidán= chin(to arrange)âfáridán= âfárin(to create)zádán= zán(to hit)

Infinitives end with (shtán) which their present stems are constructed by omitting (shtán) and adding (r) to the end of them.

# Example:

engâshtán= engâr (to imagine) dâshtán= dâr (to have)

Infinitives end with (khtán) which their present stems are constructed by omitting (khtán) and adding (z) to the end of them.

### Example:

âmikhtán= âmiz (to mix) sukhtán= suz (to burn)

Exceptional verbs which is impossible to present structural grammar for constructing them.

# Example:

khâstán= khiz (to rise) neshástán= neshin (to sit) budán= bâsh (to be) didán= bin (to see)

Multiple infinitives present stems:

Some linguists believe that infinitive is the base of verb and past and imperative verbs are derived from it, however some others believe on the opposite (Shariat, 2005). However, some verbs have two, three or four infinitives as shown in Fig 1. In the other words, some verbs have joint present stems.

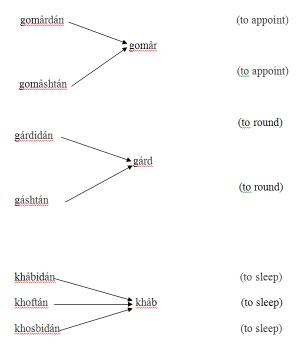


Figure 1. Multiple infinitives present stems

#### 4. Discussions

The subject of making present stem from infinitive is a new one which was considered more after applying computer and translation machine in processing language. The present study has been done with the hope of being a kind of solution for the problems available in current translation machines and other systems which transfer speech to writing and vice versa.

Considering aforementioned patterns, these rules can be used as pattern for future researches. Each of 12 verb categories in Persian language mentioned in this study, have been presented in Table 1:

| Table 1. 12 groups of present stems |   |      |  |  |  |  |
|-------------------------------------|---|------|--|--|--|--|
| Row                                 | Group   | %    | Considerations   |  |  |  |
| 1                                   | Present stem of the infinitives end with dán are constructed by omitting dán at the end of them             | 24.8 | This group is divided into two categories: 1). Vowels & consonants are unchanged. 2). Vowels & consonants are changed. |  |  |  |
| 2                                   | Present stem of the<br>infinitives end with<br>tan are constructed by<br>omitting tan at the<br>end of them | 3    | Example: koshtán-<br>báftán  |  |  |  |
| 3                                   | Present stem of the infinitives end with idán are constructed by omitting idán at the end of them           | 52.7 | This group is divided into two categories: 1) Unchanging vowels & consonants. 2) Changing vowels & consonants.         |  |  |  |
| 4                                   | Present stem of the infinitives end with âdán are constructed by omitting âdán at the end of them           | 1.2  | Example: oftådán-<br>eistådán  |  |  |  |
| 5                                   | Present stem of the infinitives end with stán are constructed by omitting stán at the end of them           | 1.5  | Example: dânestán-<br>zistán   |  |  |  |
| 6                                   | Present stem of the infinitives that are constructed by omitting stán and adding h to the end of them       | 2.2  | Example: kâstán-<br>khâstán  |  |  |  |
| 7                                   | Present stem of the infinitives that are constructed by omitting udán and adding a to the end of them       | 2    | Example: nemudán-<br>âzmudán   |  |  |  |
| 8                                   | Present stem of the infinitives that are constructed by omitting ftán and adding b to the end of them       | 2.7  | <i>Example:</i> kuftán-<br>yaftán  |  |  |  |
| 9                                   | Present stem of the infinitives that are constructed by omitting dán and adding <i>n</i> to the end of them | 5    | Example: âfáridán-<br>chidán   |  |  |  |
| 10                                  | Present stem of the infinitives that are constructed by omitting shtán and adding $r$ to the end of them    | 1.3  | Example: dâshtán-<br>engâshtán   |  |  |  |
| 11                                  | Present stem of the infinitives that are constructed by omitting khtán and adding z to the end of them      | 2.1  | Example: âmikhtán-<br>sookhtán   |  |  |  |
| 12                                  | Exceptional verbs   | 6    | Example:khâstán(khiz)<br>budán(bâsh)   |  |  |  |

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