

Motion Verbs of Manner in *FrameNet*:

A Comparison between Persian and English

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This study aims to comparatively investigate the semantic frames of motion verbs in Persian and English within the framework of the frame semantics theory (Fillmore 1977; 1982; 1985). As far as motion verbs are concerned, Manner is considered as one of the motion components expressed by either the verb or any element other than the verb. In English – a satellite-framed language (Talmy 2000b) – Manner is shown by motion verbs, whereas in Persian it is typically indicated by non-verbal elements, although there are also some verbs via which Manner is encoded. Within this study, thirty English verbs of manner were selected from among the ones Levin (1993) has introduced and then the verbs were translated into Persian and looked up through the Persian Corpus of Bijankhan to achieve their contexts of use. Next, *FrameNet* was asked for the semantic frame each verb evoked. Thereafter, comparing the semantic frames in the two languages, it was revealed that not every verb of manner does exist as a Lexical Unit in *FrameNet*. Likewise, not for every verb was a specified semantic frame either. Moreover, the frames for some other verbs have been defined in such a way that they cannot semantically distinguish those verbs from each other, whereas such distinctions are prominent in both manner verbs and the frames they evoke especially in Persian.

1. Introduction

Frame semantics is a theory that describes events, relations, objects or participants involved in the events. Fillmore (1977, 1982, 1985) introduced the theory the fundamental building blocks of which are such concepts as semantic frame, frame elements, as well as frame-frame relations. *FrameNet*, hereafter FN, has been founded on the basis of the frame semantics theory. The main idea behind FN is to perceive the semantic aspect of words based on the frame semantics theory. For example, the concept of cooking contains such concepts as cook, food, dish as well as the source of heating (<http://framenet.icsi.berkeley.edu>). FN discusses each lexical unit, that is to say each entry along with its frame, and annotates them, as a result of which the semantic and syntactic valences of the lexical units are described. For instance, Motion Frame points out a situation in which Theme moves

from Source, passes through a Path and arrives at a Goal (Petrucci 1997). Sentence 1. illustrates a lexical unit in Motion Frame:

1. “The swarm went away to the end of the hall.”

Figure Move Path Goal Ground

In 1., “went” is considered as a lexical unit in Motion Frame. According to Talmy (2000b), motion enjoys the following indispensable components: Figure which is an entity that moves; Ground which is an entity with respect to which Figure moves or located; Path which refers to the way that being passed through; and Move which refers to the motion event itself.

Talmy (2000b) also provides us with the following example to show the representation of Figure and Ground:

2. “The pen lay on the table.”

In 2., the noun phrase the pen refers to Figure, whereas the noun phrase the table refers to Ground. The structure of FN for motion verbs is that by inserting the word motion into the Search Box of the website, FN provides users with 4 main entries, namely Frame, as follows: Motion; Motion-directional; Motion-scenario; and Motion-noise.

By Motion-noise, FN means the sound verbs pointing out motion like bang, whirl and rumble, and by Motion-scenario, it means relating two situations to each other like travelling and arriving where travelling from one place leads to arriving at another place. Motion-directional Frame points to the motion verbs having the meaning of direction like climb in which the direction towards which Figure’s moving is upward. And Motion Frame refers to a frame including every verb of motion.

It is worth noting that what Talmy (2000b) called Figure is the same as what FN defines as Theme. However, other components of motion enjoy the same name in the two theories (Fillmore 1985; Talmy 2000b): Path; Source; Goal; and Direction. In addition to what Talmy (2000b) has presented as a theory of motion event, he has also provided a classification, namely typology, in which the languages are considered as either verb-framed or satellite-framed. His classification is based upon the fact that how such components as Path and Manner are presented in sentences. Additional information relevant to the classification will be elaborated on in section 5.

As the focus of this study is on motion verbs of manner, the following section would provide a brief description on the works which have been conducted so far around the motion verbs in Persian.

1.1. Review of the Literature

From among the works carried out on motion verbs in Persian, the most outstanding of which that can be referred to are Seyedan (2019), Eslamipour and Sharafzadeh (2018), Shahhoseini *et al.* (2017), Akhavan *et al.* (2017), Mesgarkhooei (2014), Hamedi Shirvan and Sharifi (2013), Azkia (2012), Feizabadi and Pado (2012), Babai (2011), Golfam *et al.* (2012), as well as Amouzadeh and Soltani (2011).

It is worth noting that none of the abovementioned works have studied motion verbs with respect to frame semantics theory. However, there is one work recently conducted within the framework of the theory in which two verbs in Persian such as touring and traveling were examined. In the work, the semantic frames of the two verbs were studied so that the principles governing FN would be determined for developing an FN in Persian (Safari and Rahmatinejad 2018).

1.2. Statement of the problem and structure of the study

The aim of this study is to realize whether the semantic frames of the motion verbs of manner in English and Persian are the same or different. Consequently, the research question can be raised along these lines: What peculiarities do the semantic frames of the verbs of manner exhibit in Persian and English?

The remainder of this paper is organized as follows: section 2 elaborates on the method through which the data have been collected and analyzed. In section 3, the data including manner verbs in the two languages in question as well as their semantic frames extracted from FN would be tabulated. Section 4 discusses the verbs features and the aspects making them different from each other. And as a final point in section 5, the concluding remarks will be described.

2. Method

First of all, the class of manner verbs introduced by Levin (1993) was checked and then, 30 verbs were selected from among them. Next, consulting one of the most reliable and practical bilingual English to Persian dictionary (Haghshenas *et al.*, 2002), the Persian equivalents of the manner verbs were obtained. Then, each Persian equivalent was inserted into the Search box of the Persian Corpus of Bijankhan¹ to access its linguistic context. The corpus is a set of Persian texts including over 2 million and 600 thousand words, which have been labelled by 550 types of POS labels. It also comprises over

¹ <http://corpora.phil.hhu.de/bonito/>

4300 topical tags such as political, historical, social as well as artistic ones. In order to extract the texts related to the motion verbs, they were typed in the Search Box of the corpus, as a result of clicking the OK button of which, a large number of sentences were presented. Afterwards, the selected English verbs were searched through FN, asking for the relevant semantic frames in a way that firstly the verb was typed in the Search Box of FN website and secondly by clicking the SEARCH button, the relevant semantic frames were exhibited in a rectangular box including 5 different items as Lexical Unit, Frame, Lexical Unit Status, Lexical Entry Report as well as Annotation Report. Under the Lexical Unit item, the grammatical categories relevant to the verb are shown and under the Frame item, a number of the semantic frame(s) belonging to the verb are revealed. The items called Frame can be clicked for additional information relevant to that Frame. For example, for the verb glide, there is only one Lexical Unit, which is the verb itself and only one frame which is Motion, whereas for a verb like swing, FrameNet has defined 11 Lexical Units, one of which is swing as a noun and the others of which are swing as a verb. Moreover, it has determined 11 semantic frames, each of which belongs to one Lexical Unit. Indeed, the number of Lexical Units equals the number of the Frames. Each semantic frame was written down exactly in front of its related verb so that they could be referred to easily at the stage of making comparison and analysis. It is worth noting that for some verbs only one semantic frame was defined, whereas for some others, more than one was determined. Interestingly, there were some verbs for which neither Lexical Units nor semantic frames did exist in FN.

The English verbs of manner along with their semantic frames and their Persian equivalents are tabulated in the following section.

3. Results

In this section, the 30 motion verbs of manner in English as well as their relevant semantic frames are tabulated. Table 1. shows the English verbs of manner along with the semantic frames FN has defined for them and Table 2. the Persian equivalents of each English manner verb; the Persian verbs are in the infinitive form (marked by final *-æn*). The next section will present the explanations relevant to the two abovementioned tables.

<i>Manner Verb</i>	<i>Semantic Frames</i>	<i>Manner Verb</i>	<i>Semantic Frames</i>	<i>Manner Verb</i>	<i>Semantic Frames</i>
“run”	Fluidic-motion; Self-motion; Path-shape	“float”	Motion	“twirl”	Moving-in-place; Cause-to-move-in-place
“rotate”	Moving-in-place	“glide”	Motion	“stalk”	Self-motion
“dance”	Self-motion	“crawl”	Self-motion	“amble”	Self-motion
“jump”	Self-motion; Change-position-on-a-scale	“swing”	Motion; Self-motion; Moving-in-place; Change-direction; Path-shape; Change-position-on-a-scale	“scud”	—
“bounce”	—	“twist”	Path-shape; Go-into-shape	“spin”	
“tumble”	Change-position-on-a-scale	“jog”	Self-motion	“push”	Cause-motion

“roll”	Cause-motion; Moving-in-place; Cause-to-move-in-place; Motion; Mass-motion	“lope”	Self-motion	“pull”	Cause-motion
“blunder”	—	“swagger”	Self-motion	“throw”	Cause-motion
“slide”	Motion; Change-position-on-a-scale Cause-motion	“drift”	Motion	“rush”	Fluidic-motion; Self-motion
“stumble”	Self-motion	“whirl”	Motion-noise	“fluctuate”	Change-position-on-a-scale

Table 1. Semantic frames of English verbs of manner

<i>Manner Verb</i>	<i>Persian Equivalent</i>	<i>Manner Verb</i>	<i>Persian Equivalent</i>	<i>Manner Verb</i>	<i>Persian Equivalent</i>
“run”	<i>davidan</i>	“float”	<i>šenavar budan</i>	“twirl”	<i>čarxāndan</i>
“rotate”	<i>čarxidan</i>	“glide”	<i>xarāmidan</i>	“stalk”	<i>bā ehtiyāt raftan</i>
“dance”	<i>raqsidan</i>	crawl	<i>xazidan</i>	“amble”	<i>āheste qadam zadan</i>
“jump”	<i>paridan</i>	“swing”	<i>navasān kardan</i>	“scud”	<i>tond rāh raftan</i>
“bounce”	<i>jahidan</i>	“twist”	<i>tābidan</i>	“spin”	<i>dor-e xod čarxidan</i>
“tumble”	<i>laqzidan</i>	“jog”	<i>yurtme raftan</i>	“push”	<i>hol dādan</i>
“roll”	<i>qaltidan</i>	“lope”	<i>jast-o xiz kardan</i>	“pull”	<i>kešidan</i>
“blunder”	<i>bā telo telo xordan</i> <i>rāh raftan</i>	“swagger”	<i>bā takabor rāh raftan</i>	“throw”	<i>partāb kardan</i>
“slide”	<i>sor xordan</i>	“drift”	<i>bi maqsad raftan</i>	“rush”	<i>hamle kardan</i>
“stumble”	<i>sekandari xordan</i>	“whirl”	<i>čarxidan</i>	“fluctuate”	<i>navasān kardan</i>

Table 2. English verbs of manner and their Persian equivalents

4. Discussion

In this section, at the outset, Talmy's typology and the criterion he has applied to classify the languages would be introduced. Accordingly, languages throughout the world are classified into two groups as verb-framed and satellite-framed languages. The criterion for such classification refers to the way the two components of motion, that is to say Path and Manner, are encoded on the verb. In other words, according to Talmy, a motion event consists of four major components, namely Figure, Ground, Path and the fact of Motion along with two minor components that is to say Manner and Cause. Figure which is a moving object moves along or towards another object which is Ground through a way called Path. The overall phenomenon is determined by the fact of Motion, typically shown by motion verbs. It is worth noting that from among the six components mentioned earlier, it is Path which is considered the typologically distinctive criterion for classifying the languages of the world. As he stated, on the basis of encoding Path, the languages can be divided into verb-framed and satellite-framed languages. Such a classification has led Talmy to introduce the lexicalization patterns to the linguistics society. Accordingly, verb-framed languages are those which encode Path on the verbs, whereas satellite-framed languages are those which encode the same component on any element other than the verbs. In other words, verb-framed languages are known as Path verb languages while satellite-framed languages are known as Manner verb languages. Indeed, it is the Manner which is encoded by the verbs in satellite-framed languages. Based on what Talmy (2000) provides us with about the dichotomous typology of languages, the English language belongs to satellite-framed languages group while a language like Spanish have its place within verb-framed languages category. Examples 3. and 4. depict the motion components as well as the distinction between English and Spanish:

3. "The bottle floated out." [English]

4. *La botella salio de la cueva.* [Spanish]

the bottle move-out from the cave

"The bottle exited from the cave, floating."

It should be said that when it is stated that English is considered a satellite-framed language, it does not mean no path verbs may be observed in it, but few path verbs does exist such as rise, fall, crash, climb, ascend, descend, enter, and exit. Despite having such path verbs, English speakers utilize particles or prepositions to show Path, as indicated by example 3. in which the path of motion is specified through the adverb out. By contrast, in Spanish, a verb-framed language, Path is encoded on

the main verb, as indicated in 4. where the verb *salio* comprises both the fact of motion and the path of it: move + out.

As a further example, sentence 5. can be referred to in which Path is expressed by preposition, whereas Manner is stated by the verb:

5. “He ran into the park.”

In 5., the fact of motion together with the manner of motion is encoded by the verb *run*, whereas the path of motion is encoded by *into*.

Additional point to be mentioned refers to what proposed by Slobin (2004) about the binary typology advocated by Talmy (2000). As Slobin argues, the Talmy’s classification fails to cover languages throughout the world since there are some languages which share the features of both verb-framed and satellite-framed languages while belonging to neither. For the same reason, Slobin (2004) proposes a third type, namely equipollently-framed languages category including Mandarin Chinese and Thai, as two examples.

As for the Persian language which is the focus of this study, it ought to be mentioned that based on what scholars have investigated in recent years, the language could be placed somewhere in between. As Hamedī Shirvan and Sharifi (2014) state, Talmy’s binary typology does not hold true for Persian as the language enjoys the features of both. Thus, it cannot be claimed that Persian merely belongs to either of them. They also believe that the third type proposed by Slobin (2004) is not compatible with Persian either. Due to this, the typology should have been defined as a continuum, as Persian shares some features with the languages of the two categories. Indeed, according to Hamedī Shirvan and Sharifi (2014), if the dichotomous classification suggested by Talmy is assumed as a continuum on one side of which verb-framed languages and on the other side of which satellite-framed languages are placed, the middle position of the continuum will be occupied by Persian, as there are some verbs like *raqsidan* “dance,” and *čarxidān* “rotate” in which Manner is encoded on the verbs, whereas in such verbs as *oftadan* “fall” it is Path which is encoded by the verb.

In the Persian language, Manner can be expressed by both verbal and non-verbal elements. Manner is shown by verbal elements in such verbs as *čarxidān* “rotate,” mentioned earlier, *paridan* “jump,” *xazidan* “crawl,” *larzidan* “tremble” which include both Motion and Manner, whereas in such sentences as 6., it is the non-verbal element — the adverb — which shows Manner:

6. ... *gošād gošād rāh miraft*
loose loose way was going
“ ... (He) was striding.”

As for 6., it should be stated that it is the adverb *gošād gošād* “with wide spread legs” which denotes Manner.

In Persian, besides the non-verbal elements which express the manner of motion, there are some motion verbs which show Manner along with Motion and Path. Such verbs are morphologically classified into two groups as follows: simple and complex. The members of the former include such verbs as *čarxidan* “rotate,” *paridan* “jump,” *xazidan* “crawl,” *larzidan* “tremble” while the members of the latter have typically a non-verbal element being affix or noun. The verb *parse zadan* “wander,” for instance, can be referred to the morphological structure of which is consisted of two parts: *pørse* “wandering” and *zadan* “hit.” In fact, the two parts form a complex predicate altogether, where the second part – *zadan* “hit” – functions as a light verb.

The verbs illustrated in Table 1. are those having Manner inside. However, they can be used with the adverbs of manner to indicate the manner of motion as well. For instance, the verb crawl in sentence 7. is considered as a verb of manner which expresses the manner of motion, whereas in sentence 6., the manner of motion is expressed by the adverb of motion:

7. *tāmi be taraf telefon xazid*
Tommie to side telephone crawl (PAST TENSE)
“Tommie crawled towards the phone.”

The number of the adverbs which semantically express Manner is not great in such languages as Persian because in these languages, which are located between verb-framed and satellite-framed groups (Hamedī Shirvan and Sharifi 2014), Manner is often stated via verb, whereas Path is expressed by non-verbal elements or satellites, as Talmy (2000) put forward.

As Table 1. depicts, there are thirty verbs of manner in this study for some of which FN has defined no semantic frame as scud, whereas for some others, it has defined more than one semantic frame like roll from among the proposed frames of which, sometimes one frame and sometimes more than one frame is compatible with the motional aspect of the verb. For example, for run, FN has defined fifteen semantic frames from among which only three are relevant to motion events while others have nothing to do with the motional nature of the verb. Another point to be mentioned refers to the fact that the Persian equivalents of the English verbs of manner are in some cases a

combination of a verb and an element other than the verb which expresses the manner of motion. Such verbs as “drift” and “swagger,” for example, are respectively translated as going with no destination and walking with conceit in both of which Manner is expressed by with no destination and with conceit. Like drift and swagger, a verb such as stalk has a Persian equivalent as walking with caution in which Manner is stated through the adverb with caution. Reviewing the semantic frames of the motion verbs in general and those of manner verbs in particular reveals the fact that the most prominent criterion for determining the frames defined by FN has been the agent that enjoys volition whose subject or doer may be a person or any other animate entity. Thus, the semantic frame for such verbs is defined as Self-motion. In contrast, there are some motion verbs the subject of which lacks volition to move. For such verbs, depending on the verb in terms of transitivity as well as the path which the verb passes through, the semantic frame would be different. For instance, for the verbs “pull” and “push,” what makes Figure to move is an external factor. In other words, Figure by itself cannot move on the Ground but it is moved by an external force which causes it to move. In sentences 8. and 9., He is Figure and the table is Ground, and what has made Figure to move is the force used for the act of pulling or pushing:

8. “He pulled the table.”

9. “He pushed the table.”

As a result, only one frame is there for the two verbs, that is to say Cause-motion.

As for the verbs for which more than one semantic frame has been defined, it can be claimed that it is the different contexts in which motion verbs take a variety of meanings that specify which frame the verb evokes. For the verb “roll,” for example, several semantic frames have been specified from among which merely five frames are relevant to the motion event such as Cause-motion, Moving-in-place, Cause-to-move-in-place, Motion, and Mass-motion. This reveals the fact that the verb roll evokes different frames in different contexts. Indeed, different semantic frames are specified as a result of different meanings that the verbs relevant to the frame show in different contexts. For instance, in Cause-motion Frame, FN states sentence 10. in which Figure is Pat, whereas in Moving-in-place Frame, it states sentence 11. in which Figure is balls:

10. “Pat threw the china at the wall.”

11. “Balls spin on their axis.”

From the examples 10. and 11., it can be concluded that roll as a Lexical Unit evokes several semantic frames in which a variety of verbs such as throw and spin can be used. In other words, one of the frames such Lexical Units as throw and spin evoke are Cause-motion and Moving-in-place Frames which in turn are relevant to a Lexical Unit as roll.

Interestingly, regarding the Persian equivalents of the manner verbs on the one hand and the semantic frames defined by FN on the other, it should be mentioned that the following three verbs in English are translated as *čarxidān* in Persian by which it is meant moving around a constant point or axis. Such movement can take place by Figure itself or by an external force making Figure move. If Figure starts rotating, its semantic frame, as was already talked about, must be Self-motion; otherwise, such frames as Moving-in-place and Motion-noise would be appropriate. Nonetheless, for none of the 3 verbs Self-motion has been defined by FN. Therefore, if there is an FN for Persian motion verbs in general and for verbs of manner in particular, for the verb *čarxidān* Self-motion must be defined as well.

Even if the English verb turn is going to be considered as one of the equivalents of *čarxidān*, there is still no Self-motion Frame in the English FN.

In addition to what has been argued, there are also some verbs for which no semantic frame was defined by FN such as scud, bounce, and blunder which point out the manner of motion and are translated as *tond rāh raftan* “to walk fast,” *jahidan* “to jump,” and *bā telo telo xordan rāh raftan* “to walk in an unsteady manner; to stagger.” Except for the verb *jahidan*, the other verbs express Manner with the help of such adverbs as *tond* “fast” and *bā telo telo xordan* “in an unsteady manner.”

Another point to mention refers to the fact that some semantic frames for the motion verbs cannot distinguish the verbs from each other. For instance, for such verbs as pull, push, and throw, the relevant semantic frame defined by FN is Cause-motion, which does not necessarily exhibit in what way the verbs are semantically different. Indeed, the verbs “pull” and “push” show opposite directions relative to each other, whereas the verb “throw,” besides the fact that its Direction is forward, its Path lacks a straight pathway, unlike “pull” and “push.” Moreover, the force making an object be thrown is always so great that the object can reach its Goal. However, none of such features were proposed by FN in the semantic frames of the 3 aforementioned verbs. Apart from the verbs of manner, FN has defined no semantic frames for Path verbs in English, the argumentation about which is beyond the scope of this study. It is the topic of another article by the same authors which will be published in the near future.

5. Conclusion

Discussing motion verbs have always been the focus of study on behalf of linguists and the interested in typology. In Persian, the subject has been worked on from a variety of perspectives especially cognitive linguistics. In the current paper, manner verbs of motion were concentrated on within the field of frame semantics theory in general and the FrameNet in particular. Focusing on these verbs raised a question based on which the authors attempted to determine the semantic frames relevant to the verbs in both Persian and English. By selecting 30 verbs of manner in English and finding their Persian equivalents in Persian on the one hand, as well as asking FrameNet for the semantic frames of the verbs on the other hand, the authors concluded that there are some empty places for the semantic frames of some verbs of manner in English such as “scud,” “bounce,” and “blunder” since *FrameNet* has defined no frame relevant to them. Furthermore, there are also some verbs of manner for which the proposed semantic frames are the same while the verbs are by nature different. The verbs such as “pull,” “push” and “throw” are referred to by way of example. Interestingly, such a semantic distinction is more outstanding when the English verbs of manner are translated into Persian, as in their Persian equivalents, Manner is shown by non-verbal elements, as a result of which the semantically distinct frames such verbs in the two languages evoke will be more noticeable.

All in all, the most remarkable distinction among the manner verbs of motion as well as the frames they evoke in both English and Persian refers to 3 differences: First, some manner verbs in English equal motion verb plus a non-verbal element in Persian. In other words, unlike their English counterparts, these Persian equivalents are a combination of a motion verb and a non-verbal element which itself includes the velocity as well as the quality of motion which together shows Manner. Such verbs as “blunder,” “swagger,” “drift,” “scud,” “amble” and “stalk” can be pointed out which, as Table 2 illustrates, are expressed with an adverb showing the manner of motion.

Second, for some manner verbs in English, no semantic frame has been defined by FN while they each evoke a specific frame in the speakers’ minds. Such verbs as “bounce,” “blunder,” and “scud” can be referred to which, as Table 1. depicts, lack semantic frames.

Third, the manner verbs introduced by Levin (1993) and selected for the present study are not the same in evoking the semantic frames, as their semantic aspects and pragmatic usage are totally different. As a result, each of them evokes a frame peculiar to it while FN has specified one single semantic frame for them all. Among such manner verbs, “swagger,” “drift,” “amble” and “stalk” can be pointed out for which FN has defined Self-motion, Motion, Self-motion, and Self-motion Frames respectively, while taking their Persian equivalents into account, it would be more obvious that they

are so different that each will evoke a distinct semantic frame. Consequently, such inadequacies may be helpful to the Persian developers of *FrameNet* in the future.

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