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The analytical and corpus-based study on Semantic and Syntactic Representations of Persian Motion-Directional Verbs [In English]

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ABSTRACT

This study aims to comparatively investigate the semantic frames of motion directional verbs in Persian and English within the framework of the frame semantics theory (Fillmore 1977; 1982; 1985). Motion event is analyzed from different realizations in linguistics. On the one hand, in discussion regarding the meaning of word, verbs have an important function in interpreting the meaning . The different syntactic realizations and different coding of direction in Persian motion directional verbs show that FrameNet should take into account the differences among languages. However, direction in Persian language is encoded as prefix or satellite. Furthermore, this type of investigation also shows us that figurative relations and fictive motions and polysemy should be analyzed in detail by FrameNet. These problems indicate that the language specific features have an important role in frame- to- frame relations. Our discussion of culture and language specific words has shown that not all semantic frames derived on the basis of English are good candidates for universal frame-hood. The case of Persian motion directional verbs has shown that that there are cases in which it is necessary to define more fine-grained semantic sub-frames and augment these with more specific cultural information. Direction is represented as prepositional phrase in verb argument. As far as motion verbs are concerned, direction 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) — direction is shown by motion verbs, whereas in Persian it is typically indicated by non-verbal elements, although there are also some verbs via which direction is encoded. Within this study, 117 Persian verbs of direction were selected from Soxan Dictionary based on 10 verbs which was introduced in motion directional frame in FrameNet and then 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 direction 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 directional verbs and the frames they evoke especially in Persian.
Key words: Sociology of Language, Motion Event, Motion Directional Verbs, Frame Semantics, English FrameNet, Verb-framed Language, Satellite-framed Language

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.

According to the studies, it is clear that so far less attention has been paid to the study of semantic forms of motion verbs in the FrameNet of Fillmore (1977) theory of frame semantics. But in this study, the focus is on the analysis of syntactic and semantic confrontations of motion-directional verbs in both Persian and English in the framework of Fillmore's theory of frame semantics, in which little research has been done.

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.

In this regard, first in the second part, Fillmore (1977)'s theory of frame semantics is briefly introduced, which is the basis for the formation of the frame network and the theoretical framework of the present article. In the third section, the method of data collection and analysis is described. In the following, we analyze the data and the results of the data analysis are presented.

2. literature Review

Fillmore reviewed Talmy' s motion verbs with a different approach; Fillmore first proposed the theory of Case grammar (1968), and in 1971, at

Berkeley University, his theory of the Case became a more complete cognitive theory called the theory of frame semantics (1985). In the grammar of the case, we talked about semantic roles through which the syntactic capacity was determined based on a set of general rules, which, of course, Fillmore acknowledged in his later research that the grammar has shortcomings in several respects. As a result, the concept of frame was formed as a theory of frame semantics (Fillmore, 1982). In frame semantics, situational roles are considered, and each word evokes a form in the mind, while the grammatical order captures its finite and definite components derived from elements involved in a situation, such as [+ living] and [-living] and ... . Frame is a system of related concepts, so that in order to understand each of those concepts, the whole system must be understood. According to Ruppenhofer et al., A conceptual structure is similar to a schema and describes a situation, object, or event with its participants (Baker, 2014: 2).

Throughout his research, Fillmore has emphasized semantics and the role of semantics in morphological and syntactic phenomena. Frame semantics is an approach that examines and studies the relationship between linguistic forms such as words, phrases and grammatical patterns with cognitive constructs, i.e. frames (Fillmore and Baker, 2010: 314). Based on the frame semantics, a complete description of the verbs is provided, which includes information about the grammatical features and the various syntactic patterns in which these verbs are placed. For example, what form components may be the subject of the verb or the object of the verb; Either which of these components is mandatory or optional, or what is the syntactic representation of what a particular semantic role will be, is it a nominal group, or an adverbial group, or ... . Fillmore (1982)'s frame semantics believes that "the meaning of a word can be understood by referring to the background of experience, beliefs or actions, which is a kind of conceptual precondition for understanding meaning" (Fillmore and Atkins, 1992: 76-77). In this way, the meaning of a word is understood in the context of the semantic format. According to Fillmore (1982), frame is a schema of experience that is presented at the conceptual level and is stored in long-term memory, and he believes that words and grammatical constructions are related to frame.

Studies in the field of frame semantics have expanded to lead to the launch of the FrameNet (1997), http://www.framenet.icsi.berkeley.edu, by Baker and a few linguists. This database contains complete information on possible syntactic representations of the frame components, which are formed from examples of marked figures. In the process, tools are created to define frame semantics, to mark sentences, search for results, and submit reports. Each frame in the semantic network includes: frame name, definition, frame components: main and sub, frame relationships and lexical

units. In the definition section, each frame is defined in general; Situational roles are components of the frame; Inter-frames relationships provide information about the hierarchy of frames in the framework net semantic network and how they relate to each other; Vocabulary units are, in fact, words that evoke a particular format in mind.

In the framework, as mentioned, first the name of the frame and then a definition of the frame is provided. The definition of a directional motion pattern is as follows: "The action moves in a certain direction and this action is not necessarily able to move itself, and this movement is done by the force of gravity or other physical and natural forces." The following are other components of the frame, including: a set of semantic roles (frame elements) that are related to the frame and are divided into main and sub-components, lexical units that are representations of templates and examples of it In the form of directional motion are: angle, descend, dip, drop,… . The main components are the elements that are necessary for the main meaning of the frame and the sub-components are divided into marginal and meta-semantic elements (Fillmore, 2007: 133).

From among the works carried out on motion verbs in Persian, the most outstanding of which that can be referred to are Babaei (2011), Azkia (2011), Mesgarkhoui (2013), Hamedi Shirvani and Sharifi (2013). It is worth noting that none of the abovementioned works have studied motion verbs with respect to frame semantics theory. It is noteworthy that less formal semantic theory has been used for research in this field and only a few cases have been mentioned that have only used frame semantic theory for their research; Including: Gandomkar (2014), Naeb Louie, Asi and Afrashi (2015), Mousavi (2015), Hesabi (2016). Dehghan and Karami (2020) in an article entitled semantic forms of breaking verb based on the concept of frame semantics in the study of multiple meanings of breaking verb has given the distinct meanings of this verb and has achieved the main and marginal meanings of 40 meanings. As can be seen, some of these researchers, who have conducted research based on Fillmore's approach, have examined its form by focusing on only one verb. In some other languages, some researches have been done in this regard, such as: Inagaki (2002), Gennari, S. P. and others (2002), Aurnague (2011), Dalpanagioti (2018).

However, in this research, the focus is on the syntactic and semantic confrontation of motion-directional verbs in both Persian and English in the framework of Fillmore's theory of frame semantics, in which little research has been done.

3. Methodology

First of all, the class of motion directional verbs introduced by Fillmore in FrameNet was checked. Next, consulting one of the most reliable and practical bilingual English to Persian dictionary (Haghshenas et al., 2002), then 117 Persian equivalents of the directional 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 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 angle, 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 directional along with their semantic frames and their Persian equivalents are tabulated in the following section .

4. Results

Motion directional frame which were introduced in FrameNet contains verbs such as angle, descend, dip, drop, fall, plummet, plunge, rise, slant, topple.

Our analysis of Persian motion directional verbs shows that Persian also uses a variety of paths between movements; Based on this, we take a brief look at the list of path representations that Ferez has obtained. Ferez (2008: 139) lists the types of path representations seen in different languages as follows:

Towards the ground: arrive and come (ʔâmadan)
Away from ground: depart and take (bordan)
Into ground: enter and (daxel šodan)
Out of ground: exit and (dar ʔâvadan)
Up /onto ground: ascend and get height (bâlâ raftan)
Down from ground: descend and fall (ʔoftâdan)
Crossing ground: pass and go through (tei kardan)
Closer to e ground: approach and pull forward (jelo kešidan)
Forward ground: advance and (piš raftan)
Back ground: go backwards and retreat (ʔaqab nešini kardan)
Change direction: swerve and deviate (monharef šodan)
Multiple directions from a single starting point: scatter and (pâšidan)
After ground: follow (taʔqib kardan)

According to Talmy (2000b: 53-56), the three main components of the path are: vector, conformation, and deictic.

The vector refers to the direction of motion of the body according to the ground, which can be the origin, distance or target; The vector therefore refers to move from, move along, or move toward. Conformation, on the other hand, refers to the geometry of the grounds, which can be thought of as a move into / out of, a surface, or a past. Talmy (2000b: 56) defines the component of deictic as follows: " deictic has two members: in the direction of the speaker or in a direction other than the speaker".

These three components can come together, consider the following example:

20. The ball rolled into the box.

In this example, the satellite is associated with a combination of conformation and vector, and the body, the ball, reaches the target or end point of motion, which is the container. In general, these components are useful for examining interlinguistic differences in the type of path

information in path verbs; However, there may be other methods for analyzing path verbs, all of which pursue the same goal.

The body of this research consists of 117 Persian motion directional verbs. These figures are selected from the simple, compound, and prefix verbs listed in the Great Speech Dictionary. The motion directional verbs studied in this study are classified into 8 groups, which include the following:

1. Move forward
2. Move backwards
3. Move down
4. Move up
5. Move to one side
6. Move in different directions
7. Move out
8. Move in

117 Persian directional verbs:

moving forward:

1. Fall ahead (jelo ʔoftâdan): overtaking someone on the move, or in a position ahead of them (his friend who was ahead of him grabbed his arm)
2. Push forward (jelo ʔandâxtan): Putting in the front (he pushed the children forward and moved behind them)
3. Move forward (jelo bordan): moving to the opposite side (he moved his car a few meters forward)
4. Overtake (jelo zadan): overtaking (he overtook the car that did not want to let him)
5. Pull forward (jelo kešidan): getting closer to yourself (Mr. Aziz pull forward hookah)
6. Go forward (piš raftan): stepping forward (the soldier went ahead and took his reward from the commander)
7. Move forward (piš ravi kardan): moving forward (we started moving forward on Sandy Street)
8. Lift (xiz bardâštan): Lifting the body and preparing to throw yourself quickly and suddenly forward (they lifted to reach his empty seat)
9. Extend hand (piš bordan): Lying forward (he extends hand and wants to remove the curtain)
10. Pull forward (piš kešidan): pull forward (father pulls forward the breakfast tray)

moving up:

1. Peak (ʔowj gereftan): Gradually reach the highest point (the plane gradually peaked)

2. Lift (bâlâ andâxtan): throwing upwards (two or three people raised their shoulders and showed the sign of neutrality)

3. Ascent (bâlâ âmadan): moving upwards from a hidden place or hollow (once his wife came up)

4. Raise (bâlâ dâdan): moving upwards or moving (after a little reflection, he raised his chin with a frown)

5. Lift (bâlâ kardan): Lifting or tilting or turning something upside down or upwards (did not raise the head either)

6. Pull up (bâlâ kešidan): move up (I raised the light wick)

7. Lift (bâlâ âvardan): Lifting upwards (we barely lifted the shelf in the basement)

8. Raise (bâlâ zadan): moving or pulling an organ up (rolling up its sleeve)

9. Climb (bâlâ raftan): moving upwards (then slowly climbing the stairs)

10. Climb (soʔood kardan): Climbing from somewhere (brave Iranian men climbed Mount Everest)

11. Lift (boland kardan): lifting (I raised my hand and took in front of my eyes)

12. Raise (ʔafrâštan): Raising and raising the flag, neck, sword and the like (raised their flag)

moving out:

1. Throw out (birun ʔandâxtan): to throw out (he kicked out the servants)

2. Exit (birun ʔâmadan): Exit (he came out of the meeting place building)

3. Go out (birun raftan): going out (the lotus had come out of them and was coming out of the door and the wall)

4. Protrude (birun zadan): Sudden protrusion (they have pupils that protrude terribly)

5. Pull out (birun kešidan): to take out (pull a small card out from under your hips and belt)

6. Take it out (birun ʔâvardan): take it out (man takes a banana out of his bag)

7. Take out (birun bordan): take out, move out (take out a small tin can)

8. Exhale (birun dâdan): Exhale (he exhaled smoke out of his nose and mouth)

9. Pour out (birun rixtan): moving out, taking out (tears were pouring under the glasses of his glasses)

10. Fall out (birun ʔoftâdan): Getting out (it was like a baby sparrow jumping out of frozen water)

11. Get out (xârej kardan): getting someone or something out of a situation (we got rid of the hypocrites and spies)

12. Get out (xârej šodan): going out or somewhere (he took the address of one of the garages from him and left the hotel)

13. Enter (dar ʔâmadan): Exiting, coming out (what will come out from under the bowl?)

14. Remove (dar ʔâvardan): Remove (we must be able to remove the entire tumor)

moving down:

1. Throw (pâyin ʔandâxtan): Throwing down or dropping (he dropped the ball)

2. Descend (pâyin ʔâmadan): coming down from a high place (first the driver came down cautiously)

3. Lower (pâyin ʔâvardan): Bringing something down from a high place (he lowered the camel that he has taken to the roof)

4. Lower (pâyin dâdan): Move down or move (lower the glass)

5. Pull down (pâyin kešidan): from top to bottom, down (she grabbed her crepe waist and pull down)

6. Go down (pâyin raftan): moving down (the man went down the well again)

7. Pour (rixtan): Flowing or pouring liquid from a higher place down, or into a container or chamber or from inside a chamber or area outside it (a woman poured only a bucket of water)

8. Crash (soqut kardan): Usually falls from a great height (the plane with 200 people on board crashed last night in the south of the country)

9. Collapse (foru rixtan): Detachment from a place and falling down or collapsing (several places of the wall had been collapsed)

10. Drop (foru ʔandâxtan): Dropping (Aslân threw himself off the wall)

11. Dive (širjeh raftan): Jumping into the water, usually from a board or a special platform (one of the children dived into the pool)

12. Dive (širjeh zadan): Jumping into the water usually from a board or a special platform (one of the children dived into the pool)

13. Land (forud ʔâmadan): coming down and sitting on the ground (get off the horse)

14. Lower (forud ʔâvardan): Lowering (I lowered my head)

15. Fall (zamin xordan): Losing balance and falling to the ground (Mirza was slapped so hard that he fell on the other side of the sidewalk)

16. Rain (bârânʔâmadan): Rain (the weather was cloudy, maybe it was raining too)

17. Rain (bâridan): Rain, snow or hail from the clouds (it hailed)

18. Snowfall (barf ʔâmadan): Snowfall (tonight it will be cold, it will snow)

19. Fall (ʔoftâdan): Leaving the place of reliance or connection and moving down due to the force of gravity (Colt fell off my hand and fell to the ground but did not make a sound)

20. Fall (foru ʔoftâdan): falling down, down, in or the like (he fell into the water)

21. Drop down (foru ʔafkandan): lower (he lowered his head)

22. bow the head (foru ʔâvardan): (he bowed his head in a sign of surrender)

23. Descend (foru ʔâmadan): Descend (The flags of Spain and Madrid fell from their hands after ninety minutes)

moving in different directions:

1. Throw (ʔandâxtan): dropping something or someone so that it falls (the glass was in the child's hand, threw it)

2. Launch (partâb šodan): Throwing, dropping, or launching something quickly into the air or space, or from somewhere (air-to-ground missile fired from a Tupolev 22 bomber)

3. Throw (partâb kardan): Dropping, dropping or sending something quickly into the air or space, or from somewhere (Algerian Islamists threw over the bridge)

4. Throw (part šodan): Falling suddenly on the ground with speed and intensity, or from a higher place down (thrown from this 100-storey apartment)

5. Throw (part kardan): throwing something farther away or throwing something or someone down from a higher place (in those days, father threw Alice into the air so much that ...)

6. Throw (parândan): throwing, throwing (he threw pebbles with the sharp tip of his shoe)

7. Overturn (vajegun kardan): throwing someone or something so that its head or upper part is below (the storm overturned the boat)

8. Overturn (vajegun šodan): Falling from somewhere upside down (he fell on the bed when he stepped on the rabbit cage and overturned)

9. Twist (pič xordan): redirecting or giving (the car twisted a little and left)

10. Twist (pičândan): Move or rotate something in a circle (Susan twisted screw on the side of the plate)

11. Twist (pič o tâb xordan): Bending and twisting or finding something around or around (a woman's black, dusty tent twists in the air)

12. Twist (pičidan): turning or placing something or someone around something or someone else (I followed him with my gaze to turn the alley)

13. Swing (tâb xordan): Hanging from somewhere and moving suspended between the ground and the air (a bag of wind-blown black garbage was stuck to the front window of the house and swings with the breeze)

14. Swing (tâb dâdan): Moving someone on a hand or foot or with a device such as a swing and with a back and forth motion to the sides or to the sides (the children were sitting on the swing and the mother was swinging them)

15. Spin (čarx dâdan): Spinning (he spun the letter in his hand and tried to focus his mind)

16. Spin (čarx zadan): turning around yourself or someone or something (woman got up and spun around)

17. Rotate (čarxândan): Move something in a circle around an axis or around its axis (he turned the neck left and right several times)

18. Giggle (qiqaj dâdan): Quick transition to a tilted and zigzagging position (he giggled from people)

19. Push (hol dâdan): Putting pressure on someone or something and pushing him or her to one side in particular (pushes us to the other side of the roof)

20. Sow (pâšidan): throwing or spilling something so that the seeds or its components are scattered (it digs its own soil and sows its own seeds)

21. Spread (paxš šodan): scatter (like ink stains spread on a piece of paper)

22. Scatter (paxš kardan): Scattering (a chicken with its claws was spreading the soil)

23. Scatter / Build (parâkandeh kardan): Scatter (Scatter snow fragments in the air)

24. Scatter (parâkandeh šodan): Scattering (snowflakes scattered in the air)

25. Deviate (monharef šodan): Leaning, tilting, deviating from the main path (the load was tilted to the left behind the mule) (the car goes several times and deviates towards the valley)

26. Deviate (monharef kardan): tilting, tilting, deviating from the main path (the load was tilted to the left behind the mule) (I diverted the car to the side of the road to avoid an accident)

27. Diffuse (montašer kardan): Scatter (wind blows smoke in the air)

28. Pull (kešânidan): moving someone or something from somewhere (širu pull himself off the platform)

moving in:

1. come in (tu ʔâmadan): enter (they came in through the gate)

2. go in (tu raftan): go inside (When he entered, he greeted everyone)

3. penetrate (tu zadan): penetrating inside, entering (sunlight penetrates from underground window)

4. Enter (dâxel šodan): Entering a place (when Hengâmeh opened the company and entered, everyone was present at work)

5. Insert (dâxel kardan): Insertion (liquid is injected into a vessel with a syringe)

6. Swallow (foru bordan): Inserting something (do not insert the next bite into the mouth before swallowing)

7. Dip (foru raftan): going into something or somewhere (the nail does not sink into the wall)

8. Enter (vâred šodan): enter, bring in (both must enter a village)

9. Import (vâred kardan): Import, bring in (he brought me to Haji Qâsim xân's house)

10. Immerse (qute xordan): Immersion in water or other liquids (Muhammad immersed in a sea of blood)

11. Dip (foru dâdan): Dipping (he swallowed water)

moving to one side:

1. Bend (xam kardan): Leaning straight, backwards or sideways from the straight position (he bent the thumb of both hands on the index finger)

2. Bend (xam šodan): Leaning forward, straight forward or sideways (the statue fell to the ground, Mehrdâd bent down with fear and lifted it)

3. Tilt (kaj kardan): Tilt to one side (they tilt the end of the tube to better fit it in place)

4. Tilt (kaj šodan): tilted to one side (heater tube was tilted)

5. lean (yekvari šodan): leaning or curved to the side (the cap is leaned)

6. lean (yekvari kardan): leaning or bending to the side (he leaned his hat)

7. Turn over (Čap šodan): falling to the side due to loss of balance (control was lost from Massoud and the car left)

8. Overturn (Čap kardan): throwing to the side due to loss of balance (Mass?oud lost control and turned the car upside down)

moving backwards:

1. Fall behind (?aqab ?oftâdan): Leaving someone or something on the move (my car broke down, and I fell behind)

2. Go back (?aqab raftan): moving in the opposite direction (special security officers were telling everyone to go backwards)

3. Throw back (?aqab ?andâxtan): throw back or drop (he threw his head back)

4. Pull back (?aqab zadan): Pulling away (father pulled the hair back from his forehead)

5. Pull back (?aqab kešidan): Leaving or moving away from somewhere (he pull back and stand back in the first place)

6. fall behind (ʔaqab mândan): to stay behind someone or something on the move (buddy! Don't fall behind)

7. Postpone (ʔaqab nešândan): Forcing to withdraw (Iran was postponed until ʔâqâ Bâbâ)

8. Withdraw (ʔaqab nešini kardan): In war, the return of troops back from their positions (Israeli forces withdrew from the camp on Friday)

9. Go back (pas raftan): go back (he went back two or three steps)

10. Throw back (pas ʔandâxtan): pushing back (Nâd Ali threw the quilt away from himself)

11. Pull back (pas kešidan): Pull back (he pull himself back)

The representations of one Persian verb would be as follow:

غوطه خوردن Ghute xordan <فا،مفح[در]>

۱. محمد در دریایی از خون غوطه خورد. Muhammad was drowned in a sea of (blood)

۲. پشت بر شفق ، روي سكويي نشست ، جامه و موها در گردي زرين غوطه خورد ،

(He sat on a platform on the back of the aurora, his clothes and hair were immersed in a golden round.)

۳. در ساعت هفت بعد از ظهر من بر خاک افتادم و در لجن غوطه خوردم.

(At seven o'clock in the afternoon I fell to the ground and sank into the mud.)

۴. آن‌ها بدون دفاع در غمي جانكاه از درد خيانت و دلي سرشار از حسرت ديدار عزيزان ، در خون خود غوطه خوردند.

(They were immersed in their own blood without defending themselves in the grief of betrayal and the heart full of longing to meet their loved ones.)

۵. خانواده ارمنی که همه فرزندان یا نوادگانش در آب غوطه خوردند.

(An Armenian family whose children or grandchildren were drowned.)

Frame Element	Number Annotated	Realization(s)
Direction	(5)	(5جمله)
Goal	(5)	PP[در].Dep (1,2,3,4,5)
Theme	(5)	NP. Ext (1,2,3,4,5)
Time	(1)	PP[در].Dep (3)
Depictive	(2)	PP[در].Dep (4) AVP. Dep (4)
Manner	(1)	AVP. Dep (4)

[**theme**/ NP.Ext] [**goal/** PP.Dep] [**direction**] (examples:1,2,5)
[**theme**/ NP.Ext] [**goal/** PP.Dep] [**time/** PP.Dep] [**direction**] (example:3)
[**theme**/NP.Ext] [**depictiveAV**P.Dep] [**depictive/** PP.Dep] [**goal/** PP.Dep]
[**manner/** AVP.Dep] [**direction**] (example:4)

5. Discussion

Motion directional verbs originally indicate displacement. The motion directional verbs studied in this research are classified into 8 groups and the components used in frame semantics have different representations in different verbs according to the verb capacity pattern. Among the Persian motion directional verbs, the category of the satellite is more prominent and the verbs with context are seen in large numbers. Our analysis of Persian motion directional verbs shows that Persian also uses a variety of paths between movements; Persian language is mainly the language of satellite-framed and in this kind of languages, complex paths are common and verbs often contain more than one path. Similarly, in Persian language, several complementary paths can be expressed with a single motion verb while in a verb-framed language like Spanish, only one element of the path can be expressed for each verb.

Regarding the data collected from the bilingual body of Mizân, it is noteworthy that in directional motion, an event that is encrypted as a word in a FrameNet, in Persian is indicated by directional suffixes indicating the target or the origin like:

- He felt the bed DIP slightly under her weight.

In this sentence, Dip is direction and represented as INI.

The plane DIPPED down and its starboard wing hit the water, flinging off Mr Treweek.

Syntactic realization of *plane* is theme which is presented in the form of NP Ext. And although the verb *dip* and the particle *down* have the same direction (downward), it does not consider *dip* as a whole with the particle down, and represents down as a semantic unit of direction and as PP [down] Dep Represents.

In Persian, the directions up, down, forward, outward, backward, and the like are prefixed constituents and, in combination with verbs, form a prefixed or compound verb; In general, in Persian, direction is expressed in

three different ways. In the first type, the direction component is not encoded in the verb itself and is expressed by the inactive element, which is actually the satellite; This inactive element can be a prefix such as down, up, forward, backward, etc. in verbs such as coming down, going up, up, or has another category such as noun, such as ascending, diving, exiting, throwing.

As we have seen in this case, there is no separate format for the English equivalent of these verbs. While in the second type, the direction in the verb is expressed inherently, such as falling, and in English, it includes verbs such as *descend*, *plunge* that for which the motion-directional format is defined. But it is obvious that the first type in Persian language has a directional motion pattern. As mentioned earlier, the second type has a lower frequency in Persian; Because in this type of direction, the verb itself is encoded in the sense that the direction of motion is expressed by the verb itself and not by another element, such as the verb to fall (oftâdan), which is the English equivalent of fall, and both have a directional motion pattern. In the third type, the direction is expressed by the group of prepositions that play the role of the subject in the sentence; Like *he came down the valley*. In this sentence *at the bottom of the valley*, the form of the verb *to come* is labeled directional.

Of course, Persian, like English, does not show very details of the manner in the verb, and on the other hand, like Spanish, it does not provide small details of the manner. Persian in the expression of the manner acts to some extent through the verb and in fact uses additions to express it. But as is expected of the satellite-framed languages, in Persian the more precise details of the path in the satellites are expressed through adjectives and prepositions, and more details about the manner, such as verb-framed languages, are represented through adverbial groups and suffixes. Frame elements have different representations in terms of syntax. This study shows how the syntactic distribution of verbs may be affected by semantic aspects such as their description, the characteristics of specific frame elements and their occurrence as lexical units in different formats. Only in this network, the semantic format defined for the aforementioned verbs without prepositions. This indicates the difference between Persian and English in the syntactic representation of these verbs and the encoding of directions in them; Therefore, in the grid, there is no separate format for the verbs that are accompanied by prepositions, and only 10 verbs are listed under the directional motion frame:

Angle, descend, dip, drop, fall, plummet, plunge, rise, slant, topple

Although motion directional verbs in both Persian and English may have the same semantic forms, their syntactic representations are quite different.

In a FrameNet, the meaning of words is understood mainly by the frames they call them. Considering the numerous examples obtained from the Persian language, it seems that it is not possible to place the events of the outside world in specific and predetermined frames and use the language to represent them. Fillmore's claim that there is a frame, including a definition, the elements that make up the frame, and the number of lexical units, does not seem to be effective enough to explain all Persian language data. The conceptual content of a word cannot be limited to a few basic features and components. Pustejovsky (1995: 61) considers the lexical representation of words to represent four types of information: thematic structure, event structure, inheritance structure, and qualitative structure. For example, a qualitative structure contains encyclopedic information about the word in question that cannot be expressed in the form of a few basic components. Many of the most widely used words in the Persian language are not predicted in Fillmore's frames, and in addition, in some cases we see the integration of many frames. In the meantime, we encounter lexical units that can be placed in several semantic frames.

Fillmore (1982) considers the condition for the ambiguity of a lexical unit to be their fit with two different cognitive frames and considers the form as a set of concepts that are related to each other and in order to understand each of them, the meaning of the whole structure must be considered. The data collected for motion directional verbs have been based on their motion meaning, but there are cases that are tied to multiple meanings. Important factors in shaping the relationship of these meanings can be related to the principle of family similarity, understanding the conceptual motivation or understanding the role of cultures. According to epistemologists, these relationships are the result of human daily interactions and his physical and sensory experiences and observations of his surroundings, and these experiences manifest themselves in visual schemas and mental spaces. Finally, by stating that Fillmore intended to use form as a method for semantic analysis of natural language, in some cases it seems to have caught on to a formulation that is fundamentally at odds with the intellectual basis of the cognitive approach.

On the other hand, to establish the degree of correspondence between two lexical units from different languages that seem to reflect the same semantic frame, three levels of equivalence can be considered: translation equivalent, valence equivalent, and cultural equivalent. This means that future research must pay close attention to the complex relationship between the translation equivalent and the capacity and cultural equivalent. According to studies, not all English semantic frames seem to be a good basis for a universal form;

Although some frames may be universal in some languages because of the similarities between them, this is still not a generalization.
One example of FrameNet verb is mentioned here in order to show how the data is analyzed:
Angle

1. He angles downwards.
او رو بـه پـایین تغییـر مسیر مـی‌دهد.

2. then angles his body and glides closer towards me.
بعد بدنش را کج می‌کند و به سمت من سر می‌خورد.

3. made a right angle at the Buend'a house.

وقتی به جلوی خانه‌ی بوئندیاها رسیده بود؛ نود درجه به سوی آن منحرف شده.

4. the strong lights angled up into the sky now.
شعاع نورانی به هوا می‌رفت.

5. her body angled into a posture of tension.
بدنش از تنش به جلو خم شده بود.

6. The Wolfman's hands were wrapped around the wolf's neck, and the wolfs bloody muzzle was angled up to the Wolfman's neck.

دست وولف من دورگردن گرگ حلقه شده بود و پوزه خون آلود او زیر گردن وولف من قرارداشت.

Frame Elements and Their Syntactic Realizations
The Frame Elements for this word sense are (with realizations):

Frame Element	Number Annotated	Realization(s)
Direction	(5)	AVP. Dep (1, 3) PP[towards].Dep (2) PP[up].Dep (4, 6)
manner	(2)	AVP. Dep (2) PP[into].Dep (5)
patient	(1)	NP. Obj (2)
Goal	(3)	PP[to].Dep (6) PP[into].Dep (4) PP[at].Dep (3)

Theme	(3)	NP. Ext (1, 5, 6)

Valence Patterns:

These frame elements occur in the following syntactic patterns:

Number Annotated	Patterns				
1 TOTAL	Direction	Goal	Theme		
(3)	AVP Dep	PP[at] Dep	IN I --		
(4)	AVP Dep	PP[into] Dep	NP Ext		
(6)	AVP Dep	PP[to] Dep	NP Ext		
1 TOTAL	Direction	Theme			
(1)	AVP Dep	NP Ext			
1 TOTAL	Goal	patient	Theme	Direction	manner
(2)	PP[towards] Dep	NP Obj	NP Ext	AVP Dep	AVP Dep
1 TOTAL	manner	Theme			
(5)	PP[into] Dep	NP Ext			

It is common to distinguish between manner encoding and path encoding in verbs. The first type of verbs, such as run and roll, literally encode the manner of motion and do not provide path information. While the second type of verbs, such as enter, leave, do not encode the manner, but specify the direction of movement. Motion verbs that encode the manner refer to activities or processes, while directional information about the goal or path is added to the verb only through appropriate constraints, that is, through the structure of the satellite-framed.

Orientations in English are often combined lexically with positions makers; For example, a preposition specifies a direction into a path whose endpoint is explained in a goal expressed by the nominative complement of the preposition. The inner part is represented by an object, and the other parts are identified by the position of the exponents in terms of the role characteristics of that object. The main idea for representing directional suffixes is that the frames is related to the directional suffixes, and we cannot combine pure motion patterns with frames that express directional motion. For example, the preposition frame *into* indicates a movement towards the inside of an object, which is specified by the prepositional suffix. The limitations of the frame indicate that the end of the path created by the motion is questionable in this section. The semantic representation described so far shows ideas for syntactic semantic frame composition. Of course, in frame representation theory for the semantics of motion events, the types of features used in frames are related by a kind of hierarchical relationship. Look at the following sentences:

1. Mary walked /ran to/ into/ towards the house.
2. Mary walked/ran along the river.
3. Mary walked/ ran over the bridge along the fence through the meadows.

There is a criterion for distinguishing a structure as complement or adjunct, and that is if a structure cannot be repeated and adds a semantic role, it is considered a complement. For example, in sentence 1, the preposition is considered as a complement, while in sentence 2 it is added, and as seen in sentence 3, this adjunct can be repeated.

4. John walked into the house.
5. Mary danced into the room.

The difference between the motion verbs in these two sentences is that in sentence 4, the walk verb is associated with the path, while dance lacks it. As can be seen in the case of the walk verb, the path is added to it. Consider a case in which a directional suffix is added and gives us additional information about the course of events. In this case, the motion verb is a necessary verb, such as walk, and does not need a goal that restricts this path.

Note also this example:

6. Mary walked along the brook into the field.

As can be seen in this example, the first direction suffix group is in the subject position is combined with the other direction suffix group that has the added role. According to Talmy (1985, 1991), Korean, like Japanese, is

considered to be a verb-framed language alongside Spanish and French. The verb-framed languages are different from the satellite-framed languages such as English and German because in them the path component is always expressed through the satellite, for example through prepositions, suffixes and prefixes; Of course, in these languages, motion verbs only encode the manner component. What is important is that in verb-framed languages such as Korean and Spanish, satellites do not have the meaning of path with them, whereas satellite-framed languages have the meaning of path. Therefore, it can be concluded that in the verb-framed languages, the manner of the verb cannot show the direction of movement due to the lack of satellites that represent the path; Unlike satellite-framed languages such as English and German have a large list of suffixes that encode the path.

Consider the following examples:

7.Mary ran in the house. (directional, location)

8.John walked in the room. (directional, location)

9.The bottle floated under the bridge. (directional, location)

10.Maria ist in dans Haus gelaufen.
Maria is in the. ACC house run
Maria ran into the house. (directional)

As can be seen, according to Talmy, the difference between the forms of the verb-framed languages, such as Korean, and satellite-framed languages, such as English, is due to differences in the semantic features of the satellite. The preposition *in* in English and German indicates position.

Folli and Harley (2001) believe that prepositions such as *along*, *around*, and *toward* are not considered as adjunct, but as a complement that is institutionalized in the internal context of the verb group. To prove this view, syntactic arguments have been put forward, such as word order, deletion of the *do so* group, and spatial displacement.

From the view of framed semantics, the same facts can be represented in different frames; Frames which are formed from different realities. The fact is that a single situation can be formulated in different ways, for example, it can be expressed in a negative or contrasting way.

When we want to talk about something for which a specific morphology has not been established or we want to introduce a new schema for it, we can do this by moving a language unit related to the frame and relating it to a new situation, of course on the basis for the audience to properly understand this transmission. New meanings of words can be understood in this way.

Different types of semantic changes can be explained by examining phenomena in the context of frame semantics.

The presuppositions embedded in lexical units must also be taken into account in frame semantics, and there seems to be no precise justification for them. Consider the verb chase, for example. This verb carries with it the presupposition that two beings are moving in the same direction, and that one moves before the other. The reason for understanding this is that we know the reason for it, and it is as if someone is talking about its lexical presupposition.

But in general, these languages differ in whether the lexicalization of the path takes place inside or outside the root of the verb, and so they differ from each other in whether they express the manner of movement inside or outside the root of the verb.

English and other Germanic languages use the verb form with a preposition that indicates direction.

8. Bleriot flew across the Channel.
   Theme manner path

French and other Roman languages use the motion directional verbs along with an optional prepositional phrase or an adverbial phrase that indicates the way of movement.

12. Bleriot traversa la Manche en avion.
    Bleriot crossed the Channel in a plane
    Theme path manner
13. Bleriot crossed the Channel by plane. (French: Vinay & Darbelnet 1985:105)

The proven pattern in this context is the expression of the components of the event path: that is, the verb, the prepositional phrase, or the adverbial clause.

14. John limped into the house. (English)
15. Je suis entre dans la maison (en boitant).
    I am entered in the house in limping
    I entered the house (limping). (French)

Beavers et al. (2010) by examining different languages can better show the various encodings of the directional motion event through lexical-syntactic factors.

a. The verb is the only necessary lexical category that can encode the manner or path.

B. A verb may lexicalize only one component of a manner or path.

Existence of specific language resources independent of motion coding:

a. Vocabulary: current roots or verbs expressing method or result, devices indicating location, boundary markers

B. Structure: state markers, request marker clauses, display marker clauses, hybrid

J. Syntax: Adverbial phrases, serial verbs, dependent and requested sentences

6. Conclusion

The motion directional verbs investigated in this research were classified into eight groups and the components used in frame semantics had different representations in different verbs according to the verb capacity pattern. Among the Persian motion directional verbs, the category of the satellite was more prominent and the verbs with context were seen in large numbers. Our analysis of Persian directional motion verbs shows that Persian also uses a variety of paths between movements; Persian is mainly a Satellite-framed language, and in this kind of languages, complex paths are common, and verbs often contain more than one path. In Persian, several path complements can be expressed with a single movement verb, while in a verb- framed language such as Spanish, only one path element can be expressed for each verb.

As for the way of moving, in most cases translators tend to delete information about the way of moving. This is due to the fact that verb-framed languages have less and more limited vocabulary forms. There are even cases in which translators substitute manner verbs for path verbs. In the case of moving paths, i.e. complex paths, Slobin suggests two different solutions: removing part of the path components, and if all path information is preserved, a new motion verb, usually a path verb, is used. This is a consequence of linguistic limitations, that is, the impossibility of integrating multiple components of the path into a single verb. Regarding the data collected from the bilingual body of Mizân, it is noteworthy that in directional motion, an event that is encrypted as a word in a patterned network in Persian is indicated by directional suffixes indicating the target or the origin.

Of course, Persian language, like English, does not show very small details of the manner in the verb, and on the other hand, like Spanish, it does not provide small details of the manner. Persian language in the expression of the manner acts to some extent through the verb and in fact uses adjuncts to express it. But as is expected of the satellite-framed languages, in Persian the more precise details of the path in the satellites are expressed through adjectives and prepositions, and more details about the manner, such as verb-framed languages, are represented through adverbial groups and suffixes.

Frame elements have different representations in terms of syntax. This study shows how the syntactic distribution of verbs may be affected by semantic aspects such as their description, the characteristics of specific frame elements and their occurrence as lexical units in different formats. Only in this network, the semantic frame defined for the aforementioned verbs is without prepositions. This indicates the difference between Persian and English languages in the syntactic representation of these verbs and the encoding of directions in them; Therefore, in FrameNet, there is no separate frame for the verbs that are accompanied by prepositions, and only 10 verbs are listed under the directional motion frame:

Angle, descend, dip, drop, fall, plummet, plunge, rise, slant, topple

So, it was found that although motion directional verbs in both Persian and English languages may have the same semantic forms, but their syntactic representation is quite different.

The data collected for motion directional verbs have been based on their motion meaning, but in some cases, there are cases that are tied to multiple meanings. Important factors in shaping the relationship of these meanings can be related to the principle of family similarity, understanding the conceptual motivation or understanding the role of cultures. According to epistemologists, these relationships are the result of human daily interactions and physical and sensory experiences and observations of their surroundings, and these experiences are reflected in visual schemas and mental spaces. Finally, by stating that Fillmore intended to use form as a method for semantic analysis of natural language, in some cases it seems to have caught on to a formulation that is fundamentally at odds with the intellectual basis of the cognitive approach. Motion directional verbs with the same syntactic formats in different languages (English and Persian) differ in semantic representation.

No comprehensive research has yet been conducted on the creation of global frames or the determination of global frames. The phenomenon that English semantic frames can be applied to languages such as French, German, and Spanish brings to mind the idea of universal frames. This research has shown how English semantic frames based on English language data can be used to analyze the polysemous domain of English verbs and translate them into other languages. Thus, according to Connor and Moreno (2005: 157), semantic frames are the basis for comparison. Semantic frames are not only important for determining and modeling conceptual distinctions and polysemous networks in a language, but can also be used in different languages as a structural tool for determining, relating, and examining concepts between languages. Therefore, during these analyses, we found that

the biggest difference that lexical networks of two languages can have related to the frame-to-frame relationships.

The first issue regarding the globalization of frames is the scope of the vocabulary. The English Frame Network, which has so far defined more than 1,200 frames with entries for more than 13,600 lexical units, is still unable to cover all English vocabulary. Another point is that this network cannot cover enough active English words. If we want to use this frame network for other languages, we face many problems. So, in order to achieve globalization in the first place we need wider coverage for another language.

The second issue is methodology, which frames to choose for our research. Despite the different frames, some may be global and somewhat universal; In some cases, the importance of cultural words and the way of thinking and customs should be considered.

The third issue concerns the very idea of globalization. Most linguistic research conducted in the second half of the twentieth century focuses on the categories and patterns of globalization to provide global theories about language. But it is worth noting that many claims of globalization cannot be proved empirically because there is no data; Therefore, instead of the word globalization, it is better to say potential globalization.

On the other hand, to establish the degree of correspondence between two lexical units from different languages that seem to reflect the same semantic frame, three levels of equivalence can be considered: translation equivalence, valence equivalence, and cultural equivalence. This means that future research must pay close attention to the complex relationship between the translation equivalence and the valence and cultural equivalences.

According to studies, not all English semantic frames seem to be a good basis for a universal frame; Although some frames may be universal in some languages because of the similarities between them, this is still not a generalization.

Although the semantic frames defined in the FrameNet are somewhat effective for Persian language, it is necessary to pay more attention to the definition, recognition, semantic and syntactic representations and directional encoding methods in this network due to the relationships between the frames.

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