

Frame Semantics: Applying FrameNet Principles to “Touring” and “Travel” Semantic Frames in Persian

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(Received: December 20, 2017; Accepted February 21, 2018)

Abstract

In this study “Touring” and “Travel” semantic frames are studied considering the principles of FrameNet and it is taken as first step to build Persian FrameNet. The “FrameNet” is a corpus-based project housed at the International Computer Science Institute in Berkeley, California by Charles J. Fillmore which is built based on the theory of Frame Semantics. In this system, the meaning of words can be understood on the basis of semantic frames which are mental encyclopedic concepts. A “Semantic Frame” which is evoked by lexical items, is a description of a type of event, relation, or entity and participants in the event. In this paper, description of frame elements and examples were presented based on the realization of the standard Persian language. Lexical Units related to the frames of “Touring” and “Travel” were drawn from the two-volume Sokhan encyclopedia (Anvari, 2003) and Persian synonyms & antonyms dictionary (Khodaparasti, 1997). Furthermore, the section devoted to marked texts was completed with case sentences exerted from Google. The results showed that following Khavari (2013) and Nayebluy et al. (2015), building a Persian FrameNet is a workable idea.

Keywords

Cognitive semantics, Frame semantics, FrameNet, Semantic frame.

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Introduction

The *FrameNet*¹ is a project in the realm of lexical semantics and housed at the International Computer Science Institute in Berkeley, California by Charles J. Fillmore. This corpus is an online lexical resource based on the theory of Frame Semantics supported by the annotated sentences. This project aims at providing a wide range of semantic and syntactic capacities of words through manual marking of the example sentences, automatic recording and systematizing the marked results. This database is an independent platform likely to be displayed through the web or other connections after demanding (Johnson et al., 2001, pp. 3-9). In this paper, the writers seek to apply FrameNet principles to “Touring” and “Travel” semantic frames in Persian based on the theory of Frame Semantics.

Statement of the Problem

The main question of the study is that whether is it possible to build a FrameNet for the Persian language based on the principles and major concepts of FrameNet. To answer this question and to support the introduction of FrameNet in the Persian language, this study deals with investigating the semantic frames of “Touring” and “Travel” in Persian as a case study. Since there were few studies concerning FrameNet in Persian, this paper can be considered as first step to build Persian FrameNet. First, in section 2 we will review the previous studies concerning FramNet in Persian. In section 3 we will introduce the theory of Frame Semantics. Then FrameNet and its functions will be introduced. In section 4 the research method will be introduced. Section 5 is devoted to the description of “Touring” and “Travel” frames in Persian based on FrameNet principles.

Review of the Literature

Building the FrameNet in other languages besides the English language has been conducted, all being in parallel with the main project done in the University of Berkeley. Examples of FrameNet in

1. <https://framenet.icsi.berkeley.edu/fndrupal/>

other languages are German FrameNet(GFN) created and proposed by Boas (2002) in Texas University, Spanish FrameNet (SFN) by Subirats and Petruck (2003) in Barselona University, Swedish FrameNet(SweFN ++) by Borin et al. (2010) in Gutenberg university, Japanese FrameNet (JFN) by Ohara et al. (2004) and Chinese FrameNet (CFN) by You et al. (2007). Brazilian and Korean FrameNets are two new projects added lately to this list. An article entitled “*the Development of the Frames of Verbs in the Indian Language*” has been presented for the Indian language by Begun et al. (2008). Ghnemi et al. (2009) also created a FrameNet in the Arabic language in which the method of constructing a lexical source in the Arabic language is mentioned. It also consists of syntactic and semantic data of concepts and words. Furthermore, a study was conducted on the bilingual FrameNet with the creation of two sections of “ontology” and the “samples of bilingual sentences”.

Furthermore, in the Persian language, a few studies have been conducted in the domain of Frame Semantics particularly FrameNet. Introducing this corpus in the Persian language can probably be attributed to Nayeblouyi et al. (2015) taking initiatives to build FrameNet for the Persian adjectives on emotions (i.e. cheerfulness and interest). Among studies performed in this domain, those conducted by Khavari (2013), Gandomkar (2014), Mousavi et al. (2015), Safari (2015), and Hesabi (2016) can be mentioned. For example, Khavari (2013) considering the particular characteristics of FrameNet as a huge and multidimensional lexical database and the absence of such database in the Persian language, sets the purpose of her investigation the description and categorization of the most frequently used and simple Persian verbs (100 examples) based on the FrameNet principles. She declares that the findings confirm the capacity of the semantic frames of the English FrameNet in the classification of Persian verbs, and a huge corpus of Persian sentences can be marginalized using semantic and syntactic labels of the FrameNet.

Contrary to Khavari, Gandomkar (2014) states that it is impossible to put the outside world events in specific and definite frames. She used language data to show that these definite frames are made up of

predetermined "definition" and "elements". She believes that Fillmore's claim to achieve lexical elaboration of Persian data proves to be futile, because providing such an approach finally gets us involved in a kind of accreditation which is basically in contrast with the theoretical basis of the cognitive linguistics. Following this, Gandomkar, considering Persian examples, stresses that Persian verbs have not been predicted in Fillmore's frames and the frames are integrated in a number of cases. In her point of view, the ineffectiveness of this hypothesis, at least regarding the Persian language, results from the disregard of the fact that when we see something in the outside world, we borrow it from the language with respect to the way we perceive it. The way we perceive our peripheral scenes determines the kind of sentences we utter. The fact that we intend to rely on a definite frame and lexical elaboration only taking some elements existing in a scene into account does not seem to be favorable and accurate.

On the other hand, Mousavi et al. (2015) investigate the word "see" based on Frame Semantics. They set the purpose of their study access to the lexical nuance between words with the same meaning. They, after investigating the different frames of the verb "see" and its polysemic analysis through the frames, state that the root of these distinctions generally is disregarded in lexicographies. Another study in this area relates to Safari's (2015) article dealing with frame semantics and the frequency of compound verbs in Persian investigating different behavior of these verbs in various contexts. He shows that different behaviors of such verbs in different contexts can be explained if they are described within principles of Frame Semantics. Hesabi (2016) also deals with the semantic frames of "eating" through the use of different corpora as far as Frame Semantics is concerned. He introduces 26 frames for this verb.

Frame Semantics

Fillmore (1968) is known as one of the pioneer of Cognitive Linguistics who proposed "Case Theory". He converted this hypothesis to a more comprehensive cognitive theory called "Frame

Semantics” (1976, 1977, 1982, 1985b) by his contribution in Berkeley university in 1971. The difference between Frame Semantics and other lexical semantic theories is its emphasis on the background knowledge based on which the meaning of words are interpreted (Fillmore & Atkins, 1992, 1994, 2000; Fillmore & Baker, 2010). Fillmore (1982) believes:

The feature-based approaches using primary categories are not likely to demonstrate the semantic manifestation and fullness of meaning of words because the meanings of words consist of vast information about the words enveloping us which can never be displayed within a few numbers of primary categories. (p. 383)

Fillmore applies the term “Frame” as a method for semantic analysis of the natural language. This term, in the beginning periods of being proposed by him, is used not in the concept of the cognitive structural behaviors, but in the meaning of the almost tangibly organized syntactic and semantic phenomena (Chomsky, 1965). Geeraerts (2010) states:

What Fillmore proposes in Frame Semantic theory, in the first place indicates that language can be used for demonstrating the infrastructural conceptualization of the outside world. In fact, we not only see the world around us in terms of conceptual patterns, but we also express these patterns in different structures. In this condition, each of the method of expressing a conceptual pattern creates a new semantic strata. These patterns are meaningful methods of contemplation in the outside world. The theoretical foundation of this approach belonging to studying the meaning of the word is that the meaning of words should be described in relation to the manifestation of semantic schematic frames of conceptual structures and patterns of ideas, beliefs, and attitudes. (p. 15).

The computerized lexicography research project named “FrameNet” has also been brought up based on this theory (Fillmore et al., 2003, p. 235) dealt with in the following section.

FrameNet

As mentioned, “FrameNet” is considered a corpus study in computerized and cognitive linguistics. The creation of this lexical

database is being viewed as an important transformation in constructing cognitive semantics, because this kind of perspective associates the study of the meaning with computerized lexical semantics (Geeraerts, 1955, p. 229). In the introduction of this project it should be stated that its formal name is "instruments for creating words" invented in Berkeley university by the International Computer Science Institute and Charles Fillmore (1997) is the pioneer of this project in the English language. This computerized and corpus-based system is designed based on FrameNet and the meaning of most words can be perceived based on semantic frames which are mental concepts. A "Semantic Frame" is a description of an event, association and its participants which are called elements of the frame. Frames, are evoked by lexical units. Lexical units are used to evoke this cognitive concept and semantic distinctions in this general concept or frame have been displayed in lexical units. The two main aims of FrameNet are the human function and natural processing of lexical units. The British National Corpus is used in its first phase and following this, the corpus of English news texts and then the American National Corpus are added to it. This database includes detailed data from potential syntactic manifestations of frame elements drawn from the aspects existing in the marked corpus. In this database, instruments are presented for describing semantic frames, marking sentences, searching for results and providing reports. Also, this database provides evidence from the marked semantic and syntactic sentences for contemporary English words. A set of sentences indicating the scope of comparative possibilities of a lexical unit are represented as a sample so as to include types of syntactic structures of that lexical unit to embed the elements of the frame. This database consists of two parts. The first part is the foundation of the frames encompassing approximately 1164 semantic frames and the second part is a lexical base including approximately 195590 marked sentences (Nayebblouyei et al., 2015).

Research Method

This descriptive study aims at applying FrameNet principles to

Persian data. According to this end, we will introduce the frames of “Touring” and “Travel” and their elements in Persian. Then, description of frame elements and examples are presented based on the realization of the standards Persian language. Words related to the frames of “Touring” and “Travel” were drawn from the two-volume Sokhan encyclopedia (Anvari, 2003) and Persian synonyms & antonyms dictionary (Khodaparasti, 1997). Furthermore, the part devoted to the marked texts was completed with case sentences exerted from Google. Persian sentences were transcribed and translated into English to make it understandable for non-Persian readers.

Analysis and Description

With respect to the aforementioned explanation provided in the previous sections, we will deal with the investigation of semantic frames of “Touring” and “Travel” and different sections of them in Persian. First the definitions related to the concepts of frame and FrameNet will be presented. In the next section semantic frames of “Touring” and “Travel” will be described within the FrameNet format.

Semantic Frame and FEs

The term frame, is the general titles used instead of terms such as “schema”, “script”, “scenario”, “ideational scaffolding”, “cognitive model”, or “folk theory” in Fillmore's theory (Fillmore, 2006, p. 373). This term, from Ruppenhofer et al. (2006) perspective addresses a conceptual structure similar to a schema describing the situation of an object or an event together with their participatory elements. In FrameNet, each “Frame” includes sections of “Definition”, “Frame Elements”, “Frame-Frame Relations”, and “Lexical Units”. The “Marked Texts” are also the parts presented including the case sentences drawn from different corpora marked with frame elements and a frame or the frames related to a lexical unit in addition to the link to that page. In 'Definition', the frame is defined thoroughly. 'Frame Elements' consists of all participants of the frames including core and peripheral participants. In this study “Frame-Frame

Relations” are not presented since it needs access to the description of all frames in the language and their relation.

Data and Analysis

In this section, the “Touring” and “Travel” frames in Persian will be described within the FrameNet format (different colors are used to show different elements of the frame). Persian transcription and English gloss is given for each sentence.

Definition: This section relates to a general description of the intended frame.

Touring		
Definition	A tourist experiences the tourist attraction of a place with unique history or a particular and known social character pursuing the purpose of sightseeing and learning. A tourist attraction typically enjoys a source of information from tourist guides, brochures and its special effects and features.	
	Persian Example	Gloss
	1. Gærdešgæri yeki æz mohemtærin mænâbeʔe dærâmædzâyi ʔæst.	Tourism one of the most important sources of income generation is
	2. ʔirân jâzebehâye gærdešgæri færvâni dâæd.	Iran tourist attractions many has

Fig. 1. Definition of “touring” frame in Persian

Travel		
Definition	Travel is a preplanned activity (transportation) undertaken by a special means(transportation vehicle) for a long duration and distance. In a travel, the traveler (with a companion and luggage) moves from a source to a destination (especially from a city or country to another city or country) and along a route or area. The concentration of the words of this frame is based on the process of transferring from one place to another not the beginning and end of the travel.	
	Persian Example	Gloss
	1. ʔæli be hæmrâh-e xânevâdeh ʔæš az tæriq-e-dæryâ be kiš sæfær kærd.	Ali with his family through the sea to Kish Travel
	2. Mæryæm dær sæfæræš be torkiye fæqæt yek çæmedân be hæmrâh dâšt.	Maryam in her trip to Turkey only carried one item of luggage
	3. Mâ ʔæz qom be mæšhæd, biš ʔæz 1200 kilumetrâ tey kærdim.	We from Qom to Mashhad over 1200 kilometers travelled
	4. Sæfær bâ qætâr ʔæz tehrân be tæbriz 13 sâʔæt tul kešid.	Traveling by train from Tehran to Tabriz 13 hours lasted.

Fig. 2. Definition of “travel” frame in Persian

Frame Elements (Core and Non-Core): These elements are situational roles which are sematic roles of a frame considered a basic unit in a semantic frame including core and non-core elements. Also, an example is brought forth for better understanding of each of these elements.

Touring			
Frame Elements: (Core)			
Semantic Type	Element	Persian Example	Gloss
Location	(Attraction): A unique and socially-known place experienced by a tourist.	tæxt-e-jæmšid yeki ?æz jâzebehâye šæhr-e šîrâz ?æst.	Takh-e-Jamshid one of the attractions of Shiraz is
Sentient	(Tourist): A person visiting a tourist attraction in order to gain experience.	?emsâl gærdešgærân-e besyâri ?æz si-o- se pol didæn kærdænd.	This year tourists many of from Si-o- se pol in Esfahan visited

Fig. 3. Core Element(s) of the “touring” semantic frame in Persian

Touring			
Frame Elements: (Non-Core)			
Semantic Type	Element	Persian Example	Gloss
Sentient	(Co-participant): A companion is an entity taking part coordinately in a tour with a tourist.	?âli bâ dustânâš ?æz muzeye rezâ ?abâsi didæn kærd.	Ali with his friends the museum of Reza Abbasi visited
-	(Depictive): Indicating the tourist's status or the tourist attraction status during a tour.	Bâzdid ?æz qâr-e ?ælisædr-e hæmedân be hæmrâh-e goruh- e gærdešgæri besiâr ?âli bud.	Visiting Ali-Sadr Cave in Hamedan with the group of tourists great was
Duration	(Duration): The time period in which a tourism activity lasts.	tur-e gærdešgæri- e bændær ?æbâs čâhâr ruze ?æst.	the tour to Bandar Abbas four days is
Manner	(Manner): Any description of the details of an event considering how it is compared with other events (in the same way) or regarding how the tourist's status affects it (with cheerfulness, with indifference).	Gærdešgærân bâ ?æjæle ?æz šæhr didæn kærdænd.	Tourists hastily the city visited

Touring			
Frame Elements: (Non-Core)			
Semantic Type	Element	Persian Example	Gloss
State_of_affairs	(Means): A technique a tourist applies to take part in a tour.	Jāhāngārde ʔālmāni, pīvāde sæfær mikonæd.	German globetrotter by foot travels
Locative_relation	(Place): A place where tourism occurs.	diruz goruh-e gærdešgærân ʔæz meydân-e næqš-e jæhân-e ʔesfæhân didæn kærdænd.	yesterday the group of tourists Naghsh-e Jahan square in Esfahan visited
State_of_affairs	(Purpose): Tourists have many things they want to do on their tours, especially focusing on recreation and learning.	tābestân-e gozæšte mâ bærây-e tæhqiât- e bâstâni be mesr sæfær kærdim.	last summer we pursuing archeological studies to Egypt travelled.
Time	(Time): A period of time in which tourism occurs.	Hæfteye gozæšte goruh-e jædidi ʔæz gærdešgærân ʔæz muzeye rezâ ʔabâsi didæn kærdænd.	last week a new group of tourists Reza Abbasi museum visited.

Fig. 4. FE Non-Core Element(s) of the “touring” semantic frame in Persian

Travel			
Frame Elements: (Core)			
Semantic Type	Element	Persian Example	Gloss
Location	(Area): An enclosed area within the travel including source, path and an indefinite goal.	dâriuš be jæzireye kiš mohâjeræt kærd.	Dariush to Kish Island migrated
-	(Direction): It refers to the direction from where a traveler moves.	ʔæšâyær be sæmt-e šomâl kuč kærdænd.	Nomads Eastward migrated
Source	(Source): The source is the beginning point of a travel.	zæhrâ ʔæz dânešgâh tâ xâne bâ ʔotubus mirævæd.	Zahra from university to home by bus goes
Goal	(Goal): A goal is where the travel ends.	ʔæli diruz be ʔærâk resid.	Ali yesterday to Arak arrived
-	(Mode of transportation): A mode of transportation indicates whether a traveler moves by himself or use a vehicle.	Mæryæm diruz bâ ʔotubus be xâne ræft.	Maryam yesterday by bus home went

Travel			
Frame Elements: (Core)			
Semantic Type	Element	Persian Example	Gloss
Path	(Path): A route along which travel occurs.	Jadeye čâlus yeki ʔæz râhhâye mosâferæt be šomâl-e ʔirân ʔæst.	Chaloos Road one of the routes of travelling to the North of Iran is
Sentient	(Traveler): It refers to a human being who travels.	ʔæmir bærây-e ʔedâmeye tâhsil be ʔâlmân sæfærkærd.	Amir to further education to Germany travelled

Fig. 5. Core Element(s) of the “travel” semantic frame in Persian

Travel			
Frame Elements: (Non-Core)			
Semantic Type	Element	Persian Example	Gloss
-	(Baggage): It refers to necessary objects a traveler takes with him/her.	ʔmir bâ çâhâr čæmedân be torkiye ʔæzimæt kærd.	Amir with four items of luggage to Turkey travelled
Sentient	(Co-participant): A companion is a person or people who accompanies a traveler on a journey.	Mæryæm be hæmrâh-e ʔæli be kânâdâ mohâjerætkærd.	Maryam with Ali to Canada migrated
State	(Depictive): It refers to the traveler's status on the journey.	mâ be râhæti be čin sæfær kærdim.	We easily to China travelled
-	(Descriptor): It indicates the feature of a journey.	sæfær be mæšhæd yek mosâferat-e ziâræti ʔæst.	travelling to Mashhad a pilgrimage is
Quantity	(Distance): It refers to the distance of a journey.	mâ fâseleye 1000 kilometri-e tehrân tâ mæšhæd râ 10 sâʔæte bâ mâšin tey kærdim.	We the 1000 kilometers distance of Tehran to Mashhad for ten hours by car travelled.
Duration	(Duration): It refers to the length of time of a journey.	Sæfær-e ʔelmi-e mohæqeqân be ʔâfriqâ 4 mäh tulkešid.	The field trip of researchers to Africa four months lasted
State_of_affairs	(Explanation): It refers to an explanation indicating for what reason the travel is undertaken.	dânešjuyân bærây-e šerkæt dær hæmâyeš-e zæbânšenâsi be ʔæhvâz sæfær kærdænd.	Students in order to take part in the linguistic symposium to Ahvaz travelled.

Travel			
Frame Elements: (Non-Core)			
Semantic Type	Element	Persian Example	Gloss
-	(Frequency): It refers to the frequency of travelling by the traveler.	ʔæli bârhâ væ bârhâ bærây-e mæʔmuriyæ be çâbæhâr ræfte ʔæst.	Ali frequently on a mission to Chabahar went been.
-	(Iterations): It refers to the number of times the trip is traveled by the travelers.	Dâryuš 3bâr be ʔâmrikâ sæfær kærde ʔæst.	Darius three times to America travelled
Manner	(Manner): It refers to the manner in which the traveling occurs.	ʔæmir væ hæmsæræš ʔæ julâne be ʔæhvâz næqle mækân kærdænd.	Amir and his wife hastily to Ahvaz moved to
Human_act	(Means): The traveler's taking action to travel.	ʔæli mæjâni væ bâpâyepiyâde be ziyârat-e kərbâlâ ræft.	Ali free of charge and by foot on pilgrimage to Karbala went
-	(Period of iterations): It refers to the Time throughout which the traveling repeatedly takes place.	ʔæli mâh be mâh bærây-e mæʔmuriyæ be tæbriz mirævæd.	Ali per month on a mission to Tabriz goes
Locative_relation	(Place): Place is the point of movement. It refers to an area where movement (source, path, and goal) takes place.	Mâ nimešæb ʔæz jâdeye çâlus be sæmt-e šomâl hærekæt kærdim.	we at midnight through Chaloos Road Northward travelled
Human_act	(Purpose): It refers to the traveler's purpose of travelling.	hæfteye gozæšte sârâ be mænzur-e šerkæt dær vek ʔejlâs-e ʔelmi be ʔotriš ræft.	Last week Sara in order to take part in an academic conference to Austria went
Event	(Result): It refers to the effect of travel on the traveler.	Turisthâye koreʔi bâ xæstegiye ziâd be sæfærešân ʔedâme dâdænd.	Korean tourists being too exhausted their trip continued
Speed	(Speed): It refers to the speed rate/the amount of speed within which the travel takes place.	mâ dær sæfær be qom bâmââšin hærsâʔæt 100 kilometr râ teykærdim.	We in a trip to Qom by car per hour 100 kilometers travelled

Travel			
Frame Elements: (Non-Core)			
Semantic Type	Element	Persian Example	Gloss
Time	(Time): When the traveling takes place.	Hæfteye gozæšte mâ be bændær ʔæbâs ræftim.	last week we to Bandar Abas went
-	(Travel means): It refers to documents, property, tickets, and etc. which guarantee and allow people to engage in travel.	mosâferân bâ belit- e zæxire be mæšhæd sæfær kærdænd.	Passengers with the reserved ticket to Mashhad travelled

Fig. 6. Non-Core Element(s) of the “travel” semantic frame in Persian

Lexical Units and Marked Sentences: These words evoke a specific frame in mind. Lexical units of this article are gathered using the abridged and two-volume Sokhan dictionary (Anvari, 2003) and lexical encyclopedia of synonyms and antonyms of the Persian language (Khodaparasti, 1997) dealing with the introduction of synonyms and antonyms of the Persian words.

Touring (Lexical Units)	
(Nouns)	(Verbs)
jæhângærd, gærdešgær, turist, bâzdidkonænde, didâr, didæni, didænihâ, tæmâšâye jâhâye didæni, gærdeš, gæšt, bâzdid, jæhângærði, gærdešgæri, doniâgærði, mosâferæti, turisti, gæštgæri.	sæfærkærdæn, siyâhætkærdæn, gærdeškærdæn, sæyârbudæn, teykærdæn, ræftæn, gozærândæn, bærresikærdæn, bâzdidkærdæn, didæn, mošâhedekærdæn, negâhkærdæn, roʔyætkærdæn, nezârekærdæn, didænkærdæn ʔæz, tæjrobekærdæn.

Fig. 7. Lexical Units (verbs and nouns) of the “touring” semantic frame in Persian

Travel (Lexical Units)	
(Nouns)	(Verbs)
sæfær, mosâferæt, seir, gæšt, gærdeš, golgæšt, tur, râheš, ræhgiri, ræhnæværdi, sæfærname, šærh-e mosâferæt, sæfær-e fæzâei, sæfær-e hævâei, sæfær-e dæriâei, sæfær-e tæfrihi, sæfær-e ræft-o-bærgæšt, gosil, ʔeʔzâm, rævânesâzi, ʔordukeši, goruheʔeʔzâmi, ʔordu, mæʔmuriyæt, gosil, gomâreš, siyâhæt, jæhângærði, doniâgærði, mosâferæt-e dur, ziyâret, sæfær-e tulâni, mosâferætbærây-e šekâr, gæštgæri, sæfær-e kutâh, sæfær-e ʔâxeræt.	sæfærkærdæn, mosâferætkærdæn, gæštæn, seirkærdæn, çærxidæn, dorzædæn, golgæštræftæn, gæštzædæn, (be) gærdešræftæn, siyâhætkærdæn, sæiârbudæn, ʔozârkærdæn, gæštgærikærdæn, hærekætkærdæn, râhišodæn, ræhsepâršodæn, ræftæn, ræftæn-o-gæštæn, piyâderæftæn, peimudæn, teykærdæn, dærnæværdidæn, ræhnæværdidæn, hæmlkærdæn, hæmlšodæn, bordæn, jâ be jâkærdæn, birunræftæn be mænzure, kučkærdæn, be sæfær-e dæryâyiræftæn, mohâjerætkærdæn, ʔæzimætkærdæn.

Fig. 8. Lexical Units (verbs and nouns) of the “travel” semantic frame in Persian

Touring (Marked sentences)	
Persian Example	Gloss
ʔemruze jæhângærđi yeki ʔæz mohemtærin mænâbeʔ-e dærâmæd zâʔi-e kešværhâ be šomâr mirævæd.	Nowadays tourism one of the most important sources of income generation of countries is considered
Mesr jâzebehây-e gærdešgæri-e besyâri dâæd.	Egypt tourist attractions many has
si-o-se pol ʔæz jâzebehây-e turisti-e šæhr-e ʔesfæhân ʔæst.	Si-o-se-pol a tourist attraction of Isfahan is
pârsâl bâzdid konændegân-e ziyâdi ʔæz tæxt-e jæmšid didæn kærðæd.	Last year visitors many Takht-e Jamshid visited
Sârâ væ dustânæš ʔæz muzey-e târix-e moʔâser-e ʔirân bâzdid kærðæd.	Sara and her friends the museum of Contemporary History of Iran visited
Bâzdid ʔæzqâr-e ʔælisædr-e hæmedân be hæmrâh-e goruh-e gærdešgæri besyâr ʔâli bud.	Visiting Ali-Sadr Cave in Hamedan with groups of tourists great was
tur-egærdešgæri-e kiš pænjrueʔæst.	The tour of Kish five days is
ʔemruz turisthây-e holændi ʔæz meydân-e næqš-e jæhân-e ʔesfæhân didæn kærðæd.	Today tourists of Netherland Naghsh-e-Jahan square in Isfahan visited
mâh-egozæšte goruh-e jædidi ʔæz jæhângærdân ʔæz kâx-e sæʔd ʔâbâd bâzdid kærðæd.	Last month a new group of globetrotters Saadabad Palace visited
Zemestân-e gozæšte ʔânhâ bærây-e tæhqiât-e bâstâni be ʔirân sæfær kærde budæd.	Last winter they for archeological studies to Iran travelled
gærdešgærân-e hendi bâ ʔæjæle ʔæz šæhr-e zelzelezædeye bæm didæn kærðæd.	Indian tourists hastily from the city of earthquake-affected Bam visited
ʔæli bâdočærxe be mosâferæt mirævæd.	Ali by bicycle travels

Fig. 9. Marked sentences of the “touring” frame in Persian

Travel (Marked sentences)	
Persian Example	Gloss
Mæryæm ba dustânæš hævâyi be jæzireye qešm sæfær kærd.	Maryam with her friends by airplane to Qeshm Island travelled
Rezâ dær sæfæræš be ?âlmân fæqæt yek çæmedân be hæmrâhdâšt.	Reza in his travel to Germany only one item of luggage carried
?ânâ ?æz qom tâ mæšhæd, biš ?æz 1200 kilumetrâ tey kærdænd.	they from Qom to Mashhad, for more than 1200 kilometers travelled
mosâferæt ba qætâr ?æz tehrân be tâbriz 13 sâ?æt tul mikesæd.	Travelling by train from Tehran to Tabriz 13 hours lasts
?âqâye rezâyî be jæzireye kiš mohâjeræt kærd.	Mr. Rezayi to Kish Island migrated
mâhân ?æz tæriq-e jâde ye çâlus be ræšt ræft.	Mahan through Chaloos Road to Rasht went
?æšâyer be sæmt-e jonub kuč kærdænd.	Nomads southward migrated
?æli ?æz ?edâre tâ xâne râ bâ ?otobus tey kærd.	Ali from office to home by bus commutes
Mâziyâr dišæb be sænændæj ræft.	Maziyar last night to Sanandaj went
Mâ diruz bâpây-e-piâde be xâne ræftim.	We yesterday by foot home went
dânešjuyân ?æksæræn bâ ?otobus be dânešgah mirævænd.	Students mostly by bus to university go
sæ?eid be ?ostrâliyâ sæfær kærd.	Saeed to Austria travelled

Fig. 10. Marked Sentences of the “Travel” Frame in Persian

Interdisciplinary Relations: This section relates to presenting hierarchical data of frames and the way they are connected to one another which was removed entirely in this study due to the need of/for a comprehensive FrameNet including all frames in Persian.

Conclusion

In this study we attempted to analyze "touring" and "travel" semantic frames in Persian based on what Fillmore and his colleagues did in the domain of English FrameNet and also what others performed in various languages in the domain of Frame Semantics. Correspondingly, after examining the background of the investigated

studies and also intruding the Frame Semantics Theory, the frames of "touring" and "travel" and their elements in Persian were described within the FrameNet principles. Then, illustrations of frame elements along with examples are manifested based on the perception of the Persian native language. words related to the frames of "touring" and "travel" were drawn from the two-volume Sokhan encyclopedia (Anvari, 2003) and Persian synonyms & antonyms dictionary (Khodaparasti, 1997). Additionally, the part belonged to the marked texts was completed with case sentences exerted from Google. Finally, the findings exhibit that in contradiction to Gandomkar' (2014) point of view declaring the futility of Fillmore's claim in achieving the lexical explanation of the Persian language data, constructing a Persian FrameNet proves to be viable. It supports the idea of Khavari (2013), and Nayebluy et al.'s (2015) approach and others. So conducting studies on other semantic frames in different domains and improving data for establishing the semantic frames of the Persian language are considered groundbreaking investigations. Such studies can be considered as first steps to build a Persian FrameNet.

References

- Anvari, H. (2003). *The abridged Sokhan encyclopedia (1 & 2)*. Tehran, Sokhan Publications.
- Baker, C. (2014). FrameNet: A knowledge base for natural language processing. *Association for Computational Linguistics*, 1, 1-5.
- Begum, R., Samar, H., Lakshmi B., & Dipti, M. (2008). *Developing verb frames for Hindi*. Sharma Language Technologies Research Centre, IIIT, Hyderabad, India.
- Bertoldi, A. (2010). *Frame-semantic principles for constructing bilingual lexicon fragments English-Portuguese*.
- Boas, H. C. (2002). *Bilingual FrameNet dictionaries for machine translation*. Department of Germanic Studies. University of Texas at Austin.
- Borin, L., et al., (2010). *The past meets the present in the Swedish FrameNet++*.
- Borin, L., Forsberg, M., & Kokkinakis, D. (2010). *Diabase: Towards a*

- diachronic blarkin support of historical studies*. In Proceedings of LREC.
- Chomsky, N. A. (1965). *Aspects of the theory of syntax*. Cambridge, M.A., M.I.T. Press.
- Fillmore, C. J. (1977). Topics in lexical semantics, In W.Cole, Roger (Ed.), *Current Issues in Linguistic Theory* (pp.76-138). Bloomington: Indiana University Press.
- Fillmore, C. J. (1982). Frame semantics. In I.-H. Lee (Ed.), *Linguistics in the Morning Calm* (pp.37-111). Seoul: Hanshin.
- Fillmore, C. J. (1985). Frames and the semantics of understanding. *Quaderni di Semantica*, 6, 2, 222-254.
- Fillmore, C. J. (1968). The case for case. In E. Bach and R.Harms (Eds.), *Universals in Linguistic Theory* (pp. 1-88). New York: Holt Rinehart & Winston.
- Fillmore, C. J., & Baker, C. (2010). A frames approach to semantic analysis. In Heine, B. & Narrog, H. (Eds.). *The oxford handbook of linguistic analysis* (pp.313-340). Oxford: Oxford University Press.
- Fillmore, C. J., Baker, C. F., & Lowe, J. B. (1998). *The Berkeley FrameNet project*. In Proceedings of the COLING-ACL, Montreal, Canada.
- Fillmore, C. J., Johnson, C. R., & Petruck, M. R.L. (2003). Background to framenet. *International journal of lexicography*, 16,3, 235-250.
- Fillmore, C.J. (1976). *Frame semantics and the nature of language*. In Annals of the New York Academy of Sciences, Conference on the Origin and Development of Language and Speech, 280, 20–32.
- Fillmore, C.J., & Atkins, B.T.S. (1994). Starting where the Dictionaries stop: The challenge for computational lexicography. In Atkins, B.T.S., & A. Zampolli (Eds.). *Computational approaches to the lexicon* (pp.349-393). Oxford: Oxford University Press.
- Fillmore, C.J., & Atkins, B.T.S. (2000). Describing polysemy: The case of ‘crawl’”. In Ravin, Y., & Laecock, C. (Eds.). *Polysemy* (pp. 91-110). Oxford: Oxford University Press.
- Fillmore, C.J., & B.T.S. Atkins (1992). Toward a Frame-based Lexicon: The Semantics of RISK and its Neighbors. In Lehrer, A., & E. Kittay (Eds.), *Frames, fields and contrasts: New essays in semantic and lexical organization* (pp. 75–102). Hillsdale: Erlbaum.
- Gandomkar, R. (2014). The analysis of Persian words based on frame semantics approach. *The Journal of Language Science*, 2.
- Geeraerts, D. (2010). *Theories of lexical semantics*. Oxford University Press.

- Ghneim, N., Karhely, E., & Safi, W. (2009). *First Step of Building an Arabic FrameNet (AFN)*.
- Hesabi, A. (2016). The semantic frames of 'eating' as far as the frame semantics is concerned. *The Journal of Language and Linguistics*, 6, 7.
- Khavari, N. (2013). *The description and classification of the Persian verbs based on the FrameNet approach*. M.A. thesis. The University of Bu-Ali Sina, Hamedan.
- Khodaparasti, F. (1997). *The encyclopedia of synonyms and antonyms of words in the Persian language*. Shiraz, Fars Encyclopedia Publications.
- Mousavi, S.H., Amoozadeh, M., & Rezaei, V. (2014). The analysis of the word "see" based on Frame Semantics. *Two Periodicals of Lingual Inquiries*, 6, 1, 219-236.
- Nayebloouie, F., Asi, S.M., & Afrashi, A. (2015). FrameNet in Persian. *The Periodical of Comparative Linguistic Investigations*, 5, 9.
- Ohara, K., et al. (2004). *The Japanese FrameNet project: An introduction*. Proceedings of the Workshop on Building Lexical Resources from Semantically Annotated Corpora. in Charles J. Fillmore, et al. (Eds.). Lisbon: LREC 2004, 9-12.
- Ruppenhofer, J., Ellsworth, M., Petruck, J. C. R., & Scheffczyk, J. (2006). *FrameNet II: extended theory and practice*.
- Safari, A. (2015). Frame semantics and LVC Alternation in Persian. *The Journal of Lingual Inquiries*, 6, 1.
- Subirats-Rüggeberg, C., & Petruck, M.R.L. (2003). *Surprise: Spanish FrameNet!* Proceedings of the Workshop on {Frame} {Semantics}, XVII International Congress of Linguists {(CIL)}.
- You, L., Liu, T. & Liu, K. (2007). *Chinese FrameNet and OWL representation*. Sixth International Conference on Advanced Language Processing and Web Information Technology (ALPIT 2007), 140-145.