University of Tehran press

JOURNAL OF FOREIGN LANGUAGE RESEARCH
p-ISSN:2588-4123 e-ISSN:2588-7521
https://jflr.ut.ac.ir **Email**:jflr@ut.ac.ir

A Comparative Study of the Coding of Deictic Verbs and Expressions and Their Interactive Nature in the Persian Language by Analyzing "The Frog Story" and "Alice in Wonderland" and a Series of Video Clips

Ali Jamali ✉* **0000-0003-0882-797X**
Department of English Language and Literature, Ilam Branch, Islamic Azad University, Ilam, Iran.
Email: jamaaliali9@gmail.com

Fatemeh Bashiri ** **0009-0005-0532-1318**
Department of English Language and Literature, Ilam Branch, Islamic Azad University, Ilam, Iran.
Email**:** khf.bashiri@yahoo.com

ABSTRACT
As stated by Matsumoto and Kawachi (2017), deixis is actually a line of a path in addition to a specific ground (i.e. the speaker) and for this reason, it is conceptually different from a path of motion. Indeed, deictic expressions exhibit a distinct set of behaviors from directional expressions (e.g., Up in English), line of path (e.g., TO), or trajectory plus conformation (e.g., INTO), and therefore deserve separate studies. In this article, we are going to examine deictic verbs and expressions in Persian language. For this purpose, after examining the lexicalization pattern of Persian, which is generally based on the analysis of The Frog Story (Mayer, 1969) and the Persian translation of the novel Alice in Wonderland (Carroll, 1865), we will evaluate how deictic expressions are coded in Persian in comparison with English, Japanese and Thai languages (Matsumoto et al., 2017), and if these items are interactive in nature in addition to the spatial role as reported by Matsumoto et al. (2017) regarding these components. As results show, in Persian language these expressions are also used functionally and interactively in addition to the spatial role they play. In other words, speakers of Persian language use these components more frequently when the movement is not only towards the speaker (spatial direction) but also in his area which is defined by the limits of visibility and interaction, and also when the movement is accompanied by an interactive behavior such as greeting at the speaker. These findings are in line with the results of Akita and Matsumoto (2017). However, in the Persian language, as in other investigated languages, the interactivity of the motion event does not have much effect on the encoding of the deictic concept in prepositions, which indicates that the deictic concept is largely lexicalized in the verb stem of "coming" and "going" in Persian language and not auxiliary components such as prepositions and other verb components. Therefore, the auxiliary components along with deictic verbs and other verb components play a mere spatial-locative role or give information about the manner of motion.

ARTICLE INFO
Article history:
Received: 16 April 2024
Received in revised form 28 June 2024
Accepted: 29 June 2024
Available online: Summer 2024

Keywords:
E-Learning, German vocabulary, Educational website, Deutsche Welle, Deutsch.Info.

Jamali, A. &. Bashiri, F. (2024). A comparative study of the coding of deictic verbs and expressions and their interactive nature in the Persian language by analyzing "The Frog Story" and "Alice in Wonderland" and a series of video clips. *Journal of Foreign Language Research*, 14 (2), 253-268. http//doi.org/ 10.22059/jflr.2024.375102.1121

Publisher: The University of Tehran Press.

DOI: http//doi.org/ 10.22059/jflr.2024.375102.1121

✉* " Dr Ali Jamali is an assistant professor in English Literature. He authored several papers in International and National Journals. He has taught Graduate Courses and has supervised several Doctoral Dissertations. His research interests are Literary Criticism, Shakespeare Studies, Narrative Theory, Comparative Studies and Linguistics.

** She is a Ph.D student in Linguistics at Islamic Azad University, Ilam branch and works part-time there at the same time, She is an official teacher of education.Her master's degree is English language teaching and so far he has taught linguistics and language teaching courses at different levels.

1. Introduction

Talmy's typological work (1985 and 2000) has inspired many researches in the field of motion events in the last two decades. Such research considers the main difference between Satellite-framed languages and verb-framed languages in their different coding of manner of motion. In Satellite-framed languages, the manner of motion is coded inside the verb, while in verb-framed languages, this issue is optional. As a result, in the mentioned research, much less attention has been paid to the component of the path, which is encoded as the core of the movement event, either in the verb or in the satellites.

In addition, previous researches have often ignored other semantic components of movement (such as ground, figure) that may be found in the lexicon of motion verbs of Satellite-framed languages with verbs and satellites, which subsequently weakens analyzes related to these linguistic events. One of the components that has not received much attention from researchers like Talmy is the component of ‘deixis’, which has differences with the path component.

In this research, we intend to follow Matsumoto et al. (2017) and use their study as a suitable platform to examine deictic verbs and expressions in Persian language. It should be mentioned that in this research we will use the same data extraction tool used by Matsumoto et al. to compare our results with Japanese, English and Thai. This strategy allows us to determine the position of Persian language among other languages. The research questions are as follows:

1. Linguistically, how are deictic verbs coded in Persian? Are deictic verbs encoded with other path components in this language?

2. Do deictic verbs in Persian have a functional meaning in addition to the spatial meaning?

3. To what extent is the frequency of using deictic verbs influenced by functional factors and interactive behaviors in Persian?

2. Theoretical framework

According to Talmy (2000), path components have different types, including path line or vector, conformation and deixis. Path line refers to the movement path that starts from a source (FROM) and leads to a goal (TO), or a route in between (VIA). These components include "three basic types of reaching (a goal), navigating (a path) and separating (from a source)" that a frigure can perform with respect to a specific ground (Talmy 2000: 53).

A motion path can be semantically complex, consisting of a trajectory plus another component called an alignment (eg IN, ON) that indicates the spatial relationship between the figure and the ground. The preposition *into* in English indicates that the purpose of motion is within the ground. Therefore, the complex path of *into* conceptually has two semantic components that can be represented as TO and IN (cf. Bennett 1975; Jackendoff 1983; Zlatev 2007), where the first component is a path line and the second is a conformation. The deictic component specifies the path of communication of the deictic center, which is usually the speaker's location. Deictic categories include HITHER and THITHER,

meaning "towards the deictic center" and "against the deictic direction".

Indeed, deictic expressions exhibit a distinct set of behaviors from directional (e.g., UP), route (e.g., TO), or route plus conformation (e.g., INTO) expressions. First, in terms of the lexicalization pattern, there are differences between path and the concept of deixis, in the sense that deictic verbs are much more basic and are even found in languages that have a weak set of path verbs (such as German, English; Verkerk 2014; Wälchli & Sölling 2013). Second, deixis often has its own lexical construction (Koga 2017; Matsumoto 2017 and 2013). For example, in Japanese and Korean, a verb set may consist of up to three verbs arranged in a specific manner-path-deixis order, such as hasit-te de-te ku-ru in Japanese, which is equivalent to (come -npst run-conj exit-conj) in English. Deixis occupies a special position in serial verbs such as Thai (Thepkanjana 1986; Zlatev and Yangklang 2004; Takahashi 2017). In other languages, deixis is shown as a verb affix. In this particular case, a position is considered for the concept of deixis which is distinct from other path categories, as can be found in languages such as German (e.g. Dewell 2015), Jakaltek (Craig 1993). and Kupsapiny (Kawachi 2014). Third, the frequency of the coding of deixis in discourse seems to vary from language to language, in a way that is not affected by the frequency of path expression in different languages. Koga (2017) argues that German and Japanese are deixis-prominent, while Russian and French are not (note that German and Russian are path-rich while Japanese and French are not). All this may indicate that there are some things that have remained unknown about deixis encoding among other different categories of the path.

3. Review of Literature

Paying attention to the concept of deixis in motion expressions actually started with an important work in English in the 1970s by Charles Fillmore, in which he distinguished the effect of deictic motion verbs from other motion verbs. However, before his theory reached the necessary maturity, the special place of deixis was ignored in the course of typological approaches that were proposed in the 1980s.

Recently, Matsumoto (2017, 2018) attempted to revise the classification of motion expressions and argued that deixis can be encoded differently from other components of the path. The three main ideas proposed by him can be summarized as follows:

1. Coding positions of Path can be either of the following two positions (in a language which has a single head in a clause):

a. head or the main verb root

b. head-externals or any elements outside the main verb root (e.g. verb affixes, adpositions, case markers)

2. The coding position of Path depends on the nature of the motion, which can be categorized as:

a. Self-motion

c. Caused motion

i. co-motional type

ii. ballistic type

iii. controlled type

d. Fictive motion along emanation path

JOURNAL OF FOREIGN LANGUAGE RESEARCH, Volume 14, Number 2, Summer 2024, Page 253 to 268

3. Deixis can behave differently from Talmy's other Path components.

Regarding the encoding of the path in the form of core or elements outside the core, Matsumoto (2017) avoids relying on Talmy's definition of Satellite, which "considers Satellite as a grammatical category that is in a sister relationship with the verb root" (Talmy 2000: 102). In addition to categorizing motion events into three main types (i.e., self-motion, caused motion, and abstract or emanation motion), Matsumoto divides motion into three subgroups (i.e., co-motional, ballistic, and controlled), which are classified according to the causer's involvement in the event. They are different from each other. One distinction is whether the actor moves or not. An example of commotional causative events has occurred when the actor moves to a place (goal) simultaneously with the figure (moved object). On the other hand, when the actor itself does not move, but gives motion to the object, an example of controlled ballistic events has occurred. An example of causally controlled events has occurred when the actor does not move but uses a part of his body to move the object to a physically accessible location. As Matsumoto (2017) explains, in the emanative movement (as he looked into the house), the figure is not expressed in any current subject. This type of structure is commonly used to depict visual metaphorical movement, speech, and the like. Although this component is not as common as the other two and is considered only a subgroup of imaginary or fictive movement expressions (Blomberg 2014), it is important in terms of showing the scene in a very different way. Finally, Matsumoto argues that deixis can be encoded in a different way than other concepts of the path.

In this regard, we can refer to the research conducted by Eguchi (2017). He examines how Deictic concepts are expressed in the description of Hungarian movement events. Hungarian is one of the languages in which path is expressed in clauses and other "external-core elements" (i.e. elements outside the root of the main verb). However, although deixis is often considered a component of path, the way it is encoded varies across languages (Talmy 2000). Deixis in Hungarian is expressed in various ways, different from non-deictic path concepts (such as UP, INTO). Specifically, this component can be encoded in the root of the main verb, where the manner can be expressed, or outside the root of the main verb, where the path can be expressed. Furthermore, different deictic elements can occur simultaneously, and the same (seemingly) concept can be specified in more than one place in a clause. In this research, Eguchi discusses the types of restrictions that are applied to the use of each type of deictic expression and examines the conditions under which deictic expressions are chosen to describe self-motion, causal movement, and visual imaginary movement. Another research that is used in this research as a platform for cross-linguistic comparisons is the research of Matsumoto et al. (2017). In this research, they examine the data collected based on a set of clips regarding English, Japanese, and Thai languages and claim that deictic verbs are not only spatial, but also functional in nature. In other words, when the

movement is not only towards the speaker but also in his performance space which is characterized by the limits of interaction and visibility, deictic verbs such as come in English are mostly used in the verbal description of the participants. It has also been found that this frequency increases when the movement is accompanied by an interactive facial behavior such as greeting or smiling to the speaker. In this regard, Karimipour and Sharifi (2021) by comparing their results with the research of Matsumoto et al. (2017) regarding the encoding of the deictic path in Ilami Kurdish show that in this dialect, deictic verbs can go beyond act from a mere spatial role and have a functional application as well. The interesting point in this research is that they claim that the deictic suffixes used in this dialect not only contribute to the deictic meaning of the main verb but they can also play a role in the interactive role of language and add the concept of getting closer to figure of the movement event, which is different from Japanese, English and Thai languages in this respect. They explain this difference in such a way that languages, in addition to universal typological patterns, can also have their own inter-linguistic differences.

4. Data analysis

In the Persian language, there are different ways to encode the path of motion, and in this section, some of them are highlighted using the Frog Story* (Mayer, 1969) and Alice in Wonderland (Carroll, 1865). One of the common ways to encode this motion component is to use prepositions to indicate the origin of movement, direction and other concepts. Pay attention to the following examples:

1. او از خانه خارج شد.

He left the house. (Image 7 of the Frog Story)

In the above example, ‘he’ is considered as the figure of motion that leaves the source which is "home". In this example, the preposition از "from" is used to show the path outside the main verb. In another example, the direction or goal of movement can be encoded by using the preposition به "to" in Persian, in this case, the preposition that is responsible for encoding this component can be placed before or after the verb and the second case is used in colloquial speech of Persian language.

2. او به سمت جغد حرکت کرد.

He moved towards the owl. (Image 12 of the Frog Story)

3. او حرکت کرد به سمت جغد.

He moved towards the owl. (Image 12 of the Frog Story)

Another way to express the path in Persian is to use adverbs to encode this component, which is explained with an illustration below:

4. بادبادک بالا (به سمت آسمان) گرفت.

The kite went up (toward the sky). (page 101 of Alice in Wonderland)

As it is clear, in the above example, which is given in non-conversational Persian, the adverb بالا "up" is used to show the path of motion, and this linguistic element can be the used as pre- or post-position depending on whether the sentence is colloquial or not.

Another way to express the path in Persian language is the use of complex paths, among which we can refer to به‌داخل "into" in the following example:

5. مورچه‌ها به داخل زمین هجوم بردند.

The ants rushed into the ground. (page 88 of Alice in Wonderland)

6. آلیس شاه سفید را در حالی که به سختی به‌داخل گلگیر می رفت تماشا کرد

Alice watched the White King as he came into the fender with difficulty. (page 100 of Alice in Wonderland)

It is necessary to explain that in the above example, two independent elements of the Persian language, each of which has independent semantic and grammatical roles, have been used to encode the path of motion, and this issue can be interpreted so that the combined form of the path gives more information about the path of motion compared to when it is used alone.

Finally, another way to express path in Persian language is to use some verb prefixes, which are theoretically more similar to what Talmy (1987, 2000) considers as satellite:

7. آن ماشین در اثر بارندگی در گل و لای فرورفت

That car got stuck in the mud due to the rain.

8. این خرگوش سفید بود که داشت به آرامی برمی گشت

It was the White Rabbit that was coming back slowly trotting. (page 33 of Alice in Wonderland)

As can be seen in the above example, the main verb which is رفتن "go" is used along with the prepositional element فرو "down" which shows the direction of movement regarding the figure, in the absence of which the meaning of the sentence is completely changed.

As far as the encoding of deixis in Persian language is concerned, in this language two verbs رفتن "to go" and آمدن "to come" are generally used to express the concept of deixis. It should be noted that in Persian language, the position of deixis along with the manner of motion is encoded within the core verbs "to go" and "to come", while the path of motion is encoded in several ways outside the verb stem, as mentioned earlier. This issue shows the essential difference between deixis and path of motion in Persian language. As shown earlier, path encoding elements provide information about the source, route, or goal of the path:

9. او به جنگل رفت.

Deictic verb path preposition

He went to the forest. (image 11 of the Frog Story)

10. پسره به خانه آمد.

Deictic verb path preposition

The boy came home. (image 24 of the Frog Story)

In the examples presented above, due to the association of these elements with the above deictic verbs, the concept of motion 'from the speaker' or 'towards the speaker' is defined as the center of deixis for the audience.

4.1 Research test

In this section, the information related to the participants, the data extraction tool and also the method of conducting the research are explained.

4.1.1 Research participants

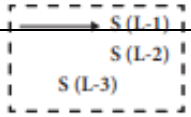
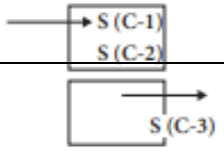
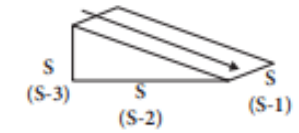
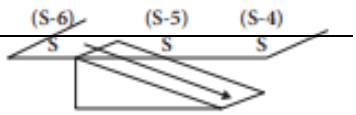
Following Matsumoto et al. (2017) -as well as Karimipour and Sharifi (2021)- who used twelve Japanese participants and twelve English participants to investigate the issue, we also used twelve Persian-speaking participants for this test. In this research, several criteria have been considered for the

recruitment of participants, based on which only those speakers were included who: 1) are Persian speakers, 2) use Persian in their daily conversations. and 3) have spent their whole life in Persian-speaking areas. By doing this, we will ensure that the extracted data actually reflects the desired characteristics for further evaluations.

4.1.2 Data extraction tool and test procedure

As mentioned earlier, the experiment will be conducted using a series of video clips (N=26) depicting different motions and a laptop (Matsumoto et al., 2017). Since the original video stimuli used in that research are not available for public use, the scenes used in this experiment are replicated based on the description and classification presented in Matsumoto et al. (2017). The scenes related to all the clips can be seen in the following table:

Table 1. Collection of video clips used in the research

L: Lawn (Open space) L-1 motion toward the speaker L-2 motion off to a side of the speaker L-3 motion across in front of the speaker	
C: Classroom C-1 motion into the classroom toward the speaker C-2 motion into the classroom off to a side of the speaker C-3 motion out of the classroom across in front of the speaker	
S: Staircase outside a building S-1 motion onto the speaker's (who is at another door)	 

level toward the speaker

S-2 motion onto the speaker's level across in front of the speaker

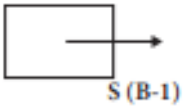
S-3 motion onto the speaker's level away from the speaker

S-4 motion onto some other level toward the speaker

S-5 motion onto some other level across in front of the speaker

S-6 motion onto some other level away from the speaker

B: Building



B-1 motion out of the building across in front of the speaker (who is outside the building)

It is worth mentioning that before starting the assignment, the participants were asked to pay attention to the oral tips regarding the exam. The language of instruction was Persian. Accordingly, participants seated in front of a laptop were asked to watch video clips depicting motion events. They were also asked to imagine themselves in the scene of the event and narrate from that dimension, i.e. at the location of the camera where the scene was filmed, and also to consider the figure as their friend. Then they should tell the researcher what they are observing. Finally, their explanations were recorded and transcribed for further analysis.

As explained by Matsumoto et al. (2017), video clips should not only be different in terms of movement direction, but also in terms of two functional factors. The first factor is the speaker's space: whether the target of the movement is located in the speaker's space (room, floor or visible space) or not. The second factor is interactive

behavior: whether the person moving as a figure greeted the speaker while moving, smiled or not.

4.2 The amount of usage of deictic verbs, prepositions and other deictic expressions in Persian language

As mentioned earlier, Matsumoto et al. (2017) first investigated the frequency of deictic verbs and other prepositions as well as related verb groups in English, Japanese and Thai languages. By considering the statistics and figures that they have presented for these three languages and by calculating the frequency of these linguistic components in the Persian language, one can understand the situation of the Persian language regarding the general encoding of these linguistic elements:

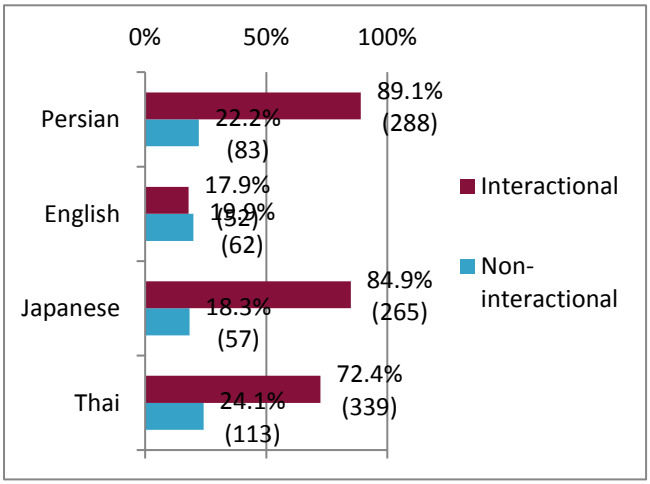


Figure 1. The frequency of using deictic verbs and other adverbial groups in Persian and other languages

As can be seen in the figure above, speakers use deictic verbs in a comprehensive way in Persian language, which shows that the common approach in this language is to use verbs to encode the concept of 'here and now'. In this language, 89.1% of the descriptions related to the collection of clips used in the research contained deictic verbs of coming and going. This way of encoding deixis is also visible in Japanese and Thai languages, because in these two languages, speakers have used 84.9% and 72.4% of deictic verbs of their language to express deixis, although compared to Persian, this difference is slightly more in Thai language. On the other hand, English speakers have used deictic verbs in only 17.9% of the relevant descriptions, which shows the major difference between Persian and English in encoding this linguistic component. As far as the use of other prepositions and related verb phrases shows - in Persian, speakers have a much lower tendency to encode the deixis through these elements. Considering the above figure, we can understand this very well. Only in 22.2 percent of the reviewed descriptions, prepositions and other verb phrases are used to express deixis. This asymmetry has been observed not only in Persian, but Japanese and Thai languages also show such a pattern in a more or less similar way. Based on this, from the point of view of asymmetry between the use of deictic verbs and prepositions/other verb groups, Persian language is different from English, because in English, the statistics of using both components are 17.9 and 19.9 percent, respectively. Statistics are close to each other. Below are some examples from the Persian language:

11. اینجا مرده داره میره اون سمت

Here, the man is going there.

12. توی این فیلم مرده داره از پله‌ها میاد پایین

In this movie, the man is coming down the stairs.

13. اینجا این زنه میاد سمت من

Here, the woman is coming towards me.

14. اینجا مرده داره میپره پایین از پله‌ها

Here, the man is jumping down the stairs.

As can be seen in the above examples, in examples (11) and (12), the speaker uses the deictic verb "go" and in example (13) the deictic verb "come" to describe the relevant events. In more limited cases, such as example (14), the speakers have shown a tendency to use other verbs of motion such as پریدن "jumping" to describe the mentioned event.

4.3 The use of deictic verbs of آمدن "coming" and رفتن "going" in different contexts in Persian and other languages

As shown in Table 1, in this research, different physical contexts and motion events that are prone to encoding deixis and deictic expressions (Matsumoto et al., 2017) have been used, which include the following: The presence or absence of the speaker's space, speaker's space 1: class, speaker's space 2: levels of stairs and speaker's space 3: visible space. Based on each of these cases, motion events have been designed that show us the extent of usage of deictic verbs and other groups.

4.3.1 The presence or absence of the speaker's space

Following Matsumoto et al. (2017), we will use the following scenes for this component. It is necessary to explain that in each case we compare the statistics of Persian language with the statistics of other languages, namely English, Japanese and Thai, in order to understand the position of Persian language among these languages.

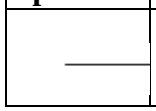
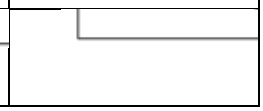
a. Open space	**b. Classroom**	**c. Staircase**
		

Figure 2. Schemas used regarding the presence or absence of the speaker's space

Image "a" represents the movement towards the speaker in an open space, image "b" shows the movement towards the speaker in his space, and image "c" depicts the movement down to the level of the speaker. In the described events, the figure may greet or smile while moving, which can clarify the possible interactive aspect for us.

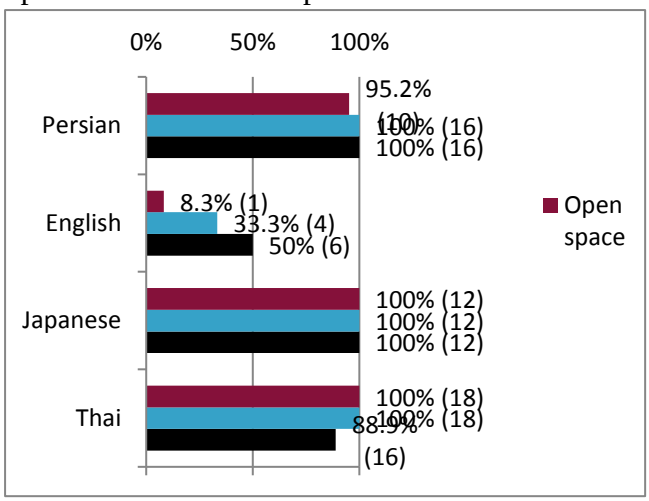


Figure 3. Reported statistics regarding the encoding of deictic verbs in the presence or absence of the speaker's space

The above figure provides information about the usage of deictic verbs in the open space, inside the room and also on the stairs in Persian language. As the above statistics show, in the Persian language, the participants of the research have used deictic verbs to a high extent (95.2%) to express the motion event in the open space, although this usage rate is compared to Japanese and Thai. Both of them have used deictic verbs in 100% of cases, it is a little less, but it shows a big

difference compared to English. Regarding the room and stairs, the participants of the research have used deictic verbs in 100% of the cases, which in this regard, Persian is equal to Japanese, although Thai participants have used deictic verbs in 100% of the first case. But to a lesser extent (88.9 percent) they have used these verbs in the space of stairs. As in the previous sub-test, the English participants in all three cases have used deictic verbs to a much lesser extent, which shows the difference between this language and Persian. For example, in most cases, to enter or leave the room, the Persian participants preferred to use بیرون رفتن "go out" or داخل آمدن "come in", which shows the tendency of Persian speakers to use deictic verbs in encoding the described motion events concerning the room.

4.3.2 the speaker's space 1: class

The main point about this part is whether the space is open or closed; the relevant schemes are represented below.

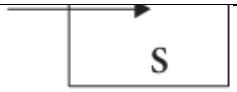
a. Motion slightly off the speaker's direction in an open space	b. Motion slightly off the speaker's direction into his/her space (room)
	

Figure 4. Schemes used regarding open and closed space

According to the above schemas, in this section, we intend to investigate the possible difference between Persian speaking speakers regarding the amount of usage of deictic verbs in open and closed spaces. Also, in this section, we will compare the statistical results with English, Japanese and Thai languages.

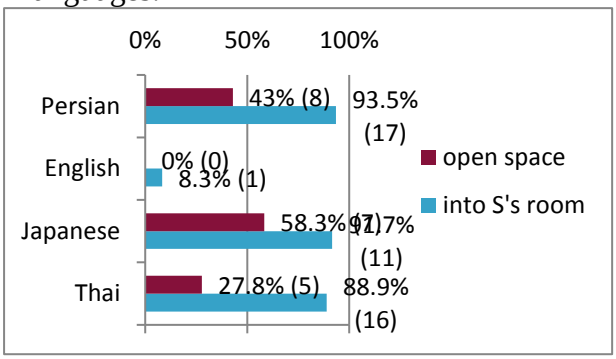


Figure 5. Reported statistics regarding the encoding of deictic verbs in free and closed space

Based on the above figure, the Persian-speaking participants have a much greater tendency to describe deictic motion events with deictic verbs in closed spaces, and this tendency is much less in open spaces. As far as the statistics related to Persian show, in this language, in 93.5% of closed space cases, the participants of the research tended to use deictic verbs, which is similar to Japanese and Thai, but in the English language, only 8.3% of the speakers have used such verbs. The percentage of using deictic verbs regarding open space is 43%, which is more or less similar to Japanese and different from Thai. This difference is much more significant in English (0%) and Persian. The following two examples from the Persian language can clarify the issue:

15. اینجا دوستم داره میره

Here goes my friend.

16. اینجا (نما) از کنارم رد شد

Here (Figure) passed me by.

In example (15), to describe the motion of the figure, which is omitted, the deictic verb رفتن "to go" is used and it is related to closed space. In example (16), the participant has

used the compound verb رد شدن "pass" to describe a motion event that is not deictic.

4.3.3 speaker space 2: level of stairs

For this section, a total of six scenes, S1-S6, have been considered, which are shown in the schemes below for ease of understanding. It should be noted that in these moving scenes, the look is either towards the speaker, or in a neutral way, or away from the speaker.

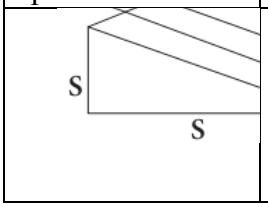
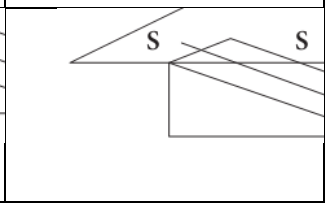
a. Motion onto the speaker's level	b. Motion onto some other level
	

Figure 6. Schemes used for stairs

Below are the findings related to the usage of deictic verbs in all three cases that were mentioned earlier in Persian language, and as in the previous sections, statistics and figures related to Japanese, English and Thai languages are also presented. The presentation will be compared with Persian.

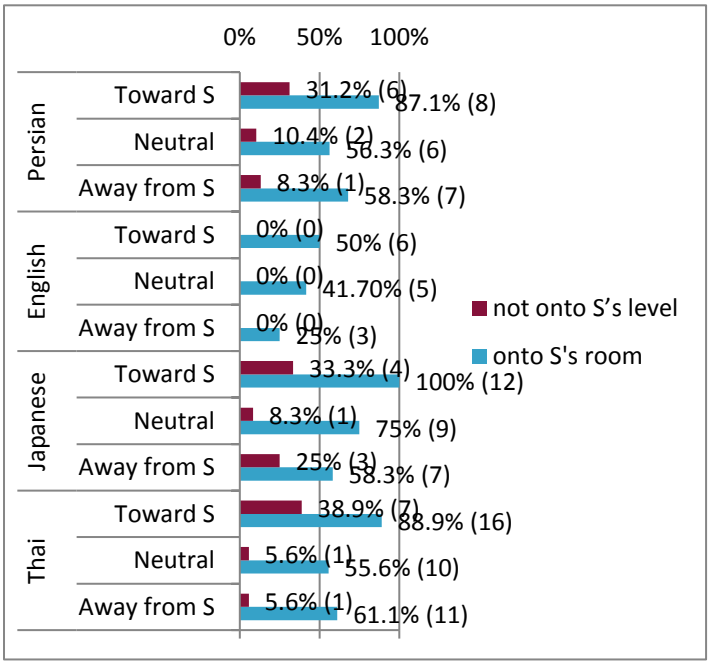


Figure 7. Reported statistics regarding the encoding of deictic verbs in co-level and non-co-level events

Examining the above figure shows that in Persian language, each of the factors of approaching the subject to the speaker, the neutrality of the figure, and also moving away from the speaker can influence the usage of deictic verbs "come" and "go". As far as the component of getting closer to the speaker in Persian language is considered, the rate of using deictic verbs in the events that lead to being onto the level of the speaker or getting away from him is 87.1 and 31.2 percent, respectively, which shows that being onto the level of the speaker is a stronger motivation for using deictic verbs in Persian. In this respect, Persian language is similar to Thai and Japanese languages, and the amount of usage of deictic verbs in English-level events is also more or less closer to Persian in comparison with other previous components. Whether the movement is done in a neutral way or not is also related to the leveling of the figure. The usage rate of deictic verbs in neutral events that eventually leads to leveling is also 56.3 and 10.4%, respectively, which shows a relatively similar pattern compared to Japanese and Thai. Regarding the component of distance from the speaker, the statistical results show that in flat and non-flat spaces, this rate is 58.3 and 8.3 percent for Persian, respectively, which in the second case (non-flat) shows a relatively greater difference with Japanese.

4.3.4 speaker space 3: visible space

The question that is important in this section is related to the visibility of the figure of the motion event. The question is whether

the visibility or invisibility of the figure can affect the usage of deictic verbs in Persian or not. The following schemas depict the way the figure moves in terms of being visible or not for the speaker.

a. Motion in an open space	b. Visible-to-visible exiting	c. Invisible-to-visible exiting
S		

Figure 8. Schemes used regarding the visibility or invisibility of the figure

Scheme "A" shows the scene passing by the speaker in an open space, while the other two schemes show motion events in a closed space. In the case of "A" and "B" schemes, the scene is visible to the speaker during the movement, while in "C", the scene is invisible in the beginning and in the closed space, and then it becomes visible in the open space. Below are the findings related to Persian and other languages.

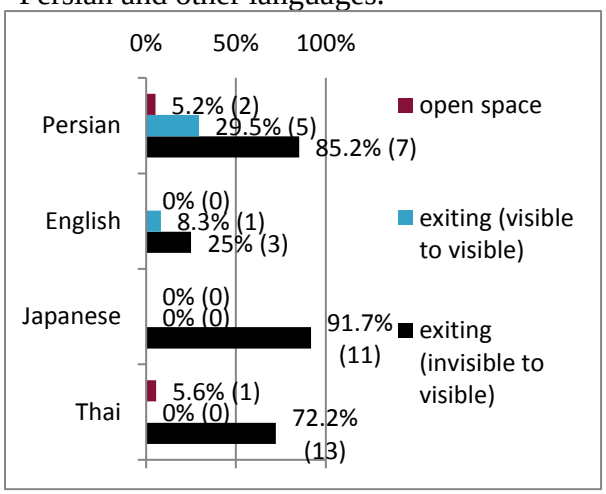


Figure 9. Reported statistics regarding the encoding of deictic verbs in open space, visible to visible exit and invisible to visible exit.

What can be inferred from the above figure is that the open space to a very small extent can stimulate the use of deictic verbs in Persian. In this language, the rate of using deictic verbs regarding open space is 5.2%, which is very similar to Thai, but this rate is 0% in English and Japanese. Also, the visibility of the scene is considered a very important factor for the speaker, and as we can see, in the Persian language, if the scene appears in a visible form from the beginning to the end of the movement (from within the closed and open space), the amount of deictic verbs used is equal to 29.5%, which is more than English, Japanese and Thai. But if the figure is invisible in closed space and then becomes visible to the speaker in open space, this amount reaches 85.2%, which also applies to Thai and Japanese. The following two examples extracted from the descriptions of the participants show this very well:

17. اینجا مرده داره رد میشه

Here, the man is passing by here.

18. اینجا مرده از تو ساختمونه اومد بیرون

Here, the man came out of the building.

In example (17), the scene was visible to the speaker from the beginning to the end of the movement, so the participant used the non-deictic motion verb رد شدن "pass" to describe the event. But in the next example, the figure is visible to the speaker when leaving the building, which is the reason for the use of the deictic phrase آمدن بیرون "coming out".

4.3.5 Interactive behavior of figure in motion event

As mentioned earlier, in this research we will try to investigate the possible effect of the interactive behavior of the figure during

the movement event on the encoding of the deictic verb. For this reason, the related motion events that are analyzed in this section have been created once without interactive behavior and once again with interactive behavior of the figure in order to determine the possible conflict between the two. In clips that contain interactive behavior, the figure always has an interactive behavior such as smiling or greeting the speaker (Matsumoto et al., 2017).

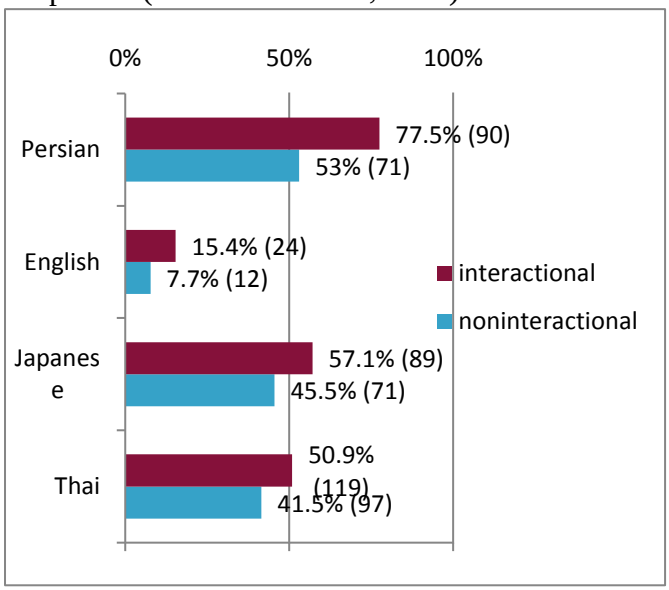


Figure 10. Reported statistics regarding the encoding of deictic verbs in interactive and non-interactive events

According to the above figure, the interactivity of the figure's behavior can be an effective factor in encoding deictic verbs in Persian language. The participants have used deictic verbs in 53% of the cases when the figure does not show such interactional behavior, while this amount has increased to 77.5% for interactive behavior of the figure. It is necessary to explain that in terms of events without interactive behavior, Persian language is more similar to Japanese and English, but by examining the events containing interactive behaviors, the difference between Persian and Japanese (57.1%) is less than Thai (50.9%). Most of the difference is related to Persian and English, which is apparently due to the general lack of tendency of English to encode deictic verbs in the language. Following Matsumoto et al. (2017), we will continue to examine one of the events related to the 'coming down' of the figure with and without interactive behavior, and we will present the results of the Persian study along with other

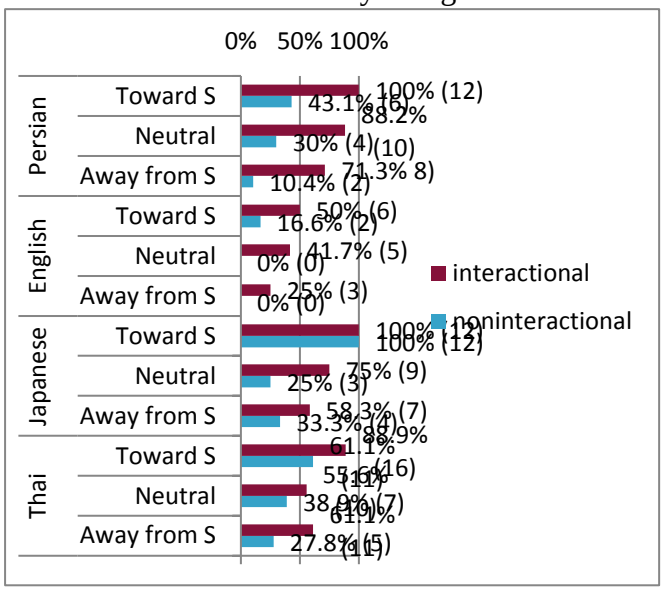


Figure 11. Reported statistics regarding the encoding of deictic verbs in interactive and interactive events related to the staircase scene.

In the above, while figure is approaching the speaker, it is neutral or moving away from him in both interactive and non-interactive events. What can be seen in a general view is that the interactivity of the figure can have an effect on the specification of the deictic verb of coming and going. In the case of events that approach the speaker, in interactive and non-interactive events, the usage rate of deictic verb is 100 and 41.3%, respectively, which in terms of interactive events, Persian language is equal to Japanese and more or less close to Thai. In this regard, the

mentioned non-interactional event of the Persian language has more affinity with Thai, and in this respect, the Japanese language has appeared richer. In the case of neutral events, the amount of using deictic verbs with and without interactive behavior has been calculated as 88.2 and 30%, respectively, and so, Persian and Japanese (75% and 25% for interactive and non-interactive events, respectively) show more similarity. Finally, in the case of motion events during which the figure moves away from the speaker, we can mention the degree of coding of the deictic verb in interactive and non-interactive events. In Persian language, the rate of using such verbs in both cases is 71.3% and 10.4%, respectively, which is lower than the reported percentages for approaching and neutral events in Persian language itself. The reported percentage of 'away from the speaker' events in interactive behaviors is more similar to Thai and Japanese.

4.3.6 The use of other prepositions and verb phrases for the concept of deixis in Persian

As we pointed before, in Persian language, two verbs "come" and "go" are used as core elements in order to encode the concept of deixis, but at the same time, sometimes other elements such as prepositions and verb phrases can play such a role or strengthen the intended concept along with the main deictic verb. In this section, following Matsumoto et al. (2017), we are looking for an answer to the question that to what extent are the prepositional and verb phrases are encoded in the open space, in the speaker's space and onto the level of the speaker (physically).

By examining the descriptions of the participants regarding the mentioned motion events, it can be seen that some prepositional and verb phrases can be used with or without deictic verbs in Persian. Pay attention to the following examples:

19. اینجا این دوستمه که داره سمت من قدم میزنه

Here, this is my friend who is walking towards me.

20. اینجا این مرده داره از تو خونه درمیاد

Here, this man is coming out of the house.

21. زنه داره لبخند میزنه و میره تو ساختمون

The woman is smiling and going to the building.

In example (19), the main deictic verb of going or coming is not used, but the compound verb "walk" can be conceptually considered deictic, because in this particular case it evokes the meaning of "going". It is necessary to explain that in this example, the prepositional phrase سمت من "towards me" is also used to complete the deictic meaning. On the other hand, examples (20) and (21) contain deictic verbs of coming and going, respectively, and the verb particle در "in" and preposition تو(ی) complete the deictic meaning of the sentences. Below is the usage rate of Persian language of prepositions and verb phrases compared to other three languages.

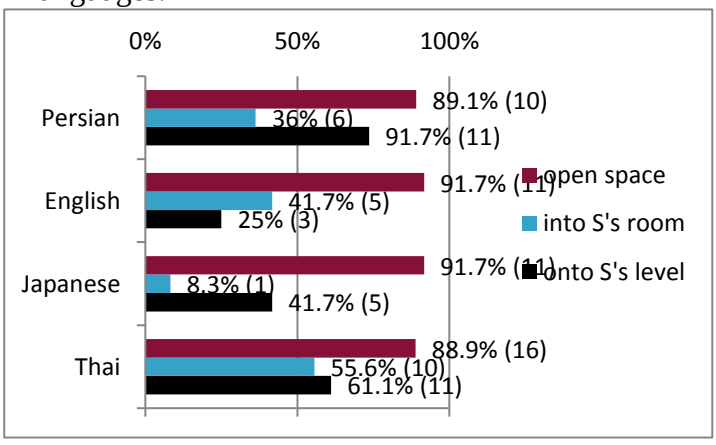


Figure 12. Reported statistics regarding the encoding of prepositional and verb phrases in open, closed and onto the level of the speaker.

The patterns of using preposition phrases in the open space in Persian language is 89.1%, which is similar to all three languages, English, Japanese and Thai. On the other hand, in the closed space, this amount has decreased to 36%, which is more or less similar in English and Thai, but in Japanese, this decrease is more significant. Also, as far as the physical leveling of the figure with the speaker is concerned, this rate is reported to be 91.7% in Persian language and 25%, 41.7% and 61.1% in other three languages, namely English, Japanese and Thai respectively, and in this respect Persian shows less difference with Thai compared to Japanese and especially English.

In addition to the above, the scenes S1-S6 can also help us in checking the usage of prepositional and verb phrases. Matsumoto and his colleagues have shown this issue regarding Japanese, Thai and English in the figure below, and as in the previous cases, we also present the statistics and figures related to the Persian language in this regard.

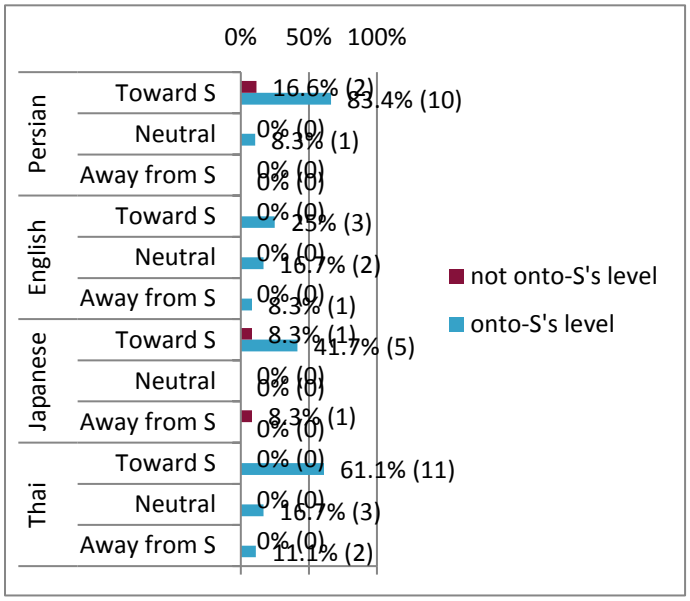


Figure 13. Reported statistics for the coding of prepositional and verb phrases regarding scenes S1-S6

In the above figure, it is possible to examine the degree of specification of prepositional and verb phrases in the events in which the figure is approaching, neutral and receding. In the first case, when the movement event leads to the same level with the speaker, the frequency of using verb groups is 83.4%, and in the case of neutral and away events, this frequency is 8.3% and 0%, respectively. In terms of the first case, the Persian language is more or less similar to the Thai language. Regarding the investigation of the same events when the figure does not lead to the same level with the speaker, such figures can be seen in the above diagram. 16.6, 0 and 0% statistics were obtained for approaching, neutral and receding events, respectively, and this decreasing trend can be seen in almost all other three languages as well. Finally, we have to specify to what extent prepositions and verb groups are used in all interactive and non-interactive events, which is shown in the following figure regarding the languages described.

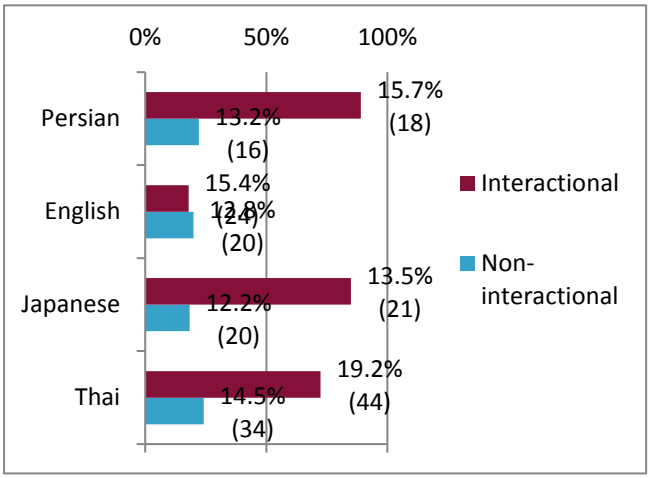


Figure 14. Reported statistics regarding the coding of prepositional and verb phrases in interactive and non-interactive events.

By examining the above figure, we find that the interactiveness or non-interactiveness of the motion event in general is not very effective in encoding prepositions and verb phrases, which is in line with the idea of Matsumoto et al. (2017). In Persian language, if the figure has an interactive behavior in the movement event, the rate of using the mentioned components is 15.7%, and otherwise, this frequency is 13.2%. It should be noted that English, Japanese and Thai languages also show similar usage patterns.

5. Conclusion

In this research, we attempted to compare deictic verbs and phrases related to this concept in Persian language. Following Matsumoto et al. (2017) to extract data related to deictic in Persian language, we used a targeted video clip collection and in different scenes such as movement in open and closed space, movement towards the speaker or against it and movement along with the interactive behavior of figure, we measured the usage of deictic verbs and other related expressions and in each case we made comparisons with English, Japanese and Thai languages (Matsumoto et al., 2017). As we found out in the previous sections, the concept of deictic in Persian language is mainly encoded through the two verbs of coming and going, and this method can be the main solution for encoding this concept in different physical contexts, including events considered approachable, awaying and neutral in open or closed space. Since the direction of movement in Persian language is often expressed through elements outside the verb stem, but the deixis is encoded along with manner of motion in the verb stem, the view of Matsumoto (2017) who distinguishes between the path component and the deixis can be plausible regarding the Persian language. It should be noted that in this language, in addition to these two verbs, other components such as prepositions and verb phrases are used to assist encoding the deixis along with the deictic verb itself or other verbs that evoke the concept of deixis. As far as the data of the Persian language show, in this language, the interactive behavior of the figure along with the component of visibility can have an effect on the frequency of using deictic verbs, but this issue does not apply to other deictic components.

Notes

* The aforementioned picture book contains a collection of pictures without text that depicts the story of a boy and a dog in search of a frog. The story contains 29 events that could potentially be described in terms of motion, such as the frog coming out of the jar, the owl coming out of the tree, and the deer running toward the cliff with a boy on its head.

References

Akita, K. & Matsumoto, Y. 2020. A fine-grained analysis of manner salience: Experimental evidence from Japanese and English. In Y. Matsumoto & K. Kawachi (Eds.), *Broader Perspectives on Motion Event Descriptions* (pp. 143–180). Doi: 10.1075/hcp.69.05aki

Bennett, D. C. 1975. *Spatial and temporal uses of English prepositions: An essay in stratificational semantics*. London: Longman.

Blomberg, J. 2014. The expression of non-actual motion in Swedish, French and Thai. *Cognitive Linguistics*, 26(4), 657–696.

Carroll, Louis. (1865). Alice in wonderland. Translated by Nasrollahi, Somayeh. (2014). Tehran: Mehrgan Kherad Publications.

Craig, C. G. 1993. Jakaltek directionals: Their meaning and discourse function. *Languages of the World*, 7, 23–36.

Dewell, R. B. 2015. *The semantics of German verb prefixes*. Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.49

Eguchi, K. 2017. Patterns of deictic expressions in Hungarian motion event descriptions refence. In: I. Ibarretxe-Antuñano (ed.), *Motion and Space across Languages. Theory and Applications*, Amsterdam: John Benjamins, 41-62.

Fillmore, C. J. 1997. *Lectures on deixis*. Stanford: CSLI Publications.

Jackendoff, R. 1983. *Semantics and cognition*. Cambridge, MA: MIT Press.

Karimipour, A. & Sharifi, Sh. 2021. An experimental study on deictic verbs and the coding patterns of deixis in Ilami Kurdish: A Comparative Study. *Studia Linguistica Universitatis Iagellonicae Cracoviensis (= SLing)*. 138(4):159-186.

Kawachi, K. 2014. Patterns of expressing motion events in Kupsapiny. In O. Hieda (Ed.), *Recent advances in Nilotic linguistics* (103–136). Tokyo: Research Institute for Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.

Koga, H. 2017. Niti-ei-doku-ro-go no ziritu-idoo-hyoogen: Taiyaku-koopasu o motiita hikaku- kenkyuu [Self-motion expressions in Japanese, English, German, and Russian: A comparative study using translation corpora]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (303–336). Tokyo: Kurosio.

Matsumoto, Y., and Kawachi, K. 2017. Introduction: Motion event descriptions in broader perspective. In: I. Ibarretxe-Antuñano (ed.), *Motion and Space across Languages. Theory and Applications*, Amsterdam: John Benjamins, 1-22.

Matsumoto, Y., K. Akita & K. Takahashi 2017. The functional nature of deictic verbs and the coding patterns of Deixis: An experimental study in English, Japanese and Thai. In: I. Ibarretxe-Antuñano (ed.), *Motion and Space across Languages. Theory and Applications*, Amsterdam: John Benjamins, 95-122.

Matsumoto, Y. 2013. Determinants of Manner, Path, and Deixis saliency across languages. Paper presented at International Workshop SYLEX III: Space and Motion across Languages and Applications. University of Zaragoza, Zaragoza, Spain, 21 November 2013.

Matsumoto, Y. 2017. Idoo-hyoogen no ruikei ni kansuru kadai [Issues concerning the typology of motion event descriptions]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions] (1–24). Tokyo: Kurosio.

Matsumoto, Y. 2018. Motion event descriptions in Japanese: Typological perspectives. In P. Pardeshi & T. Kageyama (Eds.), *Handbook of Japanese contrastive linguistics* (273–289). Berlin: Mouton de Gruyter. https://doi.org/10.1515/9781614514077-010

Mayer, M. (1969). *Frog, where are you?* New York: Dial Press.

Takahashi, K. 2017. Tai-go no idoo-hyoogen [Motion expressions in Thai]. In Y. Matsumoto (Ed.), *Idoo-hyoogen no ruikeiron* [The typology of motion expressions]. Tokyo: Kurosio.

Talmy, L. 2000. *Typology and process in concept structuring (Toward a cognitive semantics*, vol. 2). Cambridge–London: The MIT Press.

Talmy, L. 1985. Lexicalization patterns: semantic structure in lexical form. In: T. Shopen (ed.), *Language Typology and Syntactic Description*, Vol. 3*: Grammatical Categories and the Lexicon*, 36−149. Cambridge: Cambridge University Press.

Thepkanjana, Kinkarn. 1986. Serial verb construction in Thai. Doctoral disseration, University of Michigan.

Verkerk, A. 2014. The correlation between motion event encoding and path verb lexicon size in the Indo-European language family. *Folia Linguistica Historica*, 35, 307–358. https://doi.org/10.1515/flih.2014.009

Wälchli, B., & Sölling, A. 2013. The encoding of motion events: Building typology bottom-up from text data in many languages. In J. Goschler & A. Stefanowitsch (Eds.), *Variation and change in the encoding of motion events* (77–113). Amsterdam: John Benjamins. https://doi.org/10.1075/hcp.41.04w228l

Zlatev, J. 2007. Spatial semantics. In H. Cuyckens & D. Geeraerts (Eds.), *The Oxford handbook of cognitive linguistics* (318–50). Oxford: Oxford University Press.

Zlatev, J., & Yangklang, P. 2004. A third way to travel: The place of Thai and serial verb languages in motion event typology. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (159–190). Mahwah, NJ: Lawrence Erlbaum Associate.