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A Cognitive Study on Lexical Expressions of Path Motion In English

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ABSTRACT:- This study aims to explore the semantic and syntactic properties of lexical expressions of path motion (LEs PM) in English. This study was basically conducted on the theory of Talmy's (1985, 2000b) lexicalization patterns in which he examined the ways of how the experiences of motion are rendered into expressions through the relations between semantic components and linguistic forms. The data were collected from 12 English stories which were written in century 19th onward. These stories were read through, and then the path verbs were picked out according to their semantic components. The results show that the path verbs play a role as conceptual category in denoting different properties of LEs PM in English. The results suggest that the semantic and syntactic properties of LEs PM are analyzed on the basis of the relationship between the Figure and the Ground.

Keywords: Lexical expressions, conceptual category, Figure, Ground and path motion.

I.   INTRODUCTION

The domain of motion has been particularly attractive since it has been said to be one of the primary experiential domains in human life and bound to be lexicalized in all languages. One of the most dominant works associated with this field is Talmy's (1985) binary typology. In this research, Talmy delved into the relationship between surface forms and semantic components.

Talmy's seminal work has engendered a number of studies in the literature on motion event descriptions across languages over the last two decades. However, these studies mostly revolve an exploration into semantic properties of motion verbs and prepositions in isolation, hardly any studies have been devoted to an in-depth investigation into a thorough conglomerate of combination between motion verbs and spatial prepositions. Therefore, this dissertation entitled: "*The Cognitive Study on Lexical Expressions of Path Motion in English*", aims at filling the gap in the existing research by providing a radical and thorough analysis of syntactic and semantic properties of LEs PM.

II.   METHODOLOGY

2.1. Data preparation

The short stories were written in English, which are both popular in the contemporary century and written by the different writers in terms of distinct ages and cultures from the 19th century onwards.These stories were coded from **ENG01** to **ENG12** and ranked according to time including: *I Spy* (Norman Boris off), *Never Touch a Butterfly* (John Batki), *Minds Meet* (Walter Abish), *The Nightmare Begins* (Jerry Ahern), *Amazing* (Jim Aikin), *Silver Water* (Amy Bloom), *Strands of Sunlight* (Amy Bloom), *Point of Hopes* (Lisa A. Barnett), *Bring! Bring!* (Conrad Aiken), *Wet Places at Noon* (Lee K. Abbott), *Riven Rock* (T. Coraghessan Boyle) and *Where the Sea Used to Be* (Rick Bass). These stories were collected which satisfied the three following purposes inquiries: (i) by different authors; (ii) in different historical contexts; and (iii) in different style.

Table 1: Names of English stories

N0	Names of stories	Authors	Code	Year
1	I Spy	Norman Boris off	**ENG 01**	1966
2	Never Touch a Butterfly	John Batki	**ENG 02**	1972
3	Minds Meet	Walter Abish	**ENG 03**	1975
4	The Nightmare Begins	Jerry Ahern	**ENG 04**	1981
5	Amazing	Jim Aikin	**ENG 05**	1984
6	Silver Water	Amy Bloom	**ENG 06**	1991
7	Strands of Sunlight	Gael Baudino	**ENG 07**	1994
8	Point of Hopes	Lisa A. Barnett	**ENG 08**	1995
9	Bring! Bring!	Conrad Aiken	**ENG 09**	1996
10	Wet Places at Noon	Lee K. Abbott	**ENG 10**	1997
11	Riven Rock	T. Coraghessan Boyle	**ENG 11**	1998
12	Where the Sea Used to Be	Rick Bass	**ENG 12**	1999

2.1. Data analysis

After the data are collected, we begin to analyze the data according to these approaches; they helped the researcher identify procedures to collect the data, analyze the data and to locate the problems of the study as well.

2.2.1. Quantitativeapproach

First, the quantitative approach ratifies the completion of a statistical analysis helping to provide essential statistical evidence for the generalization of common features of LEs PM in English and Vietnamese. It is first used to figure out the frequency of motion verbs in LEs PM so that we can arrive at a conclusion on what is the typical property of LEs PM. Also, it is harnessed to discover the most commonly used linguistic properties of LEs PM. The findings are crucial in providing an in-depth interpretation of LEs PM.

2.2.2. Qualitativeapproach

The *qualitative technique* plays a crucial part in this research. First, the qualitative method helped the researcher to identify research steps and procedures from the theories of cognitive linguistics and the previous studies on analyzing motion. Then, these steps and procedures enabled the researcher to select the data by reading through the English stories. The data analyses would, then, allow the researcher to identify the properties of verbs in LEsPM. Afterward, LEsPM continued to be analyzed to find out theories and hypothesis including the syntactic and semantic features.

III.   THEORETICAL BACKGROUND

3.1 Talmy's theory of lexicalization

Talmy (2000b) delves into the exploration of the syntactic relations in language between meaning and overt surface structures, in other words, the process of **lexicalization**:*"Lexicalization is involved in where a particular meaning component is found to be in regular association with a particular morpheme* (Talmy, 2000b: 24).

He begins with the basic assumption in which we may isolate elements or components separately within the domain of meaning and within the domain of linguistic expressions. Then, we examine which semantic elements are expressed by which linguistic forms. Talmy posits that the relationship between meaning and linguistic forms is not one-to-one; a combination of semantic elements may be expressed by a single linguistic unit, and a single semantic element may be expressed by a combination of linguistic units. Additionally, semantic elements of different types may be expressed by the same type of surface forms, and the same type of semantic elements may be expressed by several different surface forms. By the way of description, an English motion verb (surface form) can encode distinct types of semantic information: Manner of motion (e.g., *bounce, hop*), Path (e.g., *exit, enter*) and Cause (e.g, *kick*). However, the Path element can be expressed in English by both verbs and by prepositions (e.g., *into, out*), that is, by two different linguistic units. Talmy notes that by delving into the relation between meaning and linguistic forms, a plethora of universal principles and typological patterns might come out.

Everything considered in all, Talmy's approach to lexicalization can be put in the nutshell as follows (Talmy, 2000b: 22):

a   Determine various semantic entities in a language.

b.   Determine various surface entities in the language.

c.   Observe which (a) entities are expressed by which (b) entities- in what combination and with what relationship- noting any patterns.

d.   Compare (c)- types patterns across different stages, noting any universal principles

e.   Compare (c)- types patterns across different stages of a single language through time, noting any shifts or nonshifts that might be guided by a given universal principle (or a (d)- type universal principle).

f.   Consider the cognitive processes and structures that might give rise to the phenomena observed in (a) through (c).

Talmy shows that there are two directions which can be adopted for investigating the meaningand linguistic form relations. One direction is to keep constant a selected surface or linguistic entity, and then observe which semantic entities are variously expressed by it. Another direction is to hold particular semantic entities constant, then observe the surface or linguistic entities in which it can appear.

3.2. Path verbs

Following Hickmann (2008), Slobin (2004),2006, 2008), Ozcaliskan (2000), Mani & Pustejovesky (2012), the findings of these studies can be summarized as follows: "the *pathverbs, which are typical of V-framed languages, require a syntactic pattern in which the manner of motion can be optimally be expressed by additionally sentential component, while manner verbs, which are typical of S- framed languages, require a syntactic pattern in which the path of motion is expressed in a sentential element that Talmy calls the satellite (Brala-Vukanovic & Memisevic, 2014: 173).*

Examining the spatial relation of semantic components, Mani & Pustejopsky (2012: 39) defines that *path verbs are verbs that presuppose a specific path for the moving object (the Figure), along with a possible distinguished point or region on this path (the Ground), which the is moving toward or away from.* In this definition, Mani & Pustejopsky identified four path predicates, in which the properties of the path verbs.

a. /Topological path expressions: *arrive, leave, exit, land, take off.*

b. / Orientation path expressions: *ascend, descend.*

c. /Topometric path expressions: *approach, near, distance oneself.*

d. /Topometric orientation expressions: *hover.*

As stated in the statement of V-framed language, (Talmy 1985) posits that information about a path of movement is expressed in a verb (e.g. *exit, enter, pass*). Therefore, Talmy (2000b:53-56), he identified the three main components of Path denoted in the path verbs as follows: (i) the *Vector*; (ii) the *Conformation*; (iii) and the *Deictic*. First, vectoris associated with the direction of motion of the Figure with respect to the Ground, which can be a source, a milestone or a goal; therefore, vector can denote motion from s source (e.g., *move from*), past or along a milestone (e.g., *move along*, via), and to or towards a goal (e.g., *move to, towards*). Second, conformation involves the geometry of Grounds, which can be conceptualized as containers (e.g., *move into, out of*), surface (e.g., *on*), points (e.g., *past*), etc. Finally, Deictic contains pragmatic meanings including toward the speaker and in the direction other than toward the speaker.

In addition, Walchli (2001) provides a fine-grained typology of the path verbs; more precisely, relying on the relation between the Figure and Ground, he proposed 6 types of paths, which he labeled with the help of Latin prepositions.

a./   AD = the Figure goes to the Ground

b./   IN = the Figure goes into the Ground

c./   SUPER= the Figure goes onto the Ground

d. /   AB = the Figure comes away from the Ground

e. /   EX = the Figure comes out of the Ground

f. /   De = the Figure comes down from the Ground

3.3. Lexical expressions of path motion

According to Lobner (2002: 9), *anexpression is just a general term for words, phrases and sentences, and expression meaning covers, in particular, word meaning and sentence meaning*. Therefore, an expression may be a word (1a), a phrase (1b) or a sentence (1c) in terms of syntax.

(1)   a. walk

          b. walk to school

          c. We walk to school.   (**ENG10**-76)

Besides, Payne (2011: 10) notes that there are three types of expressions in which language allows speakers to express variations and a conceptual category in meaning. He adds that *lexical expression is any formal*

expression of a conceptual category which simply must be memorized, rather than constructed according to a pattern. Payne (ibid.: 33) posits that the *conceptual category*in this definition describes some specific elements of meaning that speakers of a language pay special attention to in terms of grammar. For example, some conceptual categories of the verb "*kick*" may be understood as a *dynamic verb*, *motion verb*, *transitive verb* and *causative verbs*, etc.

In addition, Payne (2011) argues that in order to be a conceptual category, a particular element must determine some patterns of grammatical expressions, such as lexical expressions, morphological expressions and syntactical expressions. Therefore, a conceptual category can be a key element to understand the lexical expression. For example, in order to take in the lexical expression of "*go to school*", it requires us to interpretthe conceptual categories in this expression, such as the conceptual category of the verb "*go*" means the movement from somewhere towards school, and the preposition "*to*" means direction towards school and on the way to school, etc.

More particularly, Payne supports another way to understand the conceptual category is to rely on differences in sets of roots. That is, we can identify differences in the conceptual categories of some verbs by analyzing their roots. For example, the identification of conceptual categories of "*go*" and "*come*" is based on the different roots of "*go*" and "*come*". The verb "*go*" means the movement from the speaker to somewhere, and "*come*" from somewhere to the speaker.

As a result, a lexical expression of path motion can be explicated as follows: *"A lexical expression of path motion can be a word, phrase, or sentence, which expresses any formal form of a conceptual category of the path verbs and other relevant components, such figure or ground, etc..*

The path verbs can be transitive and intransitive verbs. When these verbs are intransitive, they generally refer to the acts of motion as in "*arrive*" as in (2a). Also, when they are transitive, they denote the translational motion as in "*left*" as in (2b).

(2)   a. The mail **arrived**.
             b. He **left** the house last night.
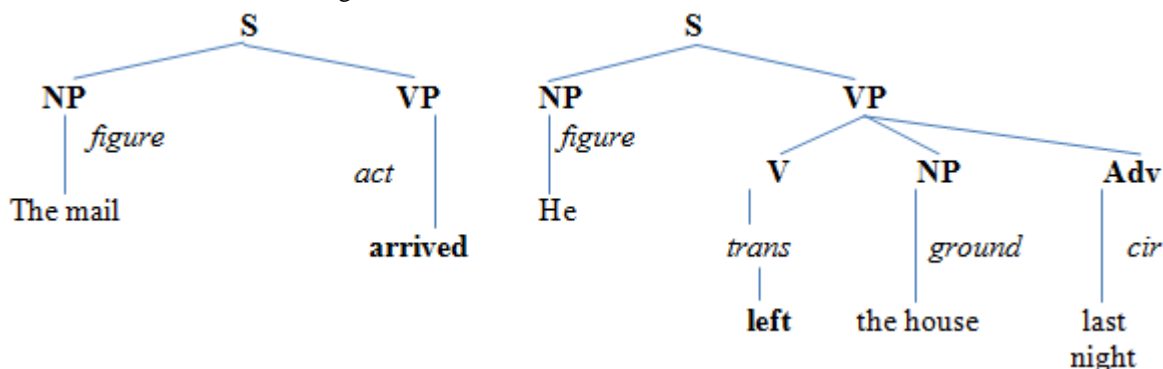
LEs PM in English can be schematized as follows.

A Lexical Expression of Path Motion			
Subject	**Predicate of path motion**		
	VP		**Periphery**
He	*left*	*the house*	*early last night*
Figure	**Motion, path**	**Ground**	**Circumstance**
Arg1	**V**	**Arg2**	**Arg3**
A path motion event			

Figure 1: The Schematization of LEsPM

IV.   FINDINGS AND DISCUSSION

This section is concerned with semantic and syntactic properties in English. For the syntactic properties, this dissertation will be explored on the basis of the theory of grammar construction, which deals with form and meaning relation. This relation includes argument structures. In the case of semantic properties, the lexicalization patterns of the verbs and paths and event structures will be elucidated.

4.1. Constructiongrammar of LEs PM in English

Fried & Boas (2005:1) clarify this notion of the grammar construction as follows: "*Grammar construction is a linguistic form which is intractably bound with its meaning and its communicative function and that this connection must be the basis for any descriptively and explanatorily adequate theory of linguistic structure*". Therefore, this section focuses on the exploration of the correspondences of semantic properties of path verbs in LEsPM.

4.1.1. Argument Structures of LEs PM in English

Table 2 summarizes a number of arguments combining with the path verbs. This table is grouped into three categories as follows: (i) a number of arguments; (ii) types of arguments; and distributions of each type.

Table 2: Argument structures of LEs PM in English

Number of Args	Argument structures	Verbs	Percentage %
1	a./ V[Figure]	50	52.63
2	b. /V [Figure Place]	13	13.6
	c. /V [Figure Ground]	49	51.6
	d. /V [Figure Path]	11	11.6
3	e./ V[Figure Ground Manner]	5	5.2

4.1.1.1. V [Figure]

The path verbs of this structure have one argument, which is the Figure. Therefore these path verbs must be always intransitive verbs, and they do not denote translational motion, but acts of motion. In fact, the Ground may be implied, or it may be mentioned earlier. There are 50 path verbs (52.63%) found in the data (e.g., *advance, alight, arise, approach, arrive, back, circle, come, crash, crumple,* etc*)*.
(3)   He hadn't expected something like this the moment they **arrived.**
(**ENG08**-154)

4.1.1.2. V [Figure Place]

The path verbs have two arguments, which are the Figure and the Place. Although the Figure refers to a moving object, the verbs are involved in denoting the appearance of the Figure at given places after leaving somewhere and acts of motion rather than denoting translation of the Figure. Thus, the path verbs may be inclined to denote non-actual motion because it is quite vague in terms of styles of motion and vehicles, etc as in (4). The roles of the adpositions in this express are to shed light on the spatial relationship of the Figure with other objects. There are 14 path verbs (14.73 %) found in the data (e.g., *arrive, ascend* and *collapse, etc),* which have these arguments.
(4)   We've got to ***get*** back to Gryffindor Tower," said Ron. (**ENG12**-67)

4.1.1.3. V [Figure Ground]

There are 49 path verbs with two arguments, making up 51.57%, found in the data (e.g., *abandon, alight, approach, back, chase, circle, come, cross and crumple,* etc*)*. The first argument is the Figure denoting a moving thing and the other is the Ground denoting the endpoint. Therefore, the path verbs must be transitive and translational verbs while the Ground is to determine the directions of motion. Depending on the locations of the Ground in comparison with the Figure, the path verbs denote different types of directions. For instance, if the Ground is in a higher position in comparison with the Figure, the verb *enter* in (5) will denote the direction of towards the ground, etc.
(5)   He was the first to ***enter*** the room. (**ENG06**-428)

4.1.1.4. V [Figure Path]

The 11 path verbs (11.6%) found the data have such two arguments, which are the Figure and the Path (e.g., *ascend, climb, descend, ford, mount*, *pass, plunge, plummet, scale, shiny* and *tail*). Unlike the structure *V [Figure Ground],* the Ground truthfully functions as the Path for the Figure because it is not really an endpoint of the Figure, but the Figure moves along the Path from a starting point to an endpoint of the Path as in (6). Generally, the path verbs in this structure denote motion along the path with different directions of motion. The verbs such as *ascend, climb, mount, shinny*, and *scale* denote the upward Path, whereas, *descend, plunge,* and *plummet* denote the downward Path. Finally, the verb *pass, ford*, and *tail* denote the horizontal Path.
(6)   They joined the crowds ***descending*** the staircases. (**ENG01**-245)

4.1.1.5. V [Figure Ground Manner]

In this structure, the path verbs have three arguments, which are the Figure, Ground and Manner. Therefore, the verbs are transitive and translational verbs. The argument of manner refers to the motion of vehicles which illuminate the styles of the Figure's motion because the manner of motion is not included in the path verbs as in (7). The structure includes 5 path verbs (5.2%) found in the data (e.g., *depart, come, leave* and *go*). Since the argument of the Figure carries out an act of motion by transportation means, the Figure must be an agentive subject as *John*.
(7)   John ***departed*** Boston by car.   (**ENG12**-136)

4.1.2. Event Structures of LEs PM in English

The event structures are concerned with what type of situation or event that the predicate of LsEPM denotes, or with a radical exploration on the aspectual properties of the path verbs. This can be explicated that verbs denote sets of events and are classified into lexical subclasses depending on the properties of the events in their denotations in correlation with that particular description (Rothstein, 2004:4). From another aspect, events are necessarily tied to change, either changing themselves or bringing about a change in the entities associated with them (Frawley, 2009:142). Accordingly, the event structures of LEsPM will be investigated in terms of the two lexical aspects of the path verbs: (i) types of motion and (ii) types of events.

4.1.2.1. Types of motion

Table 3 isgrouped the path verbs into two main types of motion, which are translational motion and self-contained motion Talmy (2000b:35). This division is conducted on the basis of the properties of lexical aspects. The first type of motion denotes that an object's location shifts from one point to another in space. The second type of motion does with an object keeping its same location, and this type may be divided into three subclasses including *oscillation, rotation* and *dilation*.

Table 3: Types of path motion in English

Path motion		Verbs	Percentage %
Translational motion		95	100
Self-contained motion	oscillation	0	0
	Rotation	0	0
	Dilation	0	0

The result shows that there are 95 path verbs denoting the translationalmotion. It is obvious that the self-contained motion does not take place with the path verbsbecause they always denote two main semantic components, which are Motion and Path. Therefore, the change of position of the Figure always takes place in spite the fact that the path verbs are intransitive as in (8a) or transitive as in (8b).

(8)   a. Just then, the mail **arrived**.   (**ENG02**-145)

         b. At five to three they **left** the castle and made their way across the grounds.

(**ENG11**-93)

4.1.2.1. Types of events

This section deals with the properties of lexical aspects in terms of the situation or event which is the relative temporal relation in conceptual space. Following Rothstein (2004: 6), verbal predicates may be divided into four different subclasses according to logical entailmentswith temporal modifiers, and interaction with tense, which are States, *Activities, Achievements*, and *Accomplishments*. In addition, there are two essential properties in categorizing situation or event types, which are whether an event type with a natural endpoint (Telic) as in (9a)and whether we can analyze it as progressing or developing (Stage) as in (9b)

(9).   a. Harry panted as they **reached** the corridor. (**ENG05**-241)

         b. They were a bit late **arriving** at Hagrid's hut. (**ENG12**-87)

Table 6.3 summarizes the types of event structures in English.

Table 4: Event structures of LEsPM in English			
Event structures		**Verbs**	**Percentage %**
a./ States	**Atelic** **+ Stages**	**0**	**0**
b./ Activities	**Atelic** **- Stages**	**47**	**49.5**
c./ Achievements	**Telic** **- Stages**	**38**	**40.0**
d./ Accomplishments	**Telic** **+Stages**	**10**	**10.5**
Total		**95**	**100**

a. / Events of States

In this event structure, the verbal predicates denote unchanging situations of the Figure in motion events. States are continuous over the whole time period in which they exist. As a result, there are no verbs of path motion that can be found which denote this type of event.

b. / Eventof Activities

The path verbs denoting the event of Activities go on in the time. The path verbs are Atelic onlywhen they are intransitive verbs because they do not denote endpoints as in (10). There are 47path verbs denoting the atelic properties found in the data (e.g., *alight, arise, arrive, climb, collapse, come, depart, disembark, dive, drop,*etc). *When* the path verbs with the -Stage property, they denote the change of position at the given time. However, some verbs such as *drop, fall, collapse* and *dive* do not have this property because they cannot last the change of the Figure.

(10)　　　The apples are beginning to **drop** from the trees.　　　**(ENG10**-98)

c. / Eventof Achievements

The path verbs denoting this event have Telic properties because they denote dynamic situations with a terminal point. The example (11) is as event of Achievements in which the event is over when the Figure is at the market. There are 38 verbs of the English verbs of path motion denoting these types of events (40%), which are *abandon, approach, ascend,　back, descend , dismount, distance, divert, emanate, ford, forge, get, hound, immigrate, lunge, pursue, reach, scale, shadow, recoil, tail, traverse*. When they denote the Telic properties, they refer to the stative situation.

(11)　　　They **reached** the market.　　(**ENG03**-68)

d. / Event of Accomplishments

The event of Accomplishments denoted by the path verbs are dynamic situations which are conceived of as occurring. In addition, the path verbs denoting the events ofAccomplishments have externally determined terminal points of motion. More particularly, the event of Accomplishments can be thought of instantaneous changes in the Figure. For example, the event of the verb*drop*denotes a change from a higher position down a lower one. Due to denoting the instantaneous change in the Figure, the event of Accomplishments cannot be in the progress of the motion, that is, they cannot be in denotation of happenings of the Figure. There are 10 verbs of English verbs of motion denoting these events found in the data such as dive, *drop, collapse, fall.*

5.2.2. Lexicalization Patterns in English

This section focuses on two types of lexicalization patterns; (i) lexicalization of semantic components conflated into the path verbs and (ii) lexicalization of directions conflated into verbs.

5.2.2.1. *Lexicalization Patterns of the Path Verbs in English*

Table 5 summarizes the conflations of semantic components into the path verbs, which are termed as lexicalization patterns. This table is grouped according to four contents: (i) the number of semantic components conflated into the path verbs; (ii) types of semantic components conflated into the path verbs; (iii) distribution of the path verbs; and (iv) frequency of each type of lexicalization patterns. According to the result, there are 95 path verbs found in the data in English.

Table 5: Lexicalization patterns of the path verbs in English

Number of components		Lexicalization patterns	Verbs	Per %
Types of components				
2	external	**a./ Motion +Path**	65	65.2
	Total		65	65.2
3		**b./ Motion + Path + Manner**	25	26.3
	external	**c./ Motion + Path + Ground**	5	5.2
	Total		30	100
4	external	**d./ Motion + Path+ Ground+ Manner**	3	3.1
	Total		3	3.1
Total			95	100

a./ *Lexicalization patterns: Motion + Path*

This expression makes up the biggest number of the path verbs in English, which are 65 verbs, making up 65.2% (e.g., *separate, shadow, sink, stray, submerge, swerve, tack, transit, and turn, etc*). This expression comprises of two semantic components which are the Figure's motion and the Path. For instance, the verb *approach* in (12) simultaneously denotes the movement of the Figure *they* and the distance from the starting point to the destination, which is the Ground *the giant heads.*

(12)　　　They ***approached*** the giant heads.(**ENG11**-41)

b./ Lexicalization patterns: Motion + Path + Manner

　　　　When expressing a motion event, these path verbs simultaneously encode three semantic components, which are Motion, Path and Manner. There are 25 path verbs (26.3 %) found in the data (e.g., *charge, chase, climb, dive, lunge, plummet, plunge, and tumble,* etc). In general, these verbs denote information about the directions of motion and the ways in which the Figure moves. The verbs such as *charge, lunge, plunge*, and *pounce* denote the sudden movement of the Figure towards the Ground, usually in a forceful or violent way at fast speedand plunge and *lunge* can also show off agentive behavior.

　　　　While *thrust* expresses an effortful forward motion, the verbs(e.g.,*chase stalk, tail, track* and *trail)* denote motion of the Figure which is moving slowly after another, usually in contact with the Ground. *Chase* denotes a fast movement, whereas *stalk, tail*, and *track* denote that the Figure follows the other Figure furtively in a secretive manner. The following verbs (e.g, *scram, slink, skedaddle*, and *stampede*) denote that the Figure is moving away from the Ground. While *scram* and *skedaddle* denote the movement of the Figure at high speed, *slink* means that the Figure moves in a furtive manner so as not to be noticed. The path verb *stampede* means that the Figure goes away quickly because it is frightened.

　　　　Finally, *dive, plummet, soar*, *rocket*, tumble and *climb* denote that the Figure is moving with respect to the vertical axis. While *plummet* and *tumble* denote downwards movement at a high speed, *rocket* and *sour* express quick upwards movement. More particularly, *climb* depicts an upwards movement onto the Ground in clambering way by using one's legs and hands.

c./ Lexicalization patterns: Motion + Path + Ground

　　　　This expression is the conflation of three semantic components in which there are two internal components (motion and path) and one external component (Ground). There are 5verbs of the English path verbs (5,2%) in this expression found in the data (e.g., *disembark, embark, emigrate, immigrate* and *land. Disembark* and *embark).* These verbs depictchange of the Figure in terms of position. *Disembark* denotes a change of position from a lower place up to a higher one, whereas *embark* means a change of position from a higher place to a lower one. The Ground is conflated into these verbs; it is normally a ship, vessel, or boat.

　　　　More specially, *emigrate* and *immigrate* denote that one moves away from his/ her country or into another country respectively. Finally, *land* depicts that the Figure moves downwards the Ground from a higher place to a lower place which is considered as the endpoint of the motion. In addition, this verb also denoted that the Figure has moved through the air before landing on the ground.

d./ Lexicalization patterns: Motion + Path + Ground+ Manner

　　　　This expression with the components such as Motion, Path, Ground, and Manner consists of three verbs of English path verbs (3.1%) which include *skydive, ford,* and *swoop. Skydive* denotes an sport of jumping [Manner] from a plane, falling through the sky [Path] before opening a parachute and reaching the land [Ground]. *Ford* denotes that someone crosses [Path] a body of water [Ground] by wading or walking [Manner] with difficulty. Finally, *swoop* refers to a quick motion [Manner] through the air [Ground] especially down [Path] from the height in order to attack.

6.2.2.2. Lexicalization Patterns of the Paths in English

　　　　Table 6 summarizes the 13 types of paths lexicalized into the path verbs, ranked by their frequency of the paths. These patterns are analyzed with respect to three contents: (i) types of path; (ii) the path verbs; and (iii) distribution of path verbs.

Table 6: Lexicalization patterns of paths in English

No	Lexicalization patterns　　　Verbs	Percentage %	
1	a./ V+ Away from G	19	20
2	b./ V+ Up/ Onto G-Upwards	11	11.6
3	c./ V+ After G	6	6.3
4	d./ V+ Change direction	4	4.2
5	e./ V+ Down from/ toDownwards	21	22.1
6	f./ V+ To/ towards G	6	6.3
7	g./ V+ Back to G/ Backwards	6	6.3
8	h./ V+ Pass/ Cross G	3	3.1
9	i./ V+ Into G	4	4.2
10	j./ V+ V+ Closer to G	2	2.1
11	k./ V+ Forwards G	7	7.3
12	l./ V+ Out of G	1	1.0
13	m./ V+ Multiple directions	5	5.2
	Total	95	100

a./ Lexicalization patterns: V+ Away from G

There are 19 path verbs (20%)found in the data denoting this path (e.g., *go, abandon, depart,* and *stray,* etc). These verbs depict that the Figure leaves away from the Ground and leaves the Ground (as direct object) behind. It may be on its own as in (13a) and in a bad situation as in (13b).

(13)　　a. He had mercifully ***abandoned*** his bunches. (**ENG08**-12)

　　　　b. I was terrified they would ***desert*** me the moment.　(**ENG12**-71)

More precisely, the Figure is fleeing from the Ground in order to be free or to avoid danger (e.g. *escape* and *retreat*). The verb *dodge*) means that the Figure avoids the Ground by moving quickly to one side. Finally, this pattern denotes that the Figure goes away from the intended path as in (14)

(14)　　Three of the soldiers ***strayed*** into enemy territory.(**ENG03**-14)

Depart, and *leave* are considered to be the most general in meaning when they express the movement of the figure away from the Ground. Apart from *depart* and *leave*, the verb *go* simultaneously denotes three different senses. First, the pattern with *go* means that the Figure is moving away from the speaker or from the point at which he mentally places himself as in (15a). Next, the Figure is moving towards a place which is not occupied by the speaker as (15b). Last but not least, the Figure is moving without regard to its point of departure or destination as in (15c).

(15)　　a. But the other night they ***went to*** a carnival at Amphi.(**ENG10**-16)

　　　　b. Harry ***went*** back to the kitchen. (**ENG04**-179)

　　　　c. They ***went*** to sleep. (**ENG11**-43)

b./Lexicalization patterns: V+Up/ Onto G-Upwards

There are 11 path verbs (11.6%) found in the data (e.g., *ascend, climb, disembark, mount, rise, scale, shinny, soar*, and *surface,* etc*).* The path verbs such as*arise, ascend, and rise* denote that the Figure is moving towards a higher position relative to the land in the vertical direction as Figure 2a, whereas *disembark* also means that the Figure moves from a place to a higher one, but in the slanting direction as Figure 2b.
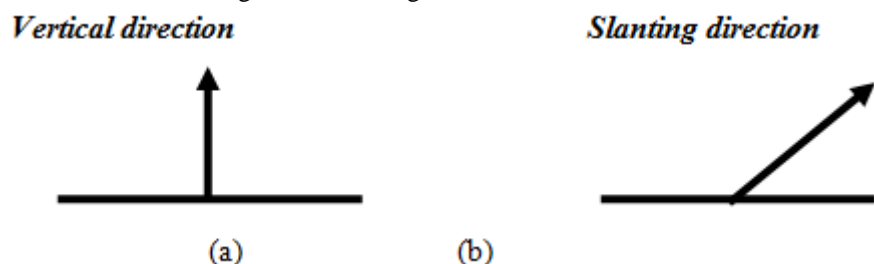

Figure2: The trajectory of arise, ascend and rise

Mount, climb, scale and *shinny* denote elevation and upward motion, but onto the Ground. More particularly, the Ground functions as the path as in (16).

(16)　　He ***mounted*** the stairs and looked around him slowly.(**ENG09**-18)

Finally,*Surface* denotes a quite particular motion. The pattern with *surface* denotes that the Figure is moving upwards the Groundbut in the water. The distance from departure to the destination in this pattern is determined because the Ground is the surface of water.

c./ Lexicalization patterns: V+ After G

The path verbs found in the data include 6 verbs (6.3%), which are *chase, follow, hound, pursue* and *shadow*. In general, this verbs denotes that one Figure is moving behind or after another Figure.While *follow* depicts the path of motion without specific information related to motion, the verbs such as *chase, hound, pursue, and shadow* do not only express motion and pathbut provide further semantic meanings. For instance, *hound* implies motion with the Figure's relentless pursuit of the second Figure as in (17a). *Pursue* means that the first Finger considered to be the chaser is moving after the second Figure with a specific purpose, which may be to capture or kill the second Figure. Next, *shadow* implies the first Figure's secretive movement after the second Figure to observe the second Figure's actions as in (17b). Finally, *chase* implies the Figure's speed and attempt to keep pace with the second Figure for a certain purpose.

(17)　　a. It would be indeed ***hound*** him forever.(**ENG08**-172)

　　　　b. Detectives ***shadowed*** him for weeks. (**ENG11**-294)
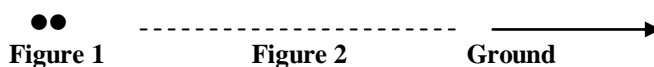
Motion

Figure 1　　　　Figure 2　　　Ground

Figure3: Simultaneous motion of the path verbs

d./ Lexicalization patterns: V+Change direction

the path verbs denotes the directional changes of the Figure, which consist of 4 path verbs (4.2%) found in the data (e.g., *divert, swerve, tack*, and *turn)* . The verbs*tack* denotes the change of the course of a sailing ship so that the

wind blows against its sails from the opposite direction. *Divert and swerve* and *turn* purely denote the change of direction of any Figures.

e./Lexicalization patterns: V+ Down from/ to G- Downwards

The path verbs denoting this direction consist of 21 path verbs (22.1.%), which are *collapse, crash, crumple, descend, dismount, dive, drop, fall, flop, plunge, plummet, sink, slump, submerge, swoop topple* and *tumble*.

These verbs generally depict the downwards direction of motion with regard to the earth. However, there is a wide range of differences in lexicalization of specific features of direction. For instance, the four path verbs such as *descend, drop, fall*, and *plummet* denote that the Figure is moving downwards the Ground according to vertical direction without further meaning information as in Figure (4a). *Dismount* depicts downwards motion, but the Figure is moving downwards from traffic vehicles. In the case of *collapse, crush*, and *crumple*, the Figure falls down with or without external force. As a result, the Figure becomes broken and shattered. Next, *flop* and *slump* denote Figures's motion downwards the furniture, which are mostly human bodies. More specifically, *dive, sink, plunge*, and *submerge* denote the downwards motion of the Figure from a higher position into the water in a vertical trajectory. Finally, *topple* and *tumble* denote that the Figure is moving from a higher place to a lower one in the arc-like trajectory as Figure (4b).

Figure4: Vertical and arc-like trajectory

f./ Lexicalization patterns: V+to/ towards G

There are 6 path verbs (6.3. %) found in the data (e.g., *arrive, alight, come, enter, get*, and *reach)* denoting this direction. These verbs normally denote the accomplishment of the Figure's movement towards the Ground. *Alight* denotes that the Figure reaches the Ground, but it implies the downwards motion from an animal or vehicle as (18).

(18)   She ***alighted*** from the train at 74th Street.(**ENG02**-406)

Arrive, come, enter, get, *go* and *reach* are the deictic path verbs, which generally depict that the Figure reaches the endpoint. While *arrive, get* and *reach* only denote the Figure's movement towards the destination without specific information, the verbs *come*, *go* and *enter* denote the deictic motion. More precisely, *come* denotes the Figure's motion towards the speaker as in (5a), conversely, *go* moves towards the hearer as (5b). In the case of *enter* the Figure moves towards the Ground which is in a certain container as (5c).
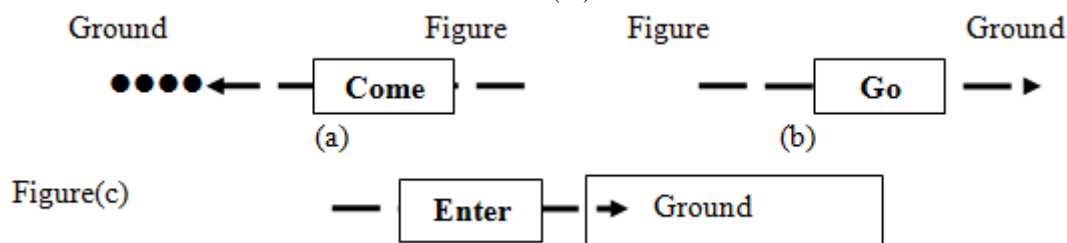
Figure5: Trajectory of *come, enter* and *go*

g./ Lexicalization patterns: V+Back to G/ Backwards

The path verbs denoting backward motion consist of 6 path verbs found in the data, which are *back, rear, recede, retreat, recoil* and *return*.

(19)   His footsteps ***receded*** along the out-of-sight corridor. (**ENG10**-170)

While *back*, *recede, retreat* and *recoil* denote backward motion but they do not include any explicit reference to the trajectory towards the Ground, *return* denotes that the Figure is moving back to an earlier location. Finally, *rear*refers to the Figure's trajectory back to the Ground in order to have more force and jump up.

(20)   The horse ***reared*** and threw me off.(**ENG**06-28)

h./ Lexicalization patterns: V+Pass/ Cross G

There 3 verbs the path verbs (3.15%) such as *cross, pass* and *traverse*to denote this direction. The path verbs *cross* and *traverse* generally mean that the Figure is moving across the Ground. However, the verb *pass* denotes three distinct types of the Figure's trajectory: (i) it denotes that the Figure is going by but go beyond the Ground as in (6.a); (ii) it depicts Figure's movement through the Ground as in (6.b); and (ii) it means that the Figure is moving towards and then proceeds the Ground as (6.c).
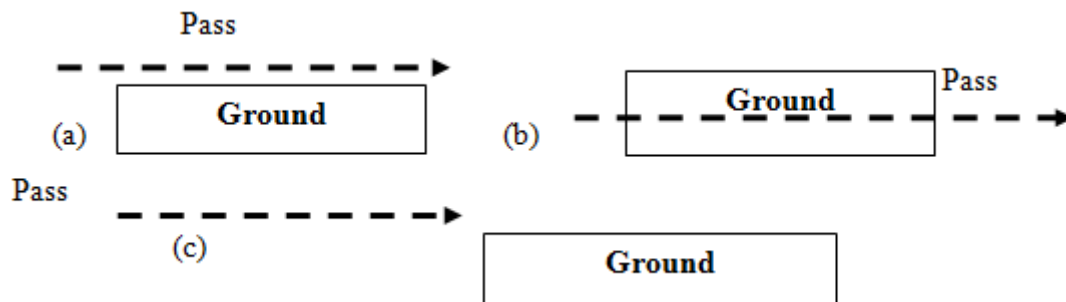
Figure 6: The trajectory of the verb *pass*

i./Lexicalization patterns: V+Into G (container)

The path verbs denoting this direction depict that the Figure's motion from the outer space into the Ground (e.g.,*enter, immigrate, join* and *penetrate).* However, the biggest difference among these verbs lies in the variety of the Ground. First, *immigrate* implies that the Figure from a certain country moves into another country; normally in illegal ways. Next, *penetrate* denotes that the Figure is moving into the Ground through a tinny hole and with difficulty. Finally, the verb *join* implies that a group of people moves into the Ground which is occasionally another group.

j./ Lexicalization patterns: V+Closer to G

There are two path verbs such as*approach* and *nears* found in the data denoting that the Figure is moving closer to the Ground. *Approach* depicts the movement towards the Ground from the speaker, whereas *near* does not include this information, and the Figuremay come from different directions.

k./ Lexicalization patterns: V+ Forwards G

This direction the forward Gmeans that the Figure is moving forwards the Ground. There are seven path verbs found in the data (e.g., *advance, forge, head, lunge, proceed, surge* and *transit*), denoting this direction. First, advance and *proceed* denote that the Figure's movement is generally towards the Ground in a particular direction. It is normally a deliberate place as in (21a). The verbs *forge, head, lunge*, and *surge* do not only express the Figure's trajectory forwards the Ground, but depict the high speed of motion as in (21b). Finally, *transit* is a special path verb denoting motion forwards the Ground of vehicles.

(21)   a. Everybody else ***proceeded*** to the front doors.(**ENG03**-57)

           b. Suddenly, he's ***heading*** for the third floor.(**ENG05**-77)

l./ Lexicalization patterns: V+Out of G

There is one path verbs found in the data (*exist),* which denotes that the Figure is moving from the inside of the Ground to the outside. The Ground, in this case, is normally considered to be a container.

m./Lexicalization patterns: V+Multiple directions

The path verbs denoting this direction include 5 path verbs such as *part, scatter, separate, skedaddle* and *stampede*. In general, the Figure is usually a group of entities which are moving far apart from in different directions. The verbs *part, separate* and *scatter* describe the Figure's motion in different directions without further information related to motion while *skedaddle* and *stampede* simultaneously express the distinct directions of the Figure and support further information with rapid speed and fear as in (22).

(22)   The crowd ***stampeded*** backward. (**ENG18**-41)

VII.   CONCLUSION

This section summarizes the properties of LEs PM in English, which were decomposed on the Talmy's (1985) theory of lexicalization patterns. Syntactically, LEs PM in English were elucidated on the basis of the syntactic properties of the path verbs with the external arguments. The result shows there are five argument structures found in two languages. Semantically, the two linguistic fields were analyzed, which are event structures and lexicalization patterns. First, the event structures are concerned with the path verbs denoting the situations of motion in correlation with time and aspects. The four event structures which are encoded into the path verbs are elucidated. Second, the lexicalization patterns were illuminated within the scope of the path verbs and paths. For the path verbs, the lexicalization patterns are involved in the semantic components such as Motion, Path, Ground and Manner conflated into the path verbs. With respect to the lexicalization patterns of paths, the different directions denoted by the path verbs were taken into in-depth insights. In total, there are 13 directions conflated into the path verbs.

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APPENDIX 5

LEXICAL EXPRESSIONS OF PATH MOTION (LEs PM) in ENGLISH

I. Lexicalization patterns of Semantic components

* 1= Motion + Path   *** 2= Motion + Path + Manner**

* 3= Motion + Path + Ground   *** 4= Motion +Path + Ground + Manner**

II. Lexicalization patterns of Paths

* 1= Away from G   *** 2= Up/ Onto G-Upwards**   *** 3 = After G**   *** 4= Change direction**

* 5= Down from/ to G-Downwards   *** 6= To/ towards G**   *** 7= Back to G/ Backwards**   *** 8= Pass/ Cross G**

* 9 = Into G   *** 10= Closer to G**   ***11= Forwards**

*12= Out of G

* 13= Multiple directions

III. Argument Structures

* 1= V [Figure]   *** 2= V [Figure Place]**

* 3= V [Figure Ground]   *** 4= [Figure Path]**

IV. Event Structures

a. Types of events

* 1= Events of States   *** 2= Events of Activities**

* 3= Events of Accomplishments   *** 4= Events of Achievements**

b. Types of motion

*1= Translational motion   *** 2= Self-contained Motion**

Path Verbs	Lexicalization patterns of the path verbs				Lexicalization patterns of Paths													Argument Structures					Event Structures — Types of events				Types of motion	
	MP	MPM	MPG	MPGM	1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	1	2	3	4	1	2
Abandon	✓				✓															✓				✓			✓	
Advance	✓													✓				✓						✓			✓	
Alight	✓									✓								✓		✓				✓			✓	
Arise	✓					✓												✓						✓			✓	
Approach	✓												✓					✓		✓				✓			✓	
Arrive	✓									✓								✓	✓					✓			✓	
Ascend	✓					✓												✓			✓			✓			✓	
Back	✓										✓							✓		✓				✓			✓	
Chase	✓						✓													✓				✓			✓	
Circle	✓																	✓		✓				✓			✓	
Climb		✓				✓															✓						✓	
Collapse	✓								✓										✓								✓	
Come	✓									✓								✓	✓	✓		✓		✓			✓	
Crash		✓							✓									✓									✓	
Cross	✓											✓								✓							✓	
Crumple		✓							✓									✓		✓							✓	
Depart	✓				✓													✓		✓		✓					✓	
Descend	✓								✓									✓			✓						✓	
Desert	✓				✓															✓							✓	
Disembark		✓				✓												✓									✓	
Dismount		✓							✓									✓		✓							✓	
Distance	✓				✓															✓							✓	
Divert	✓							✓																			✓	
Dive		✓							✓									✓									✓	
Dodge	✓				✓																						✓	
Drop	✓								✓									✓						✓			✓	
Emanate	✓				✓															✓							✓	
Embark		✓				✓												✓									✓	
Emerge	✓				✓													✓									✓	
Emigrate		✓			✓														✓								✓	
Enter	✓											✓								✓							✓	
Erupt	✓				✓													✓						✓			✓	
Escape	✓				✓													✓	✓	✓							✓	
Exit	✓				✓												✓	✓		✓		✓					✓	
Fall	✓								✓									✓						✓			✓	
Flee	✓				✓													✓		✓							✓	
Flop		✓							✓									✓									✓	
Follow	✓					✓														✓							✓	
Ford				✓																	✓						✓	
Forge	✓													✓						✓							✓	
Get	✓								✓										✓								✓	
Go	✓								✓									✓	✓	✓		✓	✓				✓	
Head		✓												✓						✓							✓	
Hound	✓					✓														✓							✓	
Immigrate		✓										✓						✓									✓	
Join	✓											✓								✓							✓	
Land		✓							✓									✓	✓	✓				✓			✓	
Leave	✓				✓													✓	✓	✓		✓					✓	
Lunge		✓												✓				✓									✓	
Mount	✓					✓															✓						✓	
Near	✓												✓							✓				✓			✓	
Part	✓																✓			✓							✓	
Pass	✓										✓							✓		✓	✓						✓	
Penetrate	✓											✓								✓							✓	
Plunge		✓							✓									✓		✓							✓	
Plummet		✓							✓									✓		✓							✓	
Pounce		✓																	✓								✓	
Proceed	✓													✓						✓							✓	
Pursue	✓					✓														✓							✓	
Reach	✓									✓										✓							✓	
Rear	✓										✓																✓	
Recede	✓				✓						✓							✓									✓	
Recoil	✓										✓	✓								✓							✓	
Retire	✓				✓															✓							✓	
Retreat	✓				✓						✓							✓									✓	
Return	✓										✓							✓		✓							✓	
Rise	✓					✓														✓				✓			✓	

	62	25	5	3	19	11	6	4	21	6	6	3	4	2	7	1	5	50	13	49	11	5	0	33	4	22	95	0
Scale	✓					✓															✓						✓	
Scatter	✓																✓	✓		✓							✓	
Scram		✓			✓													✓									✓	
Separate	✓																✓			✓							✓	
Shadow	✓						✓													✓							✓	
Shinny		✓				✓																			✓		✓	
Sink	✓								✓											✓				✓			✓	
Skedaddle		✓															✓	✓									✓	
Skydive				✓					✓									✓									✓	
Slink		✓							✓									✓		✓							✓	
Slump		✓							✓									✓		✓							✓	
Soar		✓				✓												✓									✓	
Salk		✓																		✓							✓	
Stampede		✓															✓	✓		✓							✓	
Stray	✓				✓																✓						✓	
Submerge	✓								✓											✓							✓	
Surge		✓													✓			✓									✓	
Surface				✓		✓												✓									✓	
Swerve	✓							✓										✓									✓	
Swoop				✓					✓									✓									✓	
Tack	✓							✓												✓							✓	
Tail		✓							✓									✓		✓				✓			✓	
Topple		✓							✓																		✓	
Track		✓																		✓							✓	
Trail		✓					✓													✓							✓	
Transit	✓														✓			✓									✓	
Traverse	✓												✓							✓							✓	
Tumble		✓							✓																		✓	
Turn	✓							✓												✓							✓	
95	**62**	**25**	**5**	**3**	**19**	**11**	**6**	**4**	**21**	**6**	**6**	**3**	**4**	**2**	**7**	**1**	**5**	**50**	**13**	**49**	**11**	**5**	**0**	**33**	**4**	**22**	**95**	**0**