The Faculty of Arts

Annals of the Faculty of Arts Volume 53 (April - June 2025)
http://www.aafu.journals.ekb.eg
(A Refereed Scientific periodica)

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Expressing Path Information in Languages: A Unified Syntactic Account

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Abstract:

The paper examines the applicability of Leonard Talmy's typological division of languages into the so-called verb-framed languages (henceforth VLs) and satellite-framed languages (henceforth SLs. It demonstrates that there is no clear-cut distinction in languages regarding the expression of path: the presence of one type does not preclude the absence of the other. For instance, Spanish, Standard Arabic, French, and Italian supposedly belonging to a VL type, make use of satellites to articulate the path outside the verb, while English, German, Dutch, and Russian supposedly belonging to an SL type, may incorporate the path within the verb. The paper proposes that the micro-variation in terms of expressing path can be syntactically derived via an extended version of Feature Inheritance (FI), where the phase head v* transmits its probing features to V or P. Via the FI mechanism, two distinct relations [v*-V_{iPath}] and [v*-P_{iPath}] account for variation between VL and SL frames, respectively, combined with P-to-V movement in the derivation of the latter, but not in the former. The proposed FI-based v*-V/P model not only accounts for the distributional behavior s of path encoding across languages, but also deepens our understanding of how typological variation should be approached in the theory of generative grammar.

Keywords: *Feature Inheritance; variation; path expression; probing features; head movement*

Received: 26/04/2025
Accepted: 25/05/2025
Available online: 30/06/2025

1. Introduction

The issue of whether languages completely fit into the bipartite typology (Talmy, 2000a, 2000b, 1991, 1985, 1975): path (or verb) framed languages and manner (or satellite) framed languages is the subject of a heated debate. The bipartite typology classifies languages into either of the following two types:

a) Verb-framed Languages (VLs) incorporate the path of motion into the verb whereas Manner, when specified, is conveyed outside the verb. In this language type, the components of motion and path are lexically merged in the verb, but manner is expressed separately. Putative examples of this category are Semitic languages (Arabic, Hebrew), the Romance languages (Spanish, French), and Japanese.

b) Satellite-framed Languages (SLs) incorporate Manner of motion into the verb, whereas the Path is expressed outside the verb. The satellite element includes separable and inseparable verb prefixes in German, verb particles in English, verb prefixes in Latin or Russian, non-head versatile verbs in Lahu, and verb complements in Chinese.

Talmy sought to highlight that some languages tend to incorporate the path component within the verb, while others express it through external elements such as particles, prefixes, and prepositions/post-positions. For illustration, consider the example (1) from English and (2) from Spanish.

	The boat	floated	into	the cave.
Main Semantic Elements:	*Figure*	*Motion*	*Path*	*Ground*
Co-Event Element:		*Manner*		

	La botella	entró	a	la cueva-ø	flotando
	the bottle	moved-in	prep	the cave-acc	(floating)
Main Semantic Elements:	*Figure*	*Motion*		*Ground*	
		Path			

Co-Event Element: *Manner*

As in (1), English predominantly tends to lexicalize manner, a co-occurring event with a motion event, along with the movement-related verb 'float' and needs to express path information on the preposition/particle 'into'. By contrast, Spanish, as in (2), predominantly tends to lexicalize the path within with the motion verb *entró* 'move.IN' and needs to convey manner information in a separate lexical item, i.e., the participial adjunct *flotando* 'floating'. The complementary distribution of path and manner components across languages supports Mateu and Rigau's (2002) argument that path and manner in constructions encoding motion events compete for one slot within the verb. when the slot is filled with path component, then manner shall be expressed outside the verb, namely in satellites, and vice versa.

This study used a qualitative approach to collect data from native speakers of eight languages: English, Spanish, French, Italian, German, Russian, Dutch, and Standard Arabic. The goal was to gain insights into their perceptions of linguistic data. Informants were asked to provide equivalent sentences in their languages for given English sentences, followed by their grammatical judgments and degrees of acceptability. They also participated in structured discussions when additional options were observed. Contact was made through social media, emails, and telephone calls. The study seeks to explore in depth the similarities and differences across languages in terms of expressing path. It aims to enhance the reliability and validity of its findings and ensure that the results accurately reflect the grammatical judgments of these speakers.

Several languages, assigned to the VL type and to the SL type, display language internal variation in path/manner encoding: such verb-framed languages as Italian, Spanish, French and Standard Arabic, may articulate the path on satellites, while English, German, Dutch and Russian, supposedly belonging to an SL type, may encompass path within the verb. Spanish, French and Standard Arabic, and Italian may articulate the path on satellites, while English, German, Dutch, and Russian, supposedly belonging to an SL type, may encompass the path on the verb.

1.1. Expressing Path in languages with VL frame

Spanish, French, Italian, and Standard Arabic were classified as typical examples of VLs because they lexically indicate path within the verb but manner outside.

1.1.1. *Path expressions in Spanish*

*La botella floto´ a la cueva-ø

the bottle	floated	Prep	the	cave-acc	
La botella	entró	a	la cueva-ø	flotando	
the bottle	moved-in	Prep	the	cave-acc	(floating)

'The bottle floated into the cave.'

La botella	salió	*(de)	la cueva-ø	flotando	
the bottle	moved-out	Prep	the	cave-obl	(floating)

'The bottle floated out of the cave.' [Talmy 2000b:49, *Spanish*]

The ungrammaticality of sentence (3a) is attributed to the fact that motion verbs in Spanish, like *entró* 'MOVE.IN (3b) and *salió* 'MOVE.OUT' (3c), tend to lexicalize path instead of manner. Talmy notes that languages such as Spanish and French, unlike English, cannot integrate a manner of motion verb with a path expression within a minimal clause, rendering sentence (3a) ungrammatical. Instead, only path of motion verbs can serve as the main verb in directed motion constructions, while the manner event must be expressed separately as an adjunct *flotando* 'floating' as in (3b) and (3c). Bearing in mind the fact that Spanish lexically includes the path within the verb, one may wonder why the path information in (3b) cannot be simply expressed on satellites, the element *a* glossed as a preposition. However, there has been a controversy in the literature on whether the element *a* in Romance languages is a preposition encoding path or not. This may cast some doubt on whether Spanish falls within the VL frame at all. Folli (2002), Tungseth (2005), Fábregas (2007), and Gehrke (2008) claim that Spanish belongs to a VL frame because it lacks pure directional prepositions and can only express the path within the motion verb. Romance element *a* is intrinsically locative and best interpreted as 'at'. When *a* appears with a directed motion verb, the directional meaning is attributed to

the verb itself, while the *a* phrase functions solely as a location marker. Torrego (2002) argues that the element *a* is no longer a directional preposition and is seen as a remnant of the moved complex preposition INTO. Others like Jaeggli (1986), Demonte (1987) and Brugger (1996) take the element *a* as a dummy preposition, viz. the manifestation of accusative Case that is licensed by the verb. These various views share the common thing that the element *a* lacks path/directionality information and that Spanish tends to lexicalize path within the motion verbs remains valid. Contrarily, the obligatory element *de* in (3c) expresses path information, interpreted as 'a source-oriented preposition' proves that Spanish can also makes use of satellites, namely preposition *de*, to express a path.

1.1.2. ***Expressing Path in French***

a) Julie traversa / a traverse la rue

Julie crossed the street

'Julie crossed the street.'

b) La fille est entrée dans la pièce

the girl aux.is entered in(to) the room

'*The girl entered the room.'*

c) Le garcon est sorti *(de) la pièce

the boy aux.is exited from the room

'The boy exited the room'

French is typologically classified within a VL frame. The verb *traversa* 'move.across' lexically encodes the route path. Similarly, the path components IN and OUT are lexicalized within the verbs

entrée 'enter' (4b) and *sorti* 'exit' (4c) respectively. I assume that element '*dans*', like the Spanish element *a*, does not encode path, or at best it can be taken as a remnant of the moved complex preposition to the motion verb in the lexicon. However, the case is not the same with regard to the element *de* 'from' which denotes source path and its occurrence with the path lexicalized within the verb appears obligatory. The examples in (4) reveal that French, like Spanish, shows variation in terms of path expression; it makes use of satellites to articulate the path apart from the language's dominant pattern; the lexicalizing of the path within a verb.

1.1.3. ***Expressing Path in Standard Arabic (SA)***[1]

a) daxala ashraf-u al-maktabat-a

went.into.3SM Ashraf-nom the-library-acc

'Ashraf went into/entered the library.'

b) ʕabara ashraf-u al-jasr-a

went.across.3SM Ashraf-nom the-bridge-acc

'Ashraf crossed the bridge.'

c) Xaraja ashraf-u *(min) al-maktabat-i

went.OUT.3SM Ashraf-nom of/from the-library-gen

'Ashraf went out of/ exited the library.'

[1] Examples are adapted from grammar books of Standard Arabic, namely Haywood et al. (1965), Ryding (2005), and Wright (1995). Data are grammatically judged by fluent speakers of the language as well.

The path information INTO and ACROSS in (5a) and (5b) are lexically articulated within the motion verbs *daxal*

'enter' and *ʕabar* 'cross' respectively. Standard Arabic (SA), unlike Spanish and French, leaves no path remnant on satellites, namely prepositions and particles, as shown in (5a) and (5b). However, the element *min* 'of/from' in (5c) expresses path information, specifically source path, in addition to the path lexicalized within the motion verb *xaraj* 'exit'. These examples serve as evidence for the fact that Standard Arabic, like Spanish and French, may show internal variation in path expression. It may utilize satellites to carry the path information in addition to the dominant pattern of the language by which motion verbs lexicalize the path.

1.1.4. ***Expressing Path in Italian***

Mari o	é	entrato	nella stanza	correndo.
Mari o	has	MOVED. IN	in.the room	Running

'Mario has run into the room.' [Lapesa & Lenci 2012:1, *Italian*]

›) Mari a ha Attraversato la strada

Mary has MOVED.ACROSS the street

'Mary has crossed the street.'

:) Mari a uscì dalla stanza

Mary MOVED.OUT from.the room

'Mary exited the room.' [Judged by native speakers of Italian]

In the examples of (6), the path components INTO, ACROSS and OUT are lexicalized within the motion verbs *entrato* 'entered', *attraversato* 'crossed' and *usci* 'exited' respectively. The occurrence of the element *nella,* glossed as *'in.the',* does not change the fact that Italian, like Spanish, is compatible with the VL frame. The Italian element *nella* behaves like Spanish element *a* in that they do not lexicalize path/directionality. However, Italian may articulate path in satellites remains valid because the element *dalla* 'from' in (6c) expresses the source path.

To sum up, the data given from Spanish, SA, French, and Italian show that the languages under study tend to lexicalize the path within the motion verb regardless of occurrence of Path-like elements in the clause. Data also show that these languages may make use of the SLs pattern; they express the path on satellites, specifically prepositions and particles.

1.2. Expressing Path in languages with SL frame

Likewise, English, German, Dutch and Russian are typologically categorized into the SL frame. They show tendency towards expressing path outside verbs, namely on satellites like prepositions/particles, and prefixes, but manner within verbs. However, the language facts reveal that they may display some properties peculiar to those of languages with the VL frame.

1.2.1. *Expressing Path in English*

a) John ran into the store.

b) John ran out of the store.

c) John ran across the street.

a) John entered the house (running).

b) John exited the house.

c) John crossed the street.

In English example (7), the path information is expressed in separate elements, particularly on the particles *into* in (7a), *out of* in (7b), and *across* in (7c), but manner within the motion verb and therefore categorizing English into the SL frame is easily accounted for. On the other hand, English may show properties similar to those in languages with the VL frame; it may lexicalize the path within

motion verbs as illustrated in example (8) in which the verbs *entered* in (8a), *exited* in (8b) and *crossed* in (8c) lexically encode the paths: INTO, OUT OF, and ACROSS respectively. Above examples (7) and (8), therefore, suggest that there is an internal language variation in terms of path/manner encoding in English.

1.2.2. ***Expressing Path in German***

9) a) Mary Ging in das Zimmer.

Mary Went in the.acc room

'Mary went into the room.'

b) Mary Ging aus dem Zimmer.

Mary Went out the.dat room

'Mary went out of the room.'

10) a) Mary Betrat das Zimmer.

Mary Entered the.acc room

'Mary entered the room.'

b) Mary überquerte die straße

Mary Crossed the.acc.fem street

'Mary crossed the street.'

c) Mary Verließ das Zimmer.

Mary Exited the.acc room

'Mary exited the room.' [Judged by native speakers of German]

As an SL-framed language, German expresses the path in satellites, particularly on prepositions/particles *in* and *aus*, respectively, as in (9a) and (9b). However, the same conclusion can be extended to examples (10a) and (10b) but not to (10c). The peculiarity of the motion verbs *betrat* 'entered' (10a), *überquerte* 'crossed' (10b), and *verließ* 'exited' is that they may contain inseparable verbal prefixes like *be-*, *über-,* and *ver-* respectively. One can treat these prefixes as satellites if they are separable and articulate path. This reflects that the motion verbs encoding path in the languages with VL frame may be proceeded up in a fashion similar to the etymological derivation. However, this remains a mere stipulation. Compare example (9) with example (10) which suggests that there is an internal language variation in terms of Path expression in German.

1.2.3. ***Expressing Path in Russian***

Russian is typologically classified as an example of SL-framed languages due to the fact that it tends to express the Path in satellites, namely on separable verbal prefixes, e.g., *v-, vy-*, *pere-* etc.

F(igure) …	$\leftarrow v - v + ACC >$ 'into'	F(igure) …	$\leftarrow pod - k + DAT >$ 'up to'
F(igure) …	$\leftarrow vy - iz + GEN >$ 'out of'	F(igure) …	$\leftarrow ob - ob + ACC >$ 'onto'
F(igure) …	$\leftarrow pere - čerez + ACC >$'across'	F(igure) …	$\leftarrow ot - ot + GEN >$'of/away from'
F(igure) …	$\leftarrow pod - pod + ACC >$ 'to under'	F(igure) …	$\leftarrow za - za + ACC >$'to behind/beyond'

[Russian; Talmy (2000b:105-106)]

To illustrate this paradigm in Russian, study the following examples.

a) Dzhon v-oshel V komnat
u

John in-went To room.a
cc

'John went into/entered the room.'

b) Dzhon pere-shel (čerez ulitsu
)

John across- went (acros s) street.a cc

'John went across/crossed the street.'

c) Dzhon vy-shel Iz komnat
y

John out-went of/fro m room.g en

'John went out of the room.' [Judged by native speakers of Russian]

The path information in (12) is expressed by satellites, namely separable prefixes *v-* 'in' (12a), *pere-* 'across (12b), and *vy-* 'out' (12c) attached to the motion verb root *shel* 'go'. For the lack of sufficient data from Russian, there is no case attested where the language may behave like those languages with VL frame; i.e., to lexicalize path within a motion verb. Example (12a) given from Russian shows that there are possible co-occurrences of the path on two positions: one on the preverbal prefix and another on prepositions/particles. However, I argue this appearance is misleading because the path is lexicalized in just one position but spelled out twice: once as a preposition and the other as a verbal prefix. Russian is not different from other languages in how it expresses or lexicalizes the path in a single position: within the verb or on satellites and not both. The separable prepositions/particles like *v* and *čerez* in the lower position appear to be remnants of the complex Path 'into' and 'across'

respectively. The optionality of the element *čerez* to appear in the lower position is another piece of evidence that the element does not contribute significantly to the derivation, particularly in encoding of the path. The preverbal prefix *vy-* 'out' (12c) differs from *v-* and *pere-* in that the path in (12c) is expressed in the lower position, mainly on the preposition *iz* 'of/from'. It remains consistent that Russian tends to express the Path on satellites; preverbal prefixes or prepositions/satellites.

1.2.4. ***Expressing Path in Dutch***

a) Jan ging/stapte de kamer In/binnen

13) John went/walked the room in/inside

'John went/walked into the room.'

b) Jan ging de kamer uit

John went the room out

'John went out of the room.'

c) Jan verliet de kamer

John exited the room

'John exited the room.' [Judged by native speakers of Dutch]

In the examples (13a) and (13b) from Dutch, the path is expressed on satellites, particularly on postpositions like *in/binnen* 'in/inside' in (13a) and *uit* 'out' in (13b), but manner within the motion verb as in *stapte* 'walked' in (13a). Thus, classifying Dutch as an SL-framed language is simply understood. However, this is not always the case. Dutch may lexicalize the Path within the motion verb as in (13c); the Path information 'OUT/OUT OF' is encoded within the motion verb *verilet* 'exit'. The

exciting thing about Dutch is that it restricts expressing Path/directionality on satellites to postpositional order. It hints at a significant role to play by P to derive the postpositional order from the prepositional order.

To conclude, empirical facts given from English, German, Russian and Dutch show that these languages tend to articulate the path in satellites, namely adpositions, particles and/or preverbal affixes, that is why they are typologically classified into the SL frame. Besides, English, German, and Dutch may lexicalize the path within the verbs as VL-framed languages do. In all, the facts brought from SL-framed and VL-framed languages serve as substantive evidence for the presence of variation in terms of path encoding intra-linguistically, i.e., within the same language.

2. Setting the stage

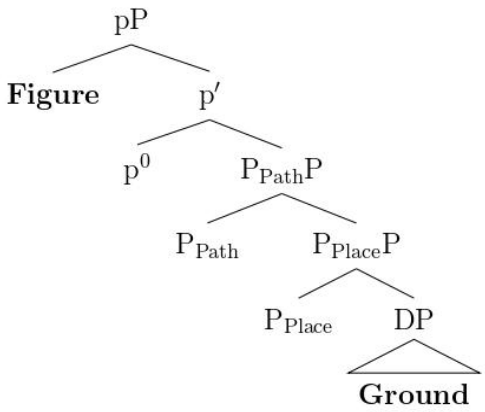
The section seeks to build scaffolding necessary for developing a narrow-syntactic alternative, abandoned with typological/lexical accounts, to capture variation in terms of path encoding within languages in a uniform fashion. I propose that the differences in VL and SL frames cannot be explained by solely examining the properties of PP or VP, but by exploring all possible interactions between the two projections. Restrictions on the combinatorial possibilities of manner of motion verbs with PPs in some languages, e.g. Hindi, prove this conclusion. The variation is captured under a unified structure: [v* [V PP]] where the probe V or P, via an extended version of Feature Inheritance (FI), establishes an Agree relationship with the ground-denoting DP complement, valuing features on both sides. The VL frame results from initiating the relation [v*-$V_{iPath]}$ but the SL frame from initiating the relation [v*-P_{iPath}].

2.1. Possible Verb-PP combinations in motion constructions expressing path

Several proposals have been put forward in the literature to explain Talmy's binary typology by studying properties of verbs in isolation from those of adpositions or vice versa. Jackendoff (1983), Helmantel (2002), Kracht (2002), Svenonius (2004), Zwarts (1997), Zwarts & Winter (2000), Zwarts (2005), and van Riemsdijk & Huybregts (2007) have attempted to explain Talmy's language typological distinction by relying solely on syntactic and semantic properties of the verb. Others, e.g., den Dikken (2003, 2006, 2008), Puigdollers (2013), Folli (2002), Tungseth (2005), Fábregas (2007), Son (2007), Gehrke (2008), have attributed linguistic differences between VL-framed and SL-framed languages to some specific properties of adpositional systems. For instance, Folli (2002), Tungseth (2005), Fábregas (2007), and Gehrke (2008) categorized Romance languages into the VL frame because they lack pure directional prepositions, i.e. linguistic differences were attributed to the properties of the inventory of adpositions in these languages compared to those of SL-framed ones.

Svenonius (2003) has attempted to structurally formulate Talmy's (1975, 2000) claim that there is an asymmetric relation between the Figure and the Ground in terms of perception. The internal argument of P is always a Ground (or location), whereas the external argument is a Figure or theme associated with location or motion. He proposes that prepositional phrases (PPs) can be split similarly to verbal phrases (VPs). Since the Ground argument is within the syntactic domain of the preposition, the head P introduces it as an internal argument and the head *p* (in analogy to *v*) introduces the Figure as an external argument. Svenonius (2003) further breaks down the lexical projection PP mainly into Path (directional) and Place (location) as schematically shown in (14).

14)



The problem in his proposed structure concerns with the Path projection. It is empirically observed that the semantic component (Path) in VL-framed and SL-framed languages is not always located in the same position: within verbs in the former, but on satellites in the latter. Therefore, dealing with Path as independent projection does not yield a desirable result. Even, the assumption that PPs have functional properties does not amount to the extent to which PP projection is able to work independently from verbal projection with regard to feature valuation or phasehood. Bearing in mind the data related to motion construction encoding path brought from different languages, I propose that the nature of interactions between VP and PP projections is associated with the locus of interpretable Path feature (henceforth, [iPath] feature), i.e., it is on the head V or P and not both. This line of argumentation is almost consistent with Emonds (2000) observation that an object is regarded as a Ground only when the predicate (V or P) has a spatial feature that intrinsically refers to either Path or Place, among others. There is no possibility of interpreting the spatial feature in (15b) at PP level because the verb is not yet introduced into the derivation.

in , P [SPATIAL]

) The rabbit Hoppe d in the garden. (P, SPATIAL → PLACE / *PATH) It suggests that PP does not

) The rabbit went in the garden. (P, SPATIAL → *PLACE / PATH) have its own independent

identity that may trigger Path feature valuation/interpretation at the Spell-Out. However, my point of departure from Emonds' is that only Path feature requires establishing V-PP relation for feature interpretation/valuation. The prepositional phrase 'in the pool' is locative in both (15a) and (15b) once no interaction is involved with the verbs 'wriggled' and 'went', respectively.

The distribution of [iPath] feature on either P or V can also be drawn from Talmy's (2000) basic argument of lexicalization that Path predicates tend to be the main verbs in VL-framed languages like Spanish as in (16a) but to be non-verbal predicates, i.e., particles, prepositions, and prefixes in SL-framed languages like English as in (16b).

16) a) La botella **entró** a la cueva flotando Spanish

the bottle moved. in prep the cave (floating)

'The bottle floated into the cave.

b) The bottle floated **into** the cave. English

The [iPath] feature in Spanish is coded within the main verbs as in (16a), but by satellites in English, particularly on prepositions/particles as in (16b). The same prediction can be extended to the internal variation of path expressions within and across languages. Aske (1989) proposes that the crosslinguistic variation, with reference to possible combinations of manner of motion verbs with path phrases in Spanish, should be localized at phrasal level and be constrained by aspectual factors, i.e., telicity.

) La botella floto´ hacia/*a la cueva

the bottle floated towards/to the cave

'The bottle floated towards/to the cave.'

) Juan bailó hacia la puerta

John dance.PAST.SG towards DEF.F.SG door

'John danced towards the door.'

) La botella floto´ por el canal

the bottle floated along/about the canal

'The bottle floated along/about the canal.' [Aske 1989:3, *Spanish*]

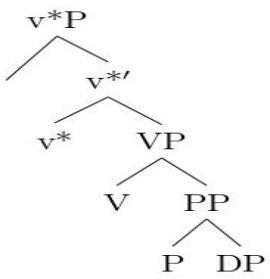
For Aske, the occurrence of instances of the English-type pattern in Spanish as (17) and presumably instances of the Spanish-type in English, is due to the assumption that there are two types of directional/path phrases: *atelic path phrase* which modifies the verb, or predicates a location of the whole proposition, e.g. along the fence, and *telic path phrase* which predicates, besides the path of motion, an end-point location /state of the Figure argument, e.g. 'into the house', 'off the table'. Path phrases are distributed differently in Spanish compared to English. Spanish features only the atelic type of path phrase, which adds only a location to the whole proposition. Aske (1989) noted that the restricted distribution of path phrases in Spanish compared to English cannot be attributed to a lexical gap in the language, since there appears to be a path adverbial for nearly every English path 'satellite' that could fulfill its function Aske further draws a correlation between the lack of combination of Spanish manner of motion verbs + telic path phrases and the lack of resultative non-verbal predicates as telic path predicates and resultative predicates form a natural class where the two signify an end

state or location, a 'culmination point' that arises from prior activity. Roughly speaking, Aske's classification of path phrases into telic and atelic PPs is well predicted under the proposed VP-PP relation where there is an interaction in the former, but not in the latter. To put it in different terms, in telic path phrases, a structural relation [V-PP] is initiated by the presence of [iPath] feature on the head P. In atelic (location) phrase, by contrast, there is no such a structural relation due to the absence of [iPath] feature on P. The interpretation/valuation of [iPath] feature on a telic P may entail telicity, boundedness, endpoint, achievement or change of state/location. However, the (im)possible V-P relations will be more elaborated as we proceed. The examples (17a-c) from Spanish show that manner of verbs *flotó* 'floated', bailó 'danced' cannot interact with telic path elements like *a* in (17a); but it simply does with atelic path elements like *hacia* 'towards' and *por* 'about/along'. The impossibility of combinations V-PP in (17) is due to the fact that [iPath] feature is coded on neither Vs nor Ps. The lack of [iPath] feature on verbs in (17) may be because the verbs already lexicalize manner and no slot left within the verb to articulate path. Ps in (17) also lack the [iPath] feature because they are atelic in nature.

2.2. Towards building up a unified structure

I propose that the variation within languages in terms of path expression (on V or P) can be straightforwardly explained by the structure [V $_{\text{motion verb}}$ [PP] as schematically shown in (18).

18)



In (18), a motion verb always takes a PP complement whether the head P is phonetically realized or not. The proposed structure (18 can capture all the language facts of path expression within languages for a variety of reasons. First, it provides an explanation for the SL frame of path expression where the path is lexicalized on satellites, e.g., adpositions, particles, and thus these elements occupy the head position of P. Let us study the following examples of SL frame.

John went *into/out* of the English

room.

c) Mary ging in das Zimmer

Mary went in the.acc room

'Mary went into the room. German

c) Jan ging de kamer in/binnen

John went the room in/inside

'John went into the room.' Dutch

d) Dzhon vy-shel Iz Komnaty

John out-went of/from room.gen

'John went out of the room.' Russian

The motion verbs in (19) 'went' from English, *ging* 'went' from German, *ging* 'went' from Dutch, *vy-shel* 'out-went' take PP complements headed by *into, in, in/binnen,*and *iz* respectively. Russian is distinct from other SL-frame languages in that it can express path transparently by a verbal prefix like *vy-* in (19d) and this element, I assume, has been incorporated into the verb by some movement from the original position, i.e., PP projection. I will discuss this point in detail later.

Second, structure (18) accounts for the certain cases of the VL frame where some obligatory satellites may also appear. The elements like Spanish *a* in (20a), French *dans* in (20b), Arabic *min* 'off /from' (20c), and Italian *da* in (20d) can be explained under proposed structure.

a) La botella Entró *(a) la cueva-ø Flotando

the bottle moved-in Prep the cave-acc Floating

'The bottle floated into the cave.' Spanish

b) La fille est entrée *(dans) la pièce

the girl aux:is Entered in(to) the room

'The girl entered the room.' French

c) Xaraja ashraf-u *(min) al-maktabat-i

went.OUT.3SM Ashraf-nom of/from the-library-gen

'Ashraf went out of/ exited the library.' SA

d) Maria uscì *(da)lla stanza

Mary moved.out in.the room

'Mary exited the room.' Italian

The obligatory presence of satellites in the VL frame as in (20) may indicate that there should be an interaction between V and P regardless of whether the path is lexicalized on verbs or satellites.

Third, it can account for the cases of the VL frame where a motion verb lexicalizing path takes an apparent DP complement. I argue that the complement of motion verbs encoding path is always a PP where the head P is phonetically realized or null. Motion verbs encoding path; as *daxala* 'went.into' in (21a) from SA, *attraversato* 'moved.across' in (21b) from Italian, *betrat* 'went.into' in (21c)

from German, and 'crossed' in (21d) from English, take apparent DPs. However, this appearance is not proper, I assume.

a) Daxala ashraf-u al-maktabat-a
went.INTO.3SM Ashraf-nom the-library-acc
'Ashraf went into/entered the library.' SA

b) Mari Ha attraversato la strada
Mary Has moved.across the street
'Mary has crossed the street.' Italian

c) Mary Betrat das Zimmer.
Mary Entered the.acc room
'Mary went into the room.' German

d) John *crossed* the street. English

The assumption that the complement of motion verbs encoding path is always PPs, and not DPs as it may appear, is based on investigating the properties of apparent DP complement of verbs encoding path compared to those of other verbs. First, DP complements of verbs encoding Path is distinct from other DPs in that it inherently denotes a location (place) and this observation may be widely accepted across languages. For comparison, study the following examples from SA.

kataba ashraf-u al-qisat-a
wrote.3SM Ashraf-nom the story-acc

'Ashraf wrote the story.'

ب) Daxala ashraf-u al-maktabat-a

went.into.3SM Ashraf-nom the-library-acc

'Ashraf entered the library.'

The DP complement of the motion verb *daxala* 'entered' in (22b) must be restricted to some location-specifying constraint, i.e. it must denote location (place). It is not the case for the complements of other verbs like *kataba* 'wrote' in (22a) which may denote some entity other than place, i.e. a thing. This line of reasoning follows from similar arguments made in literature of Arabic grammar. Sibawayh (1988) provides robust arguments in favor of the fact that the verb *daxala* 'entered' in the phrase *'daxala almaktabat-a* 'entered the library' is an intransitive verb that gets transitivized by virtue of deletion of the preposition *ila/fii* 'to/in'. Alfarsi (2003) among others expounds Sibawayh's view by indicating that the deletion is needed to expand the domain of the verb and that the use of construction with dropping the preposition is more frequent. If the verb *daxala* were transitive in this context, it could have shown transitivity elsewhere, but this is not the case with non-location specifying DP complements.[2] The nature of the verb *daxal* 'entered.' can be measured by taking into account its synonymous word *yirt* or antonymous word *xaraj* 'exit' as these verbs simply require PP complements where P should be realized.

Other evidence for the argument that the complement of motion verbs is always PPs come from Mandarine Chinese. The language uses *localizers*[3] with the NP complement when the path is not lexicalized on motion verb as illustrated in (23). Localizers such as *–li* 'inside' in (23a) and *–shang* 'on top of' in (23b) need to be attached to the noun phrase in order to change thing-specifying nouns into place-specifying nouns.

a) Xiaohai zai fangzi-*(li) Wanr

[2] For Sibawayh (1988), the verb *daxal* 'enter' in the phrase *daxala al'amra* 'entered the matter' is not possible without the realization of the preposition.

[3] For Chappell & Peyraube (2008) and Huang & James (2009), Chinese localizers are grammaticalized from nouns. However, there has been no consensus on whether these morphemes belong to a lexical category other than a noun or are a subclass of noun, e.g., *NP enclitics*. (Sun, 2008), *locative particles* by Li & Thompson (1989), and *postpositions* by Liu (2008).

Kid At house-inside Play

'The kid is playing in the house.'

b) Xiaomao zai zhuozi-*(shang) Shuijiao

Kitty at table-on top.of Sleep

'The kitty is sleeping on the table.' [Lin 2013:243, *Mandarine Chinese*]

However, this is not true when motion verbs express path, as seen in (24). For example, verbs like *jin* 'enter' in (24a) and *shang* in (24b) should take localizers such as *–li* 'inside', *fangzi* 'house', and *zhuozi* 'table', respectively.

a) Xiaoha Jin le fangzi

Kid Enter asp house

'The kid entered the house.

b) Xiaomao Shang le zhuozi

Kitty Ascend asp table

'The kitty went onto the table.' [Lin 2013:244, *Mandarine Chinese*]

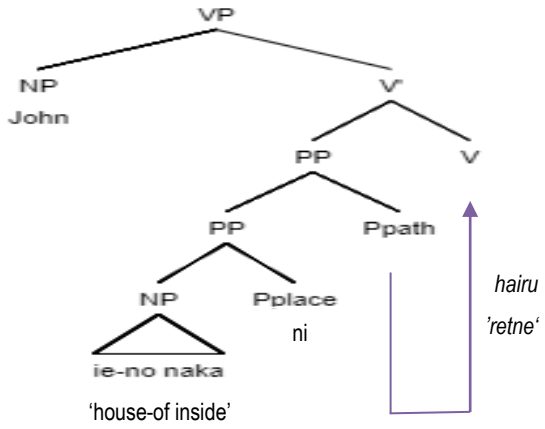
The examples from Mandarin Chinese with localizers, or postpositions in Liu's (2008:39) terms, suggest that the actual complements of verbs encoding path are PPs, but not DPs as they may appear. Simply, adding localizer morphemes to the DP complement of verbs encoding path is not possible because such a DP complement comes with something like a localizer. Technically, the lexical

encoding of localizers in the complement of verbs encoding path suggests that these complements are not DPs but PPs. However, a postposition or preposition is to occupy the position of head P for uniformity purposes. This argument corresponds with several Lexical syntax-based proposals made in the literature; for instance, Inagaki (2001), building on the ideas of Hale & Keyser (1993), argues that in Japanese, there exists an incorporation of Path P into V and manifests it as a verb of directed motion. His proposed structure for the Japanese motion verb encoding the path *hair-u* 'enter' (25) is given in (26).

John-ga	ie-no naka	Ni	Hairu
John-Nom	'house-of inside	At	entered

26)

'John entered the house.'



Inagaki's proposed structure (26) for Japanese illustrates how Path P is lexically and syntactically integrated into V, resulting in the expression of the directed motion verb *hairu* 'enter.' It reveals that what appears in the complement of motion verbs is not a true DP, but rather a PP. Lexicalization of P bearing path within the verb (some sort movement in the lexicon) may suggest that there a possible similar movement from P to V in the narrow syntax. The following section will discuss the possibility of having P-to-V head movement and its motivation in motion construction encoding path.

To conclude, all forms of variation in terms of Path expression within languages should be captured under the unified syntactic structure [V $_{\text{motion verb}}$ [PP]], where the verbs encoding Path consistently take PP complements – even in the cases where the complements of verbs look like DPs.

2.3. An extended FI-based proposal

The proposal I am developing here is essentially based on Chomsky's (2007, 2008, 2013) and Richards' (2007) Feature Inheritance-based approach to Phase theory. Phase theory has effectively addressed the crucial question of how the syntactic computation of human language CHL accesses the lexicon when deriving a given syntactic object (SO). Chomsky (2007, 2008, 2013) proposes that phases are defined in terms of the case/agreement system rather than to interface properties.[4] Phase boundaries are demarcated by the valuation of the unvalued features (on the phase head). That is, a phase is identified by its head, which carries uninterpretable features. For regulating locality matters, Chomsky (2000) proposes *Phase Impenetrability Condition* (henceforth PIC) given in (27):

27) **Phase Impenetrability Condition (PIC)**

In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations

[Chomsky, 2000:108]

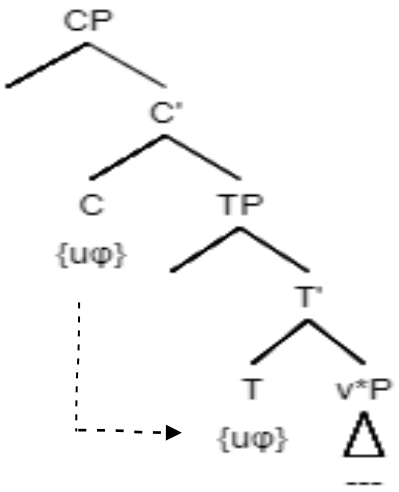
The condition (27) ensures that once the phase head H is fully formed, its complement is phonetically spelled out, rendering it inactive and inaccessible for further computation. Only the head and its specifiers, called the phase edge, remain accessible for further operations. Phase Edge serves as an escape hatch for long distance agreement attested in some languages.

Chomsky (2008) further conjectures that only phasal heads (C and v*) intrinsically possess probing features and the Edge feature/EPP, while the non-phasal heads T and V inherit these features from C and v*, respectively, through an Agree mechanism known as feature inheritance (FI). He posits that FI is a universal characteristic of all phase heads in the C-T and v*-V domains. In other words, under the feature inheritance (FI) operation, only the phase heads C and v* are specified for probing features, while the categories T and V are not considered phase heads as they cannot probe by themselves; rather, they need to inherit probing features from the phase heads C and v* respectively. FI reinterprets the connection between T and C: Agree (φ features) and Tense features related to the inflectional system are not inherent to T; they are instead part of the phase head C. As a result, T lacks uninterpretable features unless it is selected by C. This means that the non-phase head T is no longer an independent probe; it inherits its probing features from the phase head C.

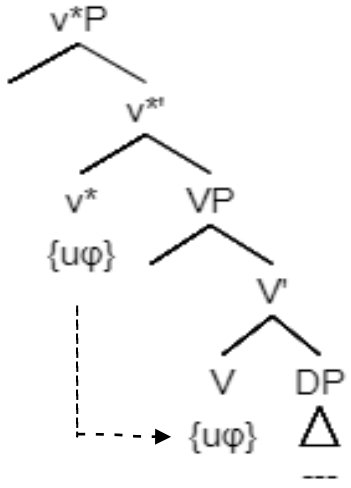
[4] Initially, Chomsky (2000, 2001) has heavily relied in defining phases on conceptual as well as interface concerns. Phases are thought to be 'small chunks' of lexical elements that help reduce the computational burden on the computational system. Interface-wise, phases should be semantically and phonologically coherent and independent, e.g. Chomsky (2004:140). For example, Chomsky talks about phases being 'propositional.' Such ideas led to characterizing phases as CP and v*P.

Analogous to C -T feature inheritance, the phase head v* ships uninterpretable features down onto the nonphase head V and by virtue of this mechanism the nonphase head V complement can probe in its search space domain for a matching goal, say the DP complement. Schematically, the feature inheritance C-T and v*-V can be illustrated in (28a) and (28b), respectively.

28) a) Inheritance of φ-features (C →T)



b) Inheritance of φ-features (v* →V)



Chomsky (2004, 2005) supports the notion that phases are CP and *v**P through the FI mechanism, offering both conceptual and interface motivation. Conceptually, phases are envisioned as "small subarrays" to minimize computational load, while from an interface perspective, they exhibit easily identifiable semantic and phonetic properties that suggest a degree of independence or convergence. Thus, CP and v*P are the only phases[5] accordingly. Empirically, C-T relation of FI mechanism has come as a possible solution for the traditional T-related issues: subject verb agreement, EPP (Extended Projection Principle) effects (such as A-movement of the formal subject to Spec; T, expletives). Similarly, the v*-V relation of FI expects object agreement, raising-to-object phenomena, v*P internal subject hypothesis, etc. For Chomsky (2001), v* -V relation is parallel to C -T relation via FI in that T, like V, is a substantive category: T should be understood as a substantive category, similar to N and V, rather than as a functional one. Thus, the C-T relationship is comparable to the v*-V relationship.

[5] For more details on the distribution of phases, see also Boeckx & Grohmann (2004) and Chomsky (2001, 2000).

Chomsky (2005) argues that Feature Inheritance (FI) arises from the requirement of the Conceptual-Intentional (C-I) interface, which allows for a structural distinction between A and A-bar categories. The spreading of Agree to T creates a structural difference between the A-position established by movement for C's Agree feature (Spec; T) and the A-bar position created by movement for C's edge feature (Spec; C, the phase edge). Furthermore, once this motivation for the C-T relationship is established, it is reasonable to expect feature inheritance to apply to phase heads in general, based on optimal design principles. Chomsky (2013, 2015) points out that the spread of Agree features from the v* phase head to the V complement, along with A-movement of the object to Spec; VP, results in the well-known 'raising to object,' similar to the subject raising to Spec; TP. The raising to object paradigm is exemplified in ECM, as the embedded subject is able to bind into and take scope over matrix adverbials, indicating that it has moved to a position in the matrix v*P. Furthermore, Richards (2007) defends the conceptual necessity of FI for the simultaneous occurrence of Valuation and Transfer and thus, a phase head requires a nonphase head. He proposes feature inheritance to non-phase heads follows from the following two premises:

29) Premise 1: *Value-Transfer Simultaneity: Value and Transfer of uF (unvalued/uninterpretable features) must happen together*.

Premise 2: *Cyclic Transfer: The edge and non-edge (complement) of a phase are transferred separately.* *(Richards, 2007:565)*

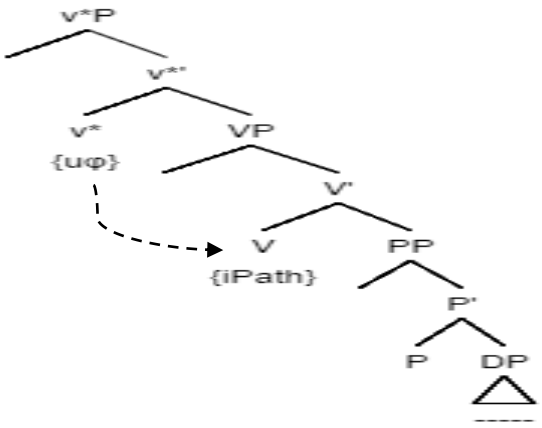
Concerning premise (1), the valuation must happen concurrently with feature transfer to properly ensure the distinction of unvalued features at the C (conceptual) - I (intentional) interface. Valuation of features and Transfer to the interfaces must happen simultaneously to avoid positing a mechanism in the syntax to 'look back' at the origin of particular features within a derivation. Syntactic operations are, therefore, claimed to take place at the phase level. Richards therefore concludes that *"[i]t thus follows from the SMT [Strong Minimalist Thesis] that uninterpretable (unvalued) features can only be a property of phase heads, that is, those heads that trigger Spell-Out/Transfer."* [Richards 2007:567]

As for premise (2), FI presents an argument based on the SMT for the necessity of cyclic spell-out in any well-structured language system; without the immediate spell-out of valued probes, no expression could achieve convergence. The phase-based cyclic computation stems from the interface conditions in that since phase edges are escape hatches, phase edges must Transfer separately from the nonedge (complement) of the phase head. In sum, the FI system complies with the SMT, which defines phases as pairs of phase heads and non-phase heads, having core sequence (C-T-v*-V).

3. Path expression variation: The account

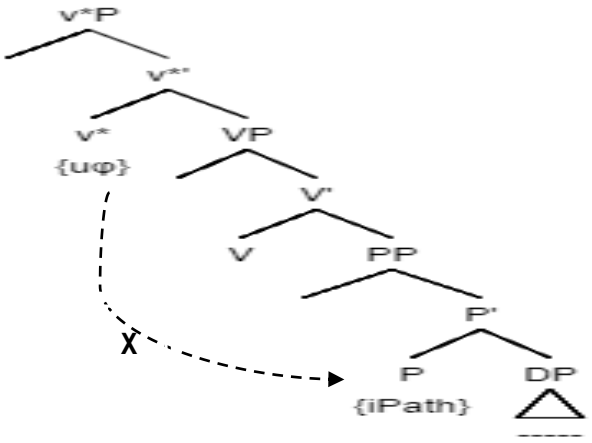
The main proposal of the paper is that the variation in terms of path expression within languages is uniformly captured under an extended version of FI-based Phase Theory. Path expression variation depends solely on whether the phase head v* hands down its probing features (Φ-features along with an EPP property) onto nonphase V or P. The locus of the interpretable feature [iPath] determines which potential nonphase head – V or P – inherits probing features from the phase head v*. Via the extended version of FI, the two distinct relations: [v*-V_{iPath}] and [v*-P_{iPath}] explain the cases with the VL and SL frames respectively; some sort of P-to-V movement takes place in lexicon for the former, but P-to-V movement in the narrow syntax for the latter. In cases of VL frame, the phase head v* ships down probing features to V, a nonphase head bearing the [iPath] feature as straightforwardly shown in (30).

30) **v^{*}→V relation via FI when [iPath] on V**



The proposed structure (30) can capture the cases of path expression in a VL frame by assuming that the phase head v* passes down the probing features onto the nonphase head V bearing the feature [iPath]. The v*→$V_{[iPath]}$ via FI is predicted as it takes place between a phase head and its closest c-commanded nonphase head complement, and therefore respects all locality conditions/constraints relevant. Therefore, the structure (30) is a legitimate case of FI. By contrast, things are not that smooth when dealing with all VL frame cases in which the relation [v*→P_{iPath}] needs to be established as another legitimate relation of FI. Technically, handing down of probing features from the phase head v* to P bearing the [iPath] feature raises a locality problem, whereby the head V, during the process of shipping down the probing features from v* to P, acts as an intervening head between the phase head v* and the recipient P. Such a locality problem can be schematically shown as in (31).

31) **v*→ P relation via FI when [iPath] on P**



In a configuration [. . v*. . V . . P. .] shown in (31), the shipping down of probing features by the phase head v* onto the lexical head P is ruled out by all relevant locality conditions, primarily Rizzi (1990) Relativized Minimality (RM), given in (36), and Chomsky's (1995) Minimal Link Condition (MLC) , given in (32), among other locality principles.

32) Relativized Minimality condition (RM)

'in a configuration [. . . α . . . γ . . . β . . .], where α c-commands γ and γ c-commands β, γ blocks a relationship between α and β iff γ is of the same type as α, where 'of the same type' is understood as: (a) if α is a head, γ is a head; (b) if α is a phrase in an A-position, γ is a phrase in an A-position; and (c) if α is a phrase in an A'-position, γ is a phrase in an A'-position.' [Rizzi, 1990]

33) Minimal Link Condition (MLC):

K attracts α only if there is no β, β closer to K than α, such that K attracts β. [Chomsky 1995:311]

Based on these different formulations of locality (32) and (33), the head V in the proposed structure (36) counts as an intervening element that blocks any relation between the phase head v* and the nonphase head P. The nonphase head V is closer to the phase head v* than P, purporting the former to appear as a sole legitimate recipient probing features of the phase head v*. Hence, shipping down the probing features by the phase head v* onto P crossing V is an unorthodox to the locality conditions, though it operates downward, so does the old and tried Affix-Hop, proposed by Chomsky (1957), which is strictly local nevertheless.

To address this locality issue in motion constructions encoding path, the head movement of P to V makes both P and V equidistant from the phase head v*. Head movement was formally characterized as an operation that takes place in narrow syntax in Travis (1984) and Baker (1988) as given in (34) and reformulated in (35).

34) Head Movement Constraint

An X^0 may only move into the Y^0 which properly governs it. [Travis 1984: 131]

35) Head Movement Constraint

Head movement of X to Y cannot skip an "intervening" head Z. [Roberts 2001: 113]

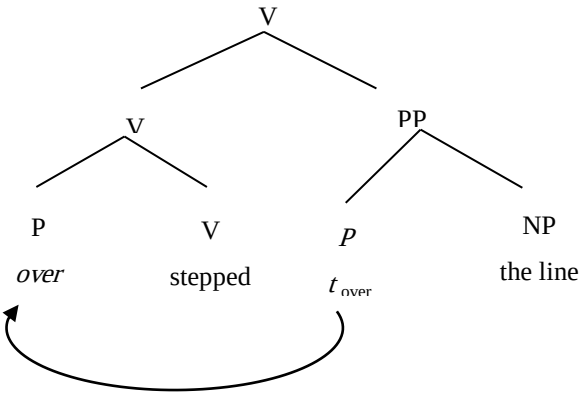
Head movement in GB theory was a case of move α° that was subject to three types of well-formedness conditions: structure preservation, locality and well-formedness of traces.[6] The head movement as a narrow-syntactic operation gained more explanatory adequacy in the early days of minimalism. For instance, Chomsky (1993) suggests that a head movement operation, in addition to the morphologically-derived motivation, is to create what he calls equidistance,[7] which could explain the derivation of a clause in the checking theory.[8] I strictly adhere to the idea that head movement is an operation of narrow syntax, though Chomsky (2001) reconsiders it, apart from Baker's (1988) cases of incorporation, as a phonological or morphological operation. However, his latter claim has sparked a considerable debate in the literature. Donati (2006) argues that head movement triggers some semantic interpretation that Chomsky does not consider in his recent analysis and concludes that no principled way to exclude head movement from narrow syntax. To resolve the locality-based issue that occurred in the case of the SL frame illustrated in (31), I propose that there must be P-to-V head movement to take place before PF and such a movement is well motivated. First, head movement is needed, in line with Chomsky's (1993) proposal, to make both heads (P and V) equidistant from the phase head v*. If P-to-V movement is initiated, then either P or V can receive probing features from the phase head v* without raising any locality issue. The movement of P to V expands the domain of the head V and makes the DP complement of the inert/null P accessible for further operations by the head V. Second, the proposal of P-to-V head movement is not that novel in the literature. Baker (1988) proposes a similar structure for 'preposition incorporation'. He sees the incorporation process in general as an essentially syntactic instantiation of Move-α and subject to constraint(s) governing it. For illustration, study the examples of Preposition-incorporation in (36).

	over-	the line.	
We	*stepped*		
The	*pre-*	the Babylonian empire.	The bound morpheme (*pre-, be-)* seems to force incorporation. Baker's
Sumerians	*existed*		
The	*be-*	the harbor.	
colossus	*strode*		

[6] For the detailed discussions on the well-formedness conditions, see Roberts (2011).
[7] Equidistance (Chomsky 2001:27): *Terms of the edge of HP are equidistant from probe P.*
[8] See Chomsky (1995) for the discussion on how derivations proceed in the checking theory.

(1988) structure for the incorporated preposition over in (36a) is shown in (37).

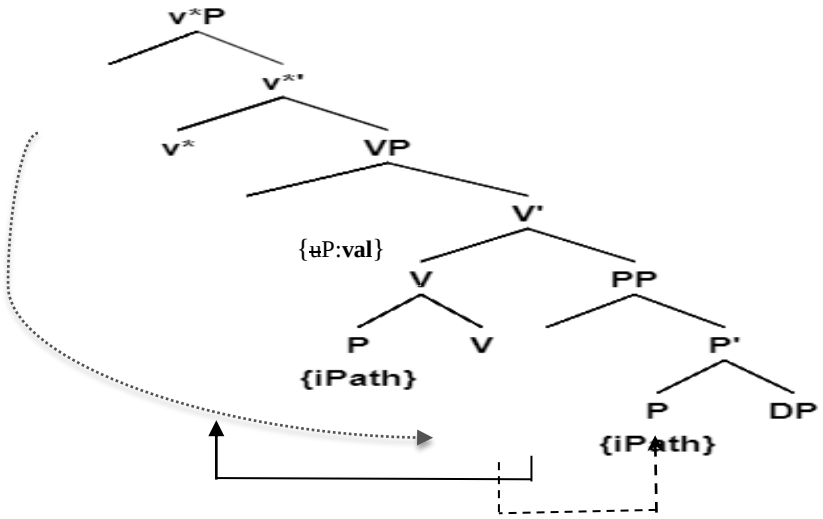
37)



In this structure, the head P 'over' adjoins to the left of V 'step' and leave a copy 't $_{over}$' in the original position of P. It may appear that this movement takes place for deriving the correct word order. However, this is not the whole story. I argue that the head movement P-to-V, analogous to V-to-T movement proposed by Chomsky (1995), Biberauer & Roberts (2010), among others, is triggered to fulfil some requirements of the head V, namely categorical unvalued feature [uP]. The valuation of this feature on the head V motivates V to attract P and thus the moved head P left-adjoins to the head V. Bearing in mind this consideration, I argue that categorical feature [uP] on the verb in both SL and VL frames needs to be checked/valued before PF. However, the fulfilment of this feature in the VL frame is distinct from that of the SL frame in that the head V in the former comes from the lexicon[9] with a valued instance of the feature, or perhaps proceeded under some sort of the movement in the lexicon, say P-to-V lexicalization, as the one shown in (26) for Japanese. By contrast, the [uP] feature of the head V in the SL frame needs to be valued in the narrow syntax by moving P moves leftwards and adjoins the head V. Therefore, the head movement of P to V is not invoked merely to save the derivation from crashing at LF but it addresses the theoretical issue of locality as well. Once the head P adjoins to the head V, both heads V and P become equidistant from the phase head v* as it is schematically shown in (38).

9 It can be assumed, in line with the early minimalism (Chomksy, 1995), that V comes from the lexicon with interpretable valued P feature.

38) v*→ P Feature Inheritance when [iPath] on P (*No Minimality Effect)*



By assumption, the phase head v* in the SL frame passes probing features to P because the latter satisfies the prerequisite of having [iPath] feature and no locality issue might arise after the P moves to V either. The head movement of P to V typically expands the domain of P upwards by dissolving the barriers and holds the two heads V and P as legitimate candidates of FI. On priori, the head P is the more possible recipient of probing features from the phase head because it bears the [iPath] feature. However, the necessity of P-to-V head movement where the head P left-adjoins to V may result in a linearization problem for the SL frame. That is, prepositions, due to P-to-V head movement, will appear to the left of verbs. This issue can be easily resolved if we adopt Chomsky's (1993) copy theory of movement, instantiated in Nunes (1997) that moved element leaves behind a copy of itself, rather than a trace, i.e. P-to-V head movement with a possible pronunciation of the copy of moved head P. Recent proposals, e.g., Bobaljik (1995, 2002), Brody (1995), Nunes (1999, 2004), Pesetsky (1998), Franks (1998), Abels (2001), Bošković (2001, 2002, 2004), Landau (2003) among others, have also supported the copy theory of movement in that there is a choice concerning which member of a nontrivial chain survives deletion in PF and that pronunciation of lower copies is possible even when the relevant phonological features are copied under movement. Frank (1988) argues that deleting lower copies in PF is not the only choice; it is merely a preference. In this process, a chain is pronounced at the head position, with lower members removed in PF unless doing so would create a PF violation. If pronouncing a lower member can avoid the violation, that lower member is pronounced, and the head of the chain is deleted.

Concerning the empirical facts of path expression in SL and VL frames, the head movement of P to V is required to save the derivation in SL frame as represented in (31) for a couple of things. One

thing is that the phase head v* needs to ship down its probing features onto the head P. This shipment feature results in an equidistance issue as the intervening head V blocks any interaction between the phase head v* and the head P. A sort of the interaction between v* and P may be reflected in case assignment where the complement of P gets an oblique case such as dative, genitive. Another thing is that the unvalued [uP] feature on the head V needs to be valued against the head P bearing [iPath] feature and that is reflected as in Baker's P-incorporation cases.

Since the P-to-V head movement for the SL frames takes place in the narrow syntax, the language variation of path expression in the SL and VL frames lies on whether the head movement takes place in the narrow syntax or not. First, the proposed v*→V relation via FI (38) can uniformly account for all the VL cases in (39) where the verb enters into the numeration with valued P feature and thus needs not be checked in the course of the derivation.

a) La botella entró A la cueva-ø

the bottle moved-in Prep the cave-acc

'The bottle went into the cave.' Spanish

b) Mario É Entrato nella stanza correndo.

Mary Has moved.in in.the room Running

'Mary has run into the room.' Italian

c) Julie traversa /a traversé la rue - ø

Julie Cossed the street-acc

'Julie crossed the street.' French

d) daxala ashraf-u al-maktabat-a

went.INTO.3SM Ashraf-nom the-library-acc

'Ashraf went into/entered the library.' SA

e) John *entered/exited* the store. English

f) dzhon v-oshel v Komnatu

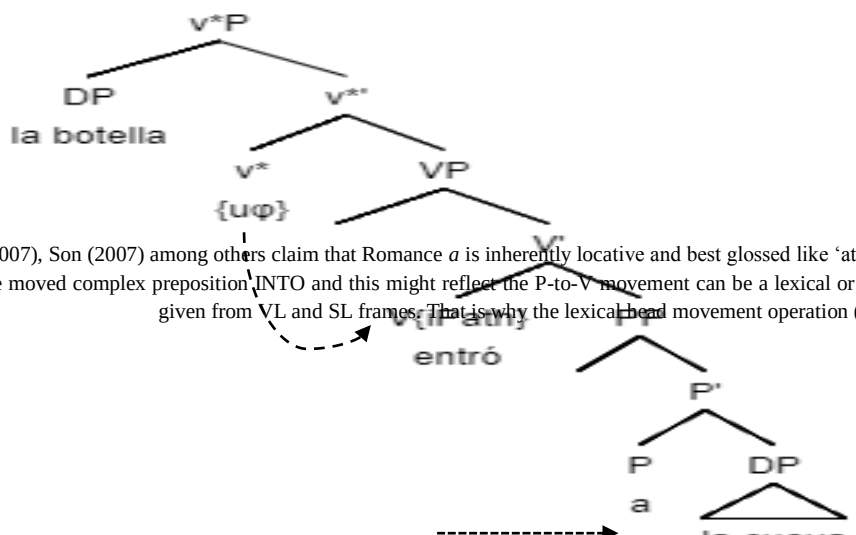
John in-went in room.acc

'John went into/entered the room.' Russian

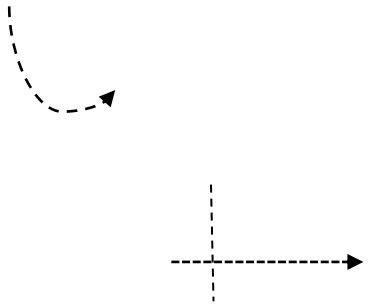
In the examples (39c), (39d), and (39e), the nonphase head V bearing the [iPath] feature is the only possible candidate to receive probing features from the phase head v* as P simply lacks the feature. Similarly, in the examples (39a) and (39b) the head V is a recipient of probing features from v* because it bears the [iPath] feature and is located in the c-commanding domain of v*. The presence of [iPath] feature on some head, I argue, determines the identity of a would-be probe by virtue of inheriting probing features from the phase head v*.

For illustration, the proposed structures (40) and (41) are given below to explain examples (39a) and (39d) respectively. They share the common fact that the phase head v* ships down probing features onto the complement head V bearing [iPath] feature, i.e., *entró* 'move.into' in (39a) and *daxal* 'went.into' in (39d). In either case, an Agree relation is established between the probe V and the DP complement, resulting in the valuation of uninterpretable features on both sides. The v*→V relation via FI licenses accusative case on the Ground DP either phonetically marked by the suffix *–a* in SA or not as in Spanish if the element *a* is not taken as a case marker as the status of element *a* in Romance languages is still ambiguous between case marker and locative P.[10] Things are almost similar with regard to the morphological (un)marking in French (39c), Italian (39b), and English (39e). However, the two structures differ in the phonetic manifestation of P: P is phonetically realized in (39a), but unrealized in (39d).

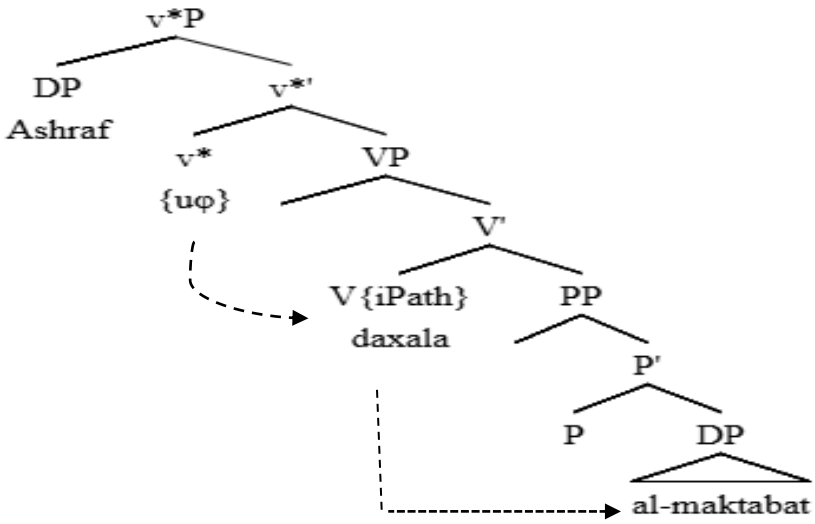
40)



[10] Fábregas (2007), Son (2007) among others claim that Romance *a* is inherently locative and best glossed like 'at'. Torrego (2002) treats the element *a* in Spanish as a remnant of the moved complex preposition INTO and this might reflect the P-to-V movement can be a lexical or narrow-syntactic operation as supported by the facts given from VL and SL frames. That is why the lexical-head movement operation (P-to-V) is not shown in structure in the case of VLs.



41)



Second, the proposed v*→P relation (38) via FI can also uniformly account for all cases of path expression in (42) where verbs enter into the narrow syntax with valued categorical feature [P] and lexically encodes [iPath].

John went into/out of the room. English

b) Mary gin g Aus dem Zimmer

Mary we nt Out the.dat room.

'Mary went into/entered the room.' German

c) Dzho n vy-shel iz Komnaty

John out-went of/from room.gen

'John went out of the room.' Russian

d) Jan ging de kamer-ø in/binnen

John Went the room-obl in/inside

'John went into/entered the room.' Dutch

e) Xaraja ashraf-u min al-maktabat-i

went.out.3sm Ashraf-nom from the-library-gen

'Ashraf went out of/exited the library.' SA

f) la botella Salió de la cueva-ø Flotando

the bottle moved-out prep the cave-obl (floating)

'The bottle floated out of the cave.' Spanish

g) le garcon est sorti de la pièce

the boy aux.is exited of/from the room

'the boy exited the room.' French

h) Mari a Uscì dalla Stanza

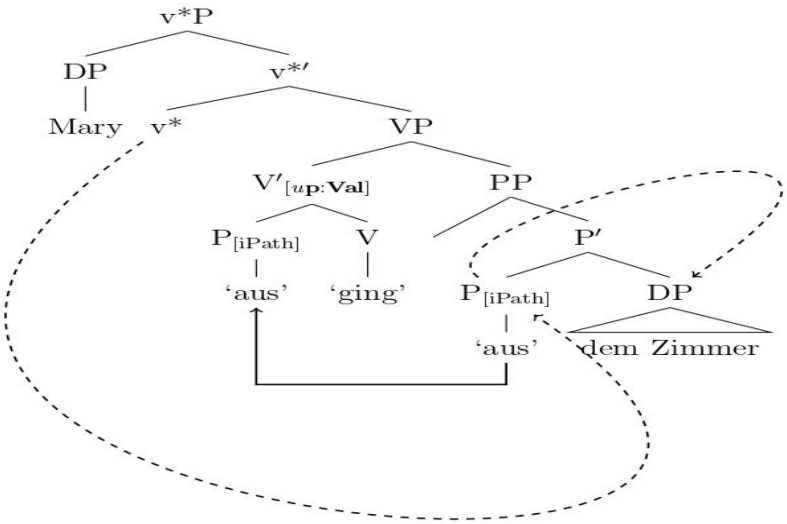
Mary moved.out from.the room

'Maria exited the room.' Italian

In all examples (42a-h), the [iPath] feature is lexically encoded on satellites and not on the verbs. To fulfil the feature requirement of V, namely the valuation of the categorical feature on V and EPP feature, P bearing the [iPath] feature has to move and adjoin to the head V in the narrow syntax. A sort of head movement renders both P and V equidistant from the phase head v*. The head P, not V, is predicted to receive probing features from the phase head v* due to having the [iPath] feature.

Moreover, morphologically realized oblique cases on DP complements of P, i.e., dative case in German as in (42b), genitive case in Russian as in (42c), genitive case in SA as in (42e) – or morphologically unrealized oblique ones, as those in languages like English (42a), Dutch (42d), Spanish (42f), French (42g) and Italian (42h), substantially support the assumption that it is the nonphase head P, not V, which probes for a matching DP complement. For illustration, the proposed structure of (43) is given for the German example on path expression (42b).

43)



The derivation in the proposed structure (43) proceeds as follows. The phase head v* hands down its probing features onto the head P bearing the [iPath] feature. The P-to-V movement circumvents the intervention effect of V that blocks v→P feature inheritance. Then the probe P via FI enters into a matching process with the DP complement where the uninterpretable features on both sides are valued. Since the relation is [v*→P_{iPath}], is initiated, an oblique case materialized on D as *dem* 'the.dat' is normally predicted.

3.1. Implicational insights

The proposed FI-based model of syntax yields significant implications, notably in predicting how narrow syntax computation is processed and how the learning difficulties of the two typological patterns are addressed. One of the practical ramifications of the extended model involves viewing the semantic path component as a flexible entity that can exist independently of specific locations; within VP or PP structures. This concept encompasses semantic, conceptual, and syntactic interactions, with the verb serving as the primary controller of the path. Regardless of whether the path component is expressed within the verb or externally, the hypothesis remains consistent: there exists an agreement

relationship between the verb and its complement, where the preposition plays a significant role in one scenario and a lesser role in the other. However, this interaction is confined to the phase domain, where the prepositional phrase (PP) cannot theoretically function as a phase but always remains reliant on the phase head *v*. This aligns with the fundamental tenets of Chomsky's (2000) and (2001) agree model of syntax, which posits that a syntactic clause comprises only three core functional heads—CP, TP, *v*P—excluding PP from this classification.

The proposed account also underlies the fact that there is no clear-cut distinction in languages in terms of path expression; a language showcasing one pattern does not preclude the lack of the other. Within this model, learners face a potential dual choice determined by whether the phase head v transmits its probing features to the lexical head V or overlaps them with the lexical head P. Consequently, learners have two pathways to comprehend how languages convey the semantic aspect of path in their structures. This implication warrants thorough exploration, particularly concerning the learning obstacles encountered by second language learners when acquiring these distinct patterns.

4. Conclusion

The paper has proposed that classifying languages in terms of path encoding into Verb-framed languages (VL) and Satellite-framed languages (SL) encounters several issues, notably that the VL and SL frames are shown as properties within the same language. The account for the empirical picture of such variation is presented in terms of an extended version of feature-inheritance in both cases, combined with head movement in one but not the other. It is the locus of [iPath] feature, either on V or P, is what determines a possible recipient of probing features from the phase head v*. Via FI, the relation [v*-V_{iPath}] results in the VL frame, while the relation [v*-P_{iPath}] in the SL frame. It can be extended to explain the behavior of various language facts, deriving a postpositional order in Dutch, case alternation in Slavic PPs, restrictions on possible combinations of manner of verbs with path phrases in Hindi, impossible phasehood of PP, particularly in motion constructions encoding path. The proposed FI-based account [v* → V and/or P] serves as a minimalist rendition of earlier works on verb-preposition/particle combinations, specifically those by Svenonius (2002) and den Dikken (1995), as well as the distinctions between prepositions, postpositions, and case markers in various languages, as discussed by Starke (2001) and Caha (2009). In essence, the proposed account can effectively predict difficulties in second language learning within typological patterns and represent how they are processed within the computational system of the human mind.

AKITA, K., GOTO, N . & S HIBATA, Y. 2016. Labeling through Spell-Out. The Linguistic Review 33(1):177–198.

Received June 19, 2019
Accepted October 26, 2020
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المستخلص

التعبير عن معلومات المسار في اللغات: تحليل نحوي موحد

مصطفى أحمد الحمري

تبحث هذه الدراسة مدى إمكانية تطبيق التصنيف النوعي للغات_ الذي أقترحه العالم اللغوي ليونارد تالمي_ إلى نوعين: لغات تؤطر المسار في الفعل (VLs)، ولغات تؤطر المسار بأدوات لافعلية (SLs). تبرهن الدراسة أنه لا يوجد تمييز واضح في اللغات فيما يتعلق بالتعبير عن المسار؛ فظهور نوع ما في لغة لا يحول دون غياب النوع الآخر. فعلى سبيل المثال، اللغات الإسبانية والعربية الفصحى والفرنسية والإيطالية المصنفة ضمن (VLs) تسمح باستخدام أدوات لافعلية، في حين أن اللغات الإنجليزية والألمانية والهولندية والروسية المصنفة ضمن (SLs) تسمح إيضاً بالتعبير عن المسار في الفعل.

تقترح الورقة أن التباين في التعبيرعن المسار في اللغات يمكن تفسيره نحويًا من خلال تطوير نسخة من نظرية وراثة الميزة للعالم اللغوي تشومسكي حيث يقوم رأس الفعل النحوي (v*) بنقل ميزاته الاستكشافية إلى رأس الفعل المعجمي (V) أو حرف الجر (P). ومن خلال آلية وراثة الميزة، يبرز أن هناك علاقتين مميزتين (v*-V) و (v*-P) لتفسير الاختلاف بين (VLs) و(SLs) على التوالي، مقروناً بانتقال حرف الجر (P) إلى الفعل (V) كما في حالة البناء التركيبي للأخير. فالنموذج المقترح الذي يقوم على أساس نظرية وراثة الميزة لا يفسر السلوك التوزيعي للمسار فحسب، ولكنه أيضًا يعمق فهمنا لكيفية التعامل مع التباين النوعي في ظل منهجية النحو التوليدي.

References

ABELS, K. 2001. The predicate cleft construction in Russian. Formal Approaches to Slavic linguistics 9: 1-18. *Ann Arbor: Michigan Slavic Publications*.

ALFARSI, A.2003. *Masa'al Almushkilah*. Ed. Yahya Murad. 1st ed. Beirut: Dar Al-Kutub Al-'ilmyyah.

ASKE, J. 1989. Path predicates in English and Spanish: A closer look. In *Annual Meeting of the Berkeley Linguistics Society* 15:1-14.

BAKER, M. 1988. *Incorporation: A theory of grammatical function changing*. Chicago, IL: University of Chicago Press.

BIBERAUER, T., HOLMBERG, A., ROBERTS, I. & SHEEHAN, M. 2010. *Parametric variation: Null subjects in minimalist theory*. Cambridge University Press.

BOBALJIK, J. 1995. *Morphosyntax: The syntax of verbal inflection*. Diss. Massachusetts Institute of Technology.

BOBALJIK, J. 2002. A-chains at the PF-interface: copies and covert movement. *Natural Language & Linguistic Theory* 20 (2):197-267.

BOECKX, C. & GROHMANN, K. 2004. *Putting phases into perspective*. Ms. Harvard University & University of Cyprus.

BRODY, M. 1995. *Lexico-logical form: A radically minimalist approach.* The MIT Press.

BRUGÈ, L; BRUGGER, G. 1996. On the accusative *a* in Spanish. *Probus*, 8 (1):1–52.

CAHA, P. 2010. The German locative-directional alternation. *The Journal of Comparative Germanic Linguistics* 13 (3):179-223.

CHAPPELL, H. & PEYRAUBE, A. 2008. Chinese localizers: Diachrony and some typological considerations. In *Space in languages of China* 15-37. Springer, Dordrecht.

CHOMSKY, N. 1995. *The minimalist program*. Cambridge. MA: MIT Press.

CHOMSKY, N.2000. Minimalist inquiries: The framework. *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik, Roger Martin, David Michaels, Juan Uriagareka eds.*89-153.

CHOMSKY, N. 2001. Derivation by phase. *Ken Hale: A life in language*, ed. by Michael Kenstowicz 1-52.

CHOMSKY, N. 2005. *On phases*. Ms: MIT1-28.

CHOMSKY, N. 2007. Approaching UG from below. *Interfaces+ recursion= language? Chomsky's minimalism and the view from syntax-semantics*1-29.

CHOMSKY, N.2008. On phases. *Current Studies in Linguistics Series* 45:133.

CHOMSKY, N.2013. Problems of projection. *Lingua* 130: 33-49.

DEMONTE, V. 1987. C-command, prepositions, and predication. *Linguistic Inquiry* 18 (1):147-157.

DEN DIKKEN, M.1995. *Particles: On the syntax of verb-particle, triadic, and causative constructions*. Oxford University Press on Demand.

DEN DIKKEN, M. 2003. On the syntax of locative and directional adpositional phrases. *ms. CUNY.*

DEN DIKKEN, M. 2006. *Relators and linkers: The syntax of predication, predicate inversion, and copulas* 47. MIT press.

DEN DIKKEN, M. 2008. Small Clauses, Phases, and Phase Extension—The Case of Scope and Object Shift. *31st GLOW Colloquium* 27.

DONATI, C. 2006. On wh-head movement. *Current Studies in Linguistics Series* 42. 21.

EMONDS, J. 2000. *Lexicon and grammar: The English syntacticon*. Berlin: Mouton de Gruyter.

FÁBREGAS, A. 2007.The exhaustive lexicalisation principle. *Nordlyd* 34 (2).

FOLLI, R. 2002. *Constructing Telicity in English and Italian*. Doctoral Diss. University of Oxford.

FRANKS, S. 1998. *Clitics in slavic*. Paper presented at Comparative Slavic Morphosyntax Workshop, Bloomington, IN.

GEHRKE, B. 2008. *Ps in motion: On the semantics and syntax of P elements and motion events*. LOT.

HALE, K. & KEYSER, S. 1993. On argument structure and the lexical expression of syntactic relations. *The view from Building* 20: 53-109.

HAYWOOD, J., NAHMAD, H. & THATCHER, G. 1965. *A new Arabic grammar of the written language*. London: Lund Humphries.

HELMANTEL, M. 2002. *Interactions in the Dutch adpositional domain*. Netherlands Graduate School of Linguistics.

HUANG, C.T.J., LI, Y.H.A. & LI, Y. 2009. *The syntax of Chinese* Vol. 10. Cambridge: Cambridge University Press.

INAGAKI, S. 2001.Motion verbs with goal PPs in the L2 acquisition of English and Japanese. *Studies in Second Language Acquisition* 23(2): 53-170.

JACKENDOFF, R. 1983. *Semantics and cognition* 8. MIT press.

JAEGGLI, O. 1986. Passive. *Linguistic inquiry* 587-622.

KRACHT, M.2002. On the semantics of locatives. *Linguistics and philosophy* 25 (2):157-232.

LANDAU, I. 2003. Movement out of control. *Linguistic inquiry* 34(3): 471-498.

Lapesa, G. & Lenci, A. 2012. Italian Verbs of Manner of Motion at the Syntax-Semantics Interface: a Distributional Analysis. *Linguistic Evidence*.

LI, C. & THOMPSON, S. 1989. *Mandarin Chinese: A functional reference grammar* 3. University of California Press.

LIN, J. 2013.Thing-place distinction and localizer distribution in Chinese directed motion construction. *Linguistics* 51(5): 855-891.

LIU, D. 2008. Syntax of space across Chinese dialects: Conspiring and competing principles and factors. *Space in Languages of China*: 39-67.

MATEU, J.& RIGAU, G. 2002. A minimalist account of conflation processes. *Theoretical Approaches to Universals*, ed. by Artemis Alexiadou 211-236.

NUNES, J. M. 1997. *The copy theory of movement and linearization of chains in the Minimalist Program*. Doctoral Diss. University of Maryland, College Park 2460-2460.

NUNES, J. M. 1999. Linearization of chains and phonetic realization of chain links." *Current Studies in Linguistics Series* 32: 217-250.

NUNES, J. M. 2004. *Linearization of chains and sideward movement*. Vol. 43. MIT press.

PESETSKY, D. 1998. Some optimality principles of sentence pronunciation. *Is the best good enough*:337-383.

RADFORD, A. 1997. Syntactic theory and the structure *of English: A minimalist approach*. Cambridge University Press.

RAMCHAND, G.& SVENONIUS, P. 2002.The lexical syntax and lexical semantics of the verb-particle construction. *Proceedings of WCCFL* 21.

REAL PUIGDOLLERS, C. 2013. Lexicalization by phase: *The role of prepositions in argument structure and its cross-linguistic variation*. Universitat Autònoma de Barcelona.

RICHARDS, MARC D. 2007. On feature inheritance: An argument from the Phase Impenetrability Condition. *Linguistic inquiry* 38(3): 563-572.

RIZZI, L. 1990. *Relativized minimality*. The MIT Press.

ROBERTS, I. 2001. Head movement. *The handbook of contemporary syntactic theory* 113-147.

ROBERTS, I. 2011. Head movement and the Minimalist Program. *The Oxford handbook of linguistic Minimalism*

RYDING, K. C. 2005. *A reference grammar of modern standard Arabic*. Cambridge university press.

SIBAWAYH, A.1988. *Al-Kitab*. Ed. Abdulsalam Harun. 3rd ed. Beirut: Dar Al-Kutub Al-'ilmyyah.

SON, M. 2007. Directionality and resultativity: The cross-linguistic correlation revisited. *Nordlyd* 34 (2).

STARKE, M. 2001. Merge dissolves into Merge. *Doctoral dissertation, University of Geneva*.

SUN, C. 2008. Two Conditions and Grammaticalization of the Chinese Locative. *Space in Languages of China: Cross-linguistic, Synchronic and Diachronic Perspective*s, sous la dir. de Dan XU 199-227.

SVENONIUS, P. 2003. Swedish particles and directional prepositions. *Grammar in Focus: Festschrift for Christer Platzack* 18(2): 343-351.

SVENONIUS, P. 2004. Spatial P in English. *ms. University of Tromsø*.

SVENONIUS, P.2006. P (Preposition, Postposition, Particle): Anatomy of a category. *Handout from LOT Winterschool.*

TALMY, L.1975. Syntax and semantics of motion. *Syntax and semantics 4*: 181-238.

TALMY, L. 1985. Lexicalization patterns: Semantic structure in lexical forms. *Language typology and syntactic description* 3 (99): 36 -149.

TALMY, L. 1991. Path to realization: A typology of event conflation. *Annual Meeting of the Berkeley Linguistics Society*. Vol. 17 (1).

TALMY, L. 2000a. *Toward a Cognitive Semantics: Concept Structuring Systems*.Vol.1. Bradford Book.

TALMY, L.2000b. *Toward a Cognitive Semantics: Typology and process*. Vol. 2. MIT press.

TORREGO, E. 2002. Aspect in the prepositional system of Romance. *Current Issues in Romance Languages*. John Benjamins. 337-357.

TRAVIS, L.1984. *Parameters and effects of word order variation*. Diss. Massachusetts Institute of Technology.

TUNGSETH, M. 2005. PP, FP and the telic/atelic distinction in Norwegian motion constructions. *Aspectual inquiries*. Springer, Dordrecht.147-168.

VAN RIEMSDIJK, H. & HUYBREGTS, R. 2007. Location and locality. *Phrasal and clausal architecture: Syntactic derivation and interpretation*: 339-364.

WRIGHT, W.1995. A Grammar of the Arabic Language, reprinted. *Cambridge: Cambridge University Press. al-mubtadi'īna (9-12 sana). Al-mağalla al-'ilmiyya li 'ulūm wa taqniyyāt al-'anšiṭa al-badaniyya wa al-riyāḍiyya* 9: 227-250.

ZWARTS, J.& WINTER, Y. 2000. Vector space semantics: A model-theoretic analysis of locative prepositions. *Journal of logic, language and information* 9(2):169-211.

ZWARTS, J. 2005. The case of prepositions: Government and compositionality in German PPs. *21st Annual Meeting of the Israel Association for Theoretical Linguistics, Haifa*.