

## CUNY – Syntax Supper

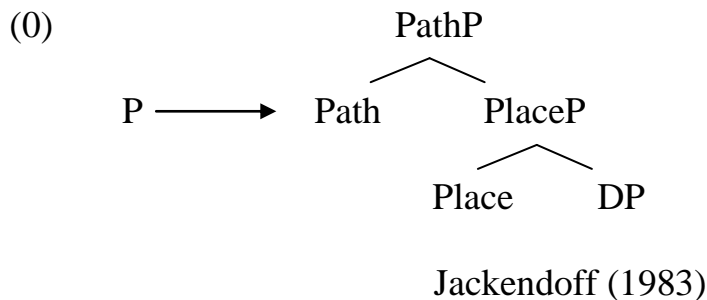
### A fine-grained structure for spatial elements

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#### 0. Preliminary questions and goals



→ What about complex cases?

(1) The boat drifted from back behind the hill  
(Svenonius 2010)

→ But also minimal contrasts between apparent simple elements:

(2) John went {to/towards} the supermarket

(3) a. Juan fue {hasta/a} la pared  
Juan went {HASTA/A} the wall  
b. Juan bailó {hasta/\*a} la pared  
Juan danced {HASTA/A} the wall

(4) a. El vaso está {en/\*a} la mesa  
The glass is {EN/A} the table  
b. El vaso está {en/a} el borde de la mesa  
The glass is {EN/A} the edge of the table

→ **Goal:** To give a universal fine-grained structure of spatial elements and give some examples of how it can be applied.

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- What is the best way to approach minimal differences between lexical items?
  - What is the relationship between lexical items and the structure? What is encoded in the structure and in which order?
  - What is the relationship between different languages?
- Differences between lexical items are due to the different projections of the structure that they lexicalize. It is necessary to find a fine structure to accommodate minimal differences.
- Each projection of the syntactic structure corresponds to a semantic component.
- Differences between languages must be explained analyzing the features that the lexical items available in a language can lexicalize.

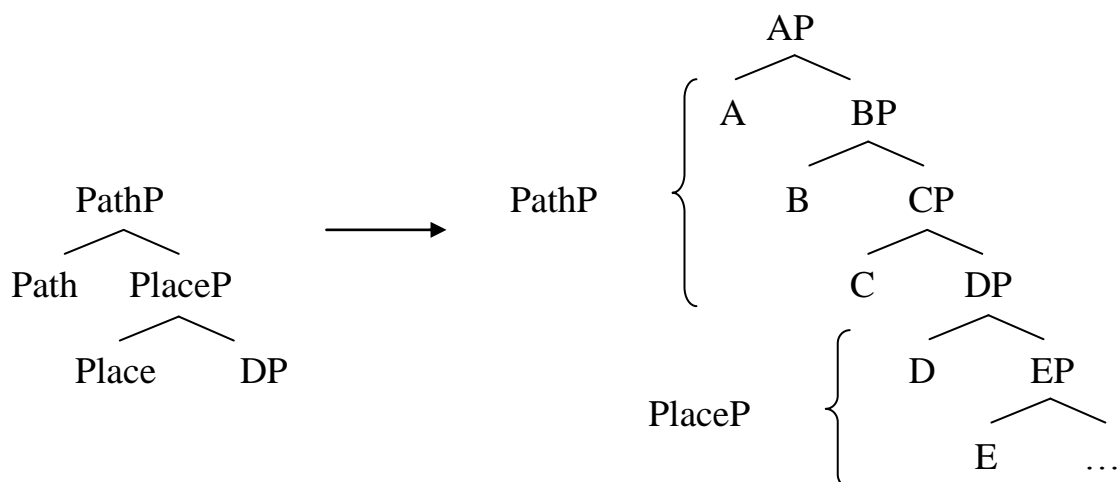
## Outline

1. Introduction: Cartography and Lexicalization
2. The structure: *Ground-AxPart-Place-Terminal-p-Set-Map-proc*
3. *AxPart* and *Terminal*: *a/en; abajo/debajo*
4. *Set* and *Map*: *a/hasta; Movement/Extension*

## 1. Introduction

### 1.1. Cartography

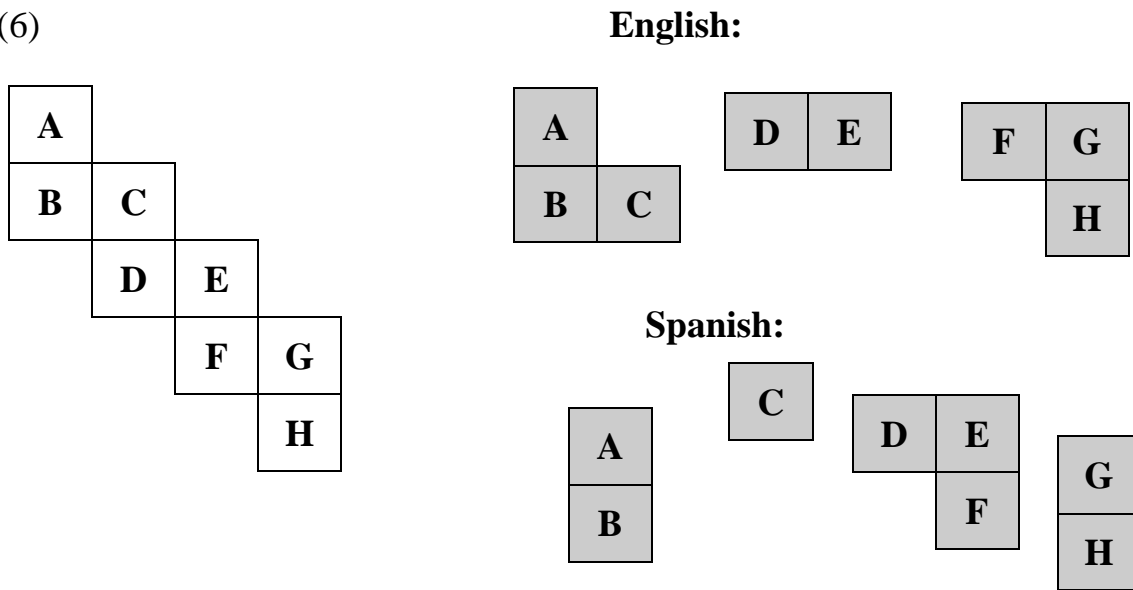
(5)



Koopman (2000), Svenonius (2010),  
Den Dikken (2010), Pantcheva (2011)

## 1.2. Lexicalization

(6)



## 1.3. Assumptions:

- The same structure for all languages
  - **Universality** (Chomsky's 2001 Uniformity Principle, Cinque 1999)
- "Each component of the semantic decomposition corresponds to a syntactic projection"
  - **Syntax-semantics isomorphism** (Svenonius 2010)
- Not all the projections of the structure have to be always present in the structure but they have to appear in the same order.
  - *Laissez-faire* approach (Starke 2004)
- Lexical items can lexicalize chunks of the structure and lexicalization is postsyntactic
  - **Phrasal spell-out** (McCawley 1968, Starke 2001, Fábregas 2007, Svenonius 2010, Pantcheva 2011) and **late insertion** (Halle and Marantz 1993, Starke 2011)
- Every projection needs to be lexicalized
  - **Exhaustive Lexicalization Principle** (Fábregas 2007)

## 1.4. (Some) Advantages:

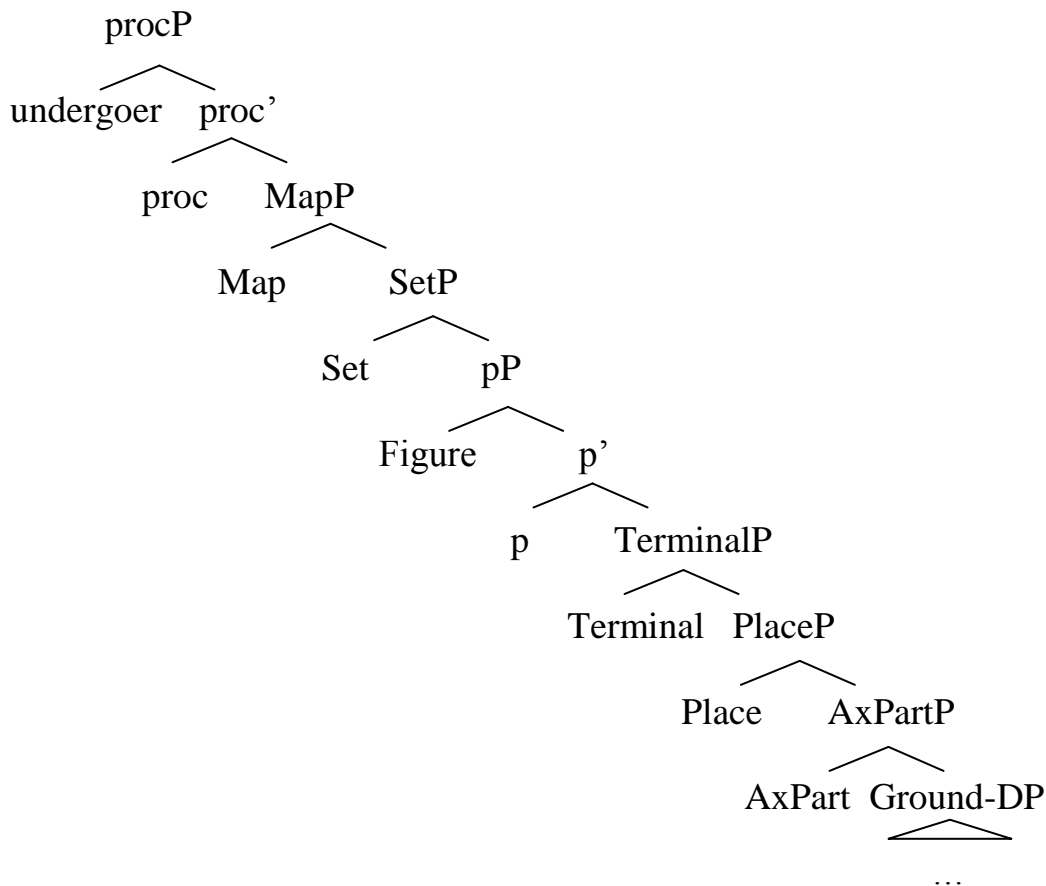
- There are two ways to approach the universal structure: semantically and syntactically, so it is easier to find it.
- There are not configurational restrictions without a semantic reason. The structure will be built independently of the lexical items available.
- Although it is more complicated to arrive to it, the result is more accurate.

## 1.5. Things to be careful with:

- Is it possible to obtain the semantic interpretation just from the syntactic configuration?
- Are the semantic components derived from the insertion of different lexical items?  
→ Modification
- Is there morphological evidence?

## 2. The structure

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**Ground:** it gives the possibility to an entity of establishing a spatial relationship with a Figure (eigenplace in Wunderlich 1991)

**Ax(ial)Part:** it gives a location related to other one from which vectors are projected

**Place:** it gives the location of a Figure

**Terminal:** it makes a location be connected to another in one event.

**p:** it creates a subevent where a Figure is related to a location

**Set:** it gives a set of points with minimal transitions between them from a point

**Map:** it maps a concrete set of points onto at least two points

**proc(ess):** “it specifies the nature of the change or process and licenses the entity undergoing change or process” (Ramchand 2008:40)

## Possible combinations between lexical items and features:

- The lexical item always lexicalizes the feature [X]
- The lexical item can lexicalize the feature if another element requires it [x]
- The lexical item can never lexicalize the feature [0]
- The lexical item can combine with the feature in the structure [ ]
- The lexical item needs the presence of the feature in the structure.

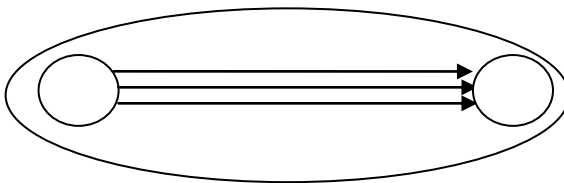
→ Variation between languages and between speakers of a same language

### 3. *Axpart* and *Terminal*

***Axial Part***: it gives a location related to other one from which vectors are projected

→ *Axial Part* (Svenonius 2006, based on Jackendoff's 1996 and Marr's 1982)

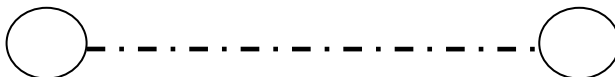
(8)



***Terminal***: it makes a location be connected to another in one event.

→ From Central vs. Terminal coincidence (Hale 1986, Hale & Keyser 2002)

(9)



#### 3.1. *a/en* in locative constructions

- Locative cases with *a* in Spanish

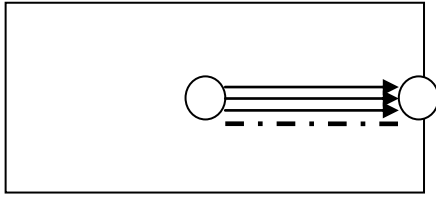
(10) a. El lápiz está {en/\*a} la mesa  
The pencil is {EN/A} the table

b. El lápiz está {en/a} el borde de la mesa  
The pencil is {EN/A} the edge of the table

(11) Others: lado 'side', límite 'limit', margen 'margin', fondo 'end, bottom', término 'terminal', vera 'side of a river', entrada 'entrance', salida 'exit', frente 'front', norte 'north', derecha 'right'...

(Fábregas 2007)

(12)



→ *AxPart* creates two locations and *Terminal* needs two locations → *Terminal* can be present in the structure when there is an *AxPart* in locative constructions

- (13) a. Asturias está más {a/\*en} el norte  
           Asturias is more {A/EN} the north  
       b. Asturias está {en/\*a} el maravilloso norte de España  
           Asturias is {EN/A} the marvelous north of Spain

- (10b) El lápiz está en el borde de la mesa  
       The pencil is EN the edge of the table

(14)



→ There is no relationship in the event between the subpart and the whole Ground.  
 In these cases the Ground is the subpart

- (15) Asturias está {en/\*a} la parte norte de España  
       Asturias is {EN/A} the part north of Spain

- (16)
- ```

      TerminalP
      /      \
    {         /      \
    { Terminal PlaceP
    {   /      \
    { Place    ...
    { en/*a
  
```

→ *a* (obligatorily) lexicalizes *Terminal* in Spanish

→ *en* can't lexicalize *Terminal* in Spanish.

### 3.2. The opposition *abajo/debajo*, *atrás/detrás*, *aquí/acá*...

1. *debajo/abajo*  $\approx$  *under, below*...

- Complement?

- (17) a. La caja está debajo (de la mesa)  
The box is DEBAJO (of the table)  
b. La caja está abajo (\*de la mesa)  
The box is ABAJO (of the table)

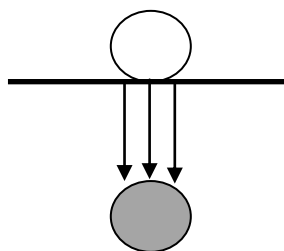
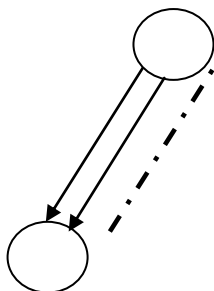
- Quantification and Measure:

- (18) a. La caja está más {abajo/\*debajo}  
The box is more {ABAJO/DEBAJO}  
b. La caja está justo {debajo/\*abajo}  
The box is just {DEBAJO/ABAJO}

- In directional contexts:

- (19) Los niños han ido {abajo/#debajo}  
The kids have gone {ABAJO/DEBAJO}
- (20) a. Los niños corrieron hasta {abajo/#debajo}  
The kids ran HASTA {ABAJO/DEBAJO}  
b. Los niños corrieron montaña {abajo/\*debajo}  
The kids ran mountain {ABAJO/DEBAJO}
- (21) Juan se metió {debajo/\*abajo}  
Juan SE introduced {DEBAJO/ABAJO}
- (22) Juan miró {abajo/debajo}  
Juan looked {ABAJO/DEBAJO}

- (23) *abajo*: *debajo*:



abajo → AxPart + obligatory Terminal  
debajo → just AxPart

2. *aquí/allí; acá/allá* ≈ *here/there*

- (24) La casa está {allí / # allá}  
The house is {ALLÍ/ALLÁ}  
‘The house is there’
- (25) a. La casa está más {allá/\*allí}  
The house is more {ALLÁ/ALLÍ}  
b. La casa está justo {allí/\*allá}  
The house is just {ALLÍ/ALLÁ}
- (26) a. Juan fue hacia {allá/allí}  
Juan went HACIA {allá/allí}  
b. Juan fue para {allá/#allí}  
Juan went PARA {ALLÁ/ALLÍ}  
‘Juan went towards there’
- (27) Juan vino {aquí/#acá}  
Juan came {AQUÍ/ACÁ}

*aquí/allí* → just AxPart  
*allá/acá* → Terminal + AxPart

|                  | <i>AxPart</i> | <i>Place</i> | <i>Terminal</i> |
|------------------|---------------|--------------|-----------------|
| <i>en</i>        | 0             | X            | 0               |
| <i>debajo</i>    | X             | X            | x               |
| <i>abajo</i>     | X             | X            | X               |
| <i>aquí/allí</i> | X             | X            | x               |
| <i>acá/allá</i>  | X             | X            | X               |
| <i>a</i>         | 0             | X            | X               |



### 3.3. *a/en* in directional constructions

→ *a* (obligatorily) lexicalizes *Terminal* in Spanish

→ *en* can't lexicalize *Terminal* in Spanish.

- If directionality implies that a Figure moves from one place to another and *Terminal* encodes that there are two points in the event, then directionality needs *Terminal*:

- (28)
- a. Juan fue {*a*/\**en*/\* $\emptyset$ } su casa → just directional with *a*, not locative  
Juan went {*A*/*EN*} a his house
  - b. Juan corrió {*a/en*} su casa → directional with *a*, locative with *en*  
Juan ran {*A*/*EN*} his house
  - c. Juan bailó {*en*/\**a*} su casa → just locative, with *en*  
Juan danced {*EN*/*A*} his house
  - d. Juan se sentó {*en*/\**a*} su casa → just locative, with *en*  
Juan SE sit-down {*EN*/*A*} his house

→ as *a* lexicalizes *Terminal* it combines perfectly with directional Vs; *en* can't even be coerced.

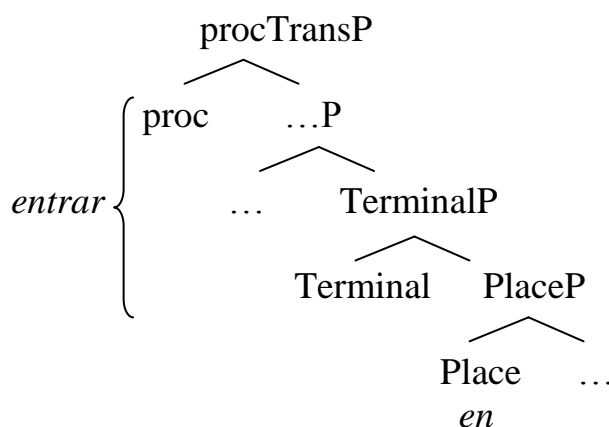
Directional Vs: verbs which lexicalize *procTrans* and obligatorily need two locations in the event → *Terminal*

- *entrar en/entrar a*

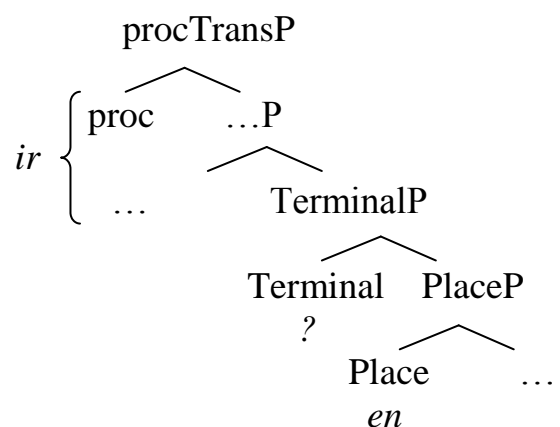
- (29)
- Juan entró {*a/en*} la biblioteca
  - Juan went-in {*A*/*EN*} the library

→ *entrar* can lexicalize a lower part of the structure than other verbs

- (30) *entrar*:



- ir*



#### 4. *Set* and *Map*:

##### 4.1. *Set*: *a/hasta*

**Set:** it gives a set of points with minimal transitions between them from a point

- (31) a. Juan fue {hasta/a} su casa  
Juan went {HASTA/A} his house  
b. Juan corrió {hasta/a} su casa  
Juan ran {HASTA/A} his house  
c. Juan bailó {hasta/\*a} su casa  
Juan danced {HASTA/A} his house  
d. Juan se sentó {#hasta/\*a} su casa  
Juan SE sit-down {HASTA/A} his house

- (32) a. Juan no fue a su casa  
Juan not went A his house  
  
→ He didn't start  
→ \*He started but didn't arrive

- b. Juan no fue hasta su casa  
Juan not went HASTA his house  
  
→ He didn't start  
→ He started but didn't arrive

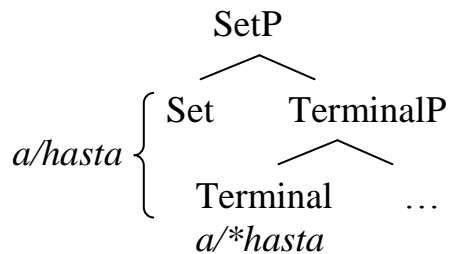
- The same with *casi* ('almost'):

- (33) a. Juan casi fue al cine (just counterfactual)  
Juan almost went to-the cinema  
b. Juan casi fue hasta el cine (both interpretations)  
Juan almost went up-to the cinema

→ *hasta* gives the meaning that there is a set of points, like a complex Path in the sense of Beavers (2008)

- *a* → can't lexicalize *Set*  
- *hasta* → lexicalizes *Set*

(34)



#### 4.2. *Map*: Movement and extension

*Map*: it maps a concrete set of points onto at least two points

- Different ways of “mapping”:

- (35)      a. The fog extended from London toward Paris (Jackendoff 1990)  
            b. Water filled the glass (Gawron 2006)

Gawron (2006) → Two readings:

Event reading → Movement

Extent reading → Extension

- (36)      a. **Extension** (GOExt in Jackendoff 1983):  
                    the points are covered by a whole extended figure
- b. **Movement** (as in Nam 1995 TRAV, or Jackendoff 1983 GO):  
                    the figure covers the path moving → time is obligatory

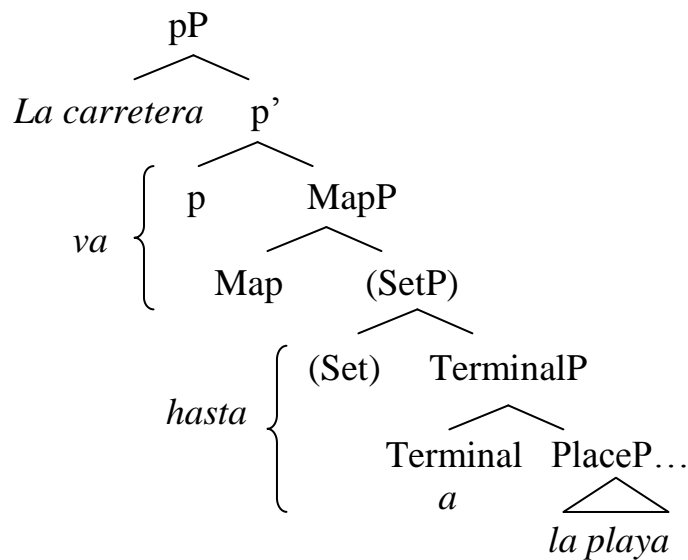
**Extension** → No *proc*:

- (37)      La carretera va {a/hasta} la playa  
            The road goes {A/HASTA} the beach

- no Transition → just *Map*

- (38)      #La carretera fue {a/hasta} la playa  
            The road    went {A/HASTA} the beach

(39)



## 6. Conclusions

- Minimal differences between spatial constructions must be explained depending on the features that are encoded in the structure.
- Lexical items differ depending on the features that they can lexicalize from the structure.
- It is important to have very fine tests to determine which features are being lexicalized.
- A fine-grained structure where syntactic projections correspond to semantic components is the best way to arrive to an accurate analysis.

## Appendix

|               | <i>AxPart</i> | <i>Place</i> | <i>Terminal</i> | <i>p</i> | <i>Set</i> | <i>Map</i> | <i>proc</i> |
|---------------|---------------|--------------|-----------------|----------|------------|------------|-------------|
| <i>en</i>     | 0             | X            | 0               |          | 0          |            |             |
| <i>debajo</i> | X             | X            | x               |          | 0          |            |             |
| <i>abajo</i>  | X             | X            | X               |          | 0          |            |             |
| <i>a</i>      |               | X            | X               |          | 0          |            |             |
| <i>hasta</i>  |               | X            | X               |          | X          |            |             |
| <i>entrar</i> |               | X            | 0               |          |            | X          | (t)         |
| <i>ir</i>     |               |              |                 |          |            | X          | (t)         |
| <i>correr</i> |               |              |                 |          |            | X          | p/t         |
| <i>bailar</i> |               |              |                 |          |            | X          | p           |
|               | <i>AxPart</i> | <i>Place</i> | <i>Terminal</i> | <i>p</i> | <i>Set</i> | <i>Map</i> | <i>proc</i> |

[X] = the lexical item always lexicalizes it

[x] = the lexical item could lexicalize it

[0] = the lexical item doesn't lexicalize it and it can't be in the structure

[ ] = the lexical item doesn't lexicalize it but other element can be lexicalizing it

t = procTrans → obligatory change of State

p = proc

## References:

- Beavers, John. 2008. On the nature of goal marking and delimitation: Evidence from Japanese. *Journal of Linguistics* 44: 283–316.
- Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A Life in Language*. Cambridge: MIT Press, 1–52.
- 2002. *On Nature and Language*. Cambridge: Cambridge University Press.
- Cinque, Guglielmo. 1999. *Adverbs and functional heads*. Oxford/New York: Oxford University Press.
- Den Dikken, Marcel. 2010. On the functional structure of Locative and Directional PPs. In Guglielmo Cinque and Luigi Rizzi (eds.), *The cartography of Syntactic Structure, vol.6*. Oxford: Oxford University Press, 74–126.
- Fábregas, Antonio. 2007. An Exhaustive Lexicalisation Account of Directional Complements. *Nordlyd: Tromsø Working Papers on Language & Linguistics* 34(2): 165–199.
- Gawron, Jean-Mark. 2006. Generalized paths. In Effi Georgala & Jonathan Howell (eds.), *Proceedings of SALT XV CLC*, Ithaca, NY.
- Hale, Ken. 1986. Notes on World View and Semantic Categories: Some Warlpiri Examples. In Pieter Muysken & Henk van Riemsdijk (eds.), *Features and Projections*. Dordrecht: Foris, 233–254.
- Hale, Ken & Samuel J. Keyser. 2002. *Prolegomenon to a theory of argument structure*. Cambridge, MA: MIT Press.
- Halle, Morris, and Alec Marantz. 1993. Distributed Morphology and the Pieces of Inflection. In Kenneth Hale and Samuel Jay Keyser (eds.), *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*. CambridgeMIT Press 111–76.
- Jackendoff, Ray. 1983. *Semantics and cognition*. Cambridge, MA: MIT Press.
- 1990. *Semantic structures*. Cambridge: MIT Press.
- 1996. The proper treatment of measuring out, telicity, and perhaps even quantification in English. *Natural Language and Linguistic Theory* 14: 305–354.
- Koopman, Hilda. 2000. Prepositions, postpositions, circumpositions and particles: The structure of Dutch PPs. In Hilda Koopman (ed.), *The syntax of specifiers and heads*. London: Routledge, 204–260.
- Marr, David. 1982. *Vision: A Computational Investigation into the Human Representation and Processing of Visual Information*. New York: W.H. Freeman.
- McCawley, James D. 1968. Lexical insertion in a transformational grammar without Deep Structure. In Bill J. Darden, Charles-James N. Bailey and Alice Davidson (eds.), *Papers from the fourth regional meeting of the Chicago Linguistic Society*. Chicago: University of Chicago.
- Nam, Seungho. 1995. *The Semantics of Locative PPs in English*. PhD dissertation, UCLA.
- Pantcheva, Marina. 2011. *Decomposing Path. The nanosyntax of Directional Expressions*. PhD dissertation, Tromsø University.
- Ramchand, Gillian. 2008. *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge: Cambridge University Press.
- Real Puigdollers, Cristina. 2010. A microparametric approach on goal of motion constructions: properties of adpositional systems in Romance and Germanic. *Catalan Journal of Linguistics* 9: 125–150.
- Starke, Michal. 2001. *Move Reduces to Merge: A Theory of Locality*. PhD dissertation, University of Geneva.
- 2004. On the inexistence of specifiers and the nature of heads. In Adriana Belletti (ed.), *Structures and Beyond: The Cartography of Syntactic Structures, vol. 3*. New York: Oxford University Press, 252–268.

- 2011. Towards elegant parameters: Variation reduces to the size of lexically stored trees.  
Transcript from a talk at Barcelona Workshop on Linguistic Variation in the Minimalist Framework.
- Svenonius, Peter. 2006. The emergence of axial parts. In Peter Svenonius & Marina Pantcheva (eds.), *Nordlyd, Tromsø. Working Papers in Language & Linguistics: 33.1, Special Issue on Adpositions*. Tromsø: Tromsø University, 49-77.
- 2010. Spatial P in English. In Guglielmo Cinque and Luigi Rizzi (eds.), *The cartography of Syntactic Structure, vol.6*. Oxford: Oxford University Press, 127-160.
- Wunderlich, Dieter. 1991. How do prepositional phrases fit into compositional syntax and semantics?. *Linguistics* 29: 591-621.