

The roots in syntax: An analysis of semi-lexicity. *

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1 Questions, purpose and roadmap

– **Questions** to be discussed:

- The difference between grammatical meaning (syntactic construal) and conceptual meaning/encyclopaedic knowledge in linguistic theory is often accounted for using the concept of root.
- Roots can be defined as the element encapsulating non-grammatical purely conceptual content (Acquaviva, 2009; Harley, 2014), a.o.
- In those approaches assuming an inverted Y model of the organisation of grammar, the concept of root poses different questions:
 - * Are roots present in syntax or are they inserted late?
 - * If roots are present in the syntax, what type of syntactic object are they? Do they have special properties compared to the other syntactic objects, those containing grammatical information?
 - * What kind of information do roots have?
- Early-insertion approaches (Marantz, 1995; De Belder, 2011; Belder & Craenenbroeck, 2015), vs. Late-insertion approaches (Acquaviva, 2009; Embick, 2010; Harley, 2014) vs. Nanosyntactic framework (Starke, 2010; Caha, 2009; Ramchand, 2008; Fábregas, 2007).
- Why are roots special syntactic objects? They do not contain grammatical information, they do not project, they are usually located at the bottom of the tree, they lack category, they have only encyclopaedic information (De Belder & van Craenenbroeck, 2011; Belder & Craenenbroeck, 2015; De Belder, 2011; Acedo-Matellán & Real Puigdollers, 2014).
- Late-insertion models have an architectural problem: if roots are inserted late after spell-out, the conceptual system must reach out the choice made at root insertion at PF so that it can relate the conceptual bundle to the right locus at the LF representation.

– **Purpose** of the talk

* In this work I am presenting joint work with Víctor Acedo-Matellán, which can be found in two papers Acedo-Matellán & Real-Puigdollers (2014) and Acedo-Matellán & Real-Puigdollers (To appear).

- In this talk I present the theoretical framework presented in Acedo-Matellán & Real-Puigdollers (2014, To appear), built on the Distributed Morphology framework (Halle & Marantz, 1993, 1994; Harley & Noyer, 1999; Embick, 2010), whereby roots correspond to (lately inserted) Vocabulary Items that phonologically and semantically interpret functional nodes.
- Specifically, we propose that categorizers (*a*, *n*, *v*) are a prominent locus for the insertion of roots, since roots are Vocabulary Items that have no specific context of insertion.
- The approach makes an interesting prediction on linguistic variation that involves the insertion of roots into functional heads distinct from categorizers.
- That is, roots are inserted by competition when no other functional vocabulary item is available.
- As a consequence, we predict the existence of linguistic types that emerge from the morphological properties of exponents of functional categories.
- This hypothesis will allow us to derive Sanches’s generalisation, which states that classifiers and non-optional number morphology are in complementary distribution.
- In the talk, I also explore how this approach can derive another well-known typological case, such as the types that emerge from the lexicalisation of motion events.

– **Roadmap of the talk:**

1. The R-i-F approach.
2. On Vocabulary Insertion and allosemy.
3. Exploring semi-lexicity in Number.
4. Exploring semi-lexicity in the lexicalisation of motion events.

2 The Root into Functional node approach

- Syntax does not manipulate roots, only functional heads, among them the so-called categorizers: *n*, *v* and *a*.
- We assume that for the derivation to converge at LF these are the first terminals selected, which are placed at the bottom of the syntactic derivation.
- To solve the linearisation problem inherent to First Merge and following Kayne (2008), we propose that the categorizer undergoes self-merge yielding a maximal category, $\{n, n\}$, which is equivalent to $\{n\}$.

(1) $[_{DP} D [_{nP} n]]$

- Structures are transferred to the interfaces cyclically Embick (2010) and terminals undergo Vocabulary Insertion.
- Subset Principle (Halle, 1997), which stipulates that out of a set of VIs competing to be inserted into a given terminal provided with a set of morphosyntactic features, *S*, only the one containing the biggest subset of *S* will be inserted.

- Roots are not specified for any feature which we represent with the empty set.

- (2)
- a. CAT $\leftrightarrow \emptyset$
 - b. WALK $\leftrightarrow \emptyset$
 - c. SPY $\leftrightarrow \emptyset$
 - d. YELLOW $\leftrightarrow \emptyset$
 - e. ...

- Since the empty set is the smallest subset of any set, the Subset Principle entails that roots like those in (2) will be inserted in those terminals for which there is no minimal specified VI.
- Since these roots have the same context of insertion (none), any of them is insertable into a categorial node. That is, roots are inserted by free choice, while keeping the same mechanism of Vocabulary Insertion.

- (3) [DP D \Leftarrow *the* [nP n \Leftarrow CAT/WALK/SPY/YELLOW/...]]

- In particular, our proposal (4-a) differs from early-insertion proposals (4-b) in that the root is not present at all in syntax, so we make different predictions with respect to locality.
- I explore briefly one prediction with respect to allosemy.

- (4)
- a. [FP F [cP c \Leftarrow ROOT]]
 - b. [FP F [cP c ROOT]]

- What is our definition of Vocabulary Item in this model?
- We take a VI to be composed of, on one hand, a set containing phonological (Φ) and semantic information (Σ) to be used in each interface and, on the other hand, a context of insertion, C.

- (5) $\{\Phi, \Sigma\} \leftrightarrow C$

- VIs enter into a competition for insertion regulated through the Subset Principle.
- Φ and Σ are sets of phonological exponents and semes, respectively.

- (6)
- a. $\Phi = \{\phi_1, \phi_2, \dots, \phi_n\}$
 - b. $\Sigma = \{\sigma_1, \sigma_2, \dots, \sigma_n\}$

- Upon selection of a VI for a given terminal, Φ and Σ are inspected so that the terminal node is interpreted through one exponent and one seme.
- A VI involves allomorphy if its Φ set contains more than one element, and allosemy if its Σ contains more than one element.
- Elsewhere Principle: the most specified element is used first in either Exponent or Seme Insertion, where specification is measured in terms of reference to contextual information.

- Why are categorisers at the bottom of the derivation?
- In the Distributed Morphology model categorisers are assumed to be a part of the common pool of morphosyntactic features. Thus, the combination of *n* and a root is interpreted as a noun, while the combination of *v* and a root is interpreted as a verb.
- By contrast, in the so-called Exo-skeletal model, championed by Borer (2005, 2013) and further developed by De Belder & van Craenenbroeck (2011); De Belder (2011) dedicated categorising heads do not exist. In these models, the lexical category of a given root is top-down-wise derived from the functional material being merged above that root.
- Although these models of lexical category seem more parsimonious than the ones assuming the existence of little heads, we would like to argue that this is not necessarily the case.
- First, we point out Borer’s (2013) proposal that derivational affixes —her grammatical functors of lexical type— inherently possess a lexical category: *-al_A*, *-ation_N*, *-ise_V*, *-ly_{ADV}*, *on_P*, etc.
- Second, in such top-down models the difference between, say, the nominal and the verbal interpretation depends on the difference between the respective functional nodes: *D* and *T*. Nonetheless, a reversion of the interpretational effect could be formulated, assuming a version of Grimshaw’s (1991, 2005) extended projections.
- In this case the *D/T* difference would be bottom-up-wise interpreted as a side effect of the *n/v* difference.
- In other words, categorisers determine the particular interpretation of the upper functional nodes.
- The model can indeed be called projectionist or endoskeletal, since the interpretation of the upper functional category depends on the presence of a particular categoriser. Crucially, however, it is not a *lexicalist*, since category is not a property of vocabulary items but the property of dedicated functional items.

3 On Vocabulary Insertion: derivational morphology

- One of the predictions of our account is that derivational affixes must be root-like elements (De Belder, 2011; Belder & Craenenbroeck, 2015), so they must be associated with substantive content retrievable from the Encyclopaedia.
- There are minimal pairs of derived words of the same category sharing a root but involving different categorizers and a clear difference in meaning.
- The difference between these doublets depend on the content associated with the derivative suffix in each case.

- (7)
- a. *mols-ós*
moss-*os*
‘abundant in moss’
 - b. *mols-ut*
moss-*ut*
‘(soft or fleshy) like moss’

- (8) a. *ferr-ós*
 iron-*os*
 ‘containing or abundant in iron’
 b. *ferr-ís*
 iron-*is*
 ‘strong as iron’
- (9) a. *cendr-aire*
 ash-*aire*
 ‘person who buys and sells ash’
 b. *cendr-er*
 ash-*er*
 ‘ash-tray’

– Both types of adjectives are grammatically identical, the only difference being conceptual.

- (10) a. *un tronc molt mols-ós*
 a trunk very moss-*os*
 ‘a very mossy trunk’
 b. *uns llavis molt mols-uts*
 some lips very moss-*ud-PL*
 ‘very soft lips’
- (11) a. *una roca molt ferrosa*
 a rock very iron-*os-F*
 ‘a rock containing a lot of iron’
 b. *unes espatlles molt ferrisses*
 some shoulders very iron-*iss-F-PL*
 ‘very robust shoulders’

– Both types of adjectives can be found in attributive and predicative contexts:

- (12) a. *Unes galtes mols-ud-e-s/mols-os-e-s.*
 Some cheeks moss-*ud-F-PL/moss-os-F-PL*
 ‘Some fleshy/#mossy cheeks.’
 b. *Les seves galtes són molt mols-ud-e-s/mols-os-e-s.*
 the.PL her.F are very cheeks moss-*ud-F-PL/moss-os-F-PL*
 ‘Her cheeks are very fleshy/#mossy cheeks.’
- (13) a. *Unes portes ferr-os-e-s/ferr-iss-e-s.*
 Some doors iron-*os-F-PL/iron-iss-F-PL*
 ‘Some doors made of iron/strong as iron.’
 b. *Les portes són ferr-os-e-s/ferr-iss-e-s.*
 The.FPL doors are iron-*os-F-PL/iron-iss-F-PL*
 ‘The doors are made of iron/strong as iron.’

– The difference between the members of the doublets is conceptual, not grammatical.

- As both members have a common core meaning retrievable from the root in all cases, the difference in meaning must rest in the suffixes themselves.
- Another property that derivational morphemes share with roots is the fact that both are associated with inflectional properties.
- Roots in nominals are associated with gender, roots in verbs are associated with a particular conjugation class.

- (14) a. *el vas-o*, *el dada-ísm-o* (#*la vas-a*, *etc.*)
 the(M) glass-o(M), the dada-ism-o(M) the(F) glass-a(F)
- b. *la cam-a*, *la alt-ur-a* (#*el cam-o*, *etc.*)
 the(F) bed-a.F, the(F) tall-ur-a.F the(M) bed-o(M)
- c. *cant-ar*, *movil-iz-ar*, *beb-er*, *flor-ec-er*
 sing-TV.INF, move-iz-TV.INF, drink-TV.INF, flower-ec-TV.INF
 ‘to sing, to mobilize, to drink, to bloom’

- Besides, both roots and derivational morphology are associated with a category.
- The derivation of -OS/UD could be as follows.

- (15) a. (*mols*)-ós: OS \leftrightarrow [- [n]]
 b. (*mols*)-ut: UD \leftrightarrow [- [n]]
- (16) [_{aP} a \Leftarrow OS/UD [_{nP} n \Leftarrow MOLS]]
molsós ‘abundant in moss’ / *molsut* ‘soft like moss’

4 Exploring allosemy

- In this section, I show how this proposal can account for phenomenon like allosemy.
- Specifically, I propose an analysis of cases of allosemy of the root triggered by Gender. In an early insertion proposal this would be unexpected, since functional heads like Gender are not local to the root.

- (17) a. [_{FP} F [_{cP} c \Leftarrow ROOT]]
 b. [_{FP} F [_{cP} c ROOT]]

- We take a VI to be composed of, on one hand, a set containing phonological (Φ) and semantic information (Σ) to be used in each interface and, on the other hand, a context of insertion, C.

- (18) $\{\Phi, \Sigma\} \leftrightarrow C$

- VIs enter into a competition for insertion regulated through the Subset Principle.
- Φ and Σ are sets of phonological exponents and semes, respectively.

- (19) a. $\Phi = \{\phi_1, \phi_2 \dots, \phi_n\}$
 b. $\Sigma = \{\sigma_1, \sigma_2, \dots, \sigma_n\}$

- (20) a. *tron-o*, *tron-a*
tron-M, tron-F
‘throne’, ‘highchair’
- b. *leñ-o*, *leñ-a*
leñ-M, leñ-F
‘log’ ‘firewood’
- c. *suel-o*, *suel-a*
suel-M, suel-F
‘floor’ ‘sole’
- d. *huevo-o*, *huevo-a*
huevo-M, huevo-F
‘egg’ ‘roe’

- In previous approaches like Acquaviva (2009), Gender is considered a feature of the root. However, there is evidence against this claim (Picallo, 2008).

- (21) [GenP Gen_[±FEM] [nP n]]]

- We propose that, in the derivation of *trono* ‘throne’ and *trona* ‘highchair’, the root TRON is inserted into the n node at Vocabulary Insertion.
- The VI specifies two allosemes in its entry.

- (22) { {*tron*}, {“highchair”/Gen_[±FEM], “throne”} }

- The semantic component inspects the set Σ_{TRON} and retrieves the alloseme ‘highchair’ whenever the feature Gen is [+FEM].
- The seme ‘throne’ does not come with a specific context and is retrieved by default in contexts in which Gen_[+FEM] is not present.
- This also accounts not only for the interpretation of masculine *trono* as throne, but also for the interpretation of the root when used in a verb, like *destronar* ‘dethrone’.
- Early insertion theories cannot account for these allosemic effects, while keeping the assumption that allomorphy and allosemy is triggered locally.
- Marantz (2013) proposes that null morphemes are not interveners for allomorphy/allosemy. However, if this is the case, we would need to assume that n is semantically vacuous, which is at odds with our previous assumption that categorizers are semantically interpretable.

5 Cross-linguistic variation and semi-lexicity: the case of classifiers

- In this section, we explore a possibility predicted by our approach: the insertion of roots into functional heads distinct from categorizers.
- Specifically, we claim that classifiers correspond to roots that give exponence and conceptual content to the functional head involved in counting and individuation in languages where these inflectional heads do not have a dedicated VI (Acquaviva, 2009).

- This hypothesis allows us to derive a classic generalisation found in the typological studies: the Sanches’s generalisation, which observes that the availability of classifiers correlates with the lack of inflectional number morphology.
- Corver & van Riemsdijk (2001) claim that classifiers are semi-lexical categories because they have a double nature: they encode a grammatical type of meaning allowing the individuation in the interpretation of nouns, which is the basis for counting and referring.
- Classifiers and plurality markers serve a similar purpose (Borer, 2005) in that they take a noun with a mass denotation and provide partitions/divisions that can be counted.
- However, classifiers do more than that since they also contain additional more lexical meaning, which is interpreted as serving a qualifying function to the interpretation of the noun.
- Although count classifiers appear obligatorily in numeral expressions, the choice of classifier can vary according to semantic purposes
- (Zhang, 2007, 54) shows that in all cases the NP refers to the same object in all three cases, but the choice of classifier serves to encode semantic qualities such as formality, positive or negative feelings towards the object, etc.

- (23) a. *yi zhang hua*
 one CL painting
 ‘a painting (with a flat surface)’
- b. *yi fu hua*
 one CL painting
 ‘a painting (indicates expertise)’
- c. *yi zhen hua*
 one CL painting
 ‘a painting (indicates that the painting is valuable)’

- The stylistic difference depends on the specificity of the classifier: *zhang* is a general classifier used with all sorts of objects, *fu* is a specialised classifier for paintings and clothes, *zhen* is only used with paintings.
- The selection of classifier depends on properties associated with the speakers’ world knowledge(Aikhenvald, 2000) observes that in Mandarin Chinese the noun *huanggua* ‘cucumber’ combines with either *gen*, the classifier for multidimensional long and rigid objects, or *tiao*, the classifier for unidimensional long objects.
- Speaker’s choice of the classifier depends on the most salient properties of the object denoted by the classified noun. Often speakers do not agree on the choice of classifier for a particular word, contrasting with inflectional number systems, in which speakers that intend to denote plurality cannot choose the type of morpheme that they insert.
- Classifiers are a (semi-)open class category.
- The inventory of classifiers in languages that have them is limited but wide.

- The majority of classifier languages contain more than 100 classifiers (Aikhenvald, 2000).
- The most extreme situation is attested in Thai in which any noun can act as a classifier of itself. This is the phenomenon of so-called *repeaters* (Aikhenvald, 2000).

(24) *pratheet saam pratheet*
 land three CL(land)
 ‘three countries’ (Thai, Kolver 1983:190, *apud* Aikhenvald (2000))

- A question remains regarding the limitations of the inventory of classifiers: we propose that the number of classifiers in classifier systems is constrained by non-grammatical reasons.
- First, we show that classifiers are not simply nouns, but roots.
- Classifiers do not accept adjectival modification (Cheng et al., 1998; Cheng & Sybesma, 1999; Borer, 2005; Cowper & Currie Hall, 2012; Li, 2013).

(25) a. *yi-tiao da/hei (de) gou*
 one-CL big/black SUB dog
 ‘a big/black dog’ (Paul, 2010, 121)
 b. *yi wei da laoshi*
 one CL big teacher
 ‘a big teacher’ (Chenjie Yuan, p.c.)

(26) a. **yi da zhi gou*
 one big CL dog
 b. **yi da wei laoshi*
 one big CL teacher
 (Cheng et al., 1998, 389)

- Sanches’s generalisation (Greenberg, 1972; Sanches & Slobin, 1973).

(27) *Number-Classifier Complementarity*: Classifiers correlate with the lack of number morphology.

- There are some alleged counterexamples to this generalisation.
- Borer (2005); Cowper & Currie Hall (2012) claim that number marking and classifiers can coexist in some languages, provided they are in complementary distribution.
- A case in point is Armenian Borer (2005); Bale & Coon (2014): Armenian has both classifiers and number markers, although they are never found in the same NP.

(28) a. *Yergu had hovanoc uni-m*
 two CL umbrella have1SG
 ‘I have two umbrellas’

- b. *Yergu hovanoc-ner uni-m*
Two umbrella-PL have-1SG
'I have two umbrellas'
- c. **Yergu had hovanoc-ner uni-m*
Two CL umbrella-PL have-1SG
'I have two umbrellas'

- However, if we restrict (27) to inflectional number marking, the generalisation holds, even intralinguistically.
- Although Armenian has plural markers, they are never contrastive, and hence not inflectional ((Wiltchko, 2008)).
- This is shown by the fact that unmarked nouns can have a plural interpretation in Armenian as shown in (29), by (Bale & Khanjian, 2014, 5).

- (29) a. *Yergu dəgha vaze-ts.*
two boy(SG) run-PST
'Two boys ran.'
- b. *Yergu dəgha-ner vaze-ts-in.*
two boy-PL run-PST-3PL
'Two boys ran.'

- Other alleged counterexamples like Persian and Korean are discussed in Cowper & Currie Hall (2012); Kwon & Zribi-Hertz (2004), showing that in those languages plural markers are optional and not contrastive.
- Classifiers are roots that give both exponence and conceptual content to the functional feature <div>, within CIP, following the architecture of NP in Borer (2005).
- In doing so, we provide an explanation for the phenomenon of semi-lexicity, by which a functional word may serve both to provide syntactic construal and encyclopaedic conceptual information.
- We assume Borer's approach 2005 to the syntax and semantics of NPs, by which all roots have, by default, a mass denotation and that nouns are rendered countable by combining with a functional projection that provides portions of their denotation, CIP.
- Dominating this projection, there is NumP, which assigns quantities to portions and is responsible for counting.
- In a language with inflectional plural, the plural marker is a VI that gives exponence of the syntactic feature <div>, which partitions the denotation of the nominal and allows counting by Num.

- (30) a. $[_{\text{NumP}} [\text{one}]\text{-Num} [_{\text{CIP}} \langle \text{div} \rangle \Leftarrow \emptyset [_{\text{NP}} \text{n} \Leftarrow \text{CAT}}]]]$
b. $[_{\text{NumP}} \text{Num} [_{\text{CIP}} \langle \text{div} \rangle \Leftarrow s [_{\text{NP}} \text{n} \Leftarrow \text{CAT}}]]]$

- In classifier languages no VI is specified ofr the feature < div >. The model predicts that a root can be inserted by competition.
- We provide a derivation for two examples in Mandarin Chinese.

- (31) a. *yi tiao she*
 one CL snake
 ‘one snake’
 b. *san ben shu*
 three CL book
 ‘three books’

– The classifiers *tiao* and *ben* involve two roots, that is, two pairings of sets of phonological and semantic representations that are inserted by competition.

- (32) [NumP [NP *yi/san*] [Num' Num $\Leftarrow \emptyset$ [CIP <div> \Leftarrow TIAO/BEN [nP n \Leftarrow SHE/SHU]]]

- The semantic interpretation of roots spelling <div> follows the same mechanism that drives the interpretation of roots inserted into categorizer nodes.
- That is, the root is interpreted through the functional node that assigns a meaning of individuation at LF.
- The classifier *tiao* is interpreted as an individuator for things that have a long shape. This interpretation results from interpreting the seme denoting ‘long shape’ through the LF interpretation of the <div> feature, which provides the meaning of portion.
- We posit a level of semantic integration in which the semes included in the set \mathcal{S} are recovered and integrated with the syntactic construal provided by LF.
- The interpretation of the classifier will be a combination of these two semantic components, which yields the semi-lexical flavour of these elements.
- If classifiers involve roots, there is still the question of what prevents classifier systems from being true open class systems.
- The limitations on the inventories of classifiers might be due to non-grammatical reasons, such as convention or the world knowledge of the speakers.

6 Cross-linguistic variation and semi-lexicity: the expression of motion events

- Talmy (2000) establishes that languages can be divided according to how events of bounded directed motion are lexicalised.
- Satellite-framed language (English, (33)) vs. Verb-framed language (Spanish, (34))

- (33) a. The rock [rolled]_{manner+motion} [down the hill]_{path}.
 b. The bottle [floated]_{manner+motion} [into the cave]_{path}.
- (34) a. *La roca bajó_{motion+path} por la colina (rodando_{manner})*.
 The rock went.down by the hill rolling
 ‘The rock rolled down the hill.’
 b. *La botella entró_{motion+path} en la cueva (flotando_{manner})*.
 The bottle went.in in the cave floating
 ‘The bottle floated into the cave.’

- Verb-framed language cannot use a purely manner of motion verb in a predicate expressing directed bounded motion.

- (35) a. *L'ampolla va flotar a la cova.*
 The=bottle AUX float-INF at the cave
 'The bottle floated in/*into the cave.'
 b. *L'ampolla va entrar a la cova.*
 The=bottle AUX went.in-INF at the cave.
 'The bottle went into the cave.'

- In this section, we explore an explanation for this contrast based on the empirical observation that in Catalan or Spanish, and Romance in general, there is no VI specialised in the expression of the bounded directional motion, which we call Path.
- Romance languages do not possess any VI endowed with the feature [Path] unlike s-framed languages, which counts for specialised VIs for Path: English *to*, German *zu*, Dutch *naar*, etc.
- Romance simple prepositions such as *a*, *in/en* can appear with stative verbs and denote a spatial relation of location.

- (36) a. *La Maria canta a l'estació.*
 The Mary sings at the=station
 'Maria sings at the station.'
 b. *L'enfant est à la maison.*
 The=kid is at the house
 'The child is at home.'
 c. *Gianni è a casa di Maria.*
 Gianni is at house of Maria
 'Gianni is at Maria's.'

- These prepositions only have a directional reading when combined with verbs of bounded directed motion.

- (37) a. *En Joan va anar a la farmàcia.*
 The Joan AUX go-INF at the pharmacy
 'John went to the pharmacy'
 b. *Jean est tombé dans la piscine.*
 Jean is fallen in the swimming pool
 'Jean has fallen into the swimming-pool'
 c. *Gianni è entrato nella chiesa.*
 Gianni is gone.in in.the church
 'Gianni has gone into the church.'

- Additionally, some manner of motion verbs like *run*, *fly* or *jump* allow directional readings of these prepositions, as pointed out by Fong & Poulin (1998); Folli (2001, 2008); Folli & Ramchand (2005); Zubizarreta & Oh (2007); Demonte (2009); Real Puigdollers (2010, 2013), among others.

- (38) a. *En Joan va córrer a la farmàcia.*
 The Joan AUX runINF at the pharmacy
 ‘Joan ran to the pharmacy.’
 b. *Le détective a bondi sur le gangster.*
 The detective AUX leapt on the ganster
 ‘The detective leapt on the gangster.’
 c. *La moneta è scivolata nel buco.*
 The coin is slid in.the hole
 ‘The coin slid into the hole.’

- For the present purposes, we adopt a simplified version of the structure of the vP expressing an event of directed motion: such configurations count with a Place head expressing static location, a Path head encoding bounded direction, and the little v encoding the event itself.

- (39) $[_{vP} v [_{PathP} Path [_{PlaceP} Place DP]]]$

- In satellite-framed languages, Path has a dedicated VI at Vocabulary Insertion (*to* in English, for example).
- v is not related to Path in any sense, so any root expressing motion be it of the purely manner of motion *float* or of the run type will be adequate when inserted into v.

- (40) a. The bottle floated into the cave.
 b. $[_{vP} v \Leftarrow FLOAT [_{PathP} Path \Leftarrow to [_{PlaceP} Place \Leftarrow in DP the cave]]]$

- On the contrary in verb-framed languages in which the verb expresses trajectory, *v* and Path end up forming one and the same head (Acedo-Matellán, 2010, 2016).
- After v and Path become one head, root insertion must take place.

- (41) a. *En Joan va entrar/córrer/nedar/etc. a la cova.*
 b. $[_{vP} v+Path_i \Leftarrow ENTR-, CORR-, NED- [_{PathP} t_i [_{PlaceP} Place \Leftarrow a DP la cova]]]$

- While root insertion is free, it is nevertheless restricted by the compatibility between the conceptual content of the root as stated in its Encyclopaedia entry and the semantic interpretation of the node to which it is associated.
- Only roots which may encompass the notion of motion and that of direction are predicted to fit into the v+Path node.
- The analysis rests on the idea that v+Path complex are interpreted through a root, so the acceptability of different verbs in a bounded directed motion construction will vary not according to a grammatical factor, but according to the feasibility of the combination of the conceptual content of a particular root with the interpretation of the v+Path head.
- Indeed, we find different levels of acceptability across languages and speakers for a type of motion verbs that allow both manner readings and bounded directional readings.

7 Conclusions

- In this talk I have proposed a late-insertion theory of root insertion in which roots are VI with no morphosyntactic information.
- Being VIs, they enter into regular competition for insertion into syntactic nodes, and having no morphosyntactic features or context of insertion, they win the competition when there is no VI with at least one of the features of the node at hand, under the standard version of the Subset Principle (Halle (1997)).
- Roots are the only way to phonologically and conceptually interpret nodes for which there is no specialised VI.
- I have explored a prediction that this approach makes with respect to cross-linguistic variation.
- First, it predicts the existence of linguistic types that emerge from the morphological properties of exponents of functional categories. Specifically, I have claimed that this account derives Sanches’s generalisation, which states that classifiers and number morphology are in complementary distribution.
- Second, I have proposed that a well-known linguistic type, the verb-framed language type of Talmy (2000), can be derived by the same assumption. Romance languages do not have a trajectory denoting head Path so Path can only be interpreted through a root, bringing about the consequence that only roots compatible with a Path construal are licensed in this position at the interfaces.
- This proposal allows us to adhere to a late-insertion model of root insertion like the one proposed in De Belder (2011); Belder & Craenenbroeck (2015) without having to revise the operation of Merge and the Subset Principle of Halle (1997). It has also the advantage to derive the Embick & Marantz (2008) Categorisation Assumption, and we offer new insights on the status of categorisers in grammatical theory.
- Finally, this proposal allows us to derive the phenomenon of semi-lexicality, which emerges when a root appears in a functional position.

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