Some contributions of typology to cognitive linguistics

revisited

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Syntactic argumentation and the nonuniversality of syntactic categories

Syntactic categories and the distributional method

- Syntactic categories—word classes, and also classes of larger syntactic units like phrases (subject, etc.) and clauses (relative clause, etc.) are determined by the ***distributional method***

- The distributional method was codified by American structuralists, and is now often referred to as ***tests, criteria, arguments or evidence*** for syntactic categories

What is being described?

(1) *Jack kissed **Janet**.*
(2) ***Janet** was kissed by Jack.*
(3) *The old man walked with **a cane**.*
(4) ****A cane** was walked (with) by the old man.*

- Two tests/criteria for the Direct Object category

	[Sbj Verb ___]	[___ *be* Verb-PASS…]
Direct object: *Janet*	✓	✓
Oblique: *a cane*	*	*

What is being described?

(1) *Jack weighs **160 pounds**.*
(2) ***160 pounds** was weighed by Jack.*

- The two tests don't match. The usual strategy is to pick one test as the "real" test, in this case, the Passive (i.e. *160 pounds* is not a direct object)
- But that doesn't explain why *160 pounds* doesn't need a Preposition in the Active clause
- Most important: what is being described is not something about a **category** "Direct Object", but something about the Passive **construction**

Syntactic categories and the distributional method

- The truth is, the "tests", "criteria", "arguments", "evidence" for syntactic categories (and other syntactic constructs, such as constituent structure) are really ***constructions***

- The distributional method is fundamentally based on the assumption of the existence and identifiability of constructions, but without using that name

Radical Construction Grammar

- Distribution patterns for words are generally mismatched; adding subclasses, exception features, etc. are just patches to avoid this fact
- Distributional analysis presupposes the constructions used to set up the syntactic categories—but then the categories are used to define the constructions
- To avoid this circular reasoning, we posit ***constructions as basic and categories as derived*** (from constructional roles)

The problem across languages

Straits Salish	Predication	Determination
Action words	t’iləm=lə=sx^{w}	cə t’iləm=lə
	‘you sang’	*‘the (one who) sang’*
Object words	si’em=lə=sx^{w}	cə si’em=lə
	‘you were a chief’	*‘the (one who) was a chief’*
Property words	sey’si’=lə=sx^{w}	cə sey’si’=lə
	‘you were afraid’	*‘the (one who) was afraid’*

- Jelinek & Demers: no Noun/Verb distinction
- van Eijk & Hess, on Lillooet and Lushootseed: Noun/Verb distinction, because of Possessive, Aspect inflections
- Jelinek & Demers: ‘[“Nouns”] have the same syntax as any other predicate’

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- Same problem, different language
- There is another problem here: how do we know that the Salishan categories are the same as the English ones? If there is no Noun/Verb distinction, what is the remaining category? Verb? Noun? Neither?

Radical Construction Grammar

- We must be able to compare constructions across languages
- To do so, we must determine equivalent constructions by their functions
- And categorize the form of these constructions using cross-linguistically valid morphosyntactic properties

Parts of speech

English

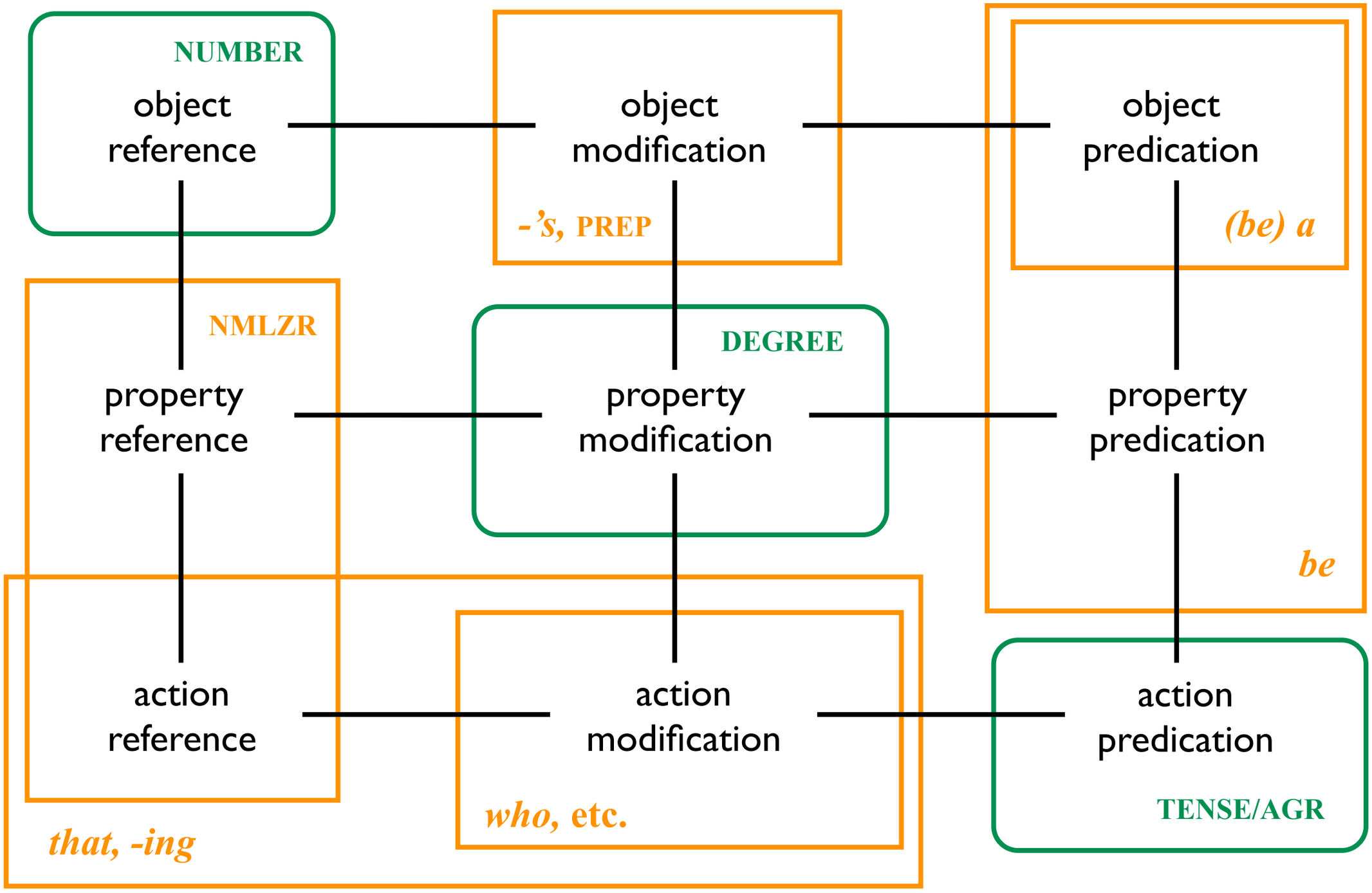
Object reference:	two hawk-s
Property reference:	its wid-th(*-s)
Action reference:	the destruc-tion/hunt-ing (*-s) of the lions
	I learned that archery is hard.
Object modification:	Sally-'s truck/the truck in the lot
Property modification:	a better/bigger/more effective mousetrap
Action modification:	the sleep-ing girl/the girl that I met
Object predication:	It's a hawk.
Property predication:	It's big.
Action predication:	It shrink-s in hot water.

The propositional act constructions form the basis of a crosslinguistically valid theory of parts of speech

Parts of speech: English

structural coding

behavioral potential



Parts of speech

Lango "core" properties :

Singular/Plural agreement stems: cèk/cègù 'short'

Attributive particle in modification: gwôkk à bɛ̀r 'the good dog'

Habitual predication—Subject agreement, no independent tone in Gerund: án àrâc 'I am bad'

Nonhabitual predication—Copula verb: án àbédò rác 'I was bad'

Lango "peripheral" properties*: *same as core properties but no alternate Singular/Plural agreement stems

Parts of speech

Lango actions :

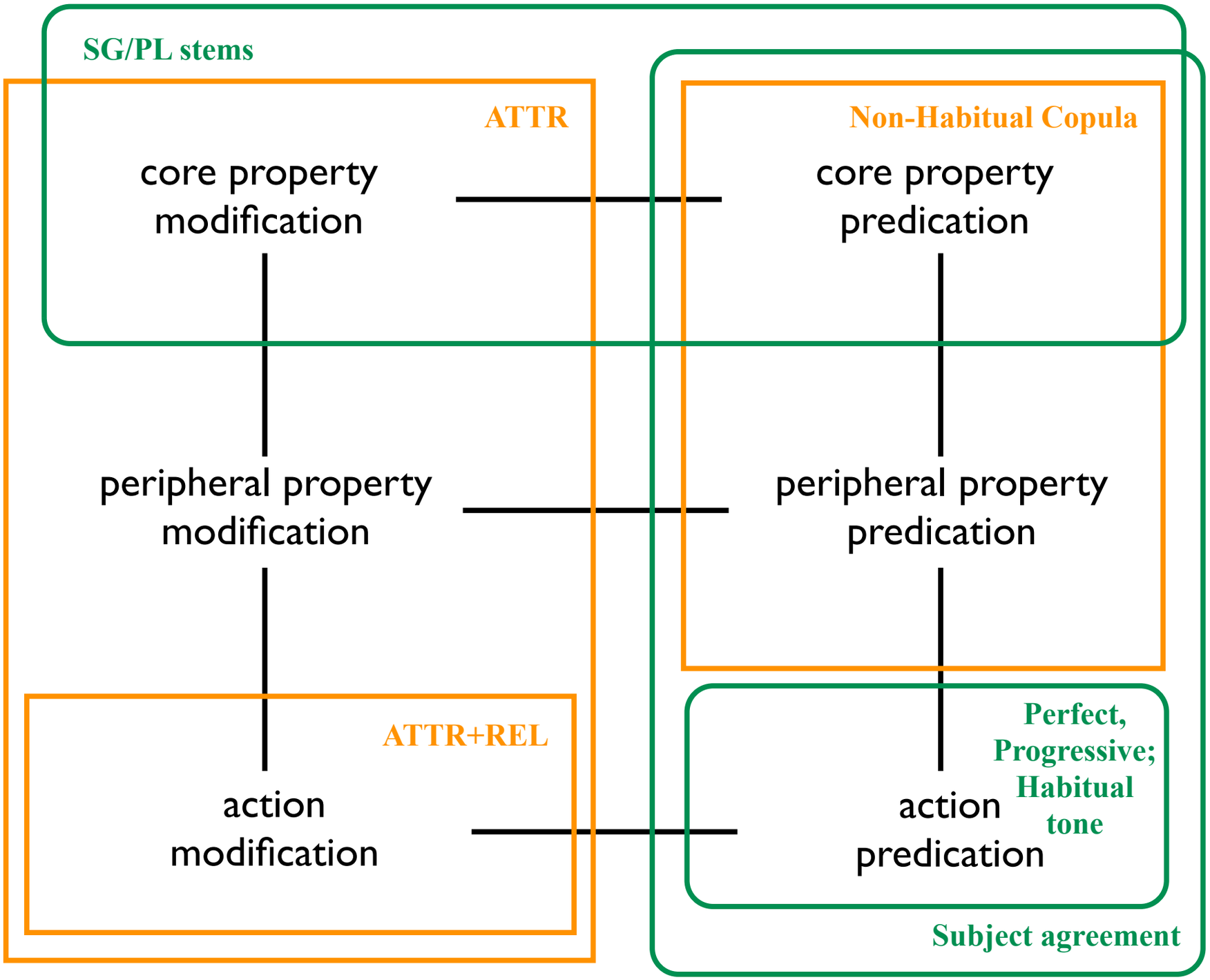
Predication—inflect in Perfective, Progressive, Habitual aspects:
àgíkò/àgíkô/ágìkkò ‘I stopped/stop/am stopping something’

Predication—take Habitual tone: nɛ́nɛ̀ ‘he sees it’

Modification—take Attributive + Relative, Attributive, or zero:
gwókk àmé/à/Ø òtɔ́ɔ̀ ‘the dog that died’

NB: properties may take Attributive + Relative (or zero), but Attributive + Relative is preferred for action modification

Parts of speech: Lango



Summary

- Word classes are language-specific and defined by constructions. There is no small finite universal set of word classes, and hence no universals of word classes per se
- Morphosyntactic universals are based on properties of constructions, including what categories they define. Crosslinguistic comparison of constructions must be based on function (or at least derived structure)
- One can restrict the scope of typological comparison by selecting a set of functionally related constructions which are likely to share universal constraints

The nonuniversality of semantic categories

Not syntactic categories, but semantic categories?

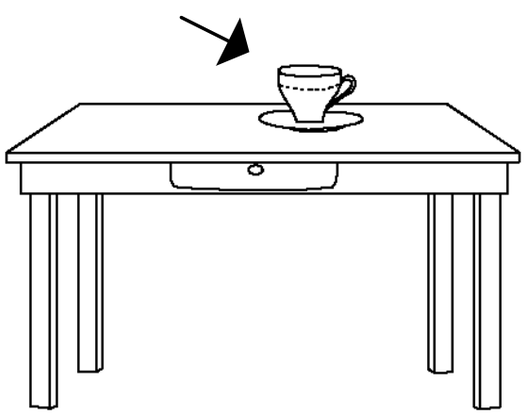
- The radical constructional analysis shows that one cannot build a cross-linguistically (typologically) universal theory of syntax on formal morphosyntactic categories
- An alternative solution is to base syntax on semantic categories instead—a conceptual, or functional, analysis, such as the one proposed in Cognitive Grammar
- However, we have reason to believe that there are no universal semantic categories either

Spatial adpositions

- A set of pictures of spatial situations was constructed to represent situations commonly expressed by English *on* and *in*
- The situations were described by speakers of nine diverse languages (Tiriyó, Trumai, Yukatek, Basque, Dutch, Lao, Ewe, Lavukaleve and Yélîdnye)
- Spatial adpositions only were coded
- An MDS analysis was performed on the data (refined by Croft & Poole)

(Levinson et al., *Language* vol. 79, 2003)

Sample stimuli (Bowerman-Pederson)



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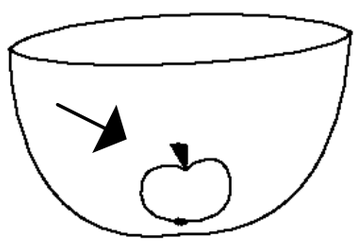

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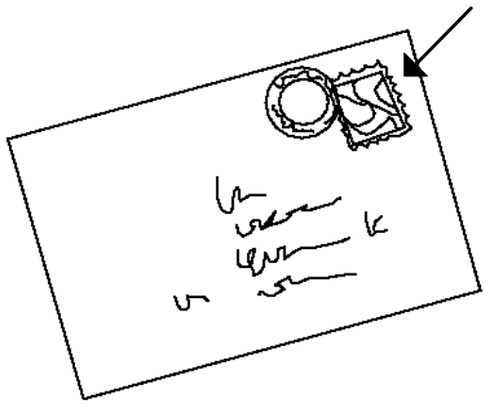

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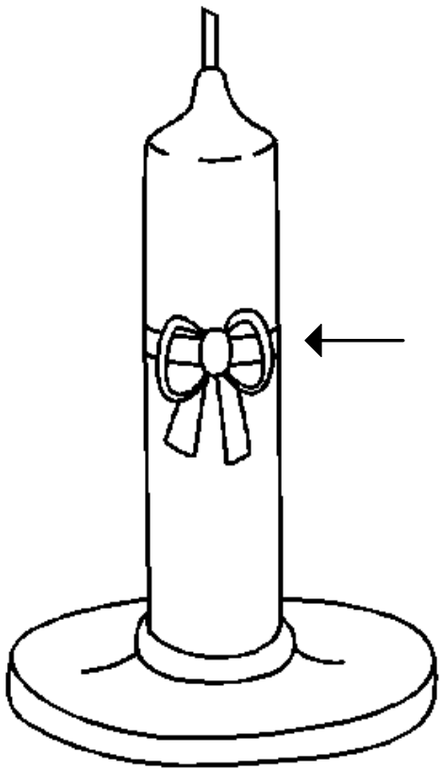

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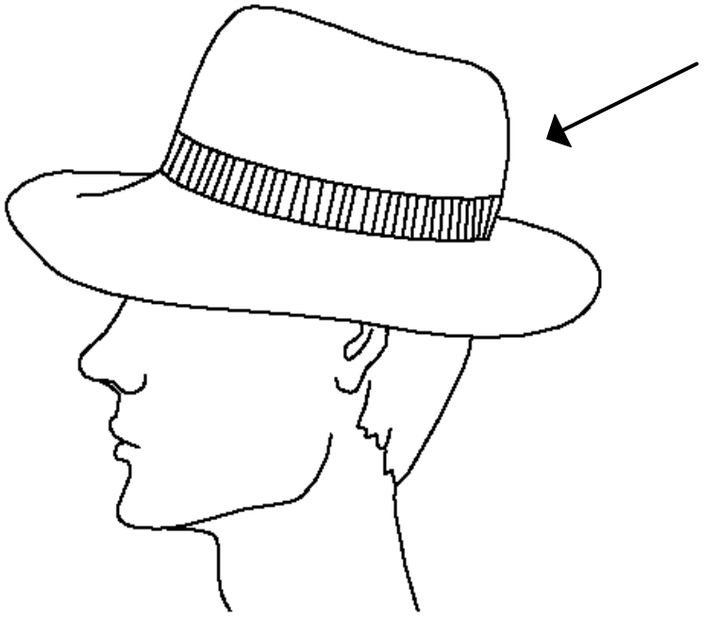

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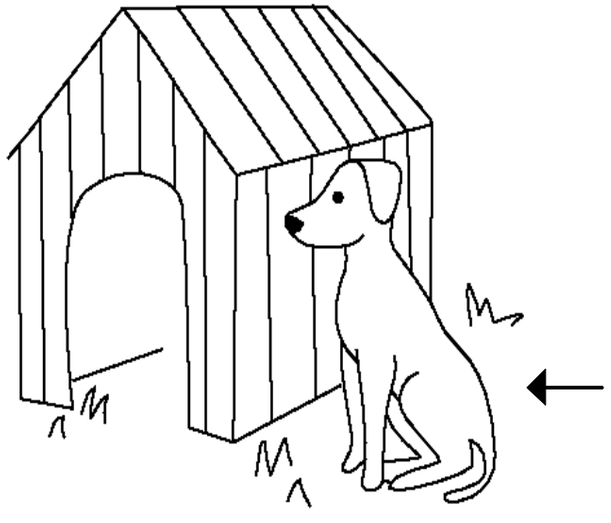

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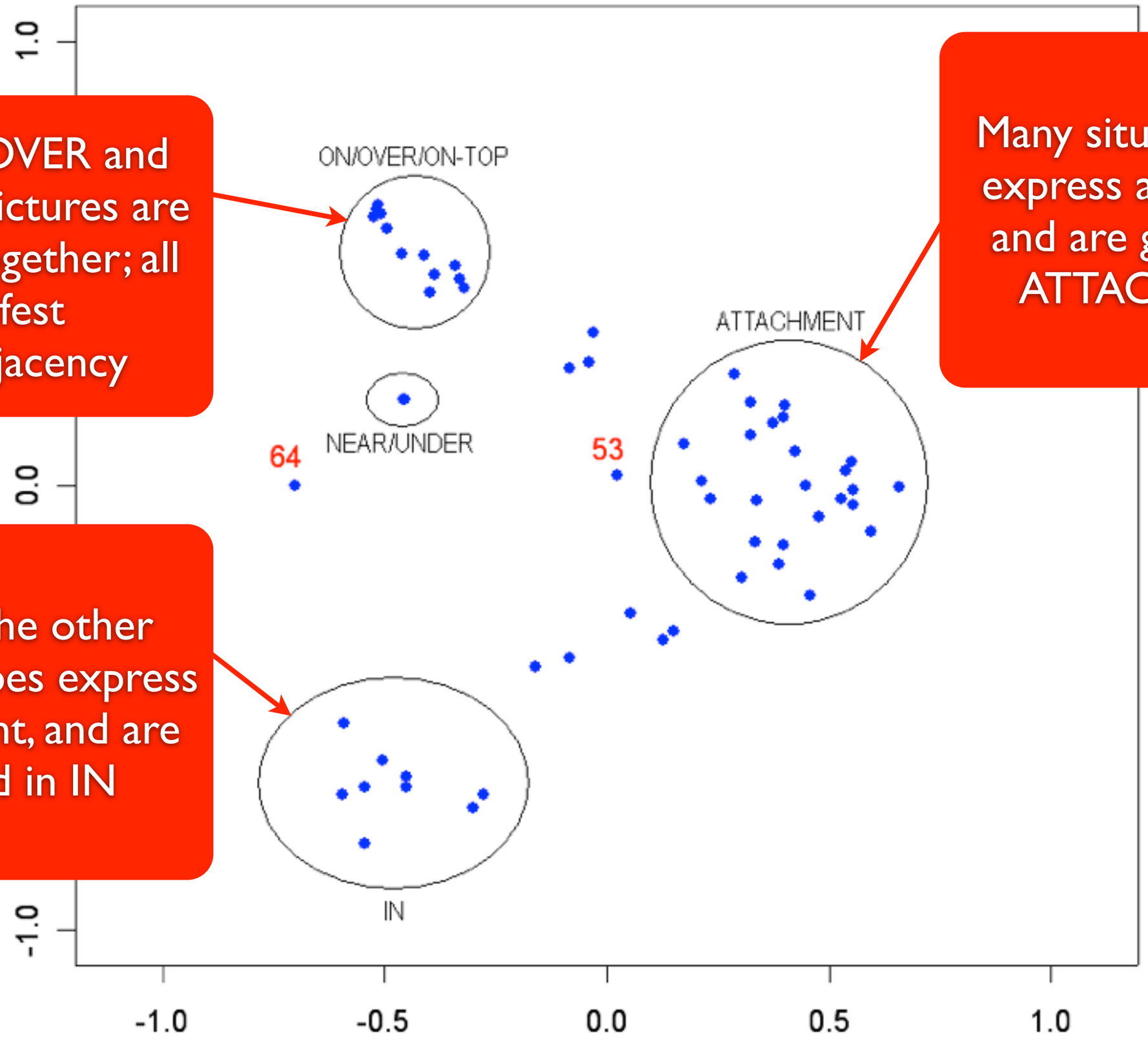
Two dimensional MDS model of adpositions by unfolding

The ON/OVER and ON-TOP pictures are grouped together; all manifest superadjacency

Many situation types express attachment, and are grouped in ATTACHMENT

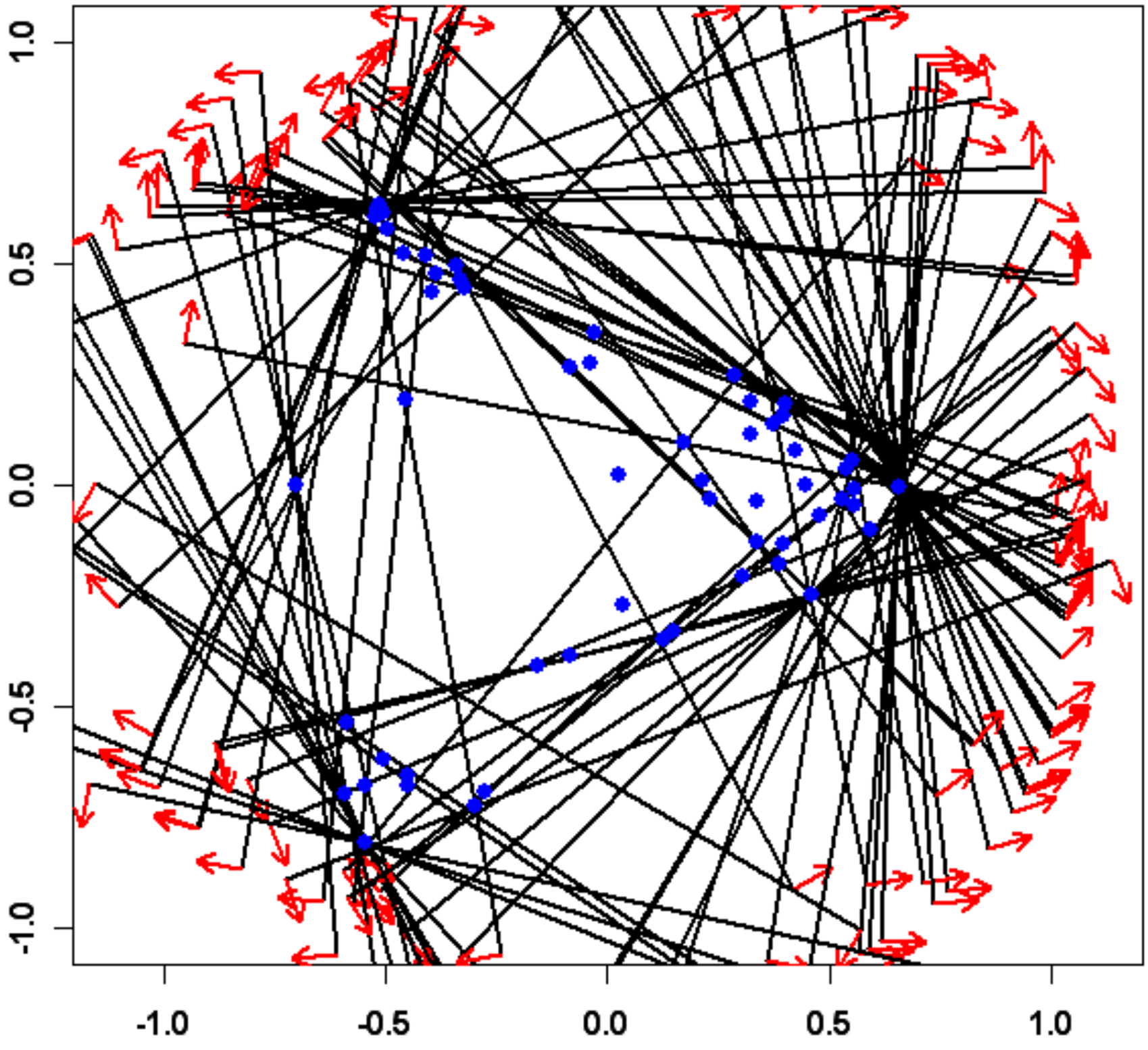
Most of the other situation types express containment, and are grouped in IN



Conceptual categories (clusters)?

- One might assume that the crosslinguistic MDS analysis reveals universal conceptual categories that are linguistically relevant
- But the conceptual clusters simply illustrate the coherence of the conceptual space
- They are NOT linguistically relevant per se
- Instead, what is universal are the individual situation types (holistically conceived) and their conceptual relations to each other

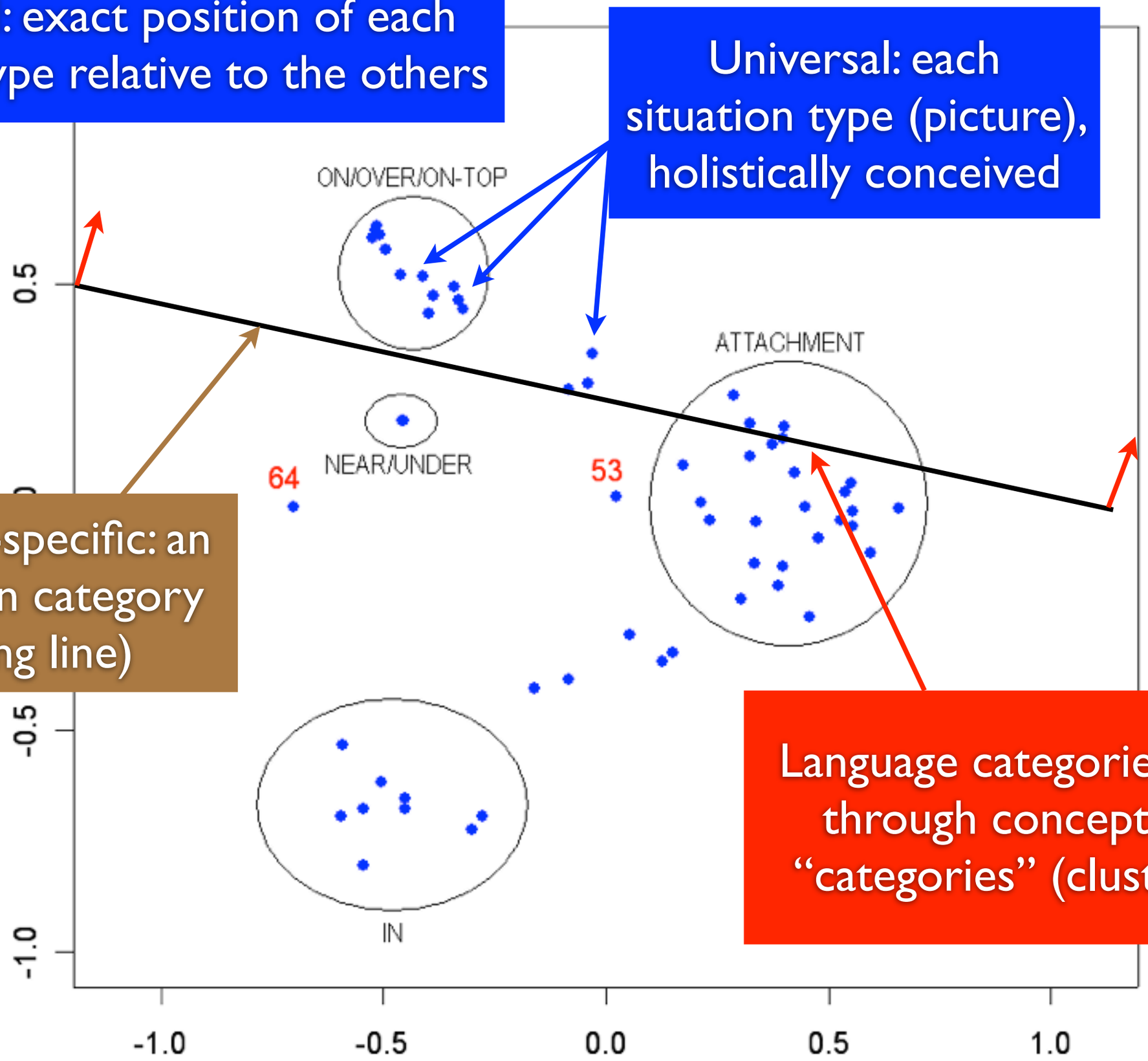
All adposition categories



Language universals and language-specific

Universal: exact position of each situation type relative to the others

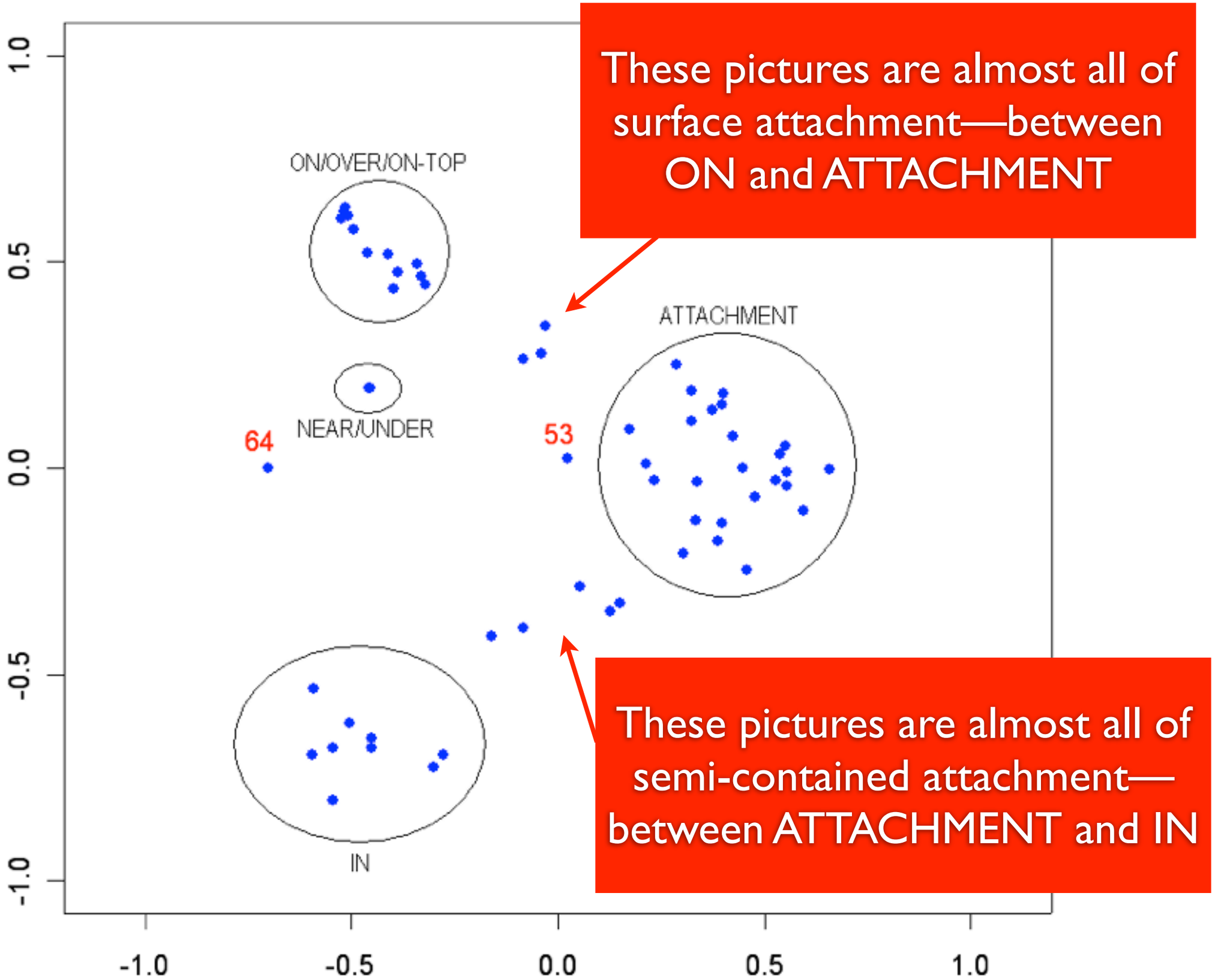
Universal: each situation type (picture), holistically conceived



Language-specific: an adposition category (cutting line)

Language categories cut through conceptual "categories" (clusters)

The importance of relations between situation types



Between IN and ATTACHMENT

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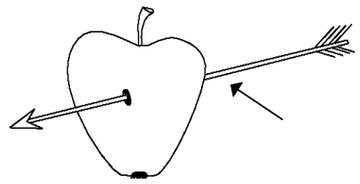
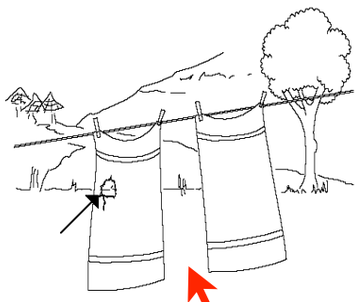
ATTACHMENT





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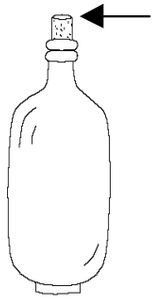
Closer to ATTACHMENT, the figure is or creates a hole in the ground, but can extend beyond the ground



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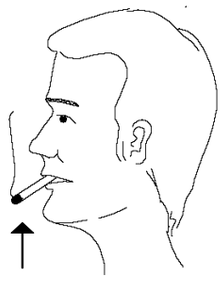

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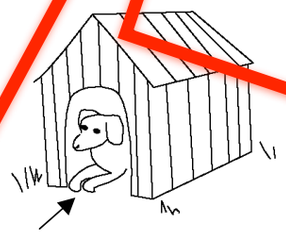
Somewhat closer to IN, the figure is partly contained in the ground, which has an opening, not a hole

IN

The IN "cluster": A closer look



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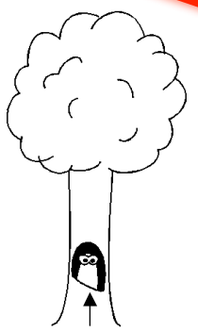

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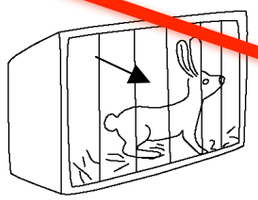

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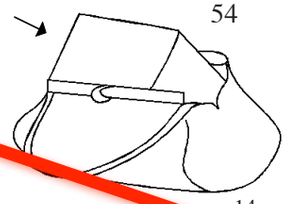

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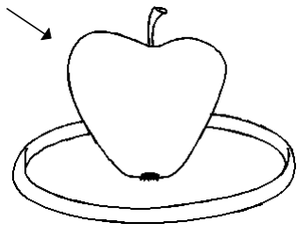

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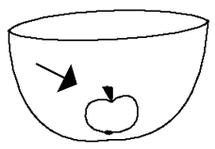

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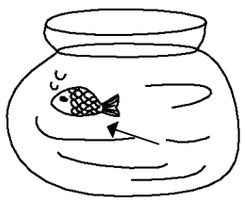
There is a gradient of increasing envelopment of the figure by the ground, NOT a set of discrete conceptual categories



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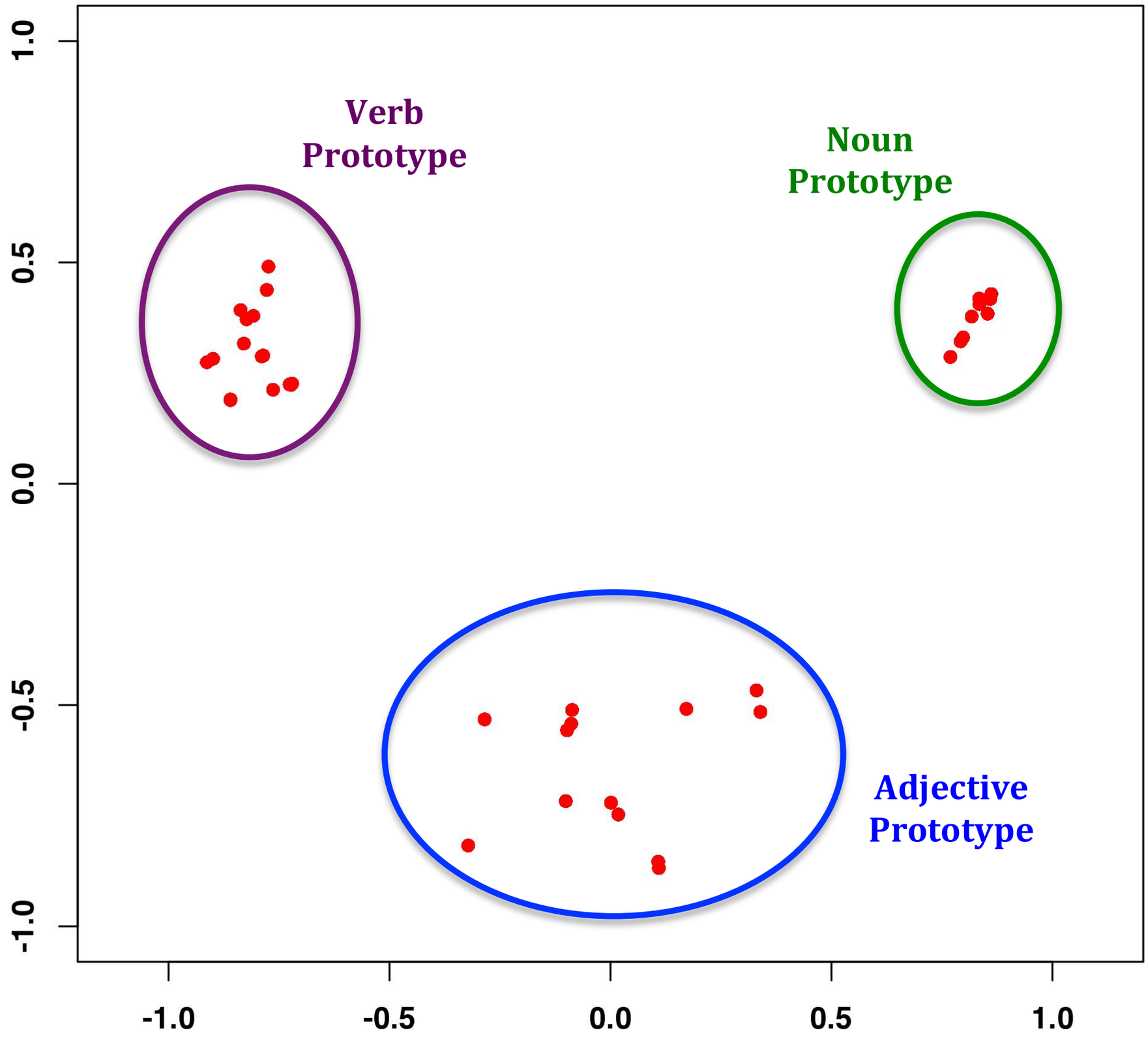
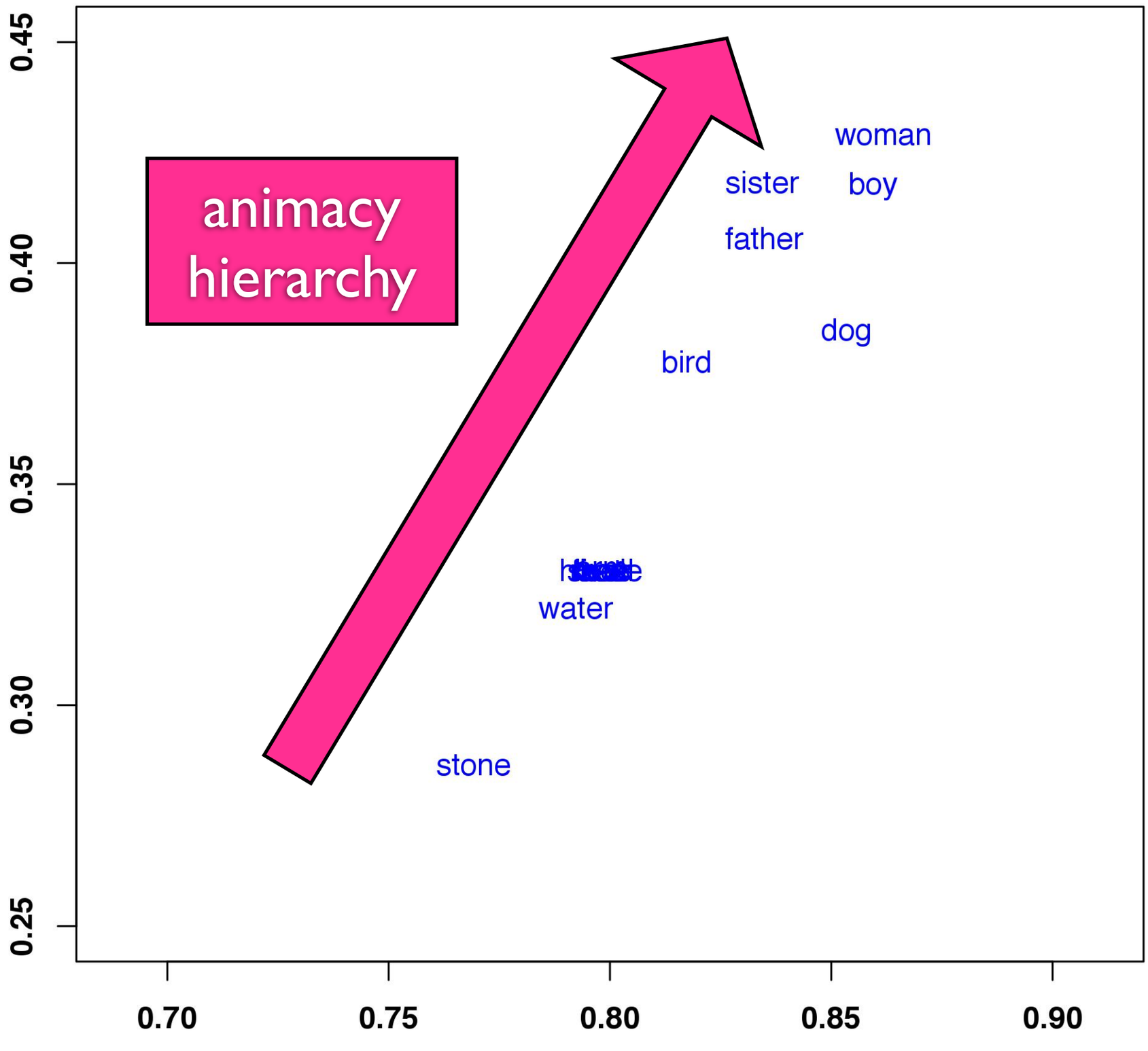
Parts of speech

- Rogers (2016) examined the morphosyntactic expression of 49 semantically diverse concepts in 11 languages, using the coding and behavioral constructions defining parts of speech according to Croft (1991, 2001)
- Object ("nominal") and action ("verbal") concepts were more uniform in morphosyntactic expression than property ("adjectival") concepts
- But these semantic categories nevertheless exhibited internal conceptual structure

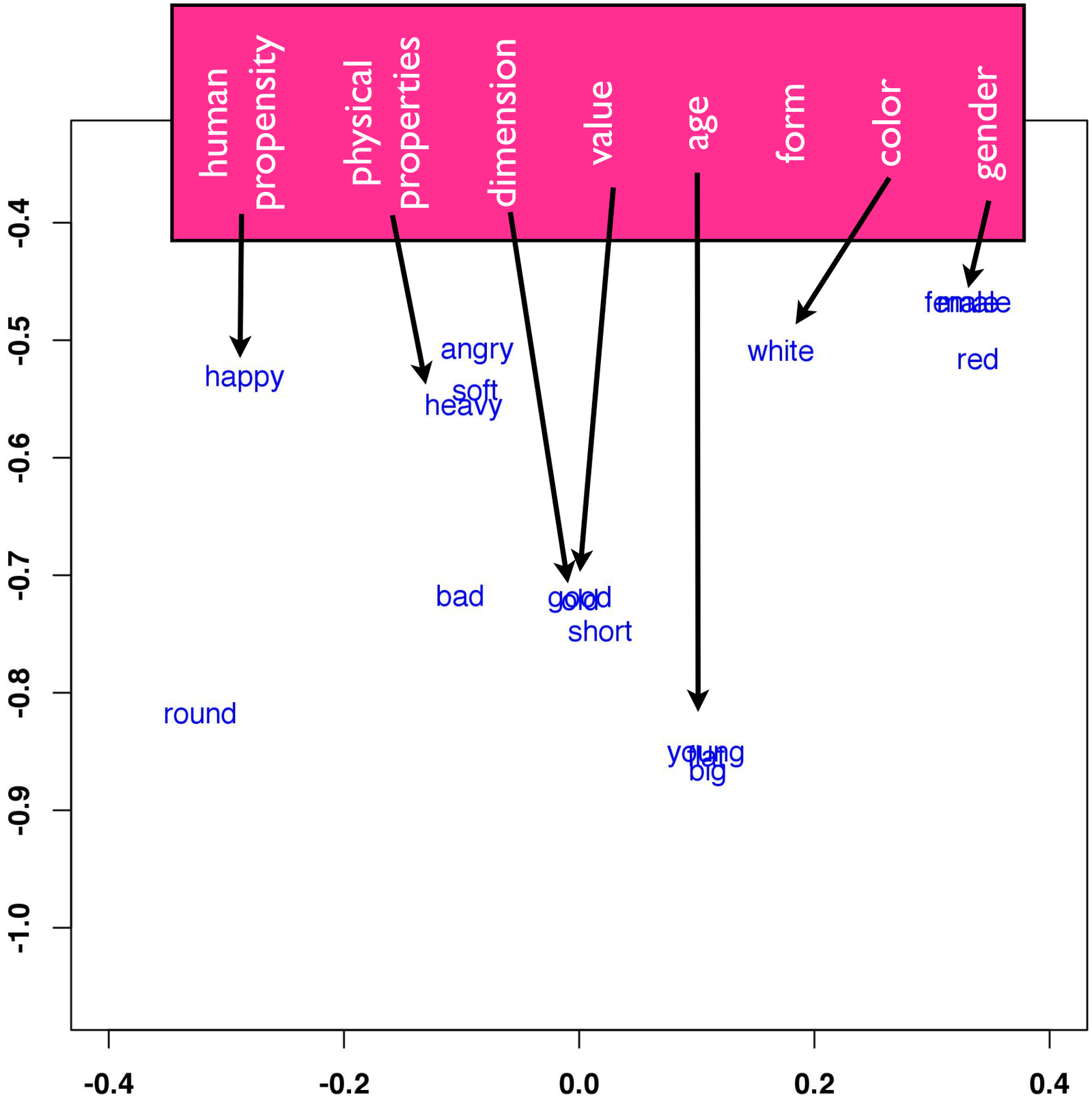
MDS analysis: prototypes?



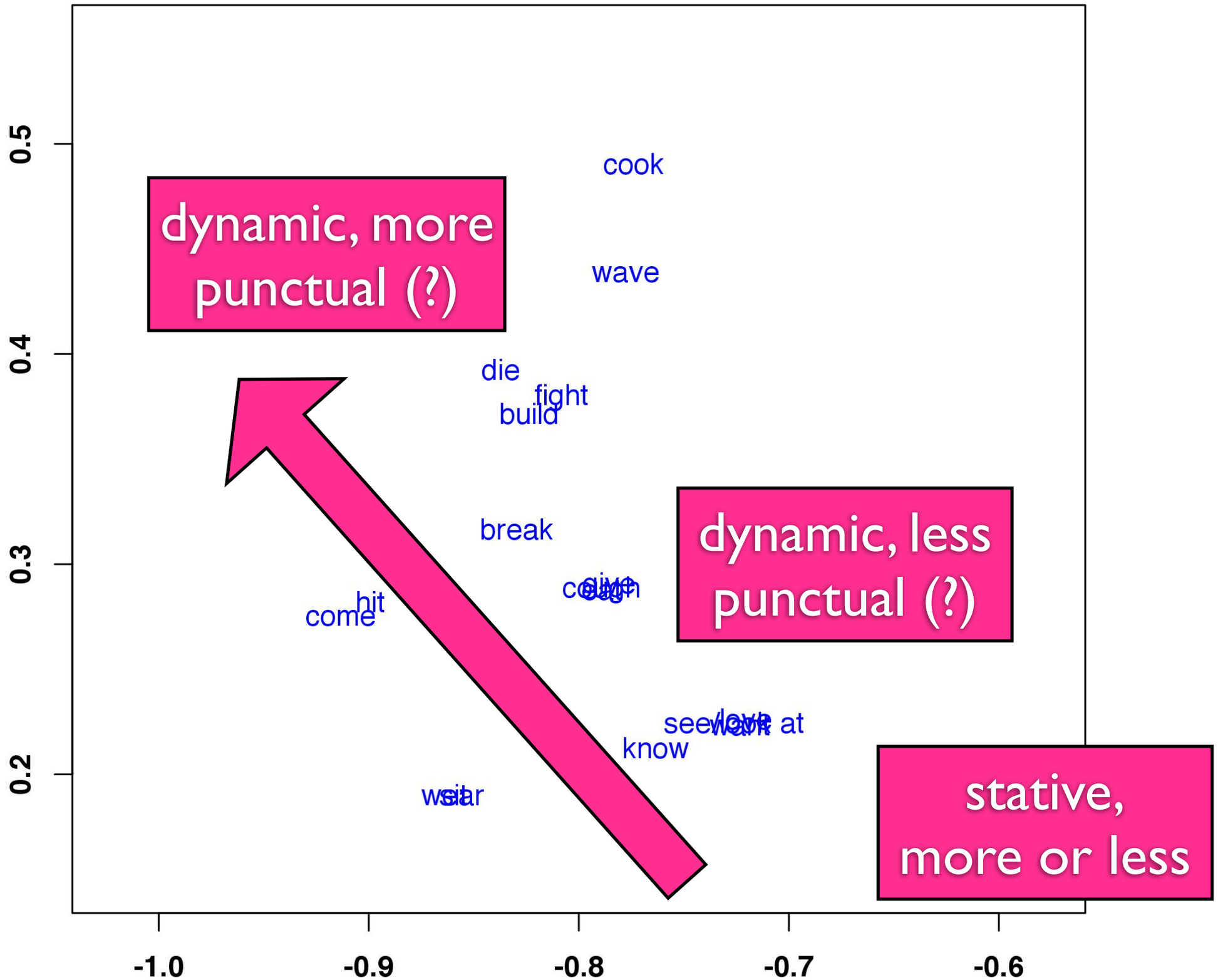
MDS analysis: noun prototype



MDS analysis: adjective prototype



MDS analysis: verb prototype



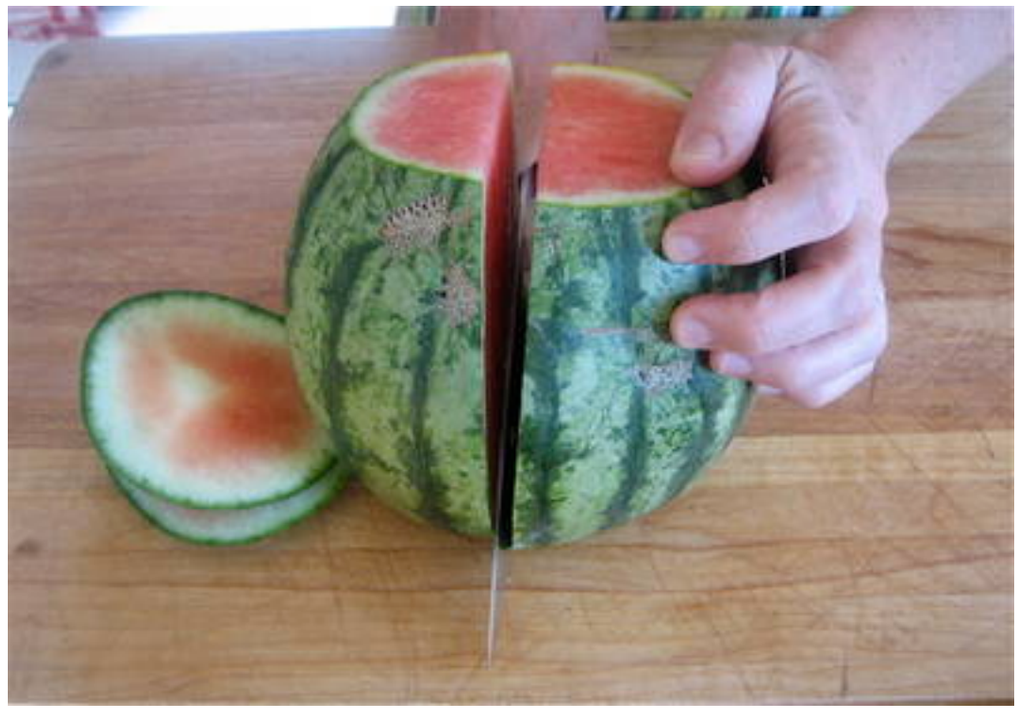
Summary

- Grammatical categories are constrained by the structure of conceptual space
- The structure of conceptual space is universal, but it does NOT consist of universal conceptual categories
- Instead, it consists of particular, holistic situation types and their relations to each other
- But linguistic function is not just semantic content
- Linguistic function involves the ***construal*** of semantic content

Construal

Physical tools and conceptual tools

- A physical tool is an object that we use to carry out some purpose, e.g. a knife is for cutting things



Tools and function

- But tools and function don't always match
- Three general principles follow from this

  - ✳ Physical objects are used in whatever way to achieve ***a person's goals*** in their actions
  - ✳ The ***nature of reality*** favors some functions for tools over others

  - ✳ ***Cultural conventions*** also favors/limits certain shapes and styles of tools

Linguistic meanings as conceptual tools

- We use words and grammatical categories/ constructions as ***tools*** to express meanings or concepts to our interlocutors
- And they can be used in different ways just as tools are
- This is what cognitive linguists call ***conceptualization*** or ***construal***

Examples of construal

The leaves are pretty.

The foliage is pretty.

- Two different construals (individuated vs. aggregate)
- Cannot be simultaneously construed both ways
- Neither construal is "better" than the other, out of context

The properties of construal

- ***Construal***: the process of conceptualizing an experience
  - ✦ there are multiple alternative construals available
  - ✦ you have to choose one or another; they are mutually exclusive
  - ✦ no construal is the "best" or "right" one, out of context

Examples of construal

Highest landfill use in Europe?

Actually, the UK is on course. It's just that it's a long road.

- Two different construals (different spatial metaphors)
- Cannot be simultaneously construed both ways
- Neither construal is "better" than the other, out of context

Another type of "construal"

But reading to a dog isn't so scary.

"When you're six or seven years old, that's quite a lot of dog bearing down on you."

- This looks similar to the previous examples of construals of experience, but in fact it is "construal" of a ***word***, namely *dog*
- There are significant differences between the two processes

Another type of "construal"

But reading to a dog isn't so scary.

"When you're six or seven years old, that's quite a lot of dog bearing down on you."

- First, the "construal" is not of the same experience: the meanings are different (the animal vs. weight of the animal), even if related
- So it looks more like a type of ***semantic shift***

Another type of "construal"

But reading to a dog isn't so scary.

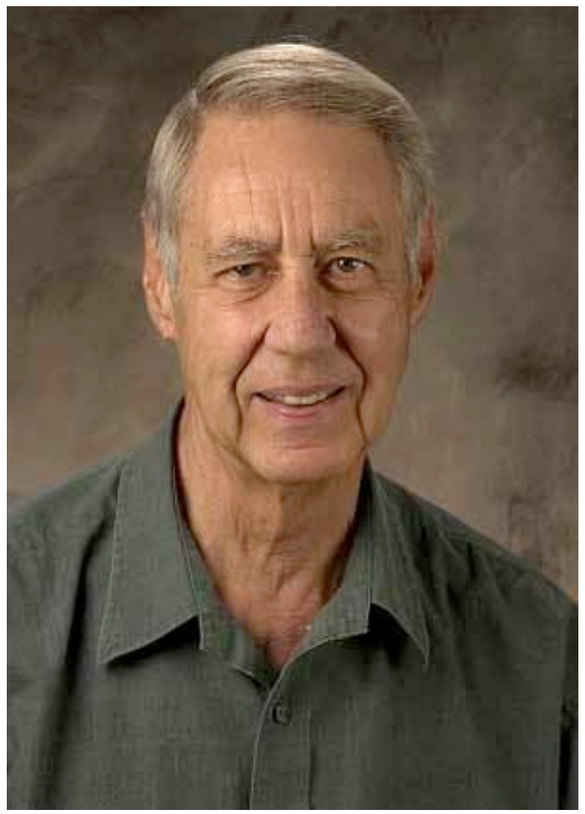
"When you're six or seven years old, that's quite a lot of dog bearing down on you."

- Second, it only involves construal in an indirect fashion (simplifying somewhat here):
  - ✳ the construction allows the employment of an image schema that forms part of the construal of the experience
  - ✳ while the word contributes its potential, or purport

The variety of constructions

- Construal and its competing motivations lead to the variety of constructions found across and within languages:
  - ✳ *The interlocutors' goals in discourse* allow for the high flexibility of constructional construals
  - ✳ *The nature of reality* favors some construals (prototypes) over others, which can be reflected in differences in constructional properties
  - ✳ *Cultural conventions* limit constructional construals within languages and preserve crosslinguistic variation in constructional properties

Verbalization and construal



Wallace Chafe, 1927-2019

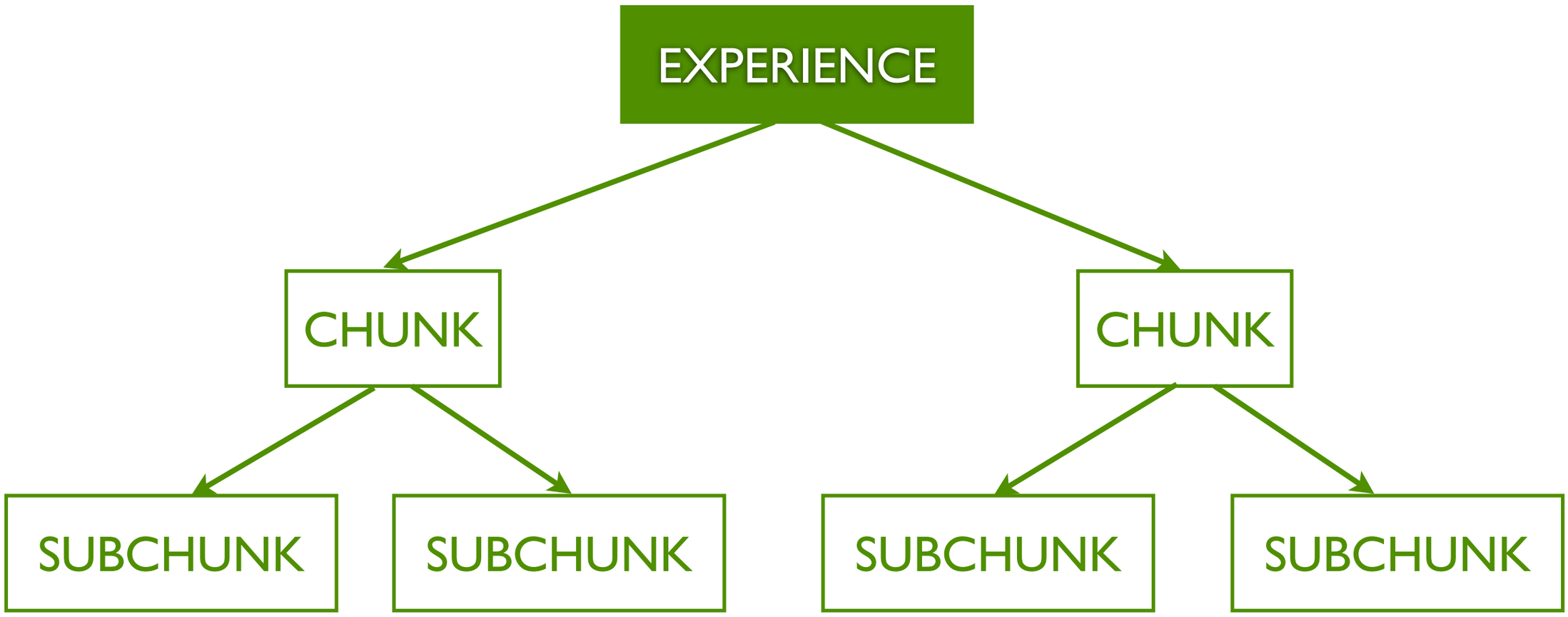
The verbalization of experience

- The structure of experience and the structure of language are completely different
  - ✦ Experience is a ***unique whole***
  - ✦ An utterance consists of ***reusable parts***
- How does one get from one to the other?

Let's get a pizza.

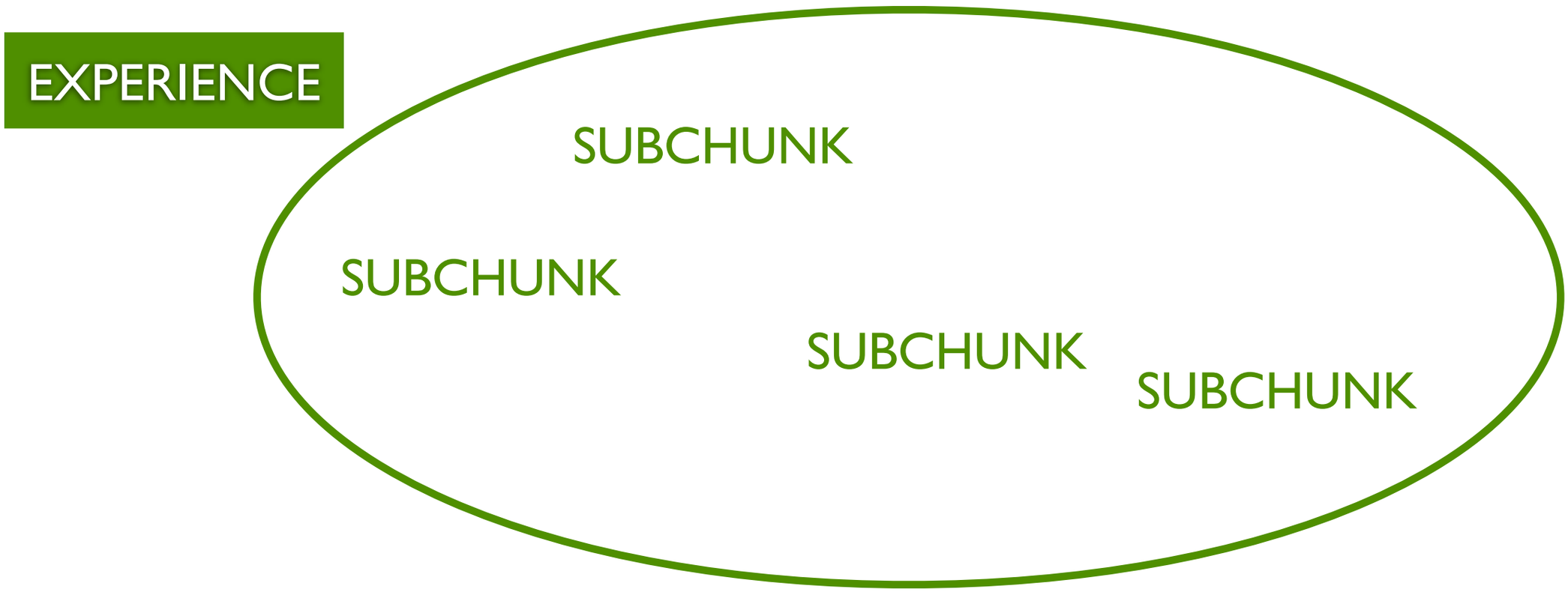
Chafe's model of verbalization

- A speaker takes the whole experience and breaks it into smaller chunks of the same holistic type - ***subchunking***



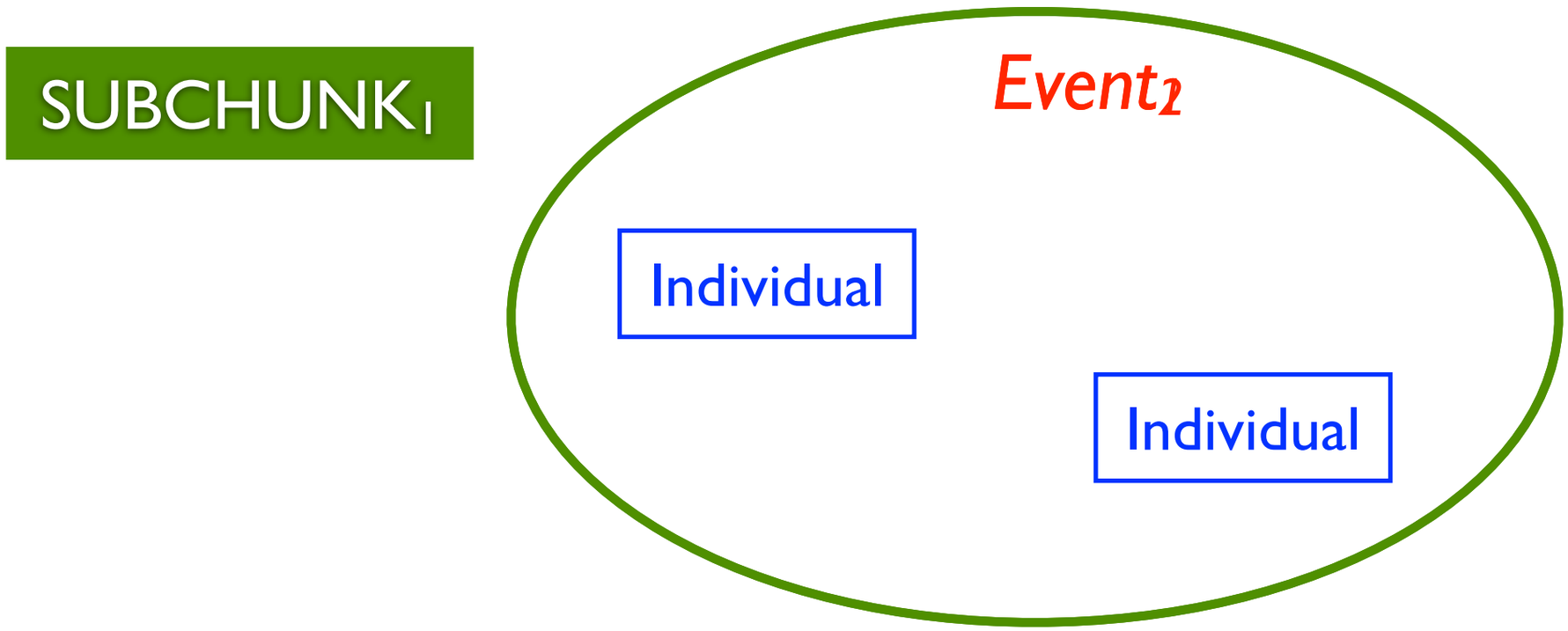
Chafe's model of verbalization

- Chafe later (1994) describes this process in terms of **consciousness**: a focusing of consciousness that moves around a semiactive periphery of consciousness



Chafe's model of verbalization

- A speaker then analyzes the chunk into parts of different type: individuals that recur across chunks, and the remainder, which is the event in the chunk - ***propositionalizing***



Chafe's model of verbalization, *cont.*

- Finally, a speaker identifies those parts (entities) in terms of previously verbalized, similar parts of prior experiences - ***categorizing***

- Chafe's later work retains this function

Chafe's model of verbalization, *cont.*

- At this point, the speaker can verbalize the originally unique, whole experience as reusable parts, namely the content words (nouns, verbs, adjectives) that are used in the utterance
- Chafe's 1977 model accounts for the universal organization of utterances into clauses, or at least intonation units, and phrases to some extent

Chafe's model of verbalization, *cont.*

- But the 1977 model does not account for the function words and grammatical categories and constructions that are so widespread in human languages (Chafe later partially remedies this)

Elaborating Chafe's model of verbalization

- Chafe's 1977 model describes how the unique whole of experience is broken down and the parts are identified by categories
- But language also allows the speaker to particularize the general categories to the unique parts in the experience, and to reconstitute the experiential whole
- Thus, the unique whole can be communicated

Elaborating Chafe's model of verbalization

Taking it apart…	*…and putting it back together again*
Subchunking/Focusing of consciousness	Cohering (Flow of consciousness)
Propositionalizing	Structuring
Relating it to prior experience…	*…and re-establishing its unique specificity*
Categorizing	Particularizing: Selecting (Instance) Situating (Grounding, Orientation)

Particularizing

- Categorizing relates an entity in the experience to prior entities by subsuming them under a general category/type, e.g. *hummingbird*
- But the speaker is verbalizing an experience with a particular instantiation of the category
- The speaker does so by ***selecting*** the instantiation, and ***situating*** it in physical and mental space

Particularizing

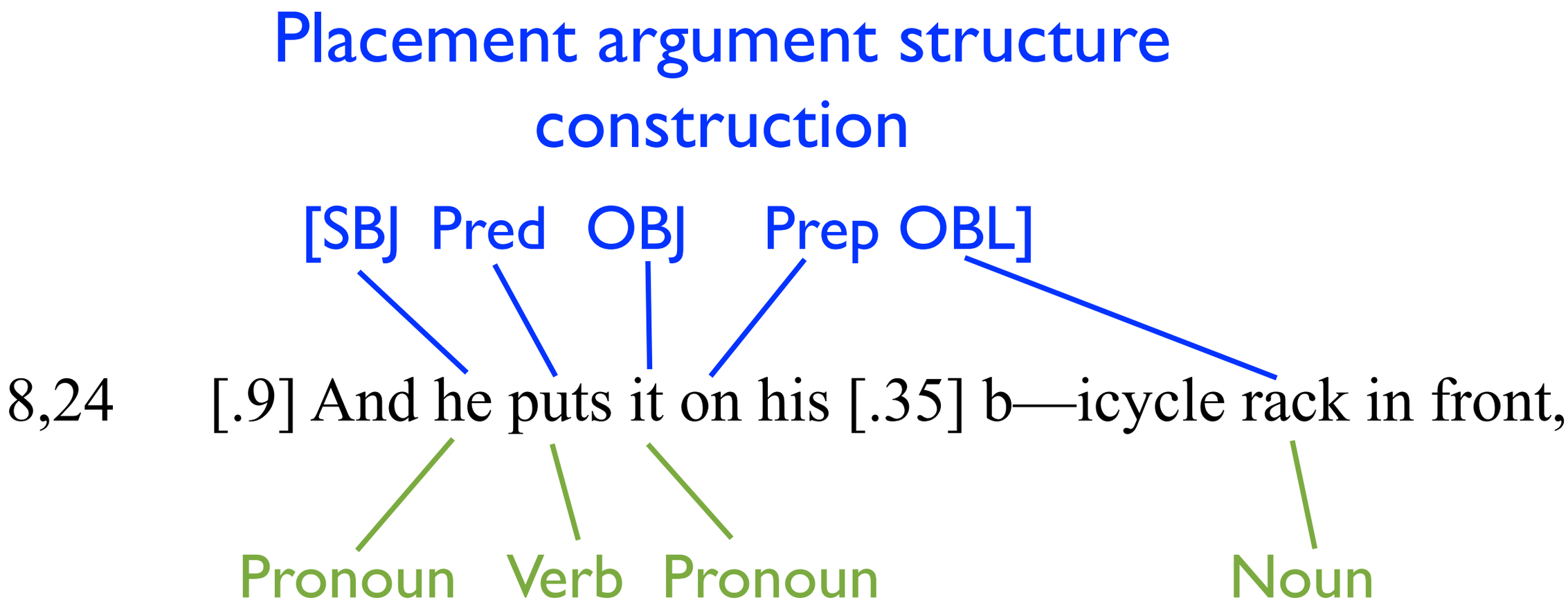
	Individuals	Events
Selecting	*a hummingbird,* *two hummingbirds,* *a pair of* *hummingbirds*	*flew,* *was flying,* *is about to fly*
Situating	*the hummingbird* *in the nest,* *a/the hummingbird,* *Joey's hummingbird*	*will fly, might fly,* *flew yesterday,* *flew on Tuesday,* *Joey thinks it flew*

Structuring

- ***Structuring*** takes the particularized entities in a subchunk of the verbalized experience (roughly: the event, participants, and their properties that have been verbalized), and reassembles them into the whole subchunk

- Grammatically, structuring represents clause structure, including argument structure and modification within phrases, and the division into parts of speech (propositional action constructions)

Structuring



Parts of speech (propositional act constructions)

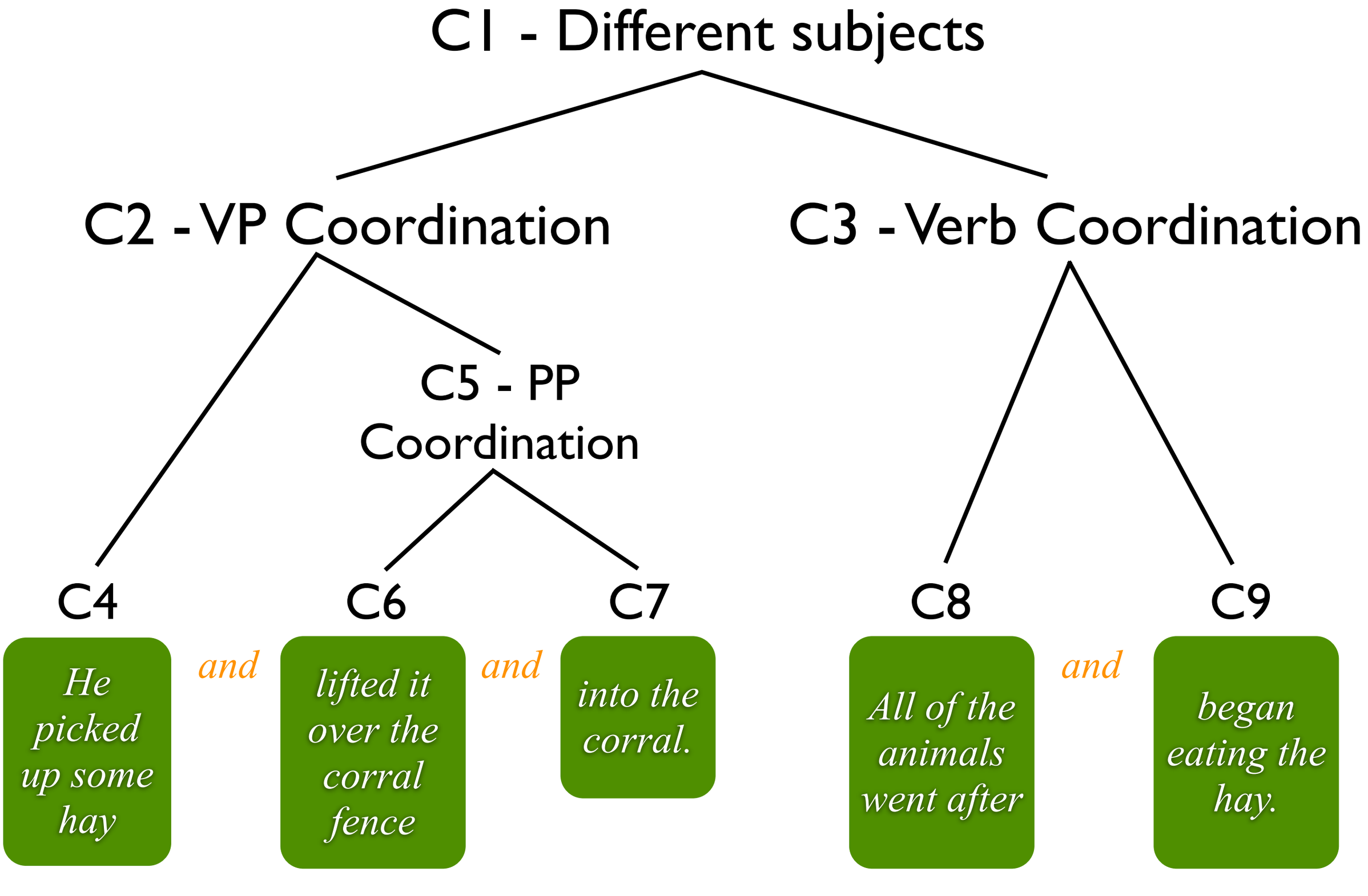
Cohering

- ***Clause linkage***: coordination, subordination
  - ✦ Coordination: *So they're walking along, and they brush off their pears, and they start eating it.*
  - ✦ Subordination (balanced): *And because he's watching her, when he turns around his hat comes off.*
  - ✦ Subordination (deranked): *Without saying anything, they help him put the pears back in the basket.*

Cohering

- ***Reference tracking***: anaphora, ellipsis (null instantiation), switch-reference
  - ✦ Sbj=Sbj: *Sally ate the banana and __ tossed the peel* (VP Coordination, Conjunction Reduction)
  - ✦ Obj=Obj: *Sally peeled __ and Gary ate the banana* (Right Node Raising)
  - ✦ Sbj=Sbj and Obj=Obj: *Sally peeled __ and __ ate the banana* (Verb Coordination, Conjunction Reduction)
  - ✦ Sbj≠Sbj and Obj≠Obj: *Sally ate the banana and Gary __ the watermelon* (Gapping)

An example (Chafe 1977:242)



The inventory of constructions

- The verbalization process motivates the types of constructions found across languages:
  - ✴ *Particularizing*: various adnominal and adverbial (including "satellite") constructions
  - ✴ *Structuring*: clausal (predicate-argument) and phrasal (attributive) constructions, including argument structure and information structure constructions
  - ✴ *Cohering*: many complex sentence constructions; reference tracking, including anaphora, null instantiation, switch-reference

The grammaticalization of constructions

- All of the processes of verbalization can be expressed lexically ("periphrastically")
- But the "reconstituting" processes (particularizing, structuring, cohering) are highly likely to be *grammaticalized*
- This is partly because there are many fewer options for reconstituting an experience that has already been broken down and has had its parts categorized
- *Usage patterns* (e.g. frequency) lead to particular combinations of multiple verbalization processes to be grammaticalized into single complex constructions

Comparative concepts and the structure of morphosyntax

Constructions and strategies

- The issue: the grammatical concepts used in linguistic description are language-specific, because they are defined by language-specific properties (Croft 2001; Haspelmath 2010)
- Croft (2014, 2016) defines two types of ***comparative concepts*** (Haspelmath 2010):
  - ✳ ***constructions***: whatever structure is used to express a function
  - ✳ ***strategies***: a specific, cross-linguistically definable structure used to express a function

Constructions vs. strategies

Construction

Strategies

predication of object concept

inflected copula

English:

Ivan is the best dancer.

Russian:

Ivan lučšij tancor

zero copula/zero inflection

Types of strategies

Encoding strategies: forms/structures that encode the constructional function

Ivan ***is*** *the best dancer.*

Coexpression strategies: expressing different functions in different constructions with the same form

Sally sat ***with*** *Harry./Sally ate it* ***with*** *chopsticks.*

Recruitment strategies: recruit an entire construction for another function

Eva ***has an iPhone****./Eva* ***has a cold****.*

Semantics and information packaging

- POS—noun, verb, adjective—have posed extremely vexing problems for crosslinguistic analysis
  - ✦ Definitions of POS are language-specific (morphological inflections, syntactic constructions)
  - ✦ Claims that "This language has no Adjectives", etc. are due to definitions based on European POS ***strategies***
- Solution: POS represent a combination of **semantic content and information packaging** (Croft 1991, 2001, in prep.)

The functional-typological analysis of POS

	reference	*modification*	*predication*
object	*the sharp* ***thorns***	*the* ***bush's*** *thorns*	*It's* ***a thorn****.*
property	***sharpness***	*the* ***sharp*** *thorns*	*Those thorns* ***are sharp.***
action	*(I said)* ***that*** *the thorns* ***scratched*** *me* *the* ***scratching*** *of the thorns*	*the thorns* ***that scratched*** *me* *the thorns* ***scratching*** *me*	*The sharp thorns* ***scratched*** *me.*

Semantic content and information packaging

- This "two-dimensional" analysis of function accounts for typological variation in form, and allows us to distinguish POS constructions from POS strategies
- In fact, **all** linguistic meaning, that is, meanings of grammatical constructions, can be described as the information packaging (Clark's [1996] 'formulation') of semantic content

Predicate-argument structure

	core		*oblique*
	subject	*object*	
agent	***The director*** *presented the watch to Bill.*	*(not found in English, but compare Algonkian inverse, Austronesian voice)*	*Bill was presented with the watch* ***by the director.***
theme	***The watch*** *was presented to Bill.*	*The director presented* ***the watch*** *to Bill.*	*The director presented Bill with* ***the watch.***
recipient	***Bill*** *was presented with the watch.*	*The directed presented* ***Bill*** *with the watch.*	*The director presented the watch* ***to Bill****.*

Complex sentences

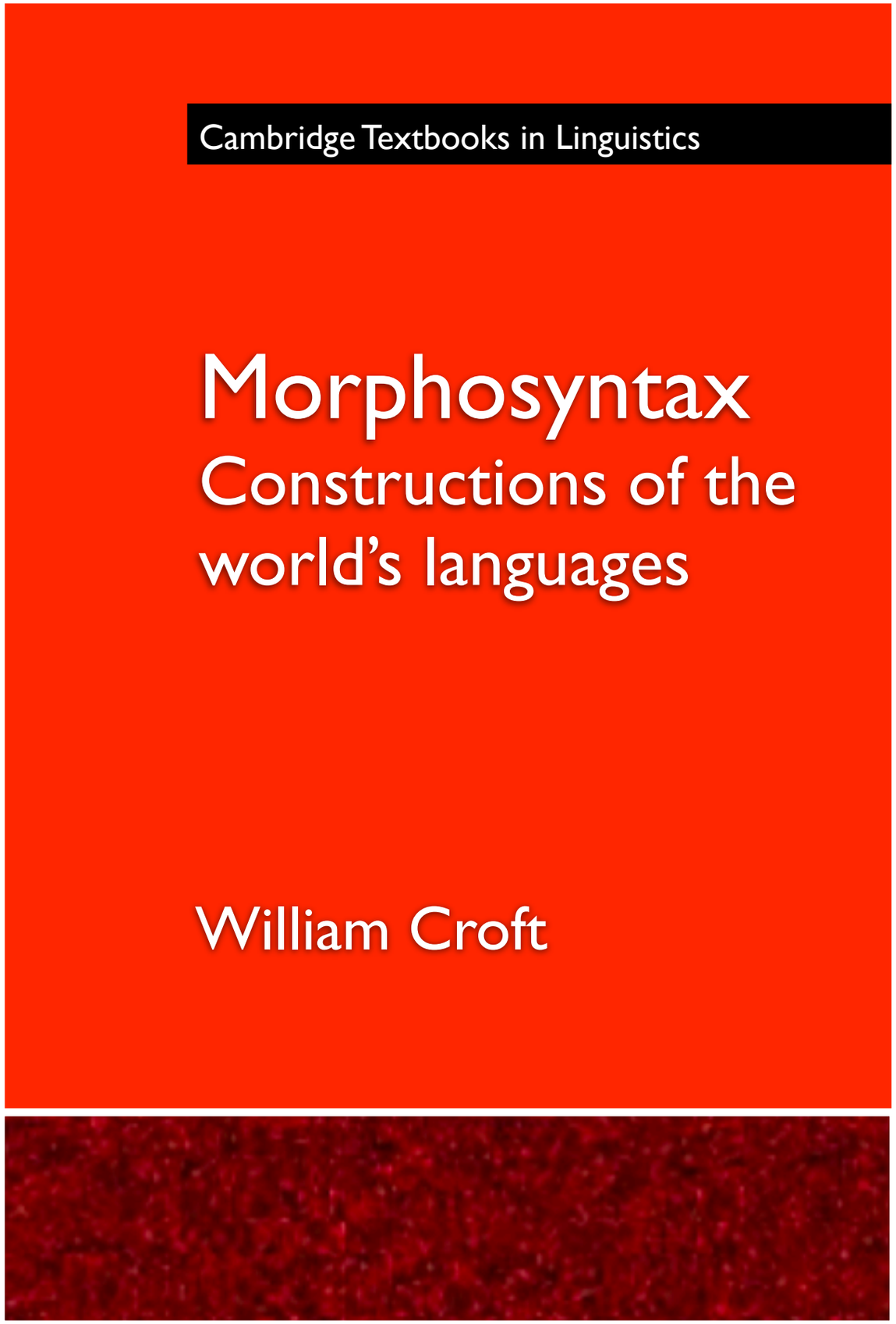
	Subordination construction	*Coordination construction*
Anterior	*He washed the car **before** driving to the party.*	*He washed the car **and** drove to the party.*
Posterior	*He drove to the party **after** washing the car.*	*He washed the car **and** drove to the party.*
Overlap	*He washed the car **while** the sun was still shining.*	*The sun was shining **and** he was washing the car.*
Cause	*She went to bed **because** she was exhausted.*	*She was exhausted **and (so)** went to bed.*
Purpose	*I will grab a stick **(in order) to** defend myself.*	*I will grab a stick **and** defend myself.*
Apprehensional	*I grabbed a stick **lest** he attack me.*	*Grab a stick **or** he will attack you.*

Complex sentences

	Subordination construction	*Coordination construction*
Means/Positive Circumstantial	*He got into the army **by** lying about his age.*	*He lied about his age **and** got into the army.*
Negative Circumstantial	*She carried the punch into the living room **without** spilling a drop.*	*She carried the punch into the living room, **but/and** she didn't spill a drop!*
Additive	***In addition to** having your hand stamped, you must show your ticket stub.*	*You have to have your hand stamped **and** show your ticket stub.*
Substitutive	*We barbecued chicken at home **instead of** going out to eat.*	*We didn't go out to eat, **and** barbecued chicken at home.*
Subtractive	*He did all the problems correctly **except** he missed the proof on the last one.*	*He did all the problems correctly **but** he missed the proof on the last one.*
Conditional	***If** you do that, **(then)** the terrorists have won.*	*Murphy, you do that **and** the terrorists have won, …*

Clause-level information status

topic-comment (categorical)	*thetic*	*identificational*
The Mac is mine.	*I have a MAC.*	*It's the MAC that is mine (not the PC).*
The soup tureen is sitting on the table.	*On the table sat a SOUP TUREEN.*	*The soup tureen is on the TABLE (not in the kitchen).*



(In preparation...)

The structure of *Morphosyntax*

Part One—Introduction

Part Two—Argument Phrase Structure: Reference and Modification

Part Three—Clause Structure: Predication and Arguments

Part Four—Complex Sentences

Typology and cognitive linguistics, **revisited**

- Typology leads to a Radical Construction Grammar approach to syntax: no universal syntactic categories
- The same typological approach (semantic maps/MDS) leads to no universal semantic categories either
- The cognitive linguistic concept of construal provides another view of semantics

Typology and cognitive linguistics, **revisited**

- Chafe's model of verbalization provides a functional basis for (morpho)syntax
- Verbalization is construal
- Constructional meaning always involves information packaging
- Information packaging is verbalization is construal
- Syntax = origin and evolution of constructional strategies across languages