

External Possession and the Undisentanglingability of Syntax and Semantics

Luke

What is language?

(Page 1)

The Intuitive View of Language

Well, languages are made of sound.

And language has meaning.

So language is 'sound with meaning.' (Aristotle)

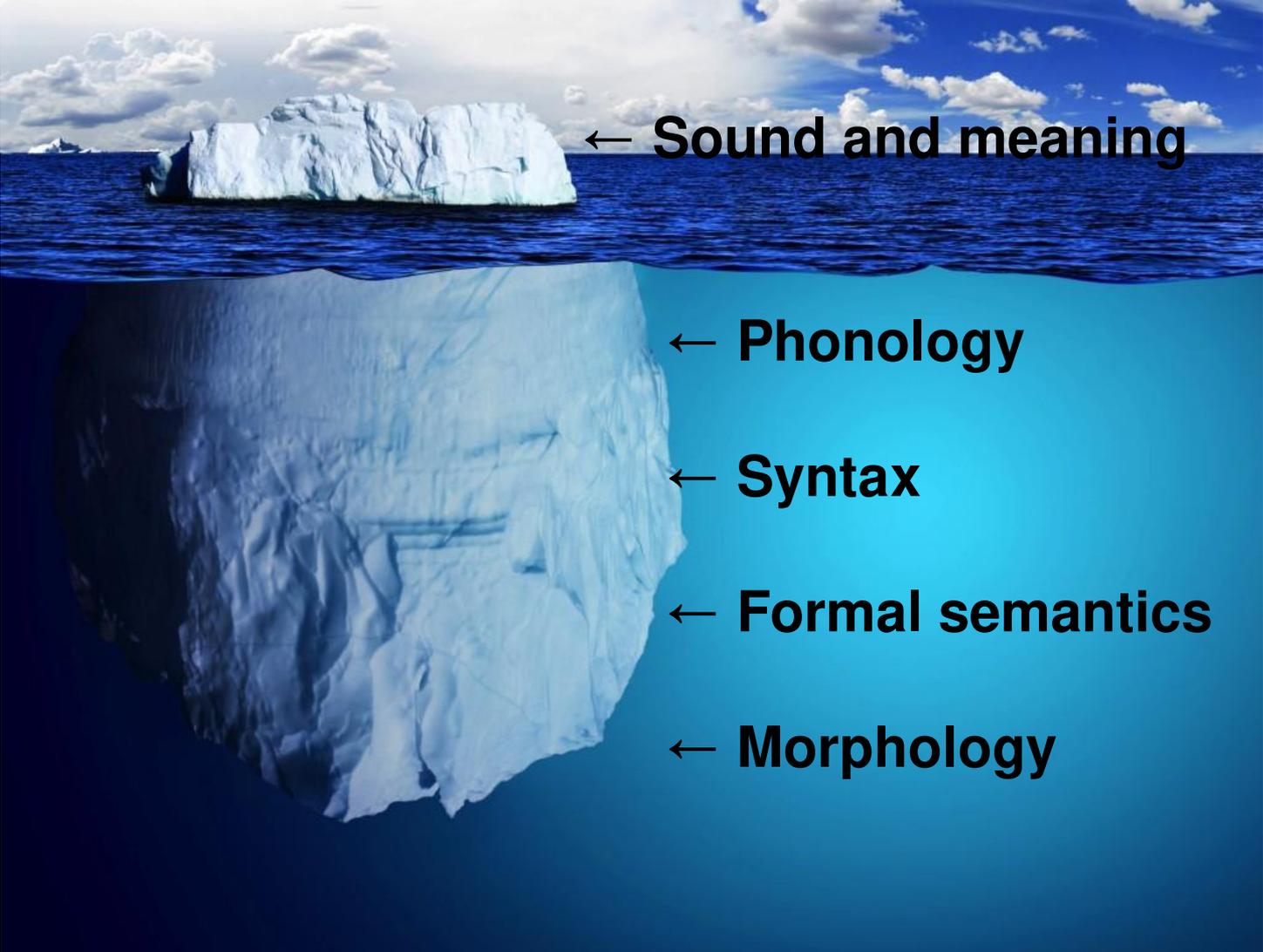
Saussure's *signifiant* (sound) and *signifié*
(meaning)

But language is far more than that...

In fact, most of linguistics is the study of the traits of language apart from meaning and sound *per se*...

Syntax

Phonology



← **Sound and meaning**

← **Phonology**

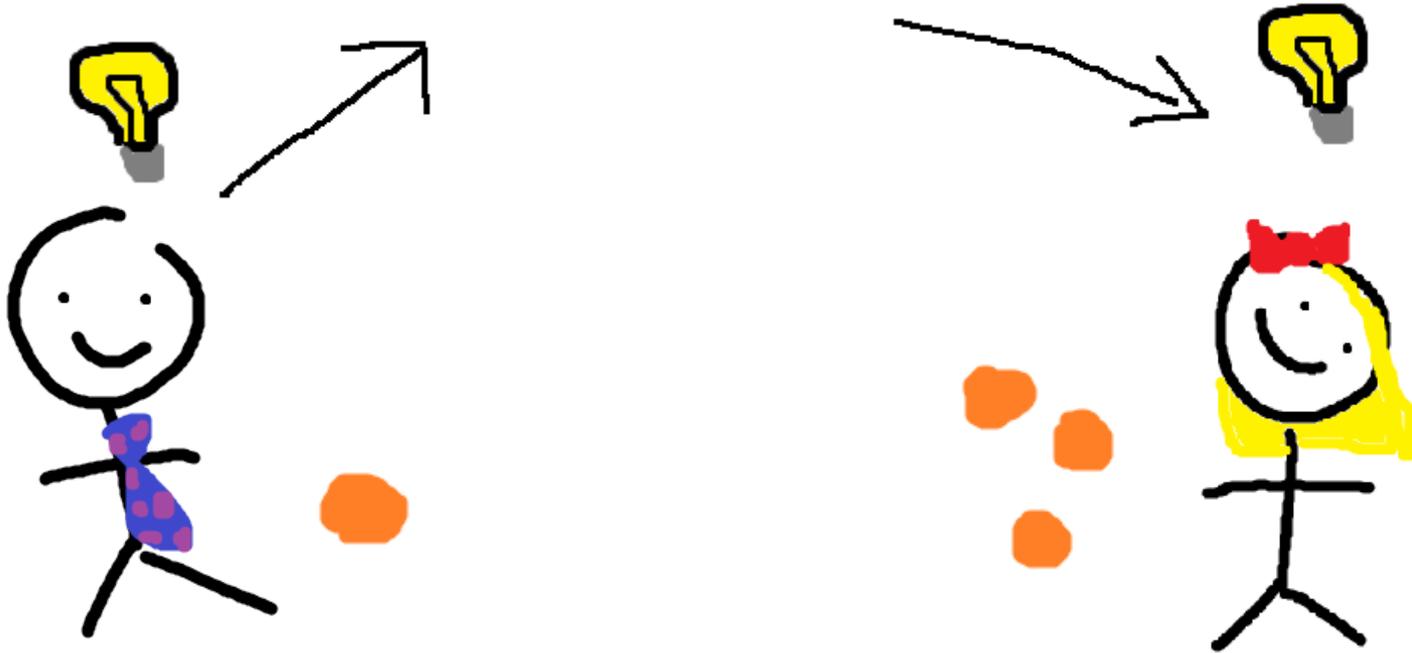
← **Syntax**

← **Formal semantics**

← **Morphology**

<dramatization>

Can I have an orange?



Give orange me me
eat orange me eat orange
give eat give give me
orange you.*



(*actual quote)

Linguistics - the study of the *lower iceberg*

Linguistics generally is the study of what makes us different from other apes.

“If we want to study the lower iceberg, we have to hold the upper iceberg constant!”
(An assumption of Structural and Generative Linguistics!)

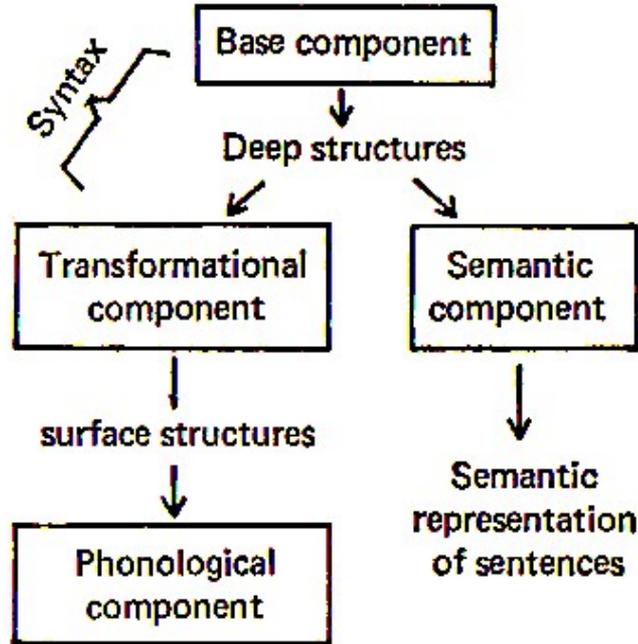
Traditional Generative Linguistics

“techniques which enable [linguists] [...] to determine the state and structure of natural languages *without semantic reference*”

(Chomsky 1953)

“I think that we are forced to conclude that grammar is autonomous and independent of meaning.” (Chomsky 1957: 17)

“Aspects” Theory of Grammar (1965)



(from Searle 1972)

Phonological representation of sentences

The Theoretical Problem

Syntax precedes semantics... (Interpretive)

Prima facie, shouldn't the linguistic system
know the semantics of a sentence it makes?

Additionally, the syntactic engine has to rule
out semantically anomalous sentences.

Selectional features and Subcat Frames

*the boy elapsed.

elapse [V, requires [+temporal] NP]

Why do this when semantics will already #/*/? an anomalous sentence?
If syntax precedes semantics, there is always *redundancy*.

“[C]alling [\pm tumor] or [\pm prawn] *syntactic features* parallel to [\pm transitive] or [\pm plural] rebels against any traditional notion of syntax.” (Harris 1993; 129)

The Empirical Problem

Semantics conditions nearly *every* syntactic phenomenon.

Unergatives vs. unaccusatives

vP Hypothesis - agent θ -role is universal and identical

Uniform θ -role Assignment Hypothesis (UTAH)

Syntactic structure = semantic (?)

Adjective orderings are stable across languages (Scott 2002).

DETERMINER > ORDINAL NUMBER > CARDINAL NUMBER > SUBJECTIVE COMMENT > ?EVIDENTIAL > SIZE > LENGTH > HEIGHT > SPEED > ? DEPTH > WIDTH > WEIGHT > TEMPERATURE > ?WETNESS > AGE > SHAPE > COLOR > NATIONALITY/ORIGIN > MATERIAL > COMPOUND ELEMENT > NOUN

Languages show *absolutely stable* orderings of functional heads and adverbs. (Cinque 1999)

Sanio-Hiowe	a	Mood _{speech act}	b	AdvP _{speech act} (frankly,...)	Burmese
Tauya		Mood _{evaluative}		AdvP _{evaluative} (fortunately,...)	Chinese
Una		Mood _{evidential}		AdvP _{evidential} (allegedly,...)	Garo
Yareba		Mod _{epistemic}		AdvP _{epistemic} (probably,...)	Kachin
Wahgi		Tense _{past/future}		AdvP _{past/future} (then,...)	Patami
Na-Dene		Mod _{necessity}		AdvP _{necessity} (necessarily,...)	Tshangla
Canela-Craho		Mod _{possibility}		AdvP _{possibility} (possibly,...)	Aleut
Diegueño		Aspect _{habitual}		AdvP _{habitual} (usually,...)	Central Alaskan
		Aspect _{repetitive}		AdvP _{repetitive} (again,...)	Malayalam
French	Ubykh	Aspect _{frequentative}		AdvP _{frequentative} (frequently,...)	Kammu
Italian	Lezgian	Mod _{volition}		AdvP _{volition} (willingly,...)	Thai
English	Arabic	Aspect _{celerative}		AdvP _{celerative} (quickly,...)	Malay
Spanish	Mofu-Gudur	Tense _{anterior}		AdvP _{anterior} (already)	Kwaio
Welsh	Dagaare	Aspect _{terminative}		AdvP _{terminative} (no longer,...)	Ponapean
Greek	Fula	Aspect _{continuative}		AdvP _{continuative} (still,...)	Kiribatese
Hindi	Gungbe	Aspect _{continuous}		AdvP _{continuous} (always,...)	Anejom
Finnish	Isekiri	Aspect _{retrospective}		AdvP _{retrospective} (just,...)	Samoan
Hungarian	Kako	Aspect _{durative}		AdvP _{durative} (briefly,...)	Tokelau
Evenki	Kom	Aspect _{prospective}		AdvP _{prospective} (imminently,...)	Big Nambas
Korean	Makaa	Mod _{obligation}		AdvP _{obligation} (obligatorily,...)	Walmadjari
Turkish	Sotho	Aspect _{frustrative}		AdvP _{frustrative} (in vain,...)	Ngiyambaa
Abkhaz	Yoruba	Aspect _{completive}		AdvP _{completive} (partially,...)	Fore
		Voice _{passive}		AdvP _{manner} (well,...)	Menya
		Verb		Verb	

...

Hidatsa, Ika, Macushi, Quechua, Ute, Waorani,
Berbice Dutch Creole, Guyanese Creole, Haitian
Creole, Louisiana Creole, Ndyuka, Nigerian Pidgin,
Seychelles Creole, Sierra Leone Krio, Sranan,
Basque, Coahuilteco, Zuni...

(Let's just say *all of them* for now...)

The more we understand human syntax, the deeper are the connections we see between syntax and semantics!

Prediction:

Syntax and semantics are *undisentangleable* in the human linguistic system.

If syntax and semantics are fundamentally linked or even identical at the core of language, we should expect *semantically* similar alternations to show similar syntactic constraints.

What we're going to find:

External Possession is a semantic alternation that produces some syntactic 'glitches' in different languages.

Interesting thing is that these glitches are *highly uniform*. Why should this be the case if syntax and semantics are separate systems?

Oh and be skeptical!

External Possession/Spanish 101

‘I washed the child’s face.’

#Lavé la cara del niño.

Le lavé la cara al niño.

Lit. ‘I washed the face to the boy.’

External Possession

External Possession (EP) constructions consist in the possessor of an argument being 'promoted' into full argumenthood.

[la cara del niño] → one verbal argument

[la cara] [al niño] → two verbal arguments

Basic Syntactic Traits

Externalized possessors can move and function independently:

Era [al niño] que le lavé [la cara] *t*. (EP)

*?Era del niño que lavé la cara *t*. (IP)

Korean

Mary-ga [John-uy dari-reul] chatda. (IP)

Mary-NOM John-GEN leg-ACC kicked

‘Mary kicked John’s leg.’

Mary-ga [John-eul] [dari-reul] chatda. (EP)

Mary-NOM John-ACC leg-ACC kicked

‘Mary kicked John’s leg.’ or ‘...John in the leg’

Affectedness condition

EP/IP are *not* free variants! EP entails possessor *affectedness*!

Mary-ga John-eul eogur-eul ttaeryeotda (EP)
Mary-NOM John-ACC face-ACC hit
'Mary hit John's face.'

*Mary-ga John-eul eogur-eul saranghaetda. (EP)
Mary-NOM John-ACC face-ACC loved
putatively: 'Mary loved John's face.'

Different interpretations of EP/IP:

Le abrieron el estómago a Billy. (EP)

‘They opened Billy’s stomach.’

(He was emotionally and physically affected.)

Abrieron el estómago de Billy. (IP)

‘They opened Billy’s stomach.’

(Maybe he was dead or unconscious.)

Same Affectedness (Pomo)

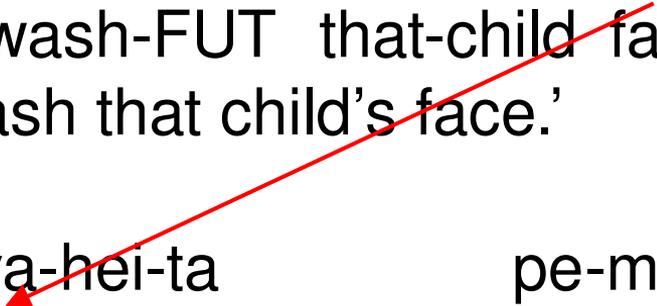
[hayu yaču? ?uy-nam] mo:w xabe-wih baneh (IP)
dog OBL eye-DET he rock-INST hit
'He hit the dog's eye with a rock (maybe he's okay...)'

[hayu yačul] mo:w xabe-wih [?uy] baneh (EP)
dog ACC he rock-INST eye hit
'He hit the dog's eye w/ a rock (and now the dog can't see)'

EP in Noun Incorporation (Guaraní)

A-johei-ta pe-mitã rova. (IP)
1AC-wash-FUT that-child face
'I'll wash that child's face.'

A-hova-hei-ta pe-mitã. (EP)
1AC-face-wash-FUT that-child
'I'll wash that child's mouth.' (lit: face)



Again, same semantics... (affectedness)

*A-hova-hei-se pe-mitã,
1-face-wash-DES that-child

pero i-sy he'i nda-i-ky'a-i ha.
but mom say NEG-3-dirty-NEG that

'I washed the child's face but his mother said it wasn't dirty.'

Okay!

<remember to breath>

So these alterations have similar *semantics*.

But they also have these same weird syntactic glitches!

EP cannot occur from agents!

Mary-uy dari-ga John-eul chatda. (IP)

Mary-GEN leg-NOM John-ACC kicked

‘Mary’s leg kicked John.’

*Mary-ga dari-ga John-eul chatda. (EP)

Mary-NOM leg-NOM John-ACC kicked

putatively: ‘Mary’s leg kicked John.’

But it's not because of subjecthood!

Mary-ga dari-ga bureojida. (unaccusative)
Mary-NOM leg-NOM broke
'Mary's leg broke.'

*Mary-ga ip-i malhaetda. (unergative)
Mary-NOM mouth-NOM spoke
putatively: 'Mary's mouth spoke.'

And Spanish...

Se le rompió el brazo a Billy. (unaccusative)
'Billy's arm broke.'

*(Se) le habló la boca a Billy. (unergative)
putatively: 'Billy's mouth spoke.'

Same in Hebrew...

ha-kelev ne'elam le-Rina. (Borer & Grodzinsky 1986)
the-dog disappeared to-Rina
'Rina's dog disappeared.' (unaccusative)

*ha-kelev hitrocec le-Rina.
the-dog ran-around to-Rina
putatively: 'Rina's dog ran around.' (unergative)

And German...

Der Arm ist mir eingeschlafen.

(Lee-Schoenfeld 2006)

‘My arm fell asleep.’

*Der Hund ist Lena herumgelaufen.

(Lee-Schoenfeld

2006)

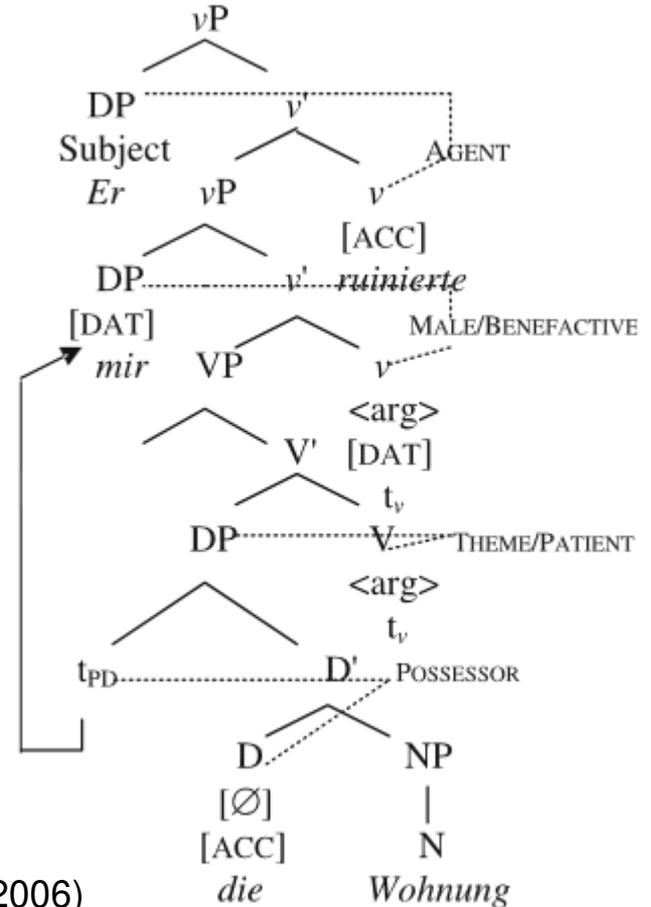
‘Lena’s dog ran around.’

<Token syntax tree>

Er ruinierte mir die Wohnung.

“He ruined my place.” (EP)

mir can raise from a patient,
but not fall from an agent!



(Vleesch 2006)

Adjectival Modification

The possessa of EPCs cannot be modified by non-restrictive adjectives!

*Je lui ai lavé les cheveux **blonds**. (Guéron 1986)
putatively: 'I washed his blond hair.'

*Le lavé la **bella** cara al niño. (ibid.)
putatively: 'I washed the boy's beautiful face.'

Adjectival Modification

?John-i Mary-reul **yeyppun** son-eul chapatda. (O'Grady 1991)

John-N Mary-A beautiful hand-A held

putatively: 'John held Mary's beautiful hand.'

*ha-rofe badak l-o 'et ha-rof **ha-pacu'a**

the-doctor examined to-him ACC the-head the-wounded

putatively: 'The doctor examined his wounded head.'

(Siloni 2002)

Adjectival Modification

*Che-resa-**tuicha**-se. (Velasquez-Castillo 1996)

1 IN-eye-big-VOL

‘I want to have big eyes.’

Deep syntactic similarity with noun
incorporation?

TL;DR

For more information: Smith (forthcoming)

Agentivity limitation

*Adjectival modification

Oh and a lot of other things:

Distributed plurality

El médico les examinó la garganta/*las gargantas.

Anaphoric differences

Pragmatics

etc.

So what do we see in External Possession?

Different semantics = different syntax
Consistency

Why should two segmented systems affect each other in such predictable ways?

This isn't only true of EP!

Dative alternation constructions obey the same constraints across languages!
(English, Spanish, Dutch, Korean)

Pragmatics of passives/topic/focus

The Problem!

Which comes first?

- syntax > semantics (interpretive semantics)
- semantics > syntax (generative semantics)

***syntax > semantics**

<aforementioned theoretical problems>

Why should all of these syntactic constraints
in language *happen* to be conditioned by
semantic changes?

***semantics > syntax**

Generative semantics:

formal logic → transformations → language

Why are some logical statements unsayable?

Semantic holes in language!

*Je lui ai lavé les cheveux blonds.

✓ wash(I, his hair)

✓ wash(I, his hair) & blond(his hair)

✓ wash(I, his hair) & affected(him)

*wash(I, his hair) & blond(his hair) & affected(him)

Semantic holes in language!

Mary-ga John-eul dari-reul chatda. (EP)

*Mary-ga dari-ga John-eul chatda. (IP)

✓kick(Mary, John's leg) (IP)

✓kick(Mary's leg, John) (IP)

✓kick(Mary, John's leg) & affected(John)(EP)

*kick(Mary's leg, John) & affected(Mary) (EP)

Logical impasse?

*syntax > semantics

*semantics > syntax

The solution:

syntax = semantics

The “Syntax-Semantics Interface”

...doesn't exist in a meaningful way because there is no identifiable boundary between syntax and semantics in the first place!

syntactic movement = semantic change

syntactic cartography = architecture of thought

DP

NumP_{ordinal}

NumP_{cardinal}

AP_{subjective}

AP_{evidential}

AP_{size}

AP_{length}

AP_{height}

AP_{speed}

AP_{depth}

AP_{width}

AP_{weight}

AP_{temperature}

AP_{wetness}

AP_{age}

AP_{shape}

AP_{color}

AP_{nationality/origin}

AP_{material}

AP_{compound element}

Noun

Mood_{speech act}

Mood_{evaluative}

Mood_{evidential}

Mod_{epistemic}

Tense_{past/future}

Mod_{necessity}

Mod_{possibility}

Aspect_{habitual}

Aspect_{repetitive}

Aspect_{frequentative}

Mod_{volition}

Aspect_{celerative}

Tense_{anterior}

Aspect_{terminative}

Aspect_{continuative}

Aspect_{continuous}

Aspect_{retrospective}

Aspect_{durative}

Aspect_{prospective}

Mod_{obligation}

Aspect_{frustrative}

Aspect_{completive}

Voice_{passive}

Verb

b AdvP_{speech act} (frankly,...)

AdvP_{evaluative} (fortunately,...)

AdvP_{evidential} (allegedly,...)

AdvP_{epistemic} (probably,...)

AdvP_{past/future} (then,...)

AdvP_{necessity} (necessarily,...)

AdvP_{possibility} (possibly,...)

AdvP_{habitual} (usually,...)

AdvP_{repetitive} (again,...)

AdvP_{frequentative} (frequently,...)

AdvP_{volition} (willingly,...)

AdvP_{celerative} (quickly,...)

AdvP_{anterior} (already)

AdvP_{terminative} (no longer,...)

AdvP_{continuative} (still,...)

AdvP_{continuous} (always,...)

AdvP_{retrospective} (just,...)

AdvP_{durative} (briefly,...)

AdvP_{prospective} (imminently,...)

AdvP_{obligation} (obligatorily,...)

AdvP_{frustrative} (in vain,...)

AdvP_{completive} (partially,...)

AdvP_{manner} (well,...)

Verb

VP_{agent}

VP_{experiencer}

VP_{affectee}

VP_{recipient}

VP_{patient}

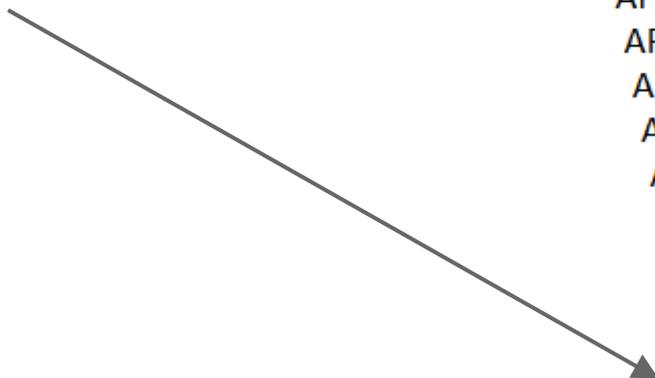
VP_{theme}

Verb

The Big Problem:

What's the difference between these two?





- DP
- NumP_{ordinal}
- NumP_{cardinal}
- AP_{subjective}
- AP_{evidential}
- AP_{size}
- AP_{length}
- AP_{height}
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- AP_{width}
- AP_{weight}
- AP_{temperature}
- AP_{wetness}
- AP_{age}
- AP_{shape}
- AP_{color}
- AP_{nationality/origin}
- AP_{material}
- AP_{compound element}
- Noun**

men

- DP
- NumP_{ordinal}
- NumP_{cardinal}
- AP_{subjective}
- AP_{evidential}
- AP_{size}
- AP_{length}
- AP_{height}
- AP_{speed}
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- AP_{width}
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- AP_{temperature}
- AP_{wetness}
- AP_{age}
- AP_{shape}
- AP_{color}
- AP_{nationality/origin}
- AP_{material}
- AP_{compound element}
- Noun**



Canadian men



- DP
- NumP_{ordinal}
- NumP_{cardinal}
- AP_{subjective}
- AP_{evidential}
- AP_{size}
- AP_{length}
- AP_{height}
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- AP_{color}
- AP_{nationality/origin}
- AP_{material}
- AP_{compound element}
- Noun**

- DP
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- Noun**



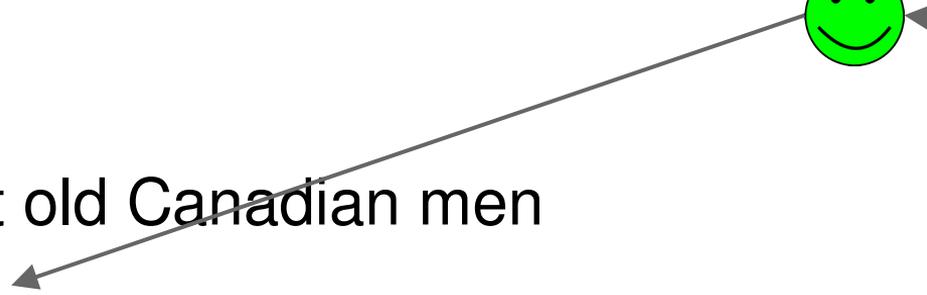
old Canadian men



fat old Canadian men



- DP
- NumP_{ordinal}
- NumP_{cardinal}
- AP_{subjective}
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- AP_{wetness}
- AP_{age}
- AP_{shape}
- AP_{color}
- AP_{nationality/origin}
- AP_{material}
- AP_{compound element}
- Noun**



large fat old Canadian men



- DP
- NumP_{ordinal}
- NumP_{cardinal}
- AP_{subjective}
- AP_{evidential}
- AP_{size}
- AP_{length}
- AP_{height}
- AP_{speed}
- AP_{depth}
- AP_{width}
- AP_{weight}
- AP_{temperature}
- AP_{wetness}
- AP_{age}
- AP_{shape}
- AP_{color}
- AP_{nationality/origin}
- AP_{material}
- AP_{compound element}
- Noun**

5 large fat old Canadian men

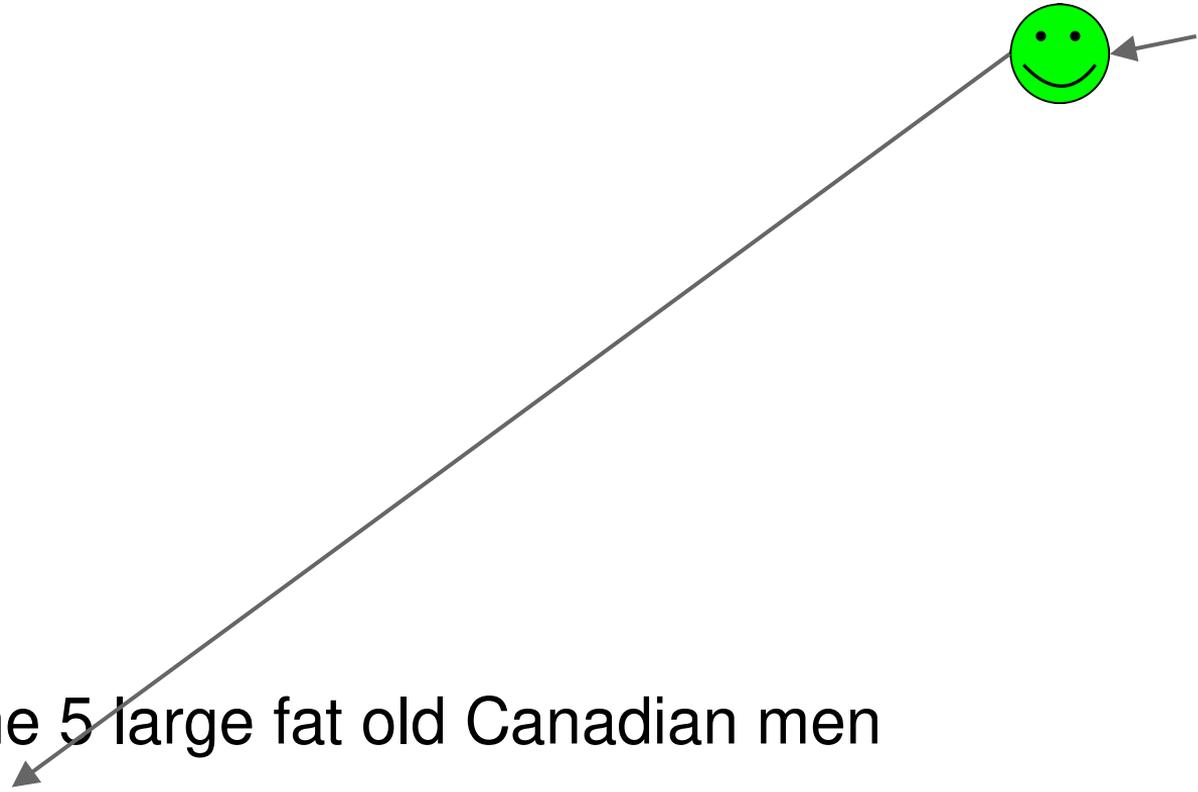


- DP
- NumP_{ordinal}
- NumP_{cardinal}
- AP_{subjective}
- AP_{evidential}
- AP_{size}
- AP_{length}
- AP_{height}
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- AP_{width}
- AP_{weight}
- AP_{temperature}
- AP_{wetness}
- AP_{age}
- AP_{shape}
- AP_{color}
- AP_{nationality/origin}
- AP_{material}
- AP_{compound element}
- Noun**

the 5 large fat old Canadian men



- DP
- NumP_{ordinal}
- NumP_{cardinal}
- AP_{subjective}
- AP_{evidential}
- AP_{size}
- AP_{length}
- AP_{height}
- AP_{speed}
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- AP_{temperature}
- AP_{wetness}
- AP_{age}
- AP_{shape}
- AP_{color}
- AP_{nationality/origin}
- AP_{material}
- AP_{compound element}
- Noun**



Hauser, Chomsky, Fitch (2002)

Faculty of language in a broad sense →
(FLB)

Faculty of language in a narrow sense →
(FLN)



DP
NumP_{ordinal}
NumP_{cardinal}
AP_{subjective}
AP_{evidential}
AP_{size}
AP_{length}
AP_{height}
AP_{speed}
AP_{depth}
AP_{width}
AP_{weight}
AP_{temperature}
AP_{wetness}
AP_{age}
AP_{shape}
AP_{color}
AP_{nationality/origin}
AP_{material}
AP_{compound element}
Noun

Advantages?

This FLB is complex enough to account for the complexities of language.

This FLN is simple enough to have evolved briefly over a period of several million years.

Differences from the Emerging Model

Nowadays 'Merge' is usually considered the FLN. (Merge *creates* the structure.)

I'm saying the FLN is more like 'Translate' which computationally *externalizes* semantic structure.

Chomsky's View of Syntax

“Syntax is basically useless.”

(Paraphrase)

Syntax is an epiphenomenon of semantic externalization, so it reports to us the general cognitive processing system of humans.

(My idea)

So who *do* I end up agreeing with?

"There is very little evidence for arbitrariness in the design of grammars."

--Daniel Everett (O_O^)

But for literally opposite reasons!

“a legitimate use of linguistic anthropology” (X_X^)

How can we test this?

(That syntax and semantics are undisentangleable)

The human brain fundamentally processes linguistic and non-linguistic patterns differently (cfr Andrea Moro).

Let's throw semantics into the mix!

Hypothetical 'language'

Normal possession is shown by EP

Affected possessors are shown with IP

Do humans process this with linguistic centers
of the brain?

Reaction time differences?

Looming Questions...

Cognitive differences with animals?

Biological idiosyncrasies vs. Natural Law?

Or more general questions...

What is language?

(Slide 68)

“While Newton seemed to draw off the veil from some of the mysteries of nature, he shewed at the same time the imperfections of the mechanical philosophy; and thereby restored her ultimate secrets to that obscurity, in which they ever did and ever will remain”

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