

Comparative Syntax Meeting
Leiden University Center for Linguistics

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The grammar of knowing

Some lessons from cross-linguistic
patterns of markedness

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“

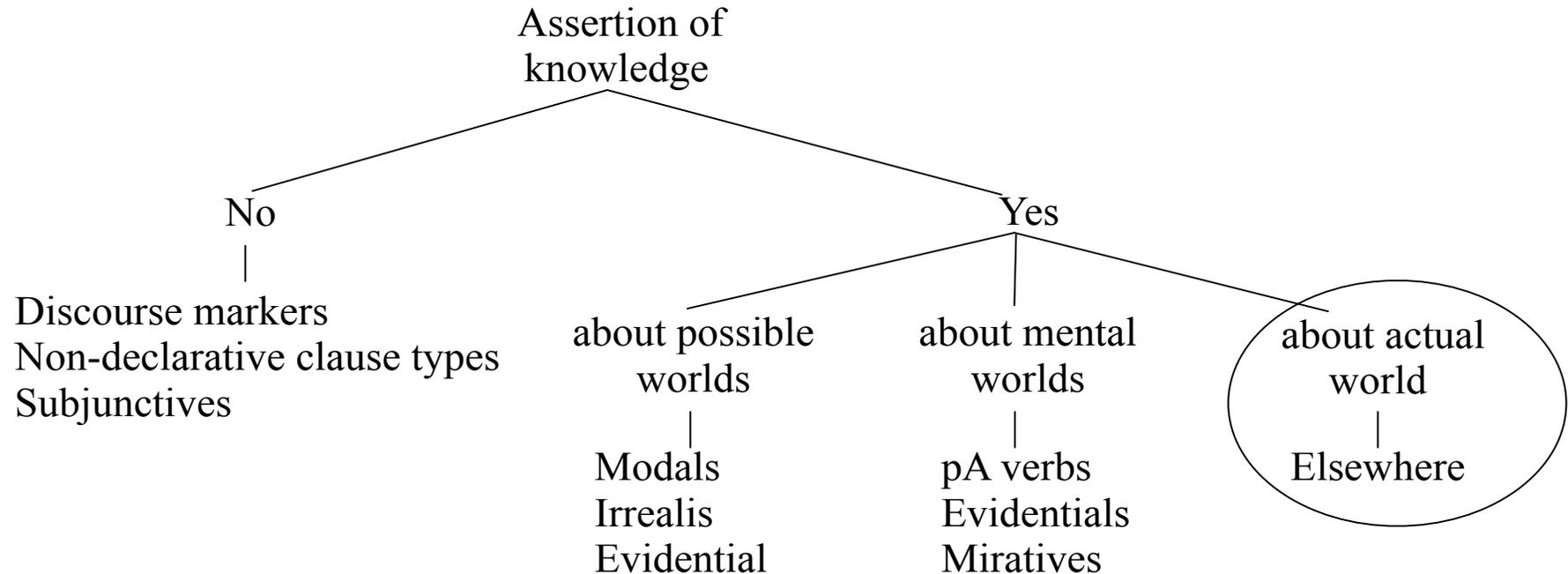
The only true wisdom is in
knowing you know nothing.

SOCRATES

A linguistic generalization

Knowledge is unmarked.

- Across the languages of the world, the most unmarked types of clauses are used to assert a speaker's knowledge about the actual world.



Preliminary assumption about knowing

We "know" things about the actual world because:

- i) We have **direct evidence/experience**
- ii) It is **general knowledge** ("everyone" knows it)

Where "know" means we have a feeling it's true.

Goals

Empirical

- ... establish that languages always use the unmarked form to express knowledge.
- ... in no language (?) is the unmarked form used to express uncertainty.

Analytical

- ... knowledge is represented as a bare proposition
- ... other propositional attitudes (pA) are marked with pA “prefixes”: Bel(p))

Theoretical implications

- ... the nature of universals
- ... the nature of knowing

The empirical part

The expression of knowledge can but need not be marked.
Uncertainty is linguistically marked

Evidence from:

- Propositional attitude verbs
- Modality
- Clause-typing
- Mood
- Evidentiality
- Discourse particles

Propositional attitude verbs

Knowledge can but need not be marked

Propositional attitude verbs

Knowledge need not be marked, belief does

- (1) There was an earthquake in Italy.
 - i) ... I know because I was there.
 - ii) ...*I believe it because I was there.
 - iii) ...*I believe it because I heard someone talk about it.

- (2) I believe/think/assume that there was an earthquake in Italy.
 - i) ...*I know because I was there.
 - ii) ...*I believe it because I was there.
 - iii) ... I believe it because I heard someone talk about it.

Propositional attitude verbs

- (1) Teacher to their 2nd grade class
 - a. The earth is round.
 - b. *I believe that the earth is round.

- (2) Discussion with a flat earther
 - F: The earth is flat.
 - R:
 - a. No way. The earth is round.
 - b. Actually, I **know** that the earth is round.
 - c. I don't think so. I believe that the earth is round.

Markedness: pA verb requires more structure

Main clause.

(1) There was an earthquake in Italy.

Propositional attitude verb embeds core proposition

(2) I believe that there was an earthquake in Italy

- Propositional attitude verbs mark departure from knowledge
- Knowledge can but need not be marked.

Modality

Actual is not a modal

Modality

“modality is the linguistic phenomenon whereby grammar allows one to say things about [...] situations which need not be real.”

(Portner (2009:1))

- (1) There was an earthquake in Italy
- (2) There may/might/could have been an earthquake in Italy.

Modality

- a. John must have left.
- b. John has left.

“one would use the epistemic *must* only in circumstances where it is not yet an established fact that John has left. [...] A man who has actually seen John leave or has read about it in the newspaper would not ordinarily assert [a] since he is in the position to make the stronger claim [b]”

Karttunen (1972: 12)

- Even modals of necessity create weaker statements than non-modal sentences

- It is the case that *Ana* is studying.
- a. = *Ana* is studying
- b. \neq *Ana* must be studying It is the case that there was an earthquake in Italy.

Markedness and Modality

In many languages (epistemic) modals involve bi-clausal constructions (Veselinovic 2019),

Bosnian/Serbian/Croatian

- (1) a. Mora da Ana uči
Must DA Ana study
‘Ana must be studying
- b. [mora [_{CP} da Ana uči]]

Veselinovic 2019: 5 (2)

- (2) [_{ModP} modal [_{TP} proposition]] Cinque 1999, Hacquard 2006

Modality

- Modal verbs mark departure from knowledge about the real world
- There are no modal verbs that are 'actual'
- What is the case in the actual world, can but need not be marked

Why are unmarked propositions not compatible with uncertainty about the real world?

A brief note about markedness

- Propositional verbs mark departure from knowledge
- Modal verbs mark departure from knowledge about the real world

- a. child - unmarked (includes the meaning of 'girl')
- b. girl - marked

- It's in the marking of clause-type

Clause-types

Declarative = unmarked

Clause-type

Languages make use of a limited set of clause types (Sadock & Zwicky 1985, Portner 2005).

- | | | |
|----|-----------------------------|---------------|
| a. | Annabel is feeding the dog. | DECLARATIVE |
| b. | Is Annabel feeding the dog? | INTERROGATIVE |
| c. | Feed the dog! | IMPERATIVE |

unmarked clause-type = DECLARATIVE

Clause-type: interrogative

- are typically marked (e.g. Subject-Auxiliary-Inversion)

- (1)
- a. Annabel fed the dog.
 - b. *Fed Annabel the dog?
 - c. **Did** Annabel feed the dog.

- in some languages marked with rising intonation (which is marked)

- (2)
- a. Tiene un perro.
 - b. ¿Tiene un perro?

Clause-type: imperatives

(1) Feed the dog!

Is it less “marked”? (because it has less overt stuff)

- lacks an overt subject
- verb form = often the simple stem,

Clause-type: imperative

But:

- no other (matrix) clause-type allows for silent subject.
- But the subject is interpreted = restricted to referring to the addressee (dedicated Addressee position, Zanuttini et al. 2012)
- imperatives are akin to (*deontic*) modal expressions:
 - they express how the world should be
- the simplicity of imperatives is an illusion, they are universally associated with a (marked) grammar of their own. (Aikhenvald 2008)
 - in many languages tense and/or aspectual distinctions may be either more or less restricted in imperatives than in other clause-types.

Mood

Indicative is unmarked

Subjunctive marks departure from knowledge about the actual world

Mood

Mood = “manifestation of modality” (Giorgi & Pianesi 1997)

Indicative

- mood for main assertions
- is used to refer to how the world is
- is the unmarked form as compared to the subjunctive

Mood in main clauses

- Subjunctive meaning in main clauses varies
- But never refers to how the world is:

(1) (che) dio ci **auiti** (adhortative)

(that) God us help.SUBJ

‘May God help us.’

Giorgi & Pianesi 1997: 195

(2) No me **hagas** enfadar (prohibitive)

Not me make.2SG.SUBJ anger.INF

‘Don’t make me angry!’ Sampanis 2012: 5 (6)

(3) Der Direktor **sei** stolz auf diese Klasse. (reportative)

The director be.subj proud on this class

‘The principal is said to be proud of this class.’

Adapted from Fabricius-Hansen & Saebo 2004: 217 (7)

Mood

Embedded under (factive) *know*: indicative is used

- a. Jean sait que Marie a lu ce livre
John knows that Mary have3SG.IND read this book
- b. Gianni sa che Maria ha letto questo libro
John knows that Maria have3SG.IND read this book.
'John **knows** that Mary has read this book.'

Mood

- But: Subjunctives can be used under (certain) factive verbs
- **Emotive factives**

- a. Jean regrette que Marie ait lu ce livre
John regret that Mary have3SG.SUBJ read this book
- b. Gianni rimpiange che Maria abbia letto questo libro
John regret that Maria have3SG.SUBJ read this book.
'John **regrets** that Mary has read this book.'

Giannakidou & Mari 2016: 288 (1)

The emotive component makes it subjective, which is again a departure from the mere assertion of a fact and hence may be marked.

Mood

Indicatives express knowledge
Are cross-linguistically unmarked

- i) indicative is structurally less complex,
- ii) has fewer distributional constraints, and
- iii) shows a higher number of inflectional possibilities than subjunctive

Mauri and Sansó (2016: 166)

The reduced behavioral potential of subjunctives is an indication that it is the marked mood.

Croft 2003,

Subjunctive may be unmarked??

Morphologically marked Indicative:

gr-um-es

‘you are writing’

gr-es

‘(that) you write’

Eastern Armenian

Haspelmath 1998: 30 (2)

Subjunctive may be unmarked??

Subjunctive is semantically unmarked (Portner 1997, Schlenker 2005)

- That's why we cannot find its meaning: it doesn't *have* a meaning (used *elsewhere*)

But

when both are possible subjunctive introduces a marked meaning (Quer 2009):

- a. Parece que llueve.
'It seems that it is raining.IND'
- b. Parece que llueva.
'It seems as if it were raining.SUBJ'

Mood

Subjunctive is used when there is departure from knowledge about the actual world

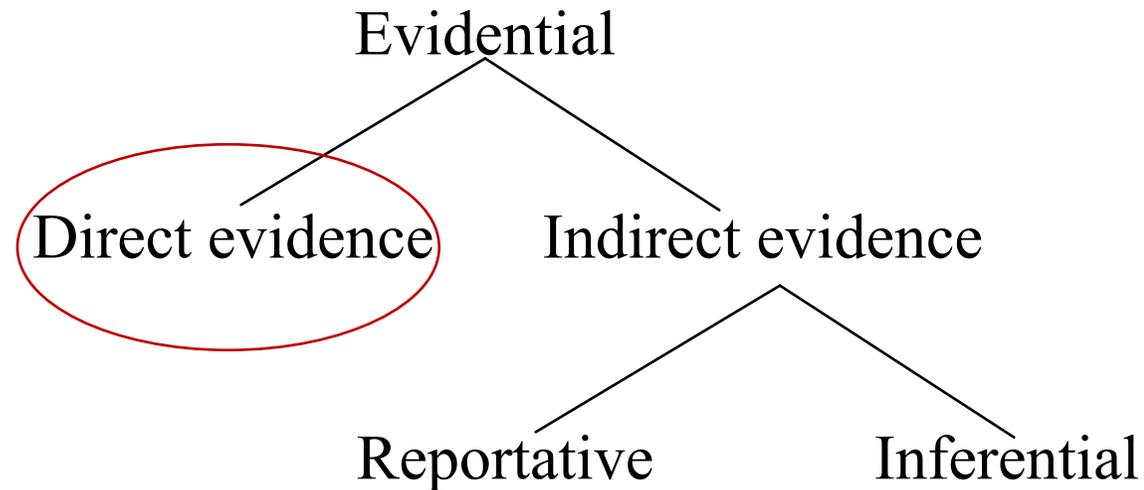
Meaning of subjunctive differs cross-linguistically,

This follows if it is marked, but marking is language-specific

Evidentiality

- In languages with grammaticalized evidential systems, it is obligatory to mark the nature and/or source of the evidence for the propositional content

(Aikhenvald 2006)



(Willet 1988)

Evidentiality

“The unmarked form in an evidential system typically represents information which the speaker knows from first-hand, visual perception. Propositions conveying information obtained by other means (aural perception, hearsay, or inference) are marked for source of evidence.”

DeLancey 2001: 379

“the ordinary, unmarked forms are said to indicate that the speaker’s knowledge is acquired by personal perception”

Lazard (2001: 361ff.)

Evidentiality

- a. Juse irida di-manika-ka
José football 3SG.NF-play-RP.VIS
'José has played football (we saw it)'
- b. Jusa irida di-manika-mahka
José football 3SG.NF-play-RP.NONVIS
'José has played football (we heard it)'
- c. Jusa irida di-manika-nihka
José football 3SG.NF-play-RP.INFR
'José has played football (we infer it from visual evidence)'

Evidentiality

Direct evidence leads to knowledge

Direct evidentials are unmarked

A note on mirativity

Context: the hero (Egadekine) has been sitting up in a tree throwing branches down on an ogre who has been hunting for him. The ogre finally looks up and sees him and says:

Heee, gúhde daweda! Ch'ifi dach'ída lō!

Hey up.there SG.sit/3sgIMPF guy sitting MIR

'Heey, (he's) sitting up there! The guy is sitting up there!'

Adapted from DeLancey 2001: 376 (11)

A note on mirativity

- it is the unexpectedness of the situation which calls for a marked expression.
- newness triggers subjective awareness of knowledge as.
- mirativity marks a deviation from an ideal knowledge (DeLancey 2001: 379)

Discourse markers

Mark departure from transmission of knowledge

Discourse markers

discourse markers mark a departure from the expected knowledge states of two interlocutors in a conversation;

They mark a departure from **transmission** (not expression) of knowledge

- Unmarked declarative = expression of knowledge (ASSERTION)
- Felicity conditions for assertion of p :
 - i) S knows p
 - ii) S assumes that A does not know p but will accept p
- Discourse markers signal the departure of the normal course of a conversation (Sacks 1987)

Discourse markers

German S-internal discourse markers (aka discourse/modal particles)

- a. Du hast **ja** einen neuen Hund. Surprise, shared knowledge, ...
'You have JA a new dog.'
- b. Du hast **doch** einen neuen Hund. Checking, reminding, ...
'You have DOCH a new dog.'

Departs from normal conditions of assertion

Discourse markers

- a. Weisst du was? Ich habe einen neuen Hund.
‘You know what? I have a new dog.’
- b. * Weisst du was? Ich habe **ja/doch** einen neuen Hund.
‘You know what? I have JA /D O C H a new dog.’

When normal transmission of knowledge is intended, *ja/doch* are not possible

Discourse markers

(1) Du hast **ja** einen neuen Hund. Das habe ich nicht gewusst.

You have prt a new dog. That have I not known.

‘You have a new dog. I didn’t know that.’

→ new information for S

(2) Ich habe **ja** einen neuen Hund. Da kann ich nicht so leicht auf Urlaub fahren.

I have prt a new dog. There can I not so easy in vacation go.

‘I have a new dog. So I can’t easily go on vacation.’

→ assertion provides cause for core assertion

Discourse markers

I: Möchtest du eines von meinen jungen Hunden?

‘Do you want one of my puppies?’

R: Aber nein. Ich habe **doch** einen neuen Hund.

Das hab ich dir doch vorige Woche erzählt.

‘Why no! I have a new dog. I told you last week.’

→ A should already know p

Du hast **doch** einen neuen Hund, oder?

‘You have a new dog, right?’

→ S is not certain about p

Discourse marker

(1) Du hast einen neuen Hund, oder?

‘You have a new dog, right?’

→ S is not certain about p

→ S requests confirmation from A

Discourse markers in English

- a. You have a new dog, **right**?
- b. I have a new dog, **eh**?
- c. That was a good movie, **huh**?

“help to organize a discourse by conveying information concerning the epistemic states of the speaker, or her interlocutors, or both, with respect to the descriptive, or prepositional, content of an utterance”.

Zimmermann (2011: 2012),

Discourse markers in English

- a. You have a new dog, **right?** (confirm that it's true)
 You have a new dog. (I'm telling you)
- b. I have a new dog, **eh?** (confirm that you know)
 I have a new dog (I'm telling you)
- c. That was a good movie, **huh?** (confirm that you agree)
 That was a good movie. (I'm telling you)

Unmarked declarative transfers knowledge

Discourse markers

... are interactional

... don't mark departure from the most basic epistemic state (knowledge),

... mark departure from the most basic interactional event:

the transmission of knowledge

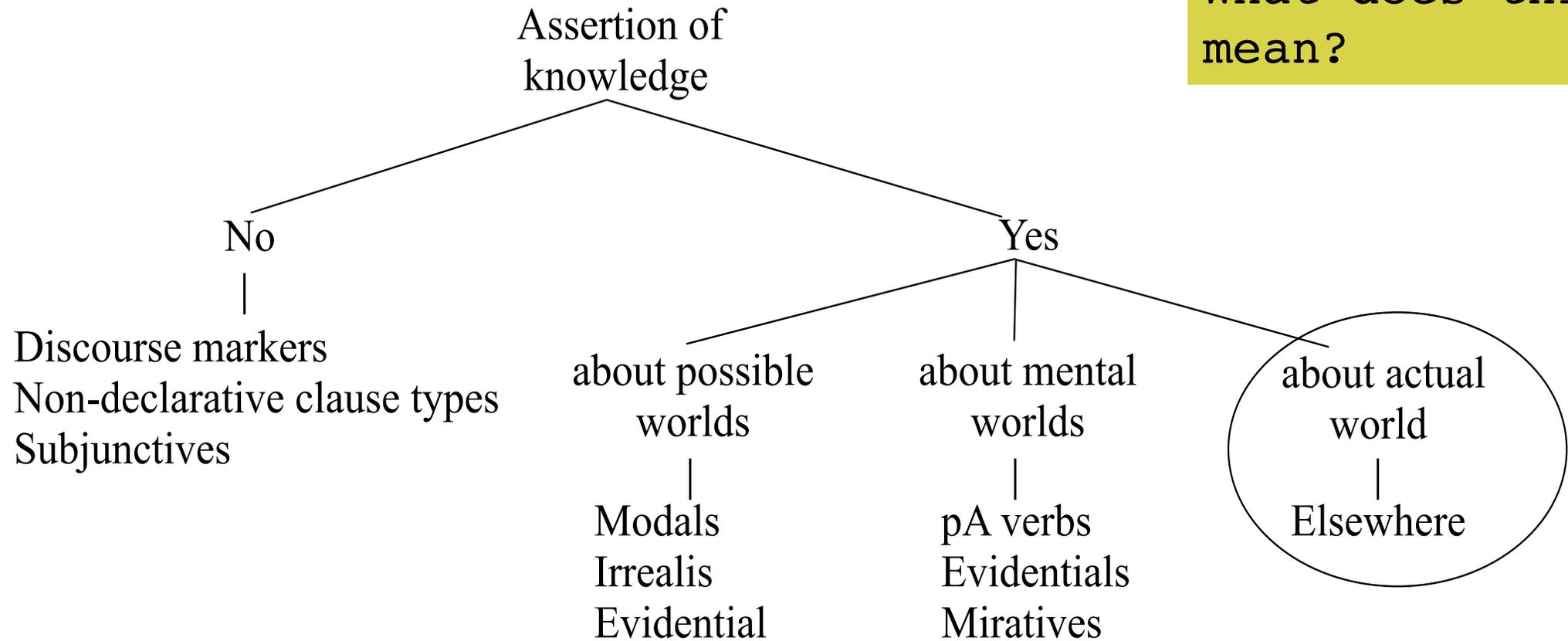
... meaning is “use-conditional”

Discourse markers mark departure from transmission of knowledge

Discourse markers

- a. You have a dog. = I know that you have a dog.
- b. I believe that you have a dog = I know that I believe that you have a dog.
- c. You have a dog, eh? \neq I know that you have a dog, eh?

What does this mean?



Linguistic evidence suggests that knowledge is unmarked!

Goals

Empirical

... establish that languages always use the unmarked form to express knowledge.

... in no language (?) is the unmarked form used to express uncertainty.

Analytical

... knowledge is represented as a bare proposition

... other propositional attitudes (pA) are marked with pA “prefixes”: Bel(p))

Theoretical implications

... the nature of universals

... the nature of knowing

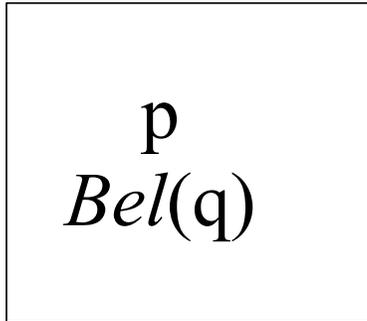
Why is expression of knowledge unmarked?

Hypothesis:

The Representation of knowledge in (common) Ground is unmarked

Whatever is in the Ground is what we know

Ground-i



Ground holder knows:

... that p

...that they believe q

Hence expression of bare p is equal to asserting knowledge

An alternative

Ground-i

Know (p)
Bel(q)

Problems:

- i) markedness patterns remain unexplained
- ii) Representing knowledge, like this would lead to infinite regress
 - a. know that the earth is round.
 - b. (know (p))
 - c. (know (know (p)))

Goals

Empirical

- ... establish that languages always use the unmarked form to express knowledge.
- ... in no language (?) is the unmarked form used to express uncertainty.

Analytical

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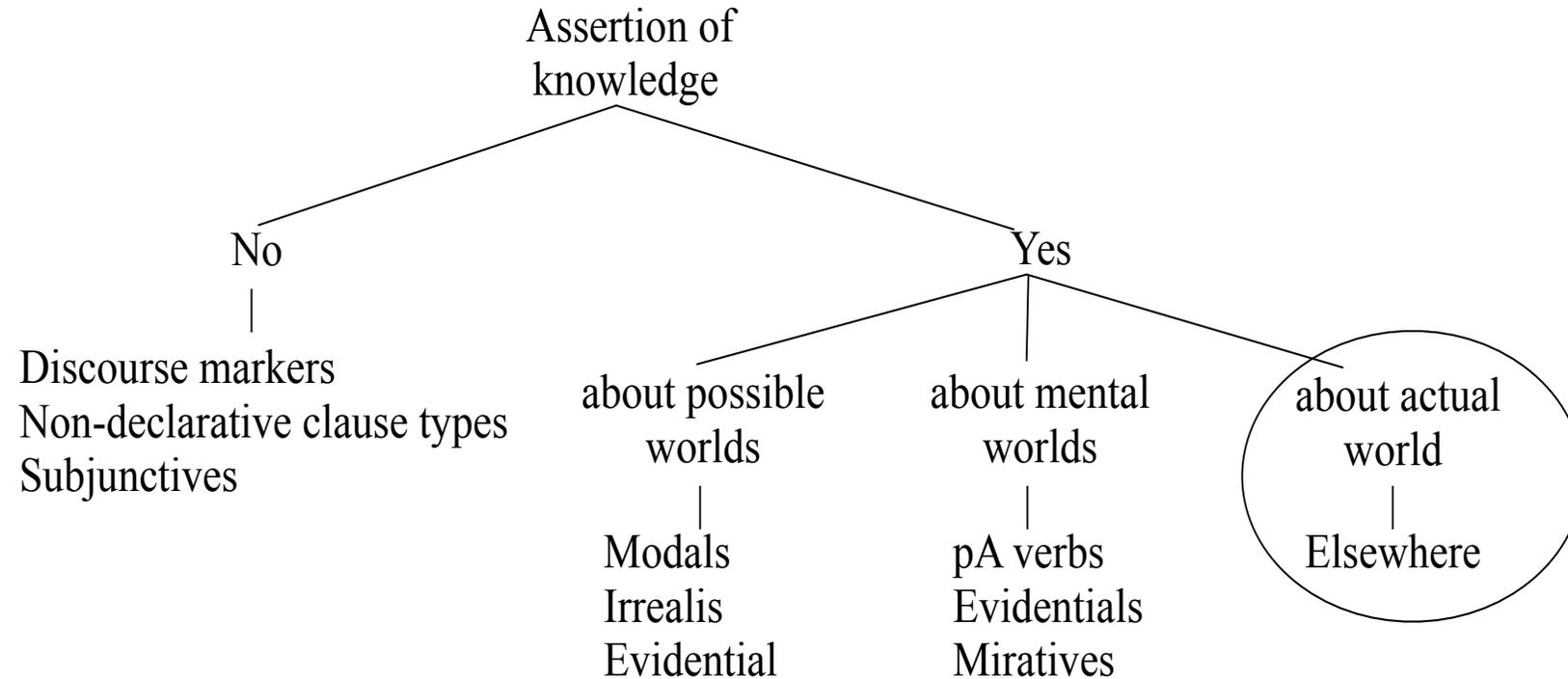
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- ... the nature of universals
- ... the nature of knowing

The nature of universals

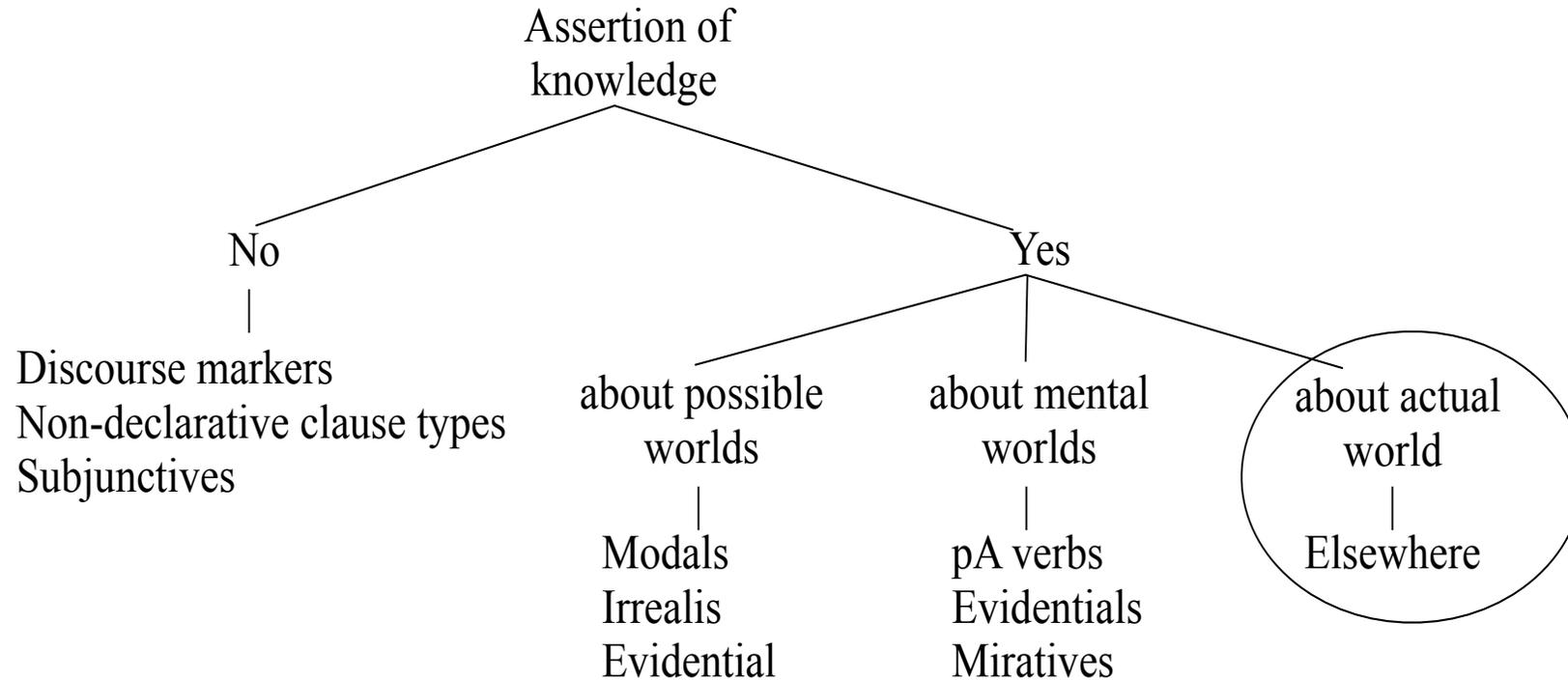
A language universal ?

... in no language (?) is the unmarked form used to express uncertainty.

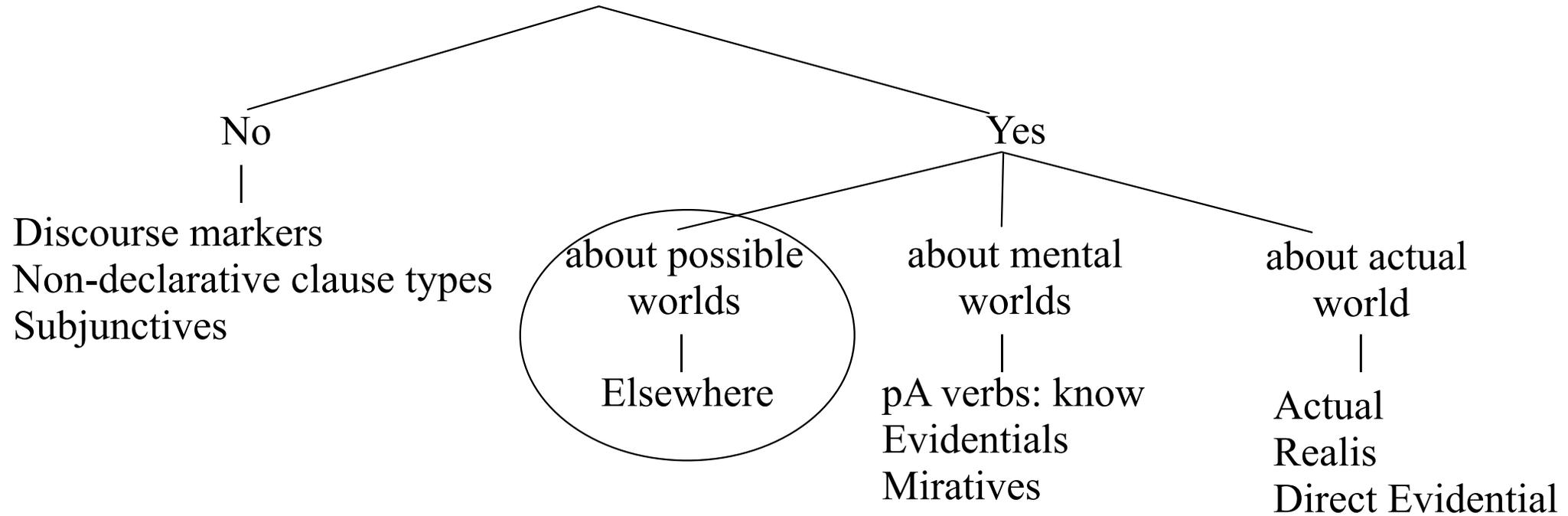


A language universal!

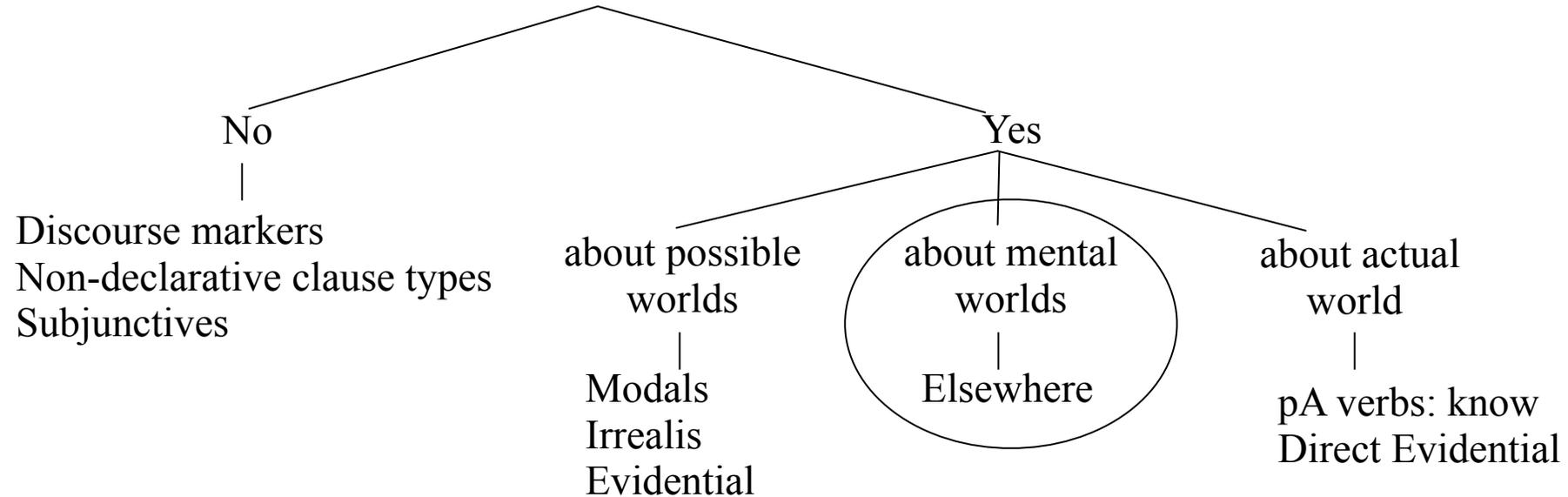
... in no language is the unmarked form used to express uncertainty.



It's not a logical necessity



It's not a logical necessity



It probably is not about frequency



Martin Haspelmath

Or could it have to do with frequency - we talk more often about what we know than about our beliefs? (Maybe because knowledge is more relevant in some sense?) „Markedness effects“ in grammatical coding are often due to frequency.

Like · Reply · 1d



Martina Wiltschko

Martin Haspelmath I've been thinking about this... but it seems to me that we are more often uncertain than we are certain... I don't know though. it's an empirical question.

Like · Reply · 1d



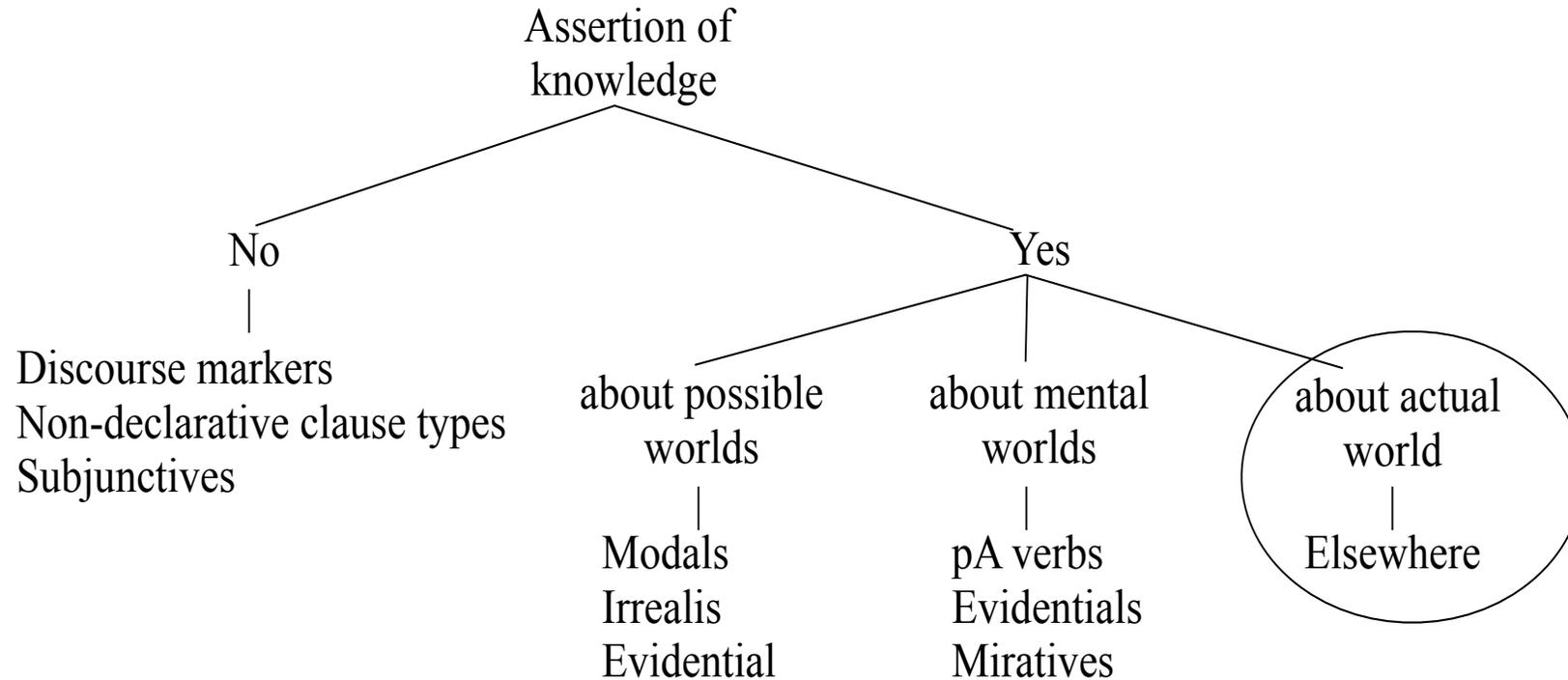
Martina Wiltschko

Martin Haspelmath also, in actual conversations, I don't actually know how often we use the unmarked form. it's much nicer to mark it as somehow being part of our opinion (note how Canadians are famous for using eh all the time



A language universal!

It tells us something about the language faculty!



Classic universals (Chomsky 1965)

- Substantive universals
 - Universal ingredients (features and categories)
- Formal universals
 - Derive from the **architecture** of language

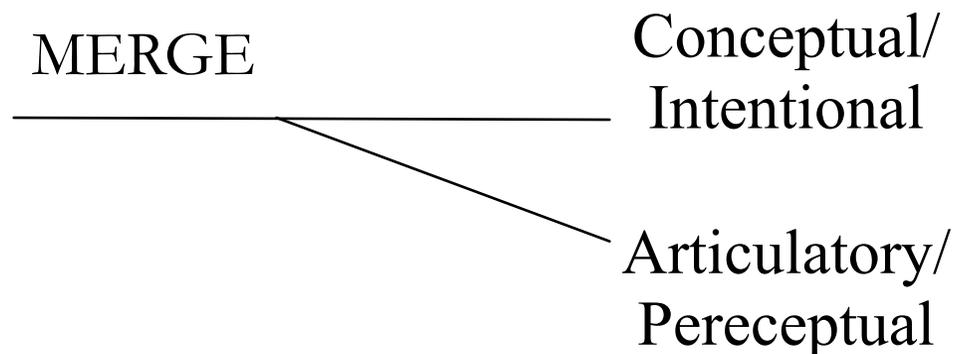
Classic universals (Chomsky 1965)

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It tells us
something about
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knowing**

Classic universals

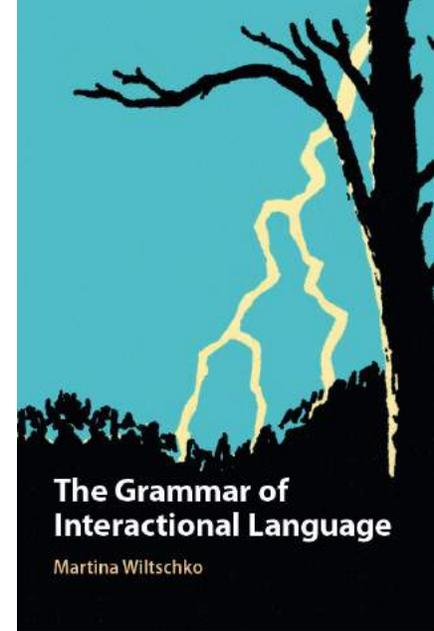
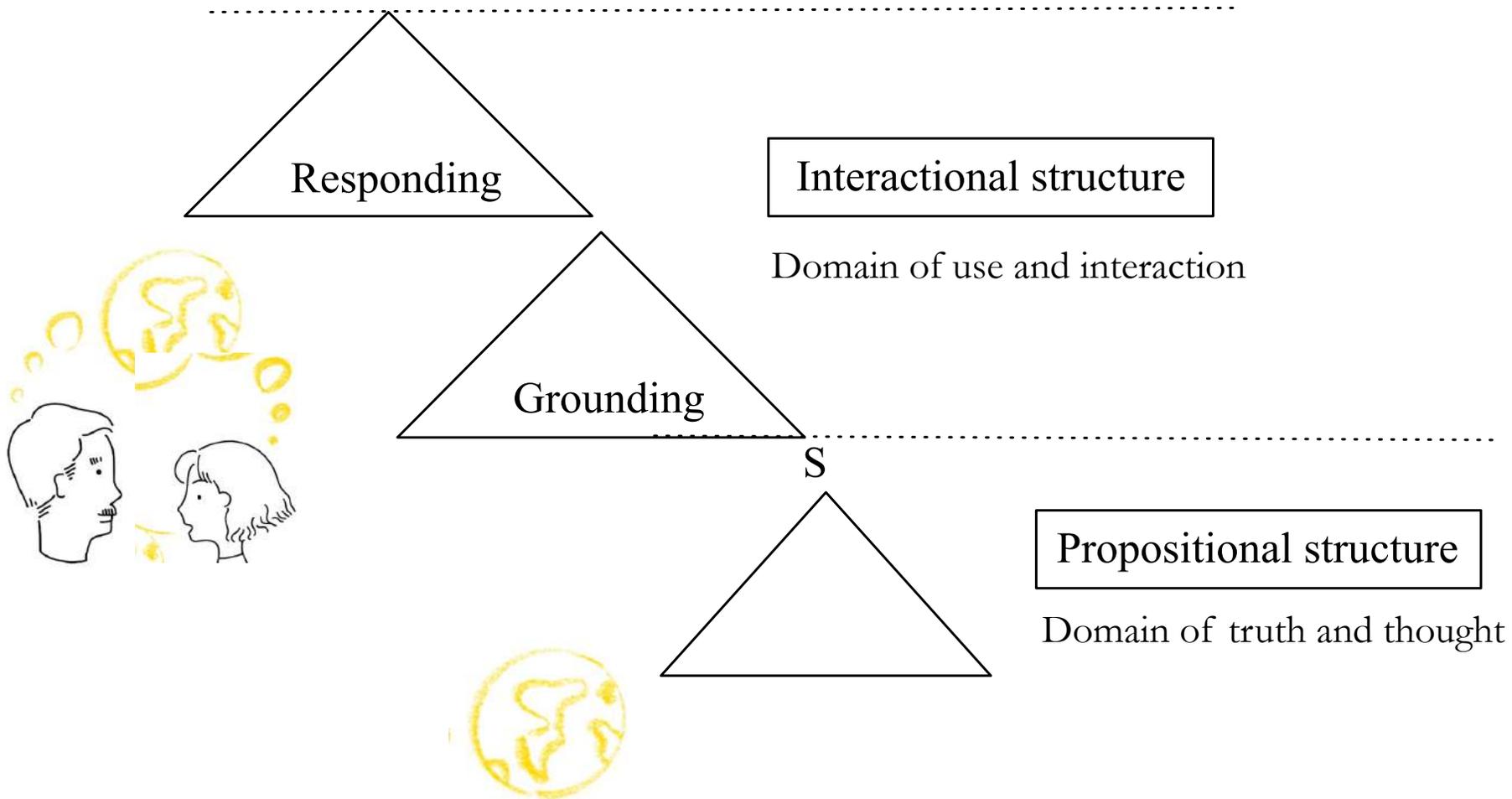
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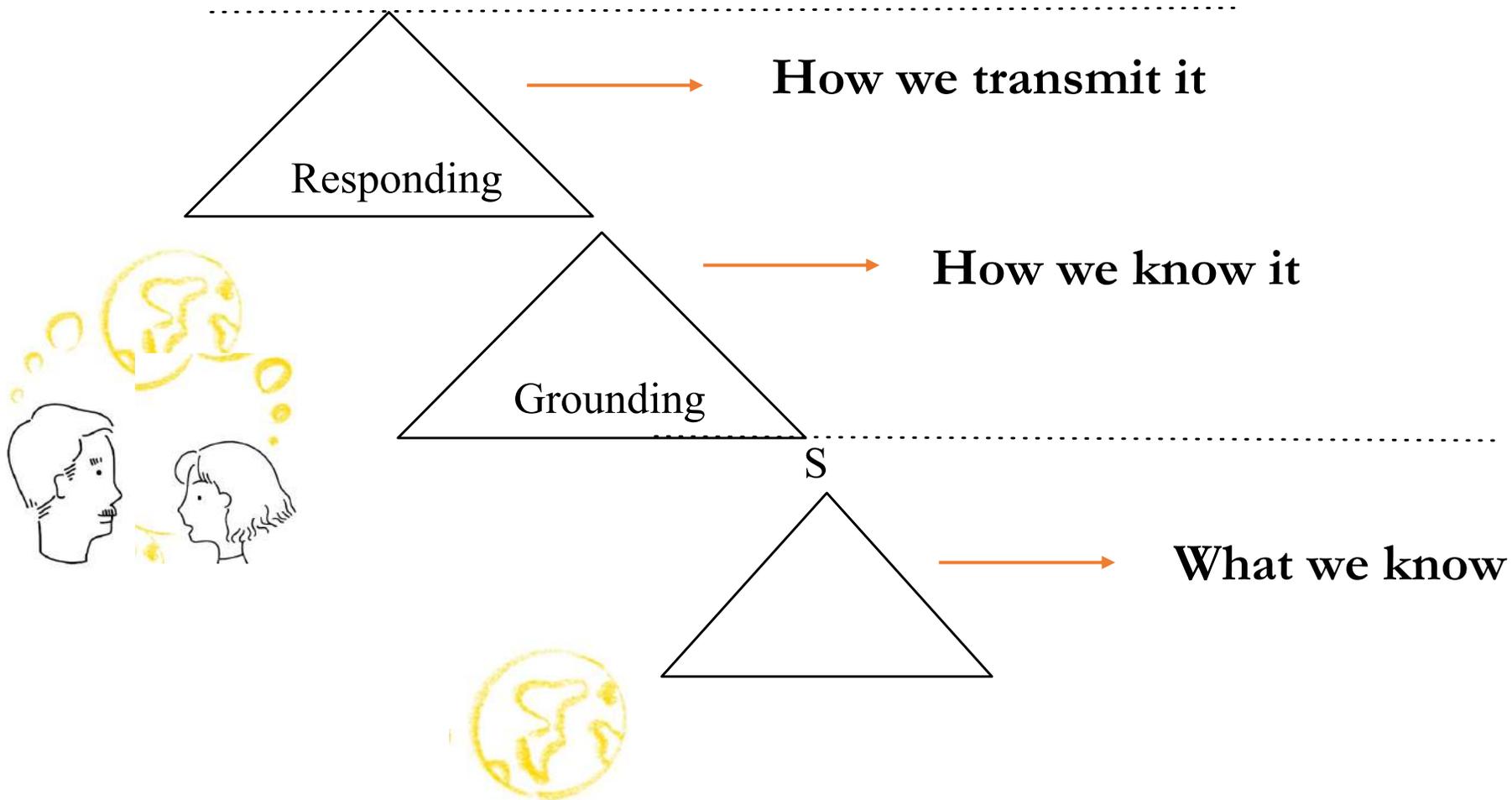
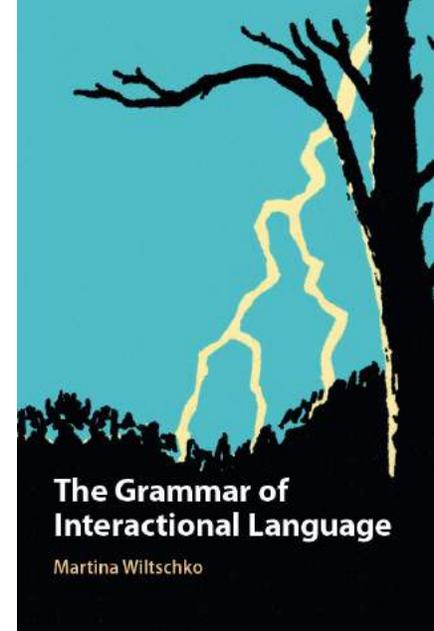
Where is knowledge?

Where is markedness?

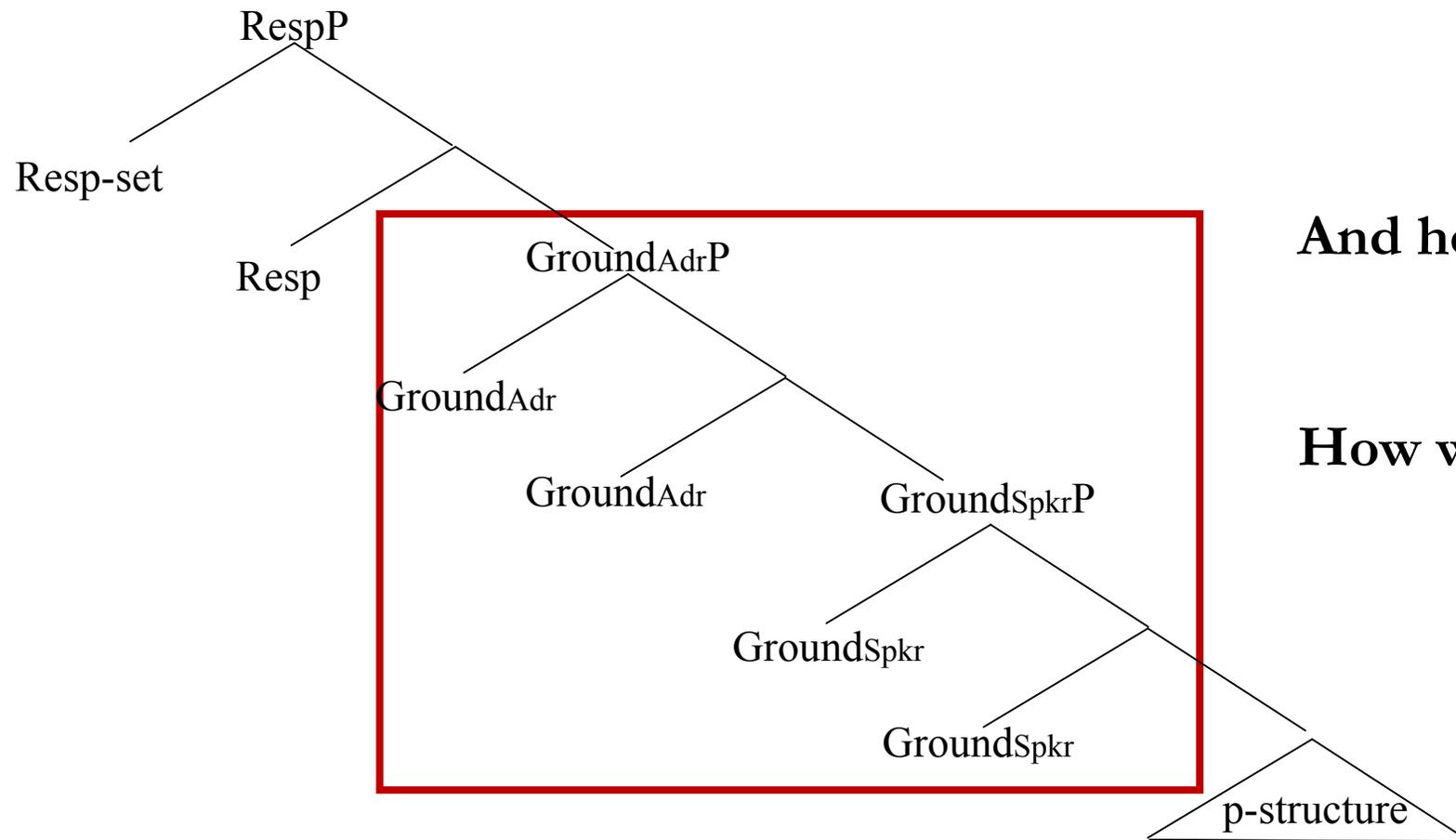
The interactional spine hypothesis (ISH)



The interactional spine hypothesis (ISH)

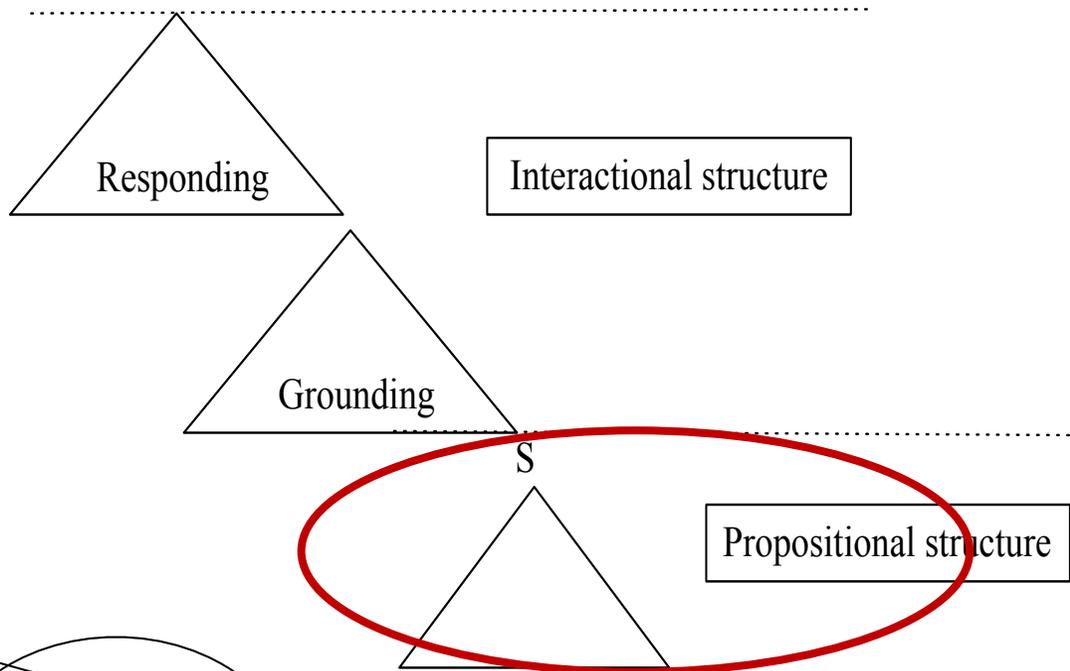
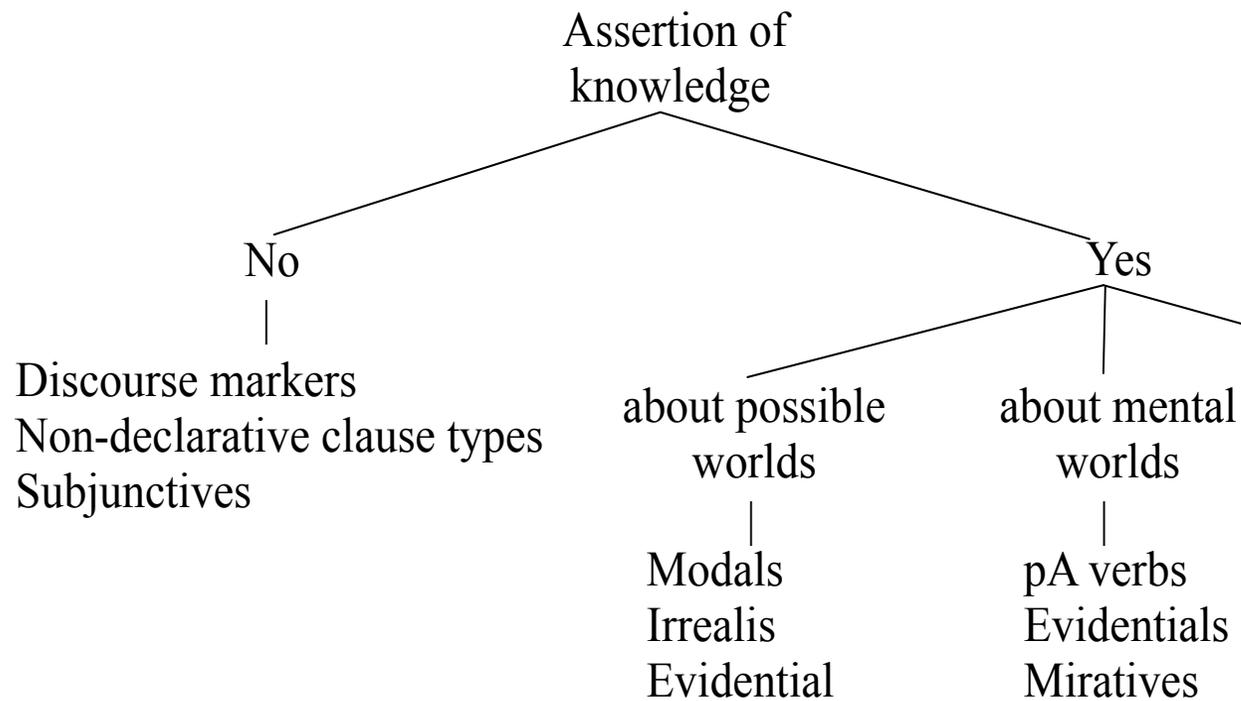


Architecture
has substance

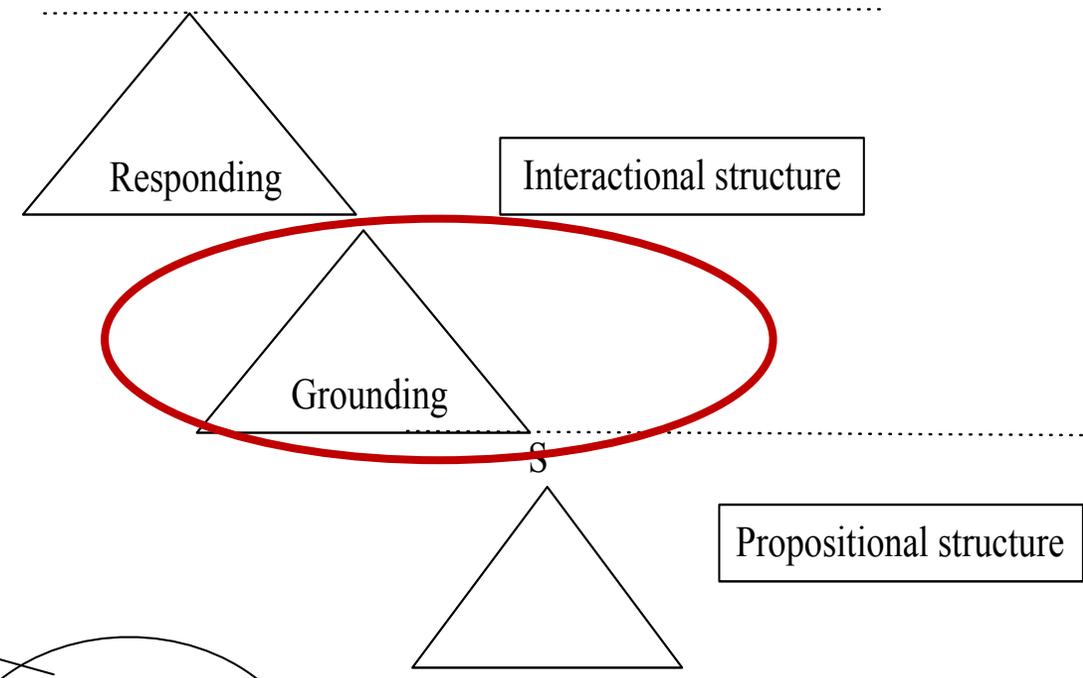
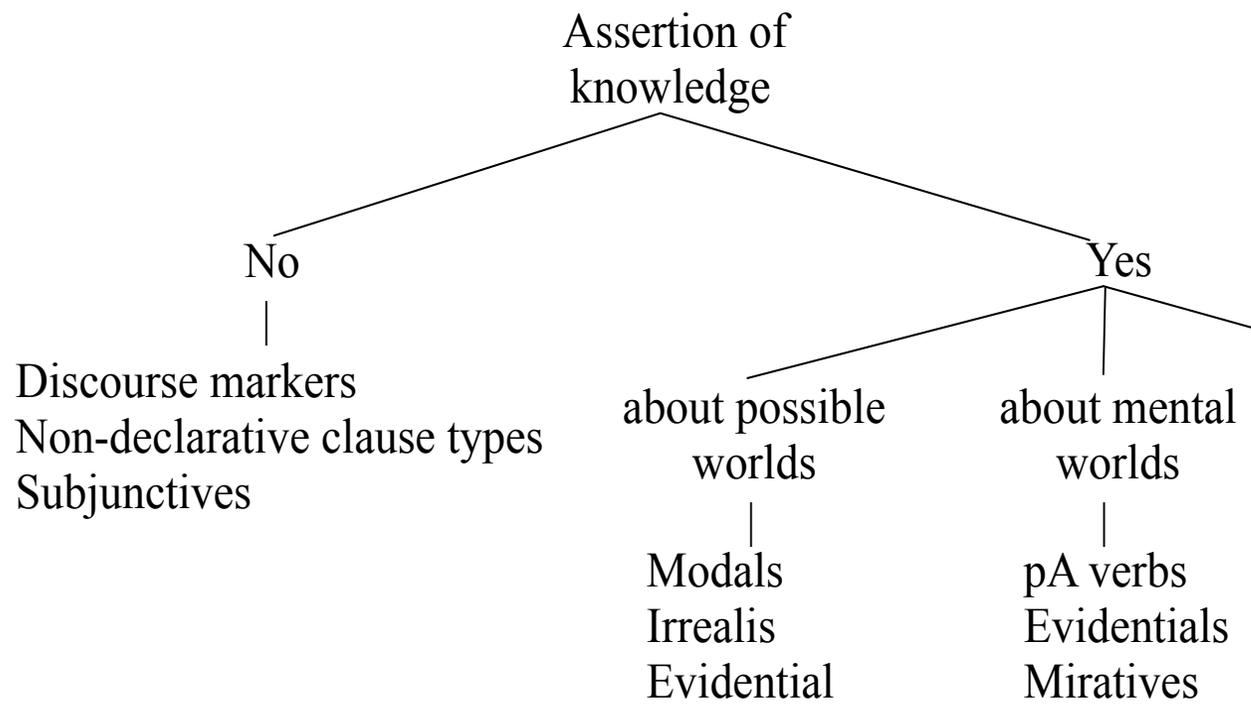


And how others know.

How we know



A representation of the world



Mediated by the mind

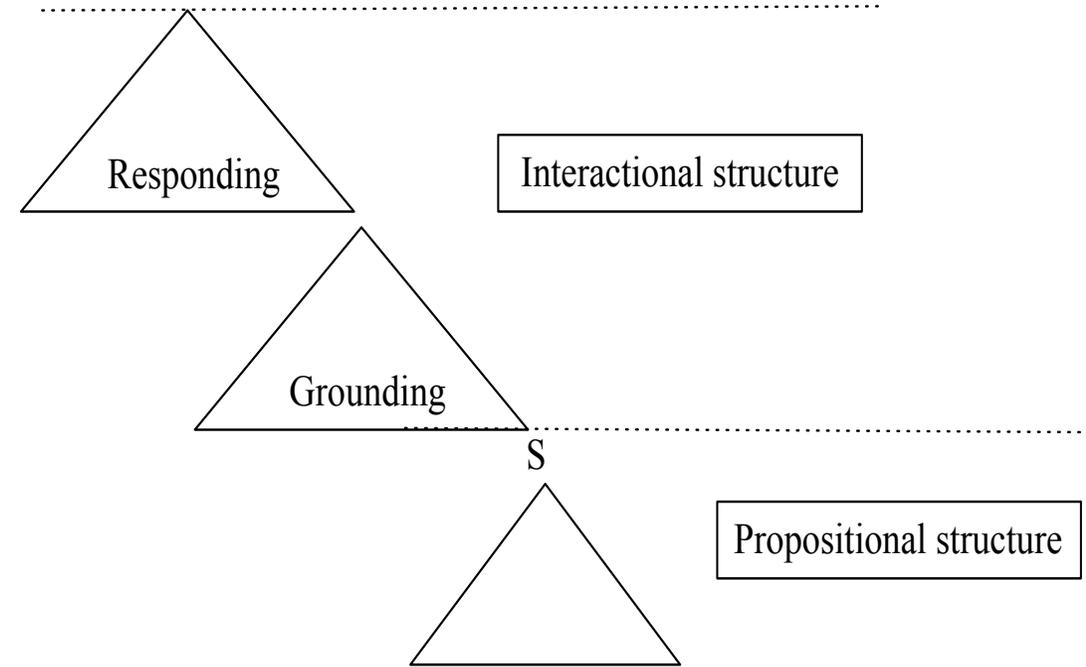


A representation of the world



Knowledge is the most basic
(unanalysable) mental state

(Williamson 2000)



Ground-i

$$p = IP$$

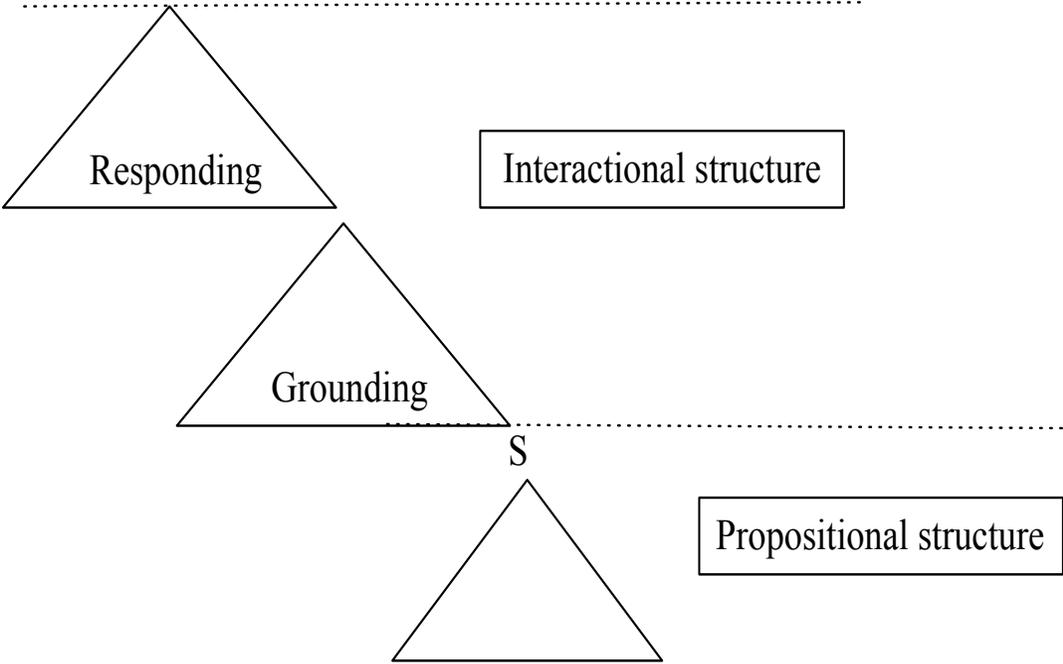
Mediated by the mind



A representation of the world



The markedness of not knowing:
 Talking about mental worlds is marked
 because it involves more structure



Ground-i

$Bel(q)$
 = GroundP

Ground-i

$Modal(q)$
 = GroundP

Ground-i

$p = IP$

Mediated by the mind



A representation of the world



The nature of knowing

The view from cognitive science

The view from Philosophy

My view based on the Grammar of knowing

The view from cognitive science

(based on Philips et al. (2020))



non-human primates

- can attribute knowledge
 - whether they can represent (false) belief remains a controversial
- from an evolutionary point of view, knowledge is prior to belief.

The view from cognitive science

(based on Philips et al. (2020))



child development

controversy whether infants can represent beliefs,
the evidence for representation of knowledge is much less controversial

At 6 months,

- infants understand that the perception of others' knowledge influences their actions
(Luo & Johnson 2009, Vouloumanis et al. 2014)
- but it is not clear that they can attribute beliefs

→ knowledge attribution is less complex than belief attribution

The view from cognitive science

(based on Philips et al. (2020))



clinical population

knowledge attribution can still be in-tact even if belief attribution is not.

- ASD have difficulties in representing beliefs of others (Baron-Cohen et al. 1985; Schneider et al. 2013)
- but the representations of what others know is less impacted (Leslie & Frith 1988, Baron Cohen & Goodhart 1994).

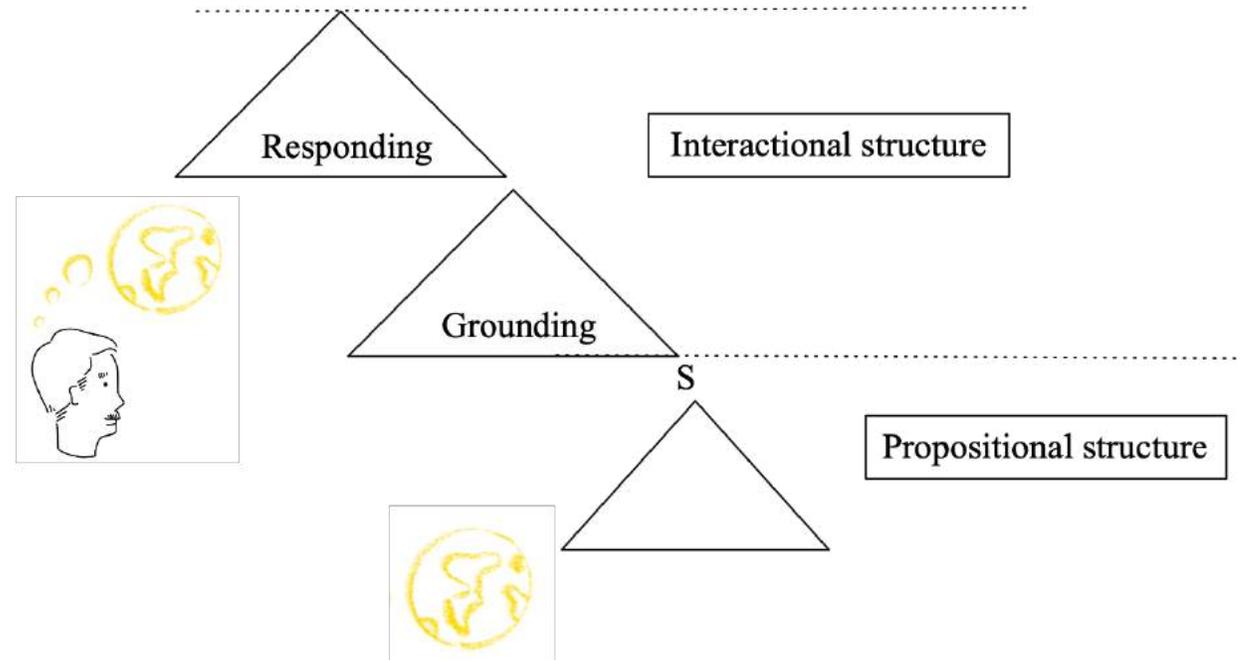
→ the ability required for knowledge attribution is more basic than the capacity required for belief attribution

The view from philosophy

knowledge = justified true belief

(see Ichikawa et al. 2018 for an overview)

- Knowledge = Belief + something else (truth, justification for belief....)
- truth depends on the states of affairs that hold in the world, thus knowledge (unlike belief) might not even be a mental state (Nagel 2013).



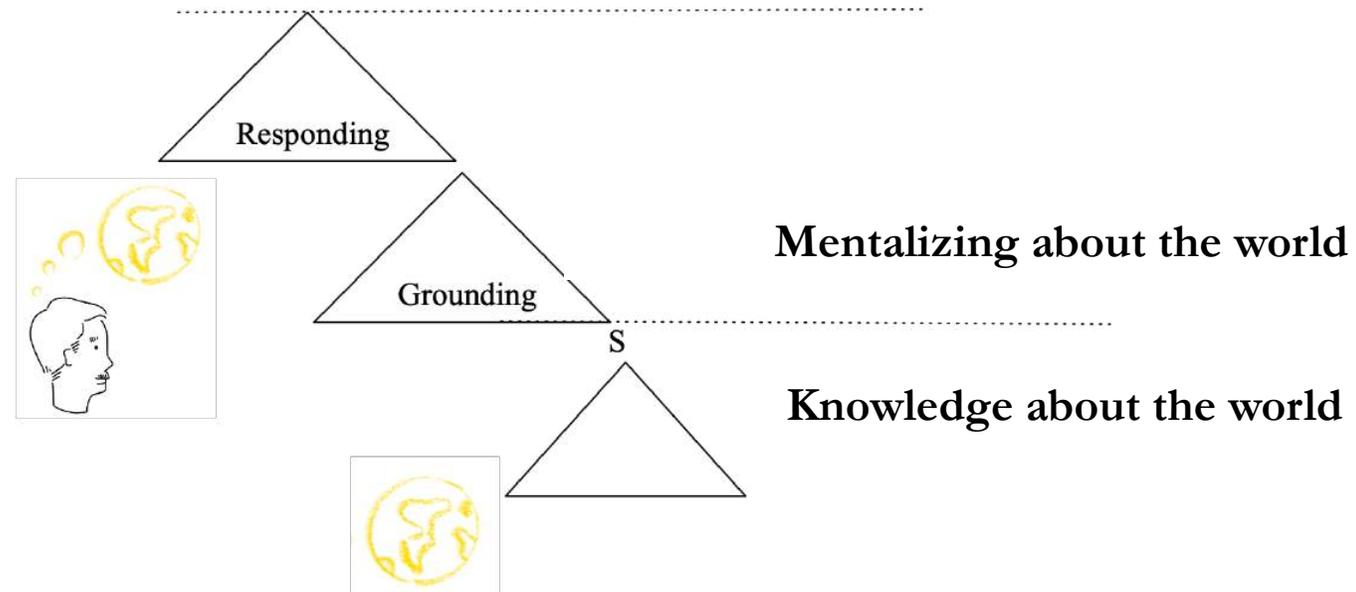
My view

based on the Grammar of Knowing

The grammar of knowing

A hypothesis

The language faculty is a necessary requirement for a distinction between knowledge about the actual world and any attitude that departs from this



The grammar of knowing

**The non-
linguistic
evidence
follows**

Consequence 1

- The nature of knowledge is different in humans.
- If knowledge contrasts with belief, it becomes different
- Language allows us to know that we know
- Animals don't!

→ **Recursion** is necessary

The grammar of knowing

Consequence 2

- Knowledge has the appearance of objectivity
- But objectivity is an illusion: it is the individual who puts it there, consciously or unconsciously.

**Explicit mental
constructs**

How we know it

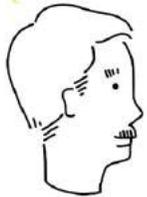
Ground-i

$Bel(q)$
= GroundP

Ground-i

$Modal(q)$
= GroundP

Mediated by the mind



**Has the
appearance of
not being a
mental
construct**

What we know

Ground-i

$p = IP$

A representation of the world



The grammar of knowing

Consequence 3

- whether a proposition is true in the actual world is irrelevant from the point of view of an individual's mental representation of p
- I cannot deny that someone knows something, if they think they know:

Discussion with a flat-earthler

F: The earth is flat.

R: a. *You don't know that (the earth is flat).

b. You are wrong.

The grammar of knowing

Consequence 3

- absolute knowledge in the sense of representing a true representation of the world is impossible
- things may always turn out to be different than how we think we know they are.
- To have true representations of the world we would have to be omniscient beings (in which case we would not need language).
- But lack of absolute knowledge does not take away our feeling of knowing

“

The only true wisdom is in
knowing you know nothing.

SOCRATES