

Why do we have to say certain things?

On the obligatorification of dependents

Uta Reinöhl



T. Mark Ellison



Australian
National
University



The Wellsprings of
Linguistic Diversity



ARC CENTRE OF EXCELLENCE FOR
THE DYNAMICS OF LANGUAGE

The ... was lovely.

I would like to talk to ...

Das ist doch der ...

Ich wohne in ...

Ich werde ...

Synchronically

> seen as a **syntactic issue**

> e.g. as a part-of-speech distinction:

ADV	ADP
<i>above (X)</i>	
<i>besides</i>	<i>beside X</i>
	<i>from X</i>
<i>near</i>	

> bracketing representation: optionality ... (X) vs. obligatoriness ... X

“... takes an obligatory dependent ...”

“... is a “pro-drop” language ...”

“... was reanalyzed as taking an obligatory argument ...”

e.g.

Harris, Alice C. & Lyle Campbell. 1995. *Historical syntax in cross-linguistic perspective*. Cambridge: Cambridge UP.

Examples for obligatorification

Sanskrit	(NP) <i>madhye</i>	> NP <i>mẽ</i>
Homeric Greek	ἐν (NP)	> ἐν NP
OldE	<i>se</i> (N)	> <i>the</i> N
Germanic	(N-) <i>lika</i>	> Germ. N- <i>lich</i> , Engl. N/ADJ- <i>ly</i>
Latin	(A) <i>mente</i>	> Romance A- <i>mente</i>

How do we get from optional to obligatory?

Obligatoriness constraints always exist in
all languages conditioned by specific
semantic factors.

Obligatoriness constraints always exist in all languages conditioned by specific **semantic** factors.

Only **sometimes** does it develop into a **syntactic configuration**.

Skt. **(NP)** *madhye* > Hindi **NP** *mē*

‘In the middle (of X)’ > ‘in X’

Lexical Stage

(NP) *madhye*



Grammatical Stage

NP *mẽ*

Lexical Stage

Congruent Use

(NP) *madhye*



Grammatical Stage

NP *mẽ*

Lexical Stage

Congruent Use

(NP) *madhye*

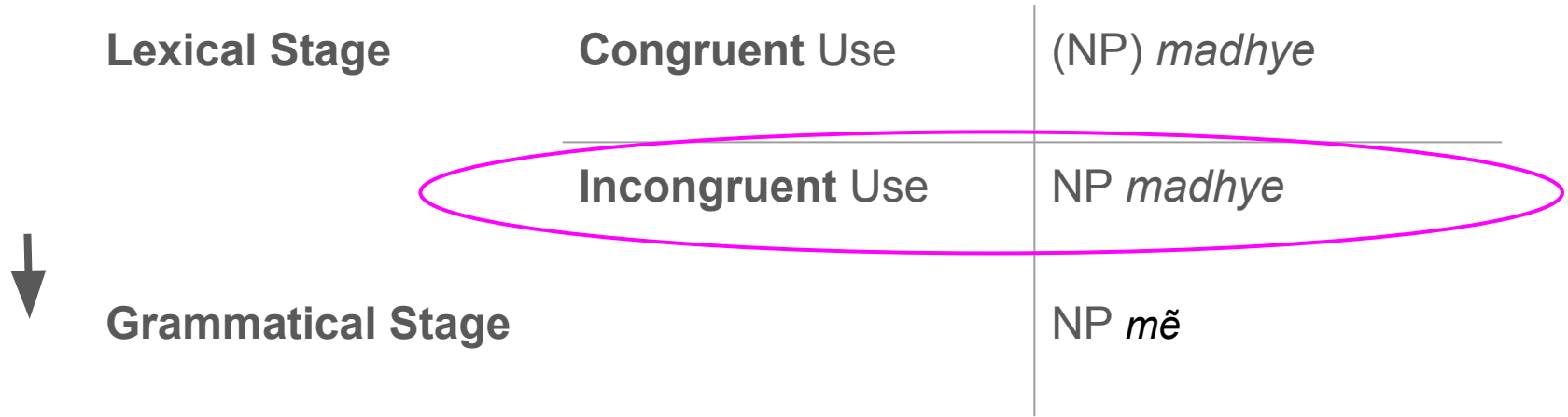


Grammatical Stage

Incongruent Use

NP *madhye*

NP *mẽ*



Lexical Stage	Congruent Use	(NP) <i>madhye</i>
↓	Incongruent Use	NP <i>madhye</i>
Grammatical Stage		NP <i>mē</i>

Lexical Stage: Congruent Use

overt referent!

(1) Vedic Sanskrit

<i>mádhye</i>	<i>hradásya</i>	<i>plavasva</i>	<i>vigṛhya</i>	<i>catúraḥ</i>	<i>padáḥ</i>
MADHYE	lake.GEN.SG.M	swim.IMP.2SG	spread.CONV	four.ACC.M	foot.ACC.PL.M

‘Swim **in the middle of the lake**, spreading (your) four feet!’ (AV 4.15.14)

Lexical Stage: Congruent Use

overt referent!

(1) Vedic Sanskrit

mádhye hradásya *plavasva* *vigṛhya* *catúrah* *padáh*
MADHYE lake.GEN.SG.M swim.IMP.2SG spread.CONV four.ACC.M foot.ACC.PL.M

‘Swim **in the middle of the lake**, spreading (your) four feet!’ (AV 4.15.14)

covert referent!

(2) Vedic Sanskrit

atha madhya āghārayati
now MADHYE pour.3SG

‘Now, (he) pours (ghee) **onto the middle** (of the altar, i.e. as opposed to its corners).’ (ŚaB 3.5.2.13)

Lexical Stage: Incongruent use

(3) Apabhramsha (Late Middle Indo-Aryan)

<i>dharivi</i>	<i>ihu</i>	<i>majjhi</i>	<i>hiyayaha</i>
carry.CONV	DEM.ACC.SG	MADHYE	heart.GEN.SG

'he carried **in the middle of his heart** this: ('I will...')' (SA 707.4)

Lexical Stage: Incongruent use

(3) Apabhramsha (Late Middle Indo-Aryan)

<i>dharivi</i>	<i>ihu</i>	<i>majjhi</i>	<i>hiyayaha</i>
carry.CONV	DEM.ACC.SG	MADHYE	heart.GEN.SG

‘he carried **in the middle of his heart** this: (‘I will...’)
(SA 707.4)

only overt
referent!

All 93 attestations **without an overt possessor** involve **congruent usages**.

All 93 attestations **without an overt possessor** involve **congruent usages**.

Incongruent uses are *only* found with **overt possessors**.

All 93 attestations **without an overt possessor** involve **congruent usages**.

Incongruent uses are *only* found with **overt possessors**.

... No matter how “**salient**” or “**activated**” the possessor!

(4) Apabhramsha (Late Middle Indo-Aryan)

<i>tahiṃ</i>	<i>jāivi</i>	<i>ṭiṇṭahiṃ</i>	<i>gau</i>	<i>turantu /</i>
DEM.LOC.SG	go.CONV	gambling-house.LOC.SG	go.PPP.NOM.SG.M	in_haste
<i>jūvārahaṃ</i>	<i>sayalahaṃ</i>	<i>maṇu</i>	<i>harantu /</i>	
gambler.GEN.PL	all.GEN.PL	mind.ACC.SG	grab.PPA.NOM.SG.M	
<i>tahaṃ</i>	<i>majjhi</i>	<i>ṇiviṭṭhau</i>	<i>so</i>	<i>sahei /</i>
DEM.GEN.PL	madhye	settle_down.PPP.NOM.SG.M	DEM.NOM.SG.M	shine.3SG
<i>chaṇaindaho</i>	<i>līlā</i>	<i>ṇam</i>	<i>vahei</i>	
full_moon.GEN.SG	beauty.ACC.SG	so	bear.3SG	

‘Reaching there, (the king) quickly went to the gambling house attracting the mind of all the **gamblers**. Sitting in **their middle** he shines as if bearing the beauty of the full moon.’ (KA 8.15.3, cp. Jain)

Grammaticalized stage

(5) Hindi

<i>hamāre</i>	<i>ghar</i>	<i>ke pās</i>	<i>nadī</i>	<i>hai.</i>	
POSS1PL.OBL.SG.M	house.OBL.SG	near	river.DIR.SG.F	be.3SG	
<i>us / *$\emptyset$</i>	<i>mē</i>	<i>tairnā</i>	<i>acchā</i>	<i>lagtā</i>	<i>hai.</i>
DEM.OBL.SG	in	swim.INF.DIR	good.DIR.SG.M	strike.IPFV.SG.M	be.3SG

‘There is a river near our house; it’s nice to swim **in it.**’

Grammaticalized stage

(5) Hindi

<i>hamāre</i>	<i>ghar</i>	<i>ke pās</i>	<i>nadī</i>	<i>hai.</i>	
POSS1PL.OBL.SG.M	house.OBL.SG	near	river.DIR.SG.F	be.3SG	
<i>us / *$\emptyset$</i>	<i>mē</i>	<i>tairnā</i>	<i>acchā</i>	<i>lagtā</i>	<i>hai.</i>
DEM.OBL.SG	in	swim.INF.DIR	good.DIR.SG.M	strike.IPFV.SG.M	be.3SG

‘There is a river near our house; it’s nice to swim **in it.**’

Obligatory dependent even in basic spatial usages.

Lexical Stage

Congruent Use

(NP) *madhye*

Incongruent Use

NP *madhye*



Grammatical Stage

NP *mẽ*

Obligatoriness constraints always exist in all languages conditioned by specific **semantic** factors.

Only **sometimes** does it develop into a **syntactic configuration**.

Obligatoriness constraints always exist in
all languages conditioned by specific
semantic factors.

Replicating the Indo-Aryan case.

Test other parts of speech.

Replicating the Indo-Aryan case.

Test other parts of speech.

Reinöhl, Uta & T. Mark Ellison. In prep. “Creative Language Use Universally Engenders Obligatory Arguments”.

Replicating the Indo-Aryan case.

Test other parts of speech.

Reinöhl, Uta & T. Mark Ellison. In prep. “Creative Language Use Universally Engenders Obligatory Arguments”.

Example: Engl. *middle*

Congruent use

(9)

overt referent!

*On the shores of the lake, or on one of the little islets that may form **in the middle of it**, they build their lodge.* (BNC, F9F, W_non_ac_nat_science)

(10)

covert referent!

*Yes that's my father **in the middle**. That's right. So he's the central one.* (BNC, K65, S_interview_oral_history)

Incongruent use

(11)

overt referent!

*If there is trouble it seems Jones is inevitably **in the middle of it*** (BNC, CEP, W_newsp_other_sports)

Incongruent use

(11)

overt referent!

*If there is trouble it seems Jones is inevitably **in the middle of it*** (BNC, CEP, W_newsp_other_sports)



highly **activated**, but still resumed

BNC results

100 million words

902 cases of non-attributive and non-compounded use of “middle”

BNC results

100 million words

902 cases of non-attributive and non-compounded use of “middle”

> optionality of argument only in congruent uses

BNC results

100 million words

902 cases of non-attributive and non-compounded use of “middle”

> optionality of argument only in congruent uses

> same results for other relational nouns (top, bottom, heart, foot, edge etc.)

Apparent exceptions

(12) *The truth lies in the middle.*

Apparent exceptions

(12) *The truth lies in the middle.*

Just an idiom? No:

(13) ... *in very general terms in the physical sphere a skin rash or a cold is of minor significance whereas a heart, lung or brain disease is much more serious. **Diseases of joints, muscles and gut lie somewhere in the middle.***

Apparent exceptions

(12) *The truth lies in the middle.*

Just an idiom? No:

(13) ... *in very general terms in the physical sphere a skin rash or a cold is of minor significance whereas a heart, lung or brain disease is much more serious. **Diseases of joints, muscles and gut lie somewhere in the middle.***

> “spatial framing”

Replicating the Indo-Aryan case.

Test other parts of speech.

Reinöhl, Uta & T. Mark Ellison. In prep. “Creative Language Use Universally Engenders Obligatory Arguments”.

ADV (+ N) > ADP + N	Homeric Greek ἐν (NP) > ἐν NP
DEM (+ N) > ART + N	OldE <i>se</i> (NP) > <i>the</i> NP
V (+ PP)	Engl. verbs of movement

ADV (+ NP) > ADP + NP

Ex.: PIE spatial adverbs > modern adpositions (e.g. Engl. *in*, *on*, French *à*, *de* etc.)

ADV (+ NP) > ADP + NP

Ex.: PIE spatial adverbs > modern adpositions (e.g. Engl. *in*, *on*, French *à*, *de* etc.)

Lexical Stage: **Congruent** use

(6)

<i>(ópseai ...)</i>	<i>nêas</i>	<i>emás,</i>	<i>en</i>	<i>d'ándras</i>	<i>eressémenai</i>
see.FUT.2SG	ship.ACC.PL.F	POSS	inside	PART man.ACC.PL.M	row.INF
<i>memaôtas</i>					
think.PTCP.ACC.PL.M					

“(you shall see) my ships, and **inside**, men eager to row” (Il. 9.361, Bortone 2010: 134)

(7)

Argeîoi d' en nēusi phílēn es patríd' ébēsan

Argives PTC in ship:DAT.PL.F dear:ACC.F to homeland:ACC.F go:AOR.3PL

‘The Argives had gone back **in their ships** to their native land’ (Il. 12.16, Luraghi 2003: 83)

Lexical Stage: **Incongruent** use

(8)

<i>en</i>	<i>doiêi</i>	<i>dè</i>	<i>saōsémen</i>	<i>è</i>	<i>apolésthai</i>
in	doubt:DAT.F	PTC	save:INF.FUT	PTC	perish:INF.AOR.MID

‘it is **in doubt** whether we will save (the ships) or they are lost’ (Il. 9.230, Luraghi 2003: 88)

DEM (+N) > ART N

Himmelfmann, Nikolaus P. 1997. *Deiktikon, Artikel, Nominalphrase. Zur Emergenz syntaktischer Struktur*. Tübingen: Niemeyer.

DEM (+N) > ART N

Lexical Stage: **Congruent use**

(8)

*... nihil vocis causa facere, non **illam** per gradus paulatim ab imo ad summum perducere...*
'... without doing anything for the sake of his voice—such as gradually taking **it** up from low to high' (Sen. *Con.* 1.pr. 16; from Pinkster 2015: 1147)

(9)

*Lucca castrum dirigunt, atque funditus subvertunt, custodes **illius castris** capiunt*
'They go to the fort of Loches, they raze it to the ground and take prisoner the guardians **of that fort.**' (Continuations § 25, Carlier & de Mulder 2010: 6)

Lexical Stage: **Incongruent uses**

(11) **anamnestic (“recognitional”) use**

*Hic sunt carctas de illo thellenio **de illo mercatho.***

‘Here are the customs papers from **that market.**’ (Merovingian, St. Denis; cp. Selig 1992, Himmelmann 1997: 96)

V (+ PP)

Finally, he arrived (at the hotel).

> Everyone was waiting at the hotel. Finally, he arrived.

V (+ PP)

Finally, he arrived (at the hotel).

> *Everyone was waiting at the hotel. Finally, he arrived.*

Finally, he arrived at the conclusion.

> **Everything pointed to this conclusion. Finally he arrived.*

V (+ PP)

Finally, he arrived (at the hotel).

> *Everyone was waiting at the hotel. Finally, he arrived.*

Finally, he arrived at the conclusion.

> **Everything pointed to this conclusion. Finally he arrived.*

(Note: Semantically driven obligatoriness requires syntactic optionality. Thus, direct objects in English are a different matter!)

So, what does it really mean to be “**incongruent**”?

“The job of the metaphor is to provide relational structure to an abstract domain by importing it (by analogy) from a more concrete domain.” (Boroditsky 2000: 3)

So, what does it really mean to be “**incongruent**”?

“The job of the metaphor is to provide relational structure to an abstract domain by importing it (by analogy) from a more concrete domain.” (Boroditsky 2000: 3)

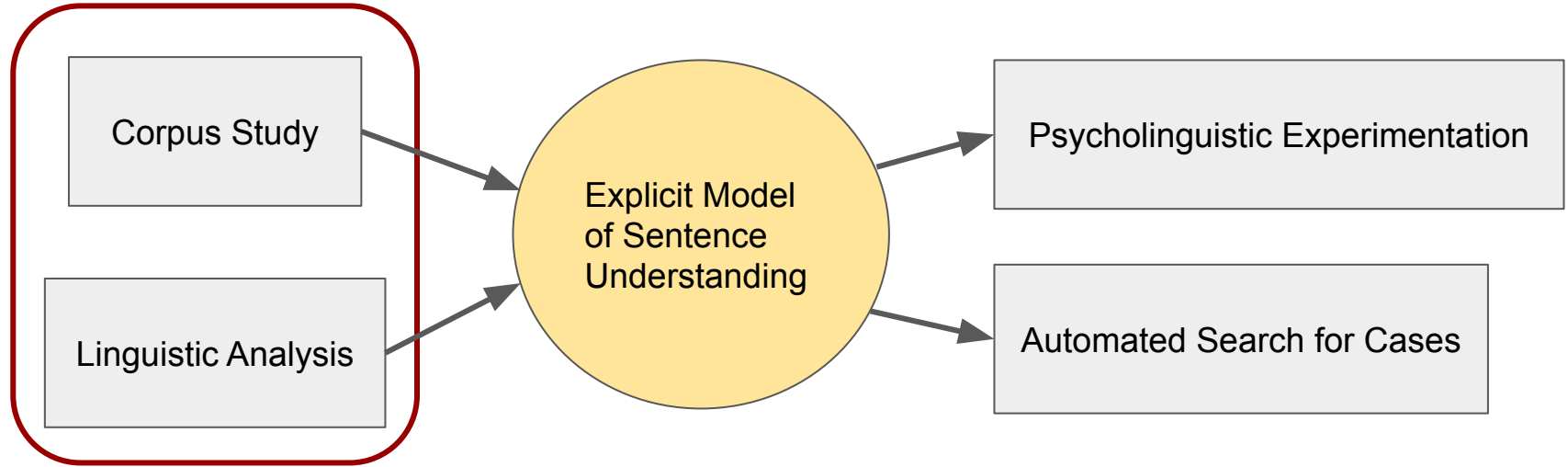
How do “recognitional” uses of demonstratives fit?

- > Something is pointed at which is not in fact present in the current discourse universe.
- > Thus relational structure is imported.

A brief outlook

Modelling.

Experiments.

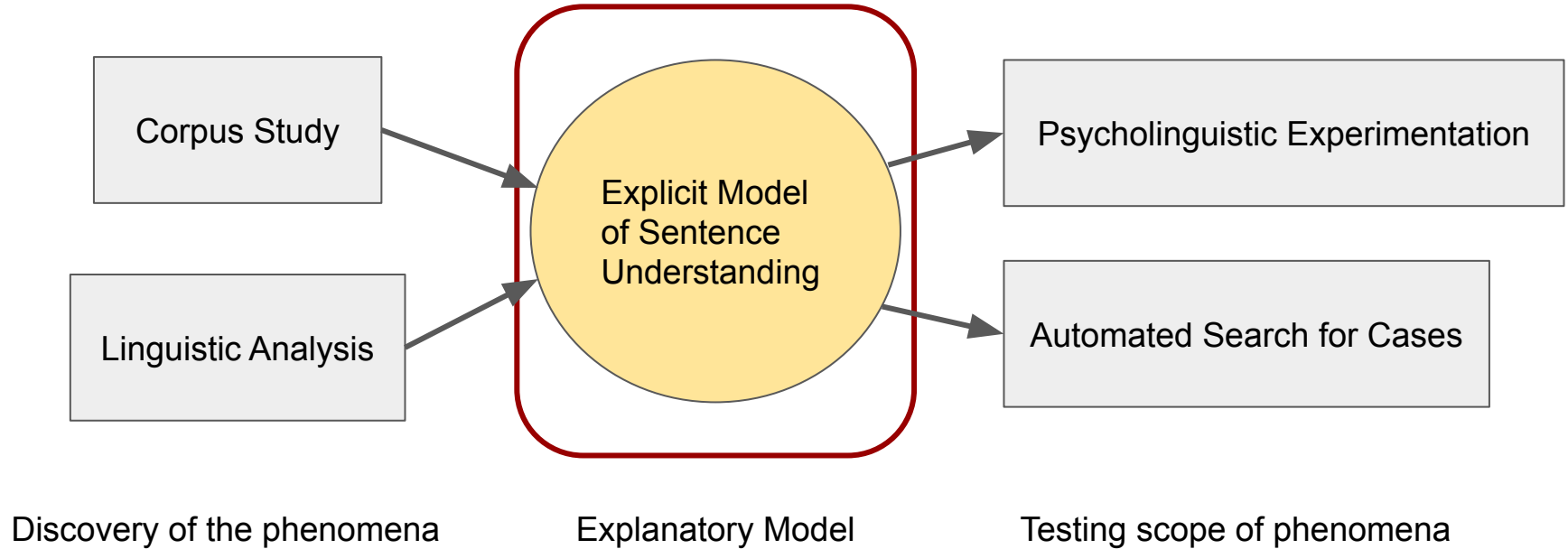


Discovery of the phenomena

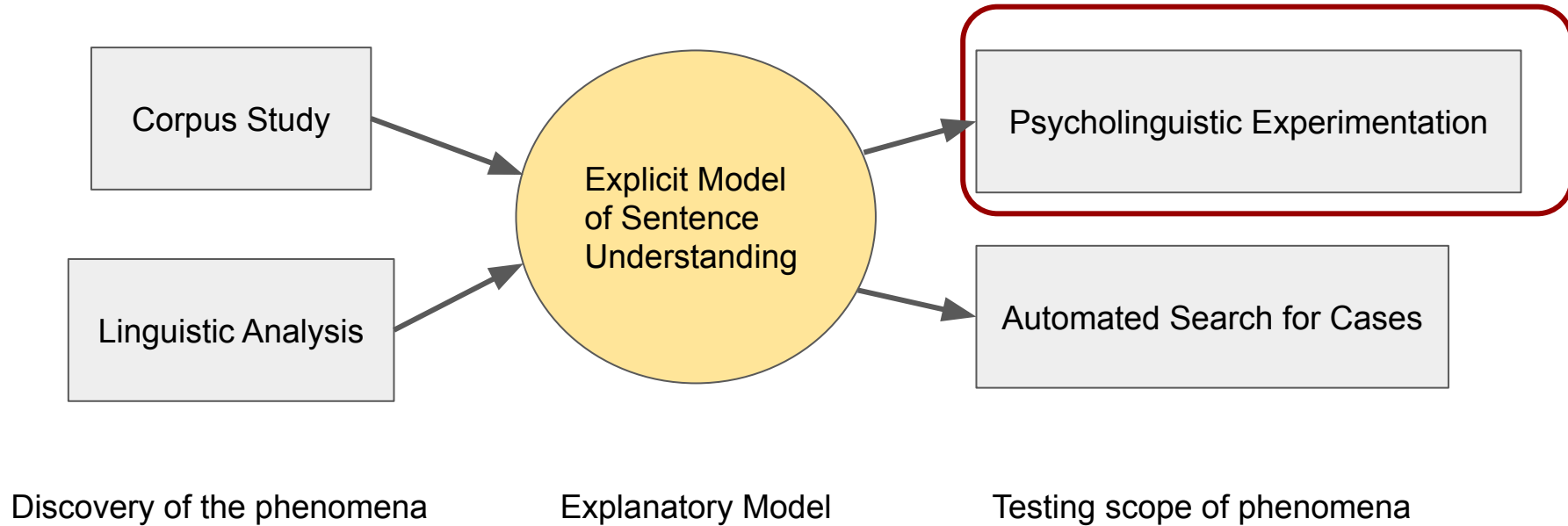
Explanatory Model

Testing scope of phenomena

Modelling



Experiments

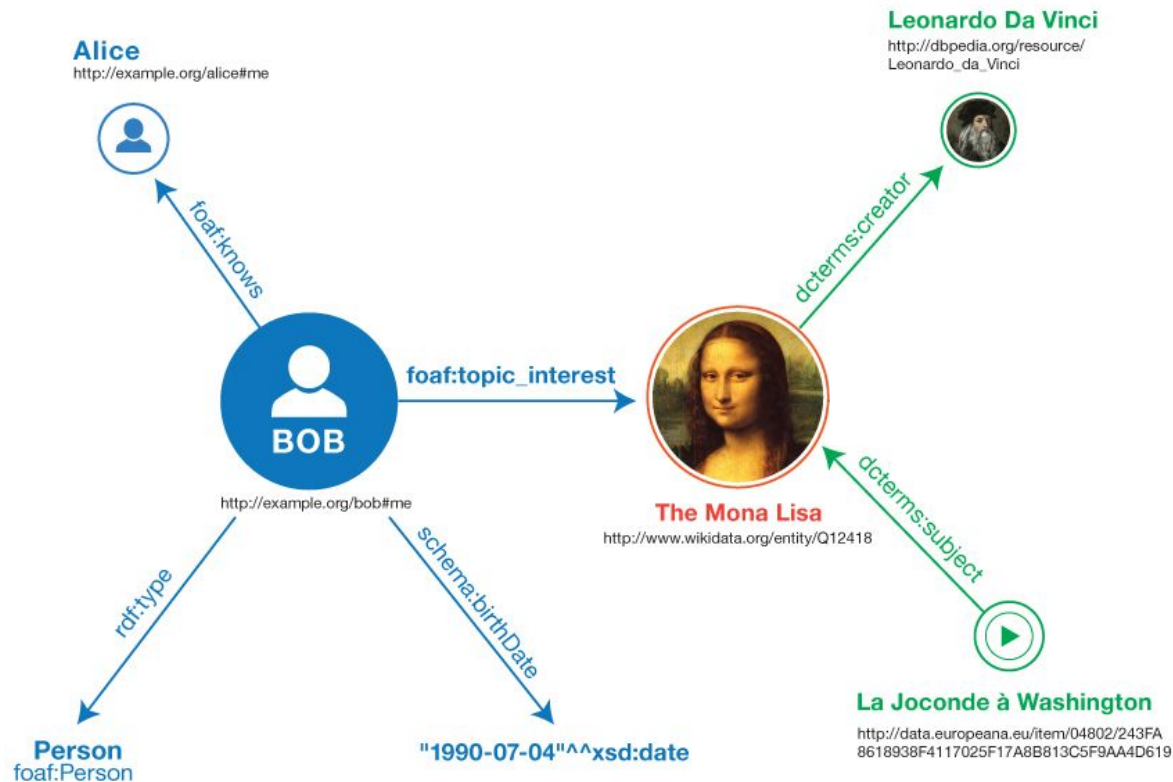


An Explicit Model of Obligatorification

We propose:

- a generic labelled-graph model of semantics (Sowa 2014), able to capture the semantics of words, sentences and world knowledge (RDF/N3)
- incremental interpretation by unification and inference (Bouma 1988)
- selecting most salient match (borrowing from Budiu & Anderson, 2004, Pisoni's 1998 Neighbourhood Activation Model)

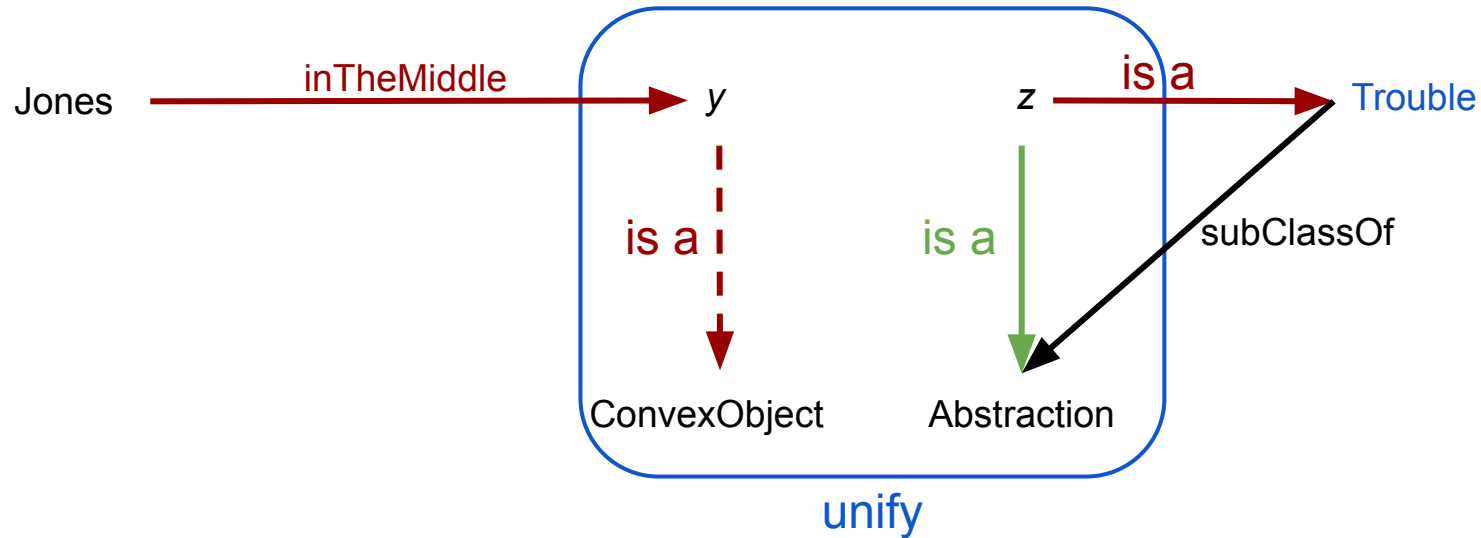
Representing Categorical Semantics



*If there is **trouble** ...*

covert referent!

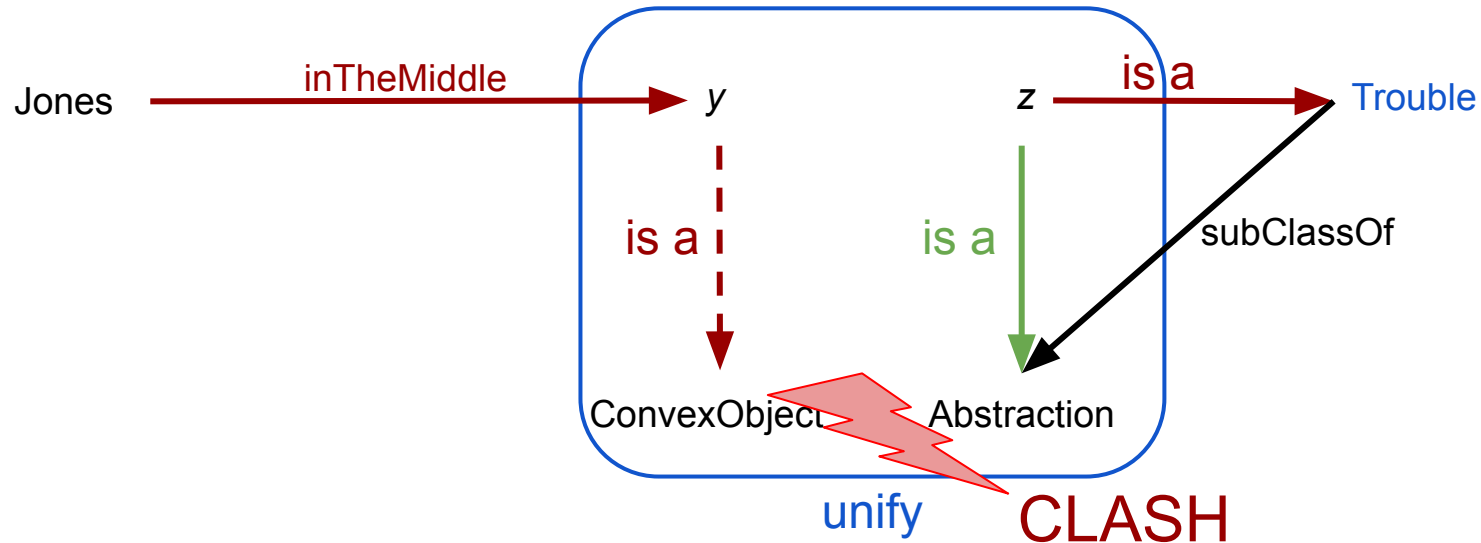
*... then Jones is **in the middle**.*



*If there is **trouble** ...*

covert referent!

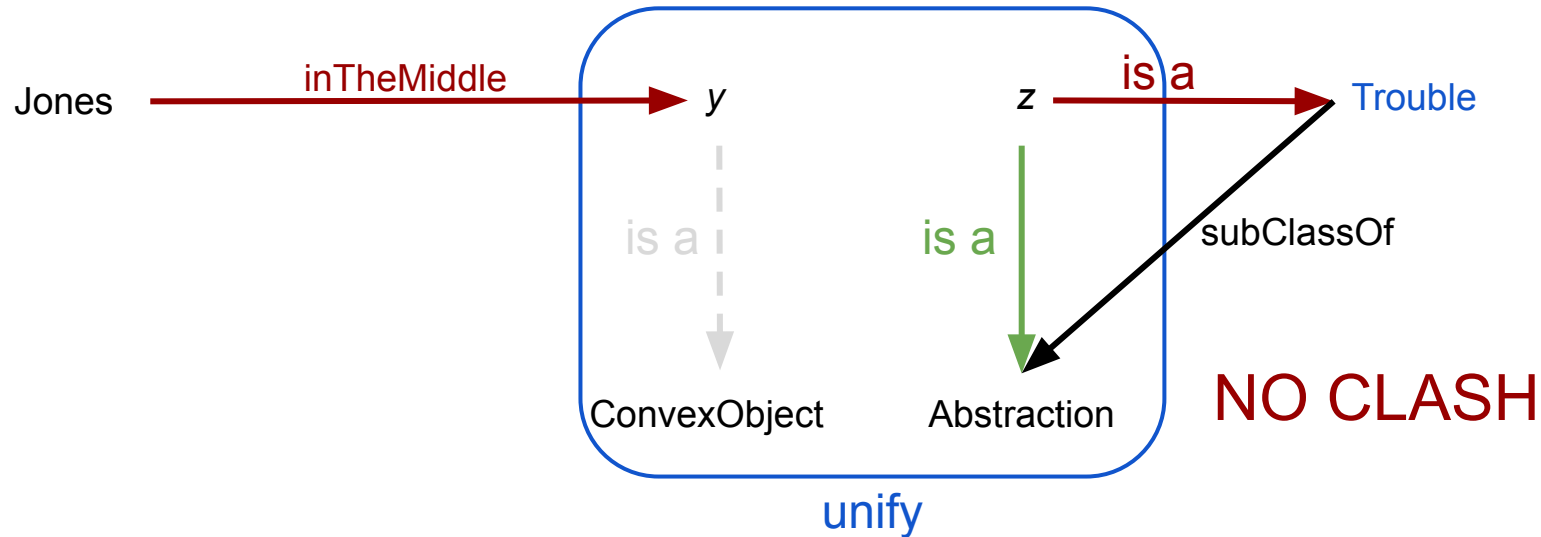
*... then Jones is **in the middle**.*



*If there is **trouble** ...*

overt referent!

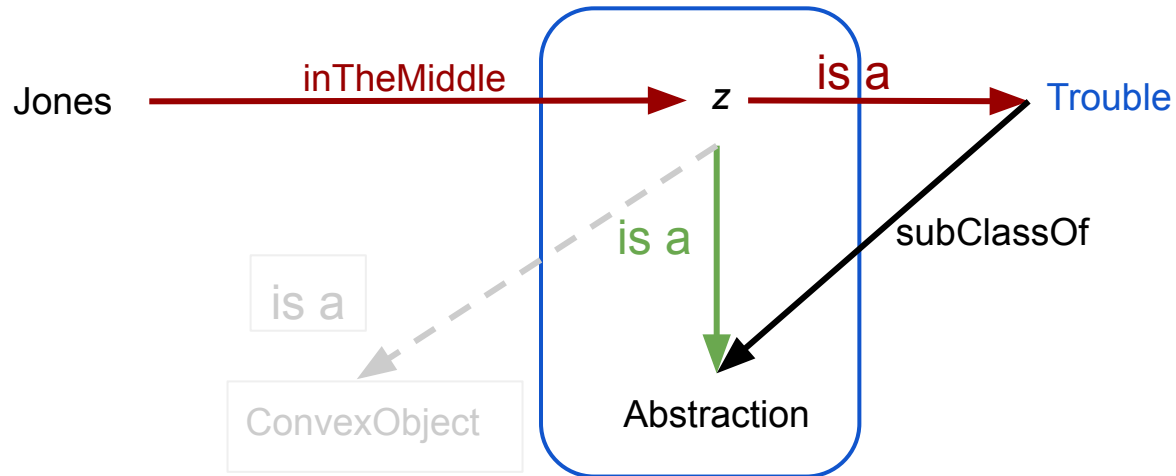
*... then Jones is **in the middle of it**.*



*If there is **trouble** ...*

overt referent!

*... then Jones is **in the middle of it**.*



Conclusions - The semantic origins of configurationality

Specific semantics condition obligatory dependencies at every synchronic stage of every language.

Conclusions - The semantic origins of configurationality

Specific semantics condition obligatory dependencies at every synchronic stage of every language.

Incongruent semantics require overt arguments for processing needs.

Incongruency involves the importing of relational structure, i.e. metaphor.

Conclusions - The semantic origins of configurationality

Specific semantics condition obligatory dependencies at every synchronic stage of every language.

Incongruent semantics require overt arguments for processing needs.
Incongruency involves the importing of relational structure, i.e. metaphor.

Semantically conditioned obligatoriness only rarely develops into a syntactic constraint.

Conclusions - The semantic origins of configurationality

Specific semantics condition obligatory dependencies at every synchronic stage of every language.

Incongruent semantics require overt arguments for processing needs.
Incongruency involves the importing of relational structure, i.e. metaphor.

Semantically conditioned obligatoriness only rarely develops into a syntactic constraint.

Semantic networks model why congruent and incongruent uses imply optional vs obligatory dependencies.

Thank you for

References

- Boroditsky, Lera. 2000. “Metaphoric structuring: understanding time through spatial metaphors”, *Cognition* 75, 1-28.
- Harris, Alice C. & Lyle Campbell. 1995. *Historical syntax in cross-linguistic perspective*. Cambridge: Cambridge UP.
- Himmelmann, Nikolaus P. 1997. *Deiktikon, Artikel, Nominalphrase. Zur Emergenz syntaktischer Struktur*. Tübingen: Niemeyer.
- Reinöhl, Uta. 2016. *Grammaticalization and the Rise of Configurationality in Indo-Aryan*. Oxford: Oxford University Press.
- Reinöhl, Uta & T. Mark Ellison. In prep. “Creative Language Use Universally Engenders Obligatory Arguments”.