

Metaphorical Extension and the Evolution of Configurationality



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Examples for Obligatorification

	Early	Modern
Sanskrit/Hindi	(NP) <i>madhye</i> 'in the middle'	NP <i>mē</i> 'in'
Greek	ἐν 'inside' (NP)	ἐν 'in' NP
English	se 'that' (N)	the N

Historical Stages Reinöhl (2016)

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

As a Rule

Specific semantics and pragmatics condition obligatorily overt dependencies at every synchronic stage of every language.

A model of incremental processing based on semantic networks allows us to account for this conditioning.

Obligatorily overt dependencies may serve as stepping-stones to the evolution of strict syntactic requirements.

Examples from Indic

(1) Vedic Sanskrit
madhya etasyai nividah sūktam śamset
 middle.LOC DEM.DAT.SG.F invocation.GEN.SG.F hymn.ACC.SG.N recite.OPT.3SG
 'he should recite the hymn **in the middle of that invocation**' (AiB 2.33.2)

(2) Vedic Sanskrit
madhye nividam dadhāti
 middle.LOC invocation.ACC.SG.F put.3SG
 'he places an invocation **into the middle** (of the recitation)' (AiB 3.19)

(3) Apabhramsha (Late Middle Indo-Aryan)
dharivi ihu majjhi hiyayaha
 carry.CONV DEM.ACC.SG middle.LOC heart.GEN.SG
 'he carried in the **middle of his heart** this: ('I will...)' (SA 707.4)
 93/93 incongruent cases have overt dependent

(4) Hindi
hamāre ghar ke pās nadī hai.
 our house.OBL.SG near river.DIR.SG.F be.3SG
us /∅ mē tairnā acchā lagtā hai.*
 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**.'

(5) *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)

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

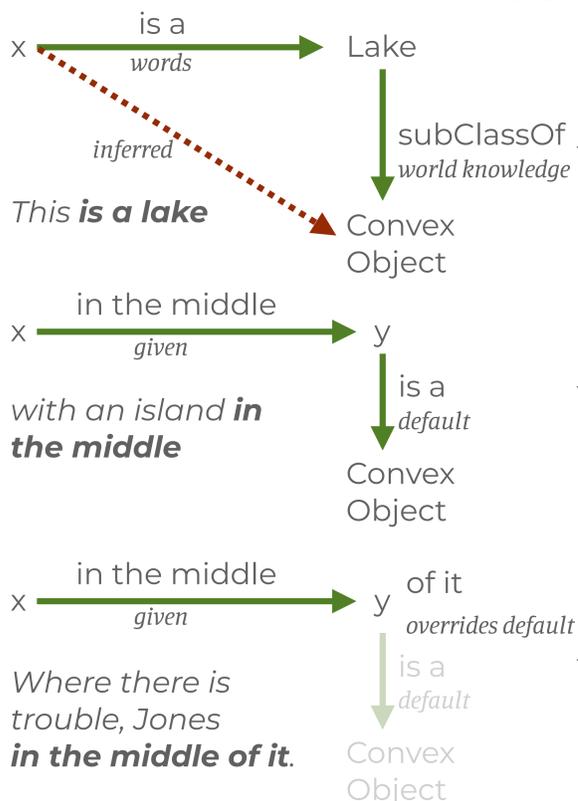
(7) *If there is trouble it seems Jones is inevitably **in the middle of it*** (BNC, CEP, W_newsp_other_sports)

Congruent Use > Optional Dependent
 complement matches default semantics

Incongruent Use > Obligatory Dependent
 complement conflicts with default semantics

Obligatory Dependent
 grammaticalized stage

A Computational Model of Obligatorification



We represent semantic information using arrows linking entities and classes, labelled with predicates (cf Sowa 2014). Sentence interpretation can be modelled as **unifying** the semantic graphs of each word (cf. Bouma et al. 1988).

A relation like *in the middle* assumes default properties of its object, i.e. that it is a convex object.

When an explicit dependent is given, it determines the unification targets, the default properties being overridden. In the example on the left, the object *y* - unencumbered by the default properties - is free to unify with objects other than convex objects, e.g. *trouble*.

If the intended unification target is incompatible with defaults, the latter must be overridden before unification to achieve the correct interpretation.

References

- ▶ Bouma, G., König, E., & Uszkoreit, H. (1988). "A flexible graph-unification formalism and its application to natural-language processing". *IBM Journal of Research and Development*, 32(2), 170-184.
- ▶ Reinöhl, U. (2016). *Grammaticalization and the Rise of Configurationality in Indo-Aryan*. Oxford: Oxford University Press.
- ▶ Sowa, J. F. (2014). *Principles of Semantic Networks: Explorations in the Representation of Knowledge*. Morgan Kaufmann.

