

Indefinite/interrogatives and relatives in early Indo-European

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(Joint work with Nik Gisborne)

Relatives, interrogatives, alternatives
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Dramatis personae

- ▶ **Interrogative** forms: *Who spoke?*
- ▶ Use of the same forms as **indefinites**: *Gif hwa hyt blelsað. . .* 'if who blesses it, . . .'
- ▶ Use of the same forms in **headed relatives**: *the person who spoke*
- ▶ Use of the same forms in **correlatives**: *swa hwa swa ðonne cræftig bið, he bið wis* 'whoever then is crafty, he is wise.'

This is very unusual

	IE	Other
Spec	25 (62.5%)	8 (6.1%)
<i>Int</i>	16 (40%)	3 (2.3%)
<i>Dem</i>	4 (10%)	0 (0%)
<i>Sp</i>	5 (12.5%)	0 (0%)
No Spec	15 (37.5%)	124 (94%)

Table 1: Headed relative specifiers in 172 languages (based on De Vries 2002)

- ▶ Research question: how do IE languages keep ending up in this sparsely populated typological space?

Worse

The locked room

- ▶ The synchronic states and diachronic pathways of individual IE languages with k^w -relatives are very different.
- ▶ So the same type of pattern develops repeatedly in IE languages, but not literally the same pattern.
 - ▶ IE languages can get into a 'locked room' (a typological space that languages typically don't inhabit).
 - ▶ Other languages hardly ever get into the locked room.
 - ▶ Once they're in the locked room, they can follow different paths (but rarely get out again).
- ▶ Rephrased research question: what constitutes the locked room? How is it locked?

Gist of answer

- ▶ There are two types of k^w -phrase.
 - ▶ One (**abstractors**) are good at making relatives, but not indefinites.
 - ▶ The other (**alternative sets**) are the other way round.
- ▶ They are canonically associated with fronting (abstractors) and in situ (alternative sets) respectively, but with rare dissociations between position and interpretation.
- ▶ Early IE k^w -forms denoted alternative sets, but were fronted for a range of reasons.
- ▶ Headed relatives (here, spotlight on Middle English) emerged when these fronted phrases were reanalysed as abstractors.
- ▶ This reanalysis is a crucial step in gaining access to the locked room.

Roadmap

1. Parallel evolution of k^w -relatives
2. K^w -forms: Syntax and semantics
3. K^w -interrogatives and k^w -correlatives in early IE
4. Old English: More fronting, same story
5. The locked room

Section 1

Parallel evolution of k^w -relatives

Where did k^w -relatives come from?

Candidate explanations

Not just inheritance from PIE

- ▶ Proto-Indo-European probably did not have headed k^w -relatives (it probably did not have embedded relatives at all, Kiparsky 1995, Clackson 2007, *pace* Probert 2014).

Not just contact

- ▶ Comrie (1998) identifies relative pronouns (including k^w -relatives) as a European areal type, whose distribution should be explained by patterns of contact.
- ▶ But Indo-Aryan languages have 'European-type' relatives, and are not in Europe.
- ▶ Individual relative pronoun systems are different, so direct borrowing is unlikely.

A hybrid: Parallel evolution

1. A distinctive initial state;
 2. Something to motivate a recurring path for emergence of interrogative relatives.
 3. Borrowing possible in principle at any stage on this pathway (see e.g. Probert 2014).
- ▶ Parallel endogenous innovations seem unparsimonious, but they do happen.

- (1) de fout **wie** hun eigenlijk maken
the mistake who they actually make
'the mistake which they actually make'

(Johan Cruyff, via Boef 2012)

- (2) adnominal adjectives (those **who** are not modifying the noun
predicatively) (Belk 2016: 179)

- ▶ Several independent innovations of headed k^w -relatives attested or reconstructed in the literature.

Section 2

K^w -forms: Syntax and semantics

Two dimensions of variation

- ▶ In pursuing answers to diachronic questions, we can ask two different types of question:
 1. Questions about the history of headed relatives etc.;
 2. Questions about the history of lexical items e.g. *who*.
- ▶ In this talk, we will only pursue answers to the second type of question.
- ▶ Answers to the first type of question obscure crucial differences between different lexicalizations of similar constructions.

General framework for describing k^w -phrase behaviour

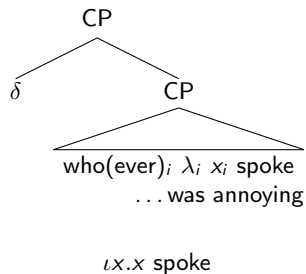
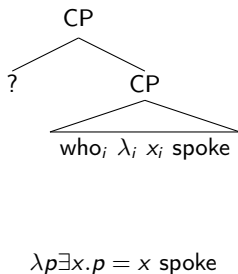
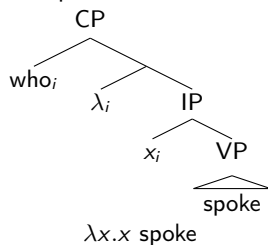
Beck (1996), Reinhart (1998), Pesetsky (2000), Kratzer & Shimoyama (2002), Caponigro (2003), etc.

1. K^w -phrases can indicate **abstraction** over a variable.
 - ▶ Derived predicate can be argument to operators forming interrogatives, definite descriptions (FRs), or can be interpreted as a headed relative.
 - ▶ K^w -phrase must be moved, normally overtly, sometimes covertly.
2. K^w -phrases can denote **sets** of alternatives.
 - ▶ Must occur in scope of an operator which can interpret a set-type argument.
 - ▶ Common interpretations: indefinite, interrogative (again!).
 - ▶ K^w -phrase need not move (for these purposes), though it can move for other purposes.
3. Something blocks shifting between these two interdefinable denotation types, so moved phrases and in situ phrases really are interpreted differently.

Some examples

Abstraction

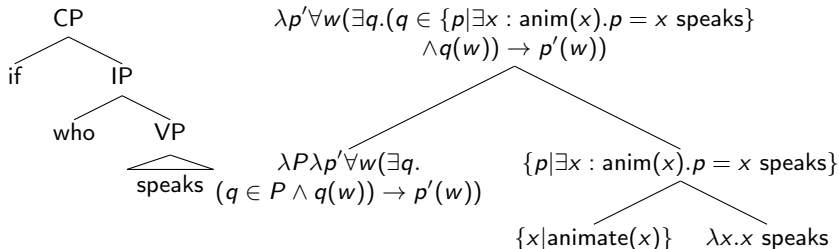
The person ...



- ▶ K^w -phrase moves, so subject to island constraints.

Some examples

Alternative set



- ▶ K^w -phrase bound by operator, so subject to intervention effects (Beck 1996, Pesetsky 2000, Demirok 2017).
 - ▶ $*Op_i \dots Op_j \dots k^w_i$
 - ▶ Interveners include negation, universals, some focus particles.
- (3) a. *Wann hat niemand wem geholfen?
when has nobody whom helped
'When did nobody help whom?'
- b. Wann hat wem niemand geholfen? (Beck 1996: 1)

An implication

- ▶ K^w -phrases (particularly indefinites) with an alternative set denotation are **dependent**.
- ▶ They must be in the scope of an operator which can take a set as an argument.
- ▶ Particularly clear with **bare** interrogative–indefinites. (One possible analysis of affixal series of interrogative–indefinites of the sort discussed in Haspelmath 1997, Yanovich 2005: the affix is that operator).

Formal cues to the presence of the operator

1. Overt morpheme:
 - 1.1 Remote (e.g. *if*);
 - 1.2 Affixed (e.g. *qui-libet* etc. series);
 - 1.3 Prosodic.
2. Displacement of k^w -phrase (more on this below).

Downing's universal

- ▶ Downing (1978): no in situ k^w -relatives (counterexamples in De Vries 2002 later shown to be spurious).
- ▶ Implication: k^w -relatives can only be formed by abstraction, not with alternative sets.
- ▶ This should tell us something about the kinds of operators that can take sets as arguments, e.g. no functions from alternative sets to 1-place predicates.

Oh Tsez ...

- ▶ Tsez has in situ free k^w -relatives.

(4) ħul babi-y-ä febi zek'azor magalu
yesterday father-OS-ERG who.ABS hit.PST.ATTR.LAT bread.ABS
tet†
give.IMP
'Give the bread to whoever Father beat yesterday!'

(Demirok 2017: 272)

- ▶ But Tsez in situ k^w -phrases are island sensitive.

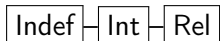
(5) *ɫar täλ-ru micxir bok'ek'ä žedä?
who.LAT give.PST.PTCP money stole DEM.ERG
'They stole the money that had been given to whom?'

(Demirok 2017: 275)

- ▶ So Tsez k^w -phrases are pronounced in situ but interpreted in [Spec,CP].
- ▶ We'll see below that Old English k^w -phrases move but are interpreted in situ (as denoting alternative sets).

Frontability

- ▶ Luján (2009) gives a semantic map for k^w -forms:



- ▶ Luján presents his map as reflecting diachronic development.
- ▶ It seems just as amenable to an interpretation in terms of position in the clause.
 - ▶ Indefinites: in situ (disregarding scrambling etc.).
 - ▶ Interrogatives: sometimes fronted, sometimes not (marked by intonation, question particle, etc.)
 - ▶ Relatives: always fronted (Downing's universal).
- ▶ In terms of the foregoing:
 - ▶ K^w -indefinites favour the alternative set denotation.
 - ▶ K^w -relatives require the abstractor interpretation.
 - ▶ K^w -questions are compatible with either.
- ▶ So the k^w -forms which make good relativizers make bad indefinites, and vice versa.

Supporting typological evidence

- ▶ K^w -fronting in questions isn't rare (c.30% of languages in Dryer 2013).
- ▶ An interrogative–indefinite ambiguity isn't rare (62% of languages in Haspelmath 1997, of which 29% with 'bare' forms);
- ▶ But you don't usually find both in the same language.
- ▶ I cross-checked the data on the 'i=i' ambiguity in Gärtner (2009) against the data on *wh*-fronting in Dryer (2013). Results (from an unbalanced sample of 48 languages) below.
 - ▶ NB the i=i row is overrepresented.

	Fronted <i>wh</i>	in situ <i>wh</i>
i=i	12	22
i≠i	10	4

Table 2: Interaction of *wh*-fronting and indefinite/interrogative ambiguity ($p = 0.03$, Fisher's exact test)

Early IE bare interrogative–indefinites

- ▶ They're **everywhere**.
- ▶ They're also dependent, particularly (though not exclusively) on conditional operators.

- (6) nu=wa=mu m̄an idālun memian kuiš
CONN=QUOT-me if evil-ACC.SG word-ACC.SG WH-NOM.SG
[memai]
tell-NPST.3SG
'If anyone tells me a bad word, ...' (Hittite, Huggard 2015: 54)
- (7) gif hwa hit blelsað ...
if who it blesses
'If anyone blesses it, ...' (Old English)
- (8) Metum vero si qui sustulisset, omnem vitae diligentiam sublatam fore
...
'If indeed anyone succeeded in getting rid of fear, the careful conduct
of life ... would be got rid of entirely.' (Latin, Pinkster 2015: 1164)

Reframing the research question

- ▶ Early IE had bare, dependent interrogative–indefinites (in situ as indefinites), which typically didn't function as (headed) relativizers.
- ▶ Many modern IE languages have bare, fronted interrogative–relatives, which typically aren't indefinites.
- ▶ How does one develop from the other, in terms of:
 - ▶ Syntactic position;
 - ▶ Interpretation?
- ▶ Gist of answer: **correlatives** are a gateway drug.
 - ▶ Correlative-like structures can be built out of both types of k^w -phrase.
 - ▶ The k^w -phrase in correlatives can (or must) occupy various ex situ positions, even in languages with in situ k^w -questions.
 - ▶ Scope for reanalysis as movement-to-mark-abstraction.

Section 3

K^w -interrogatives and k^w -correlatives in early IE

k^w -interrogatives in early IE languages

- ▶ All early IE languages have k^w -interrogatives, more or less as a matter of definition.
- ▶ Fronted in most languages, but Hittite k^w -phrases typically in situ ('the word order does not differ from that of a declarative', Huggard 2015: 96).

(9) KASKAL ^{uru}Tanzila kuwat NU.SIG₅
road Tanzila why be.unfavourable
'Why is the campaign to Tanzila unfavourable?'
(Hittite, Huggard 2015: 101)

K^w -correlatives in early IE languages

- ▶ K^w -correlatives are common (though far from universal) in early IE.
- ▶ Never (?) involve k^w -phrase in situ.
- ▶ Implication: Among early IE languages, fronting of k^w -phrase in correlatives is more common than in interrogatives.
- ▶ New research question: Why?
- ▶ Unpromising answer: the k^w -phrase is marking abstraction over a variable (doesn't explain why specifically in correlatives).

Belyaev & Haug (2014): An implicational universal in interrogative–correlatives

- ▶ All languages with k^w -correlatives allow generalizing reading, not all allow definite reading.

- (10) cui testimonium defuerit, is tertiis diebus ob portum
REL.DAT witness is.absent he third day to door
obuagulatum ito.
to.summon go
'He whose witness is absent, he shall go to summon him every
third day.'
- (11) quam earum in iis locis optimam dicent esse,
REL.ACC of.them in these places best they.say be
eam maxime serito
that.ACC in.particular sow
'(The one) which they say is best in these places, sow that one
in particular.'
(Belyaev & Haug 2014)

Compare and contrast

- ▶ English and some other IE languages allow an alternation between *if* and V-fronting to mark conditional interpretations.
- ▶ In PDE this is limited to subjunctive verbs (subjunctive licensed by conditional).

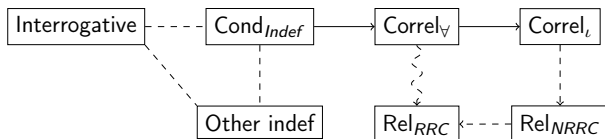
- (13) a. If I were to ...
b. Were I to ...

- ▶ Fronting the k^w -form (the element dependent on the conditional operator) is a similar way of marking the conditional.

- (14) a. Gif þu hwæt dest him to lofe on his lacum mid
if you what do him.DAT to praise on his gift with
cyste
virtue
- b. swa hwæt swa we doþ Godes þearfum on Godes naman
so what so we do God's need.DAT in God's name

A different diachronic map

- ▶ A possible diachronic map (incommensurate with Luján's):



- ▶ Right hand part reflects two pathways from correlatives to headed relatives.

1. Haudry (1973) on Latin:

(15) qui ..., is ... → [vir qui] ..., is ... → vir, [qui ...], is ...

2. Old English (wiggly line, details omitted).

Hittite: Fronting and interpretation

- ▶ Examples of k^w -fronting in Hittite are more reliably associated with correlatives than with interrogatives.
- ▶ But the fronting doesn't look like 'relativization'.
- ▶ Instead, positional marking of which operator takes the k^w -phrase in its scope.
- ▶ Fronting often doesn't target the left periphery.
- ▶ So many N- k^w orders which are good candidates for reanalysis as headed relatives, along the lines of Haudry (1973).

Hittite correlatives (based on Huggard 2015)

- ▶ Interpretation of k^w -indefinites \approx Diesing (1992).
- ▶ Low (vP -internal) position \rightarrow nonspecific.

(16) nu=tta uezzi peran kuiški
CONN=2SG.DAT come-NPST.3SG in.front WH-NOM.SG-INDF
taštašiyazi
whisper-NPST.3SG
'And someone comes (and) whispers in your presence.'
(Huggard 2015: 60)

- ▶ High (vP -external) position \rightarrow specific.

(17) našma ANA ^dUTU-ŠI kuiški waggariyawaš
or DAT his majesty WH-NOM.SG-INDF rebel-VN.GEN.SG
uttar menahhanda sanhazi
matter-ACC.SG against seek-NPST.3SG
'Or someone (amongst them) seeks a matter of rebellion against
HIS MAJESTY.'
(Huggard 2015: 65)

Where is the k^w -phrase?

- ▶ In 'generalizing correlatives' / k^w -conditionals, presumably in [Spec,CP].
- ▶ In definite correlatives, clearly lower (sometimes separated from restrictor).
- ▶ Huggard (2015): within vP , but this seems theoretically and empirically problematic:
 - ▶ If Hittite works like Diesing (1992), VP-internal interpretations should be nonspecific indefinite, not definite.
 - ▶ Examples with adverbials etc. intervening between k^w -form and V suggest higher attachment site.

- (20) nu=za ^dUTU-ŠI kuin NAM-RA INA
CONN=REFL majesty-his WH-ACC.SG deportee-ACC in
É.LUGAL uwatenun n=aš 1 SIG₇ LIM 5 ME
palace bring-PST.1SG CONN=3SG.NOM 15,000
NAM-RA ēšta
deportee be-PST.3SG
'I, His Majesty, brought some deportees to the palace. There
were 15,000 deportees.' (Huggard 2015: 162, his translation)

Hittite correlatives summary

- ▶ Conjecture: Hittite k^w -forms are never in situ, but never move to signal relativization (abstraction).
- ▶ They move where they need to, to be interpreted as required.
 - ▶ Within νP : \exists
 - ▶ In the middlefield: specific / definite
 - ▶ Above C: conditional.
- ▶ Could this be another Beck-esque intervention effect?

Section 4

Old English: More fronting, same story

Fronting in Old English

- ▶ Old English has many more *ex situ* k^w -phrases than Hittite.
- ▶ In questions:

(21) Hwæt gehyre ic be ðe?
what hear I by thee
'What do I hear from you?' (coaelhom,+AHom_17:1.2368)

- ▶ In free relatives (more on these shortly):

(22) he ... sprecð swa hwæt swa he gehyrð
he speaks so what so he hears
'He says whatever he hears.' (coaelhom,+AHom_7:27.1074)

But still: k^w -indefinites

- ▶ In situ, dependent, specialized for conditional and concessive structures.
- ▶ Not NPIs: very rare in questions, negation, etc.

(23) gif hwa hyt blelsað. . .
if who it blesses
'If anyone blesses it, ...'

(24) wyrce hwa þæt ðæt he wyrce . . .
work.SBJ who that that he work.SBJ
'If anyone does what he does'

(25) ðonne he hwæt godes dep . . .
when he what good.GEN does
'When he does anything good ...'

- ▶ This immediately raises questions about the division of labour between k^w -phrases *qua* abstractors and *qua* alternative sets.
- ▶ I will argue that, although OE looks like a regular k^w -fronting language, it is underlyingly not far removed from Hittite.

Varieties of free k^w -relative in OE

- ▶ Truswell & Gisborne (2015): OE free k^w -relatives can occur:
 - ▶ Clause-initially, always with *swa ... swa* (\approx *-ever*).

(26) Soðlice [swa hwar swa Israhela bearn wæron], þar
Truly so where so Israel's children were, there
wæs leoht.
was light
'all the children of Israel had light in their dwellings.'
(cootest,Exod:10.23.2788)

- ▶ Clause-finally, with or without *swa ... swa*.

(27) Gaþ to Iosepe & doþ [swa hwæt swa he eow secge].
Go to Joseph and do so what so he you.DAT say.SBJ
'Go unto Joseph; what he saith to you, do.'
(cootest,Gen:41.55.1711)

(28) Gemyne, [hwæt Sanctus Paulus cwæð]
Remember what Saint Paul said
'Remember what Saint Paul said.'
(cogregdC,GDPref_and_3_[C]:15.207.28.2739)

K^w -‘correlatives’ in OE

- ▶ OE K^w -correlatives are just left-adjoined free relatives + resumptive element.
 - ▶ Distinctive *swa ... swa* marking.
 - ▶ No multiple correlatives

(29) and [swa hwæt swa we doþ Godes þearfum on Godes
and so what so we do God.GEN service.DAT in God.GEN
naman], þæt we doð Gode sylfum.
name.DAT that we do God.DAT self.DAT
‘and whatever we do as service to God, in God’s name, we do to
God himself.’ (coaelhom,+AHom_26.3:8.3925)

- ▶ Semantically, they are always generalizing (with *swa ... swa*).
- ▶ We think that in OE, like in Hittite, correlatives are just conditionals.

Evidence for conditional interpretation

1. The left part of the correlative may look like a left-dislocated free relative.

(30) What you did, that was incredible.

... but OE hardly ever left-dislocates regular 'topical' noun phrases (definite descriptions, proper names, etc.). Canonical use of this position is for relatives.

2. OE *gif*-conditionals are canonically present indicative. Same goes for k^w -correlatives (see also Held 1957 on Hittite correlatives). Other clause types don't show this association.
- ▶ So while OE correlatives are **syntactically** distinct from Hittite, they share the conditional interpretation.
 - ▶ And the conditional interpretation is plausibly marked by k^w -fronting.

Evidence from other uses of k^w -

Intervention in k^w -questions

- ▶ K^w -questions with negation are overwhelmingly *why*- and *how*-questions (c.90% until c.1500).

(31) hwi nelt þu þe gebiddan to Bele þam gode?
why NEG.will you thee pray to Bel the.DAT god
'Why will you not pray to Bel, the God?'
(coaelhom,+AHom_22:363.3492)

- ▶ Similar story (messier) with intervening *every* and focus particles.
- ▶ Why are there so few argument-gap questions in these environments? Likely answer: Intervention.

Intervention in OE k^w -questions

- ▶ OE questions with *hwa*, *hwylc* etc. cannot tolerate an operator such as negation intervening between the surface position and the trace position.
- ▶ This is different from Beck's pattern, where scrambling alleviates intervention effects.
- ▶ An interpretation:
 - ▶ OE k^w -phrases are interpreted in the trace position.
 - ▶ (A-)scrambling feeds interpretation.
- ▶ Then *why/how* phrases are different either because they can be base generated in [Spec,CP], or because they are able to attach their traces in higher positions.

Evidence from other uses of k^w -

Even bare postverbal free k^w -relatives are typically indefinite

- ▶ In Truswell & Gisborne (2015), we claimed that bare postverbal free k^w -relatives had the definite interpretation analysed by Jacobson (1995).
- ▶ We were probably wrong.
- ▶ Only 16 free k^w -relatives straightforwardly match the characterization of definite FRs in Caponigro (2003).
- ▶ The majority better match the description of indefinite FRs, including preferentially occurring with certain verbs (*habban* 'have', *findan* 'find', *secan* 'seek', etc.).
- ▶ We don't fully understand this, but the pattern would be inexplicable if OE FRs were built in the regular definite way described by Jacobson and Caponigro.

OE interim summary

- ▶ OE fronts k^w -phrases much more than Hittite.
- ▶ But OE k^w -phrases are used in ways which suggest that they are still not typically interpreted as abstractors.
 - ▶ Correlatives are really conditionals.
 - ▶ Beck-intervention effects on the path of overt k^w -movement.
 - ▶ Free relatives only very rarely have the 'default' definite interpretation.
- ▶ Best guess about what's going on: OE is the anti-Tsez:
 - ▶ Tsez phrases are in situ but interpreted as if moved.
 - ▶ OE phrases are moved but interpreted as if in situ.

History of k^w -forms in English

- ▶ OE: See above
- ▶ Early ME:
 - ▶ Very few free k^w -relatives.
 - ▶ No argument-gap headed k^w -relatives.
 - ▶ Handful of examples of adjunct-gap headed k^w -relatives.
 - ▶ k^w -indefinites very quickly disappear.
- ▶ 1350–: Plentiful free and headed k^w -relatives.

- ▶ OE free k^w -relatives decline as k^w -indefinites decline.
- ▶ ME headed k^w -relatives follow reanalysis as abstractors.

Section 5

Conclusion: The locked room

The key to the locked room

- ▶ K^w -forms across languages exhibit a range of behaviours.
- ▶ Universals tell us that not just anything goes.
- ▶ Early IE k^w -indefinites suggest an alternative set denotation.
- ▶ So the rare part must be related to reanalysis of alternative sets as abstractors.
- ▶ Fronting may be a key to interpretation as abstractors.
 - ▶ and correlations between position of k^w -phrase and interpretation thereof may feed reanalysis as fronted;
 - ▶ but OE fronted k^w -phrases in interrogatives, free relatives, etc., long before developing headed k^w -relatives.

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