On the stubborn refusal of English grammar to generate multiple correlatives

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Section 1

Introduction

Where do headed *wh*-relatives come from?

- Haspelmath (1997): Indo-European interrogative pronouns often grammaticalize into indefinite pronouns.
- Belyaev & Haug (2014): A recurring diachronic pathway from conditional + *wh*-indefinite to *wh*-correlative.
- Haudry (1973): A recurring pathway from *wh*-correlative to headed *wh*-relative.
- Compose the three pathways, and you get a long and winding path from interrogative to headed relative.

The pathway in Old English

- Most of these stages are simultaneously visible in Old English. *Wh*-forms can be used as:
    - Interrogative pronouns
    - Indefinite pronouns
    - (Correlative pronouns???)
    - Free relative pronouns
    - ... and some precursors to headed relative pronouns (Gisborne & Truswell 2015).
- As you may have noticed, we are unsure about the status of *wh*-correlatives in Old English.
- Canonical correlatives, as described in Srivastav (1991), Bhatt (2003), Lipták (2009a), have several co-occurring properties.
- Old English doesn't have all of them. Specifically, it doesn't have multiple correlatives.

Single and multiple correlatives

(1) [_{correlative clause} . . . relative phrase(s). . .][_{main clause} . . . correlate(s). . .]

(2) jo   laRkii khaRii   hai vo   lambii hai
     REL girl   standing is DEM tall   is
     lit. Which girl is standing, she is tall
     'The girl who is standing is tall'

(3) [jis laRkii-ne jis laRke-ke saath khelaa] us-ne   us-ko
     REL girl-ERG REL boy-GEN   with played that-ERG that-ACC
     haraayaa
     defeated
     lit. Which girl played with which boy, she defeated him
     'Every girl defeated the boy she played with'

Matters arising

- Given that OE appears to have all the necessary ingredients for multiple correlatives, how come we don't find them?
- Could that mean that there are necessary ingredients that we haven't noticed?
- But what counts as a correlative anyway? The cluster of prototypical correlative properties has a worryingly constructional flavour to it, and it's in our interest to try to dissociate those properties, to see how they interrelate.
- If nothing else, something that's highly constructional shouldn't be the diachronic source of something obviously compositional (e.g. headed relatives) — see Traugott & Trousdale (2013).

This talk

- We think that OE lacks multiple correlatives because the left half of OE correlatives is an NP (not a clause), and OE NPs never contain multiple *wh*-phrases.
- The interpretation of this NP + IP structure is conditional.
- We will argue this in two sections:
  2. Relationships between conditionals and correlatives;
  3. Old English correlatives and definiteness;

Section 2

Conditionals and correlatives: Typology and diachrony

Conditionals and correlatives

- ▶ Andrews (1975): The same string can be interpreted as a 'universal' correlative or a conditional (with *wh*-indefinites).

  (4) yasya   yat   paitṛkam   ritkam   sa
       who.GEN what.NOM paternal.NOM inheritance.NOM he.NOM
       tad   gṛhnīta,   netaraḥ
       that.ACC should.get not.another
       'Of whom what is the paternal inheritance, he should get it and not somebody else.'
       'If someone has something as a paternal inheritance, then he should get it and not someone else.'   (Sanskrit)

- ▶ Similar ambiguities exist in Warlpiri (Hale 1976), Hungarian (Lipták 2009b), Serbo-Croatian (Arsenijević 2009), etc.
- ▶ The differences between universal correlative and conditional + *wh*-indefinite are small:
    - ▶ Correlatives require matching between relative pronouns and correlates.
    - ▶ Conditionals construe situations as topical, while correlatives construe individuals as topical (Bittner 2001).

Conditionals and situations

- ▶ Conditionals can be analysed in terms of quantification over situations.
- ▶ But the situations that conditionals quantify over are roughly the size of individuals (Elbourne 2001).

  (5)   a.   If a bishop meets another bishop, he blesses him.
           b.   If two bishops meet, one of them blesses the other.

  (6)   a. $\forall s.[\exists b_1.[\text{bishop}(b_1, s) \wedge \exists s' \supseteq s.[\text{bishop}(b_2, s') \wedge \text{meets}(b_1, b_2, s')]][\exists s'' \supseteq s'.[\text{bless}(b_1, b_2, s'')]]]$
           b. $\forall s.[\exists b_1, b_2.[\text{bishop}(b_1, s) \wedge \text{bishop}(b_2, s) \wedge \text{meets}(b_1, b_2, s)]][\exists s' \supseteq s.[\text{bless}(b_1, b_2, s')]]$

- ▶ This means that the shift from quantifiying over situations (conditionals) to quantifiying over individuals ('universal' correlatives) may be smaller than it seems.

Variation in conditional markers

- The canonical conditional structure involves a form like *if*, which introduces a dependent clause and quantifies over situations described by that clause.
- Not all conditional structures have this form.
- They are marked by:
  - Prosody (many languages but not e.g. German, Italian);
  - V1 position;
  - Subjunctive or imperative verb forms;
  - *and* & *then*.
- They are always marked by something. Even the 'conditional' prosody can be associated with arbitrary meanings.

Conditional markers and correlative markers

- We don't know much about Proto-Indo-European conditionals, because early IE conditionals were already quite divergent (Clackson 2007: citing Meillet).
- However, the same markers that occur in conditionals frequently crop up in correlatives (not just in IE).
    - Prosody;
    - *if* (Tibetan correlatives; Cable 2009);
    - *and* (Basque correlatives; Rebuschi 2009);
    - Hindi uses a member of the *j-* series of relative forms for conditionals.

(7)   [JEr to   ithE yel],   tEr miN tya-Ia   goli
     [*if* that.M here comes], *then* me.ERG that.M-ACC bullet
     mar-in
     kill-FUT
     '*If* he comes here, *then* I'll kill him.'   (Hindi)

- This suggests that conditionals and correlatives have an incestuous past: many different syntactic types of conditional influenced the attested forms of correlatives.

Types of Old English conditional

- Old English has at least two types of conditional:
  1. *gyf* . . . *þonne*;
  2. V1-antecedent;
- Indefinite *wh*-phrases occur in both of them.
- Multiple *wh*-phrases are only attested in *gyf* . . . *þonne*-structures, but there is insufficient data on V1-conditionals to know if they are possible there; we assume that the gap is accidental and that they are in fact possible.
- OE does not have biclausal conditionals marked purely by prosody. This means that there is no chance of such conditionals + *wh*-indefinites approximating multiple correlatives.

Wh-indefinites are specialized for conditionals

- The distribution of OE *wh*-indefinites across contexts is different from regular indefinites.
- It is also different from NPIs.

Context	*hw*	*ænig*	*sum*	Numerals
Matrix	80 (7%)	134 (12%)	**2025 (78%)**	**8287 (56%)**
Negation	26 (2%)	**418 (36%)**	32 (1%)	451 (3%)
Question	21 (2%)	**153 (13%)**	15 (0.6%)	187 (1%)
Universal	1 (0.1%)	17 (1%)	3 (0.1%)	152 (1%)
gif	**578 (50%)**	**142 (12%)**	17 (0.7%)	116 (0.8%)
V1	*3 (0.3%)*	*7 (0.6%)*	0 (0%)	0 (0%)
þeah	**88 (8%)**	2 (0.2%)	30 (1%)	45 (0.3%)
þonne	**52 (4%)**	7 (0.6%)	8 (0.3%)	37 (0.3%)
butan	**35 (3%)**	1 (0.1%)	8 (0.3%)	26 (0.2%)

NPI-like behaviour of *wh*-indefinites
Conditionals

(8) a. gif ðu yfeles bitst ænigum oðrum menn . . .
   if you ill bid any other men
   'If you wish any other man ill, . . . '

   b. gif hwa hyt bletsað. . .
   if who it blesses
   'If anyone blesses it, the illusion ceases.'

(9) a. forberste heora ænig . . .
   break.SBJ them.GEN any
   'If any of them breaks'

   b. wyrce hwa þæt ðæt he wyrce . . .
   work.SBJ who that that he work.SBJ
   'If anyone does what he does'

Un-NPI-like behaviour of *wh*-indefinites
Rare in other downward entailing environments

(10) þe   nis   nan neod þæt þe   hwa ahsige
     thee NEG.is no   need that thee who ask
     'You do not need anyone to ask you.'

(11) Is þæt hwelc wundor, þeah   ðe   . . .
     is that which wonder though that
     'Is it any wonder if . . .'

Section 3

Old English correlatives and definiteness

An implicational universal

- Andrews argued that correlatives are distinct from conditionals because single correlatives can have definite readings (see also Dayal 1996).

  (12)   jo   laRkii khaRii   hai vo   lambii hai
         REL girl   standing is DEM tall   is
         'The girl who is standing is tall'
         *'If a girl is standing, she is tall'

- However, Belyaev & Haug (2014) uncover an implicational universal: *wh*-correlatives 'must possess a universal interpretation [≈ conditional]; definite is optional (and possibly has special marking)'.

- Languages where *wh*-correlatives are only generalizing (from Belyaev & Haug): Tamil, Serbo-Croatian, historical Basque. Tibetan *wh*-correlatives only allow definite readings with marker *na*.

A diachronic account

- Belyaev & Haug relate this universal to two diachronic pathways:
    1. *Wh*-correlatives are initially generalizing and may develop definite interpretations.
    2. *Wh*-correlatives initially do not need an overt anaphor in the matrix clause, but an overt anaphor requirement may develop.
- This factorization is represented as $[\pm an, \pm def]$.
    - Hindi is $[+an, +def]$ (or actually, slightly beyond there, allowing restrictive interpretations of correlatives).
    - A language with *wh*-indefinites but no grammaticalized correlatives (e.g. much of Slavic) is $[-an, -def]$.
    - We show now that OE is also $[-an, -def]$, in a different way.

Correlatives and free relatives

- The left half of an Old English correlative is syntactically and semantically identical to a subtype of free relative, with *swa hw... swa*.
- *Swa hw... swa* is only found in free relatives.
- These free relatives are also found in clause-final position.
- We can learn about them in clause-final position, and then recycle the information to understand the left half of a correlative.

Free relatives in final position

- In clause-final position, free *hw*-relatives occur with or without *swa . . . swa*.
- *Swa . . . swa* triggers a generalizing interpretation.
- In its absence, we get a definite interpretation.

(13)   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.'

(14)   Gemyne,   [hwæt Sanctus Paulus cwæð]
       Remember what Saint   Paul   said
       'Remember what Saint Paul said.'

- In terms of external distribution, both types of free relative are just NPs (or more precisely, have the same category as their *wh*-phrase, Bresnan & Grimshaw 1978).

In initial position

- ▶ The left-hand half of an OE correlative is just a free relative, with *swa . . . swa*.
- ▶ There is often a correlate, but this is not required. (Particularly rare with adverbial *wh*-phrases).

(15) Swa hwylc eower   swa næfð   nane synne on him,
      So   which you.GEN.PL so   NEG.have no   sin   in him,
      awyrpe   se ærest ænne stan on hy
      cast.out.SBJ he first one   stone on her
      'He that is without sin among you, let him first cast a stone at her.'

(16) swa hwider swa he com   he cydde þas wundra
      so   whither so   he came he told the wonders
      'Wherever he came to, he told about the wonders'

(17) swa hwæt swa he mid his worde lærde, he ær   mid dædum
      so   what so   he with his word taught he before with deeds
      gefylde
      fulfilled
      'What he taught with his word, he had earlier done with his deeds.'

The topic–comment structure, and definiteness

- We see immediately that OE correlatives are $[-an, -def]$ in Belyaev & Haug's typology.
- Moreover, the left-adjoined phrase does not denote a topical individual.
- This is particularly clear in the case of (15): the point is that there is no individual without sin.
- In fact, left-dislocation + resumption in OE only rarely marks a topical individual.

NP type	LD	Anywhere
D (A) N (PP)	176 (6%)	153,290 (31%)
Proper name	208 (7%)	61,894 (13%)
Pers. pronoun	31 (1%)	126,142 (26%)
Hw-FR	212 (7%)	560 (0.1%)
Dem. FR	65 (2%)	771 (0.2%)
se (N) *þe/þæt*	1399 (46%)	10,559 (2%)

OE correlatives are still conditional

- We conclude that the 'correlative' structure in OE, at least sometimes, still topicalizes a situation rather than a (real-world) individual.
- In other words, it is still a conditional.
- However, it is a slightly unusual conditional, in that the antecedent is an NP (free relative), rather than a clause. See also Culicover & Jackendoff (2005).
- If this is accurate, we can also conclude that the *wh*-phrase inside the conditional is still indefinite.
- Supporting evidence for this: OE *wh*-correlatives, like OE *if*-conditionals, are disproportionately associated with present indicative verb forms.

Verb forms
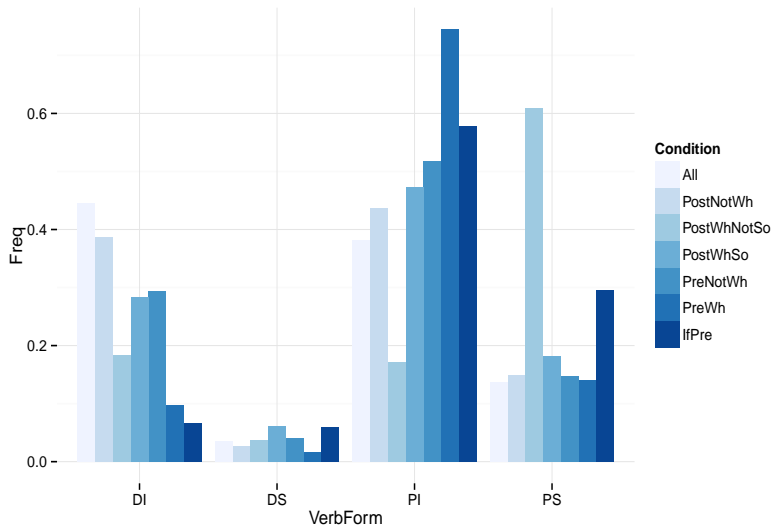
Section 4

Conclusion: So where are the multiple
correlatives?

OE has multiple *wh*-indefinites . . .

(18) [Gif [**hwa**] anon mæssepreoste his behat for his
     If   who one mass.priest his vow for his
     andetnysse behæt], oððe [gif [**hwa**] [**hwylcum** oðres
     confession vows   or if who which   other.GEN
     hades   preoste] [**hwilc** þing] for his sealmsancge &
     person.GEN priest   which thing for his psalm.singing and
     for his gebedrædene behæt] . . .
     for his prayer   vows
     'If anyone gives his vows for his confession to a priest from
     outside the church, or if anyone gives anything to anyone
     else's priest for his psalm service and for his prayer vows,
     . . .'

- 22/30 examples in *if*-clauses
- V1-conditionals are so rare that the absence of multiple *wh*
  within them is uninterpretable.

. . . but not here

- ▶ We have argued that OE *wh*-correlatives still are conditionals.
- ▶ They are also plentiful, unlike V1-conditionals.
- ▶ So the absence of multiple *wh*-correlatives appears to be real.
- ▶ We can explain it by observing that OE has no multiple free *wh*-relatives either.
- ▶ The left half of an OE correlative is an NP (free relative), while the left half of e.g. a Hindi correlative is a clause.
- ▶ Typological implications: correlatives don't come as a fixed package, but vary along all the dimensions we would expect them to. Phew.
- ▶ Two diachronic questions:
    1. Given the diversity of structures (and pathways) attested in IE, why do so many different IE languages develop headed *wh*-relatives, which are otherwise so typologically rare?
    2. How does English develop definite denotations for *wh*-phrases (in free relatives, nonrestrictive relatives)?

Diachrony and typology

- The reconstructed source for *wh*-correlatives involves three ingredients.
    1. A bipartite conditional structure;
    2. Interrogative forms, also used as indefinites;
    3. Demonstratives, also used as correlates.
- None of these ingredients are particularly rare.
- *Wh*-correlatives are quite rare (c.7% of languages have them, De Vries 2002).
- Headed *wh*-relatives are very rare (c.2% of non-IE languages have them).
- Why don't more languages follow this pathway?
- One possible answer is because further conditions apply, e.g. if *wh*-indefinites are restricted more generally in IE.

Indefinite > definite

- A regular indefinite may occur in the scope of a conditional operator.
- But regular indefinites occur in a very wide range of syntactic environments.
- If *wh*-indefinites are dependent indefinites, their syntactic distribution is more limited.
- Their meaning is less easily dissociable from the compositionally derived meanings of the structures in which they are embedded.
- Already in OE, demonstrative NPs can stand as the left half of a correlative (Curme 1912), with generalizing interpretation.
- This is an environment in which cues as to the definiteness of D are limited.

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