The correspondence problem in syntactic reconstruction

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Workshop on Syntactic Reconstruction
One topic. Many questions.

• Is it possible to reconstruct syntax? n/a
• Is it possible to reconstruct? Yes
• Is it worth reconstructing syntax? Yes
• Can cognates exist in syntax? Yes
• Can the methods of lexical-phonological reconstruction be applied to syntax? Partially
Outline of the talk

• The syntactic reconstruction debate
• A methodology for reconstructing syntax
• Case study: Old Norse -sk
Background to the debate (1)

- Comparative phonological reconstruction has had a long and successful history.
- However, *syntactic* reconstruction in the past has been more controversial...
  – Delbrück (1900), Watkins (1976): tentative
Two main steps in reconstruction:
1. Find correspondences
2. Decide what to reconstruct as the proto-value

Lightfoot (2002) calls both steps of syntactic reconstruction into question:
- Due to the nature of syntactic variation, it is impossible to establish correspondences in syntax (2002: 119-121)
- We do not have a ‘rich theory of change’ to help us decide what to reconstruct as proto-form (2002: 126-7)
The ‘directionality problem’

- *pace* Lightfoot, directionality does exist in morphosyntactic change, in the form of grammaticalisation (e.g. word > clitic > affix).
- Unidirectionality is (rightly) controversial (cf. Campbell 2001, Campbell & Harris 2002)
- But ‘grammaticalization is a real phenomenon’ (Lightfoot 2006: 177)
- It follows that we can (sometimes) use directionality to decide on protoforms in syntax, as we can in lexical-phonological reconstruction.
Other criteria

• for deciding what form to reconstruct:
  – Synchronic typology: we shouldn’t postulate a system that appears to violate absolute universals, e.g. a final complementiser in a VO language (cf. Dryer 1992: 102)
  – Economy: All else being equal, adopt the hypothesis which posits the minimal number of diachronic changes to get the attested data.

• The second step of reconstruction is thus no more problematic in syntax than in lexical-phonological reconstruction.
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Finding correspondences (1)

- Phonological theory views variation across items in phonological inventories as variation in features.

\[
/t/ = \begin{cases} 
+\text{coronal} \\
-\text{voice} \\
-\text{cont} \\
+\text{ant} \\
+\text{dist} 
\end{cases}
\]
Finding correspondences (2)

• The ‘Borer-Chomsky Conjecture’ approach to syntactic variation (cf. Borer 1984):
  – All parameters of variation are attributable to the features of particular items (e.g., the functional heads) in the lexicon. (Baker 2008)

\[
T = \begin{bmatrix}
\text{tense:past} \\
\text{uCase:nom} \\
\text{uNum:} \\
\text{uPers:}
\end{bmatrix}
\]
Finding correspondences (3)

• If we adopt this approach for reconstruction purposes:
  – We know that lexical items are transmitted and can be cognate, so lexical items can be taken as one of the units of correspondence for syntax
  – Isomorphism:
    • phonological reconstruction reconstructs sounds through their context of appearance in lexical items
    • syntactic reconstruction reconstructs lexical items through their context of appearance in sentences
The correspondence problem (1)

- **Problem**: Lexical-phonological reconstruction involves hypothesizing correspondence sets in which *both* the lexical item and the sounds that constitute its phonological form are cognate.

- **DOUBLE COGNACY CONDITION**: In order to form a correspondence set, the contexts in which postulated cognate sounds occur must themselves be cognate.
The correspondence problem (2)

- Parallels as established so far:
  - sounds $\approx$ lexical items
  - lexical items $\approx$ sentences

- But sentences, in the vast majority of cases, *cannot* be cognate in the traditional sense:
  - for two items to be cognate requires there to be a diachronic identity between those items and a single item in the proto-language, in the sense of transmission across generations

- The Double Cognacy Condition thus cannot hold of syntactic reconstruction.
Alleviating the problem

• We can, however, look for distributional patterns of individual lexical items: if they are in complementary distribution, they may be derived via lexical split.

• Where overt phonetic material is present, this provides clues as to cognacy; we can then reconstruct the syntactic properties of individual lexical items (cf. Willis 2011).

• Semantic similarity is a third heuristic.
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Old Norse -sk

- In Old East and West Nordic texts a ‘middle voice’ verbal ending can be found

<table>
<thead>
<tr>
<th></th>
<th>Active</th>
<th>Middle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sg.</td>
<td>1</td>
<td>kalla</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>kallar</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>kallar</td>
</tr>
<tr>
<td></td>
<td></td>
<td>kollumk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>kallask</td>
</tr>
<tr>
<td>(from</td>
<td></td>
<td>kalla ‘to call’)</td>
</tr>
</tbody>
</table>

- Primarily a reflexive, reciprocal or anticausative marker, depending on the verb it attaches to (Ottósson 1992)
Old Norse -sk: analysis

- Clitic (e.g. Faarlund 2004)
- ...or suffix (e.g. Ottosson 2008)?

<table>
<thead>
<tr>
<th>Arguments for clitic status</th>
<th>Arguments for affixal status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violates Mirror Principle: voice morpheme is outside tense and agreement morphemes</td>
<td>Highly selective</td>
</tr>
<tr>
<td>– kalla-ð-i-sk call-PAST-3SG-VOICE</td>
<td>Triggers stem allomorphy</td>
</tr>
<tr>
<td>(Eythórsson 1995: 241)</td>
<td>Semantic idiosyncrasies:</td>
</tr>
<tr>
<td></td>
<td>– anda ‘to breathe’</td>
</tr>
<tr>
<td></td>
<td>– andask ‘to die’</td>
</tr>
<tr>
<td></td>
<td>(Ottósson 1992: 68)</td>
</tr>
</tbody>
</table>

- I will tentatively assume affixhood here.
Old Norse -sk: comparanda

• No such ending exists in other early Germanic languages.
• However, the other languages do have a reflexive pronoun with a phonologically similar shape, e.g.:

  – Gothic  sik
  – Old High German  sih
  – Old Norse  sik

(3rd person singular forms)
Old Norse -sk: correspondence

- On the basis of phonological, semantic and distributional criteria we can posit that the Old Norse -sk ending is cognate with this pronoun.
- Since both items were retained, in formal terms we are dealing with a ‘lexical split’ analogous to the phonemic split often found in sound change.
- The syntactic context for the reanalysis as verbal ending is simply string-adjacency to the finite verb.
Old Norse \textit{-sk}: reanalysis

\begin{tikzpicture}[scale=0.8]
  \node (cp) {CP};
  \node (dp) [ below left of=cp] {DP};
  \node (c_prime) [ above right of=cp] {C'};
  \node (p) [ below right of=dp] {\textit{hann}};
  \node (c0) [ below right of=dp] {C^0};
  \node (tp) [ right of=dp] {TP};
  \node (he) [ below of=p] {he};
  \node (dress-3sg) [ below of=he] {\textit{dress-3SG}};
  \node (hep) [ below of=he] {\textit{he}};
  \node (hep2) [ below of=hep] {\textit{he}};
  \node (klæðar) [ below of=hep2] {\textit{klæðar}};
  \node (t_dp) [ below of=hep2] {t_{DP}};
  \node (tvp) [ below of=t_dp] {t_{DP}};
  \node (voice') [ below of=tvp] {Voice'};
  \node (voice) [ below of=voice'] {Voice};
  \node (vp) [ below of=voice] {VP};
  \node (dp2) [ below of=vp] {DP};
  \node (sik) [ below of=dp2] {\textit{sik}};
  \node (self) [ below of=sik] {self};

  \node (cp2) [ right of=cp] {CP};
  \node (dp2) [ below left of=cp2] {DP};
  \node (c_prime2) [ above right of=cp2] {C'};
  \node (p2) [ below right of=dp2] {\textit{hann}};
  \node (c02) [ below right of=dp2] {C^0};
  \node (tp2) [ right of=dp2] {TP};
  \node (he2) [ below of=p2] {he};
  \node (dress-3sg-refl) [ below of=he2] {\textit{dress-3SG-REFL}};
  \node (hep3) [ below of=he2] {\textit{he}};
  \node (hep4) [ below of=hep3] {\textit{he}};
  \node (klæðask) [ below of=hep4] {\textit{klæðask}};
  \node (t_dp2) [ below of=hep4] {t_{DP}};
  \node (tvp2) [ below of=t_dp2] {t_{DP}};
  \node (voice') [ below of=tvp2] {Voice'};
  \node (voice2) [ below of=voice'] {Voice};
  \node (vp2) [ below of=voice2] {VP};
  \node (dp3) [ below of=vp2] {DP};
  \node (tv) [ below of=dp3] {tv};

  \draw[->, dashed] (he) -- (hep); 
  \draw[->, dashed] (hep) -- (t_dp); 
  \draw[->, dashed] (t_dp) -- (tvp); 
  \draw[->, dashed] (tvp) -- (voice'); 
  \draw[->, dashed] (voice') -- (voice); 
  \draw[->, dashed] (voice) -- (vp); 
  \draw[->, dashed] (vp) -- (dp2); 
  \draw[->, dashed] (dp2) -- (sik); 
  \draw[->, dashed] (sik) -- (self); 

  \draw[->, dashed] (he2) -- (hep3); 
  \draw[->, dashed] (hep3) -- (t_dp2); 
  \draw[->, dashed] (t_dp2) -- (tvp2); 
  \draw[->, dashed] (tvp2) -- (voice'); 
  \draw[->, dashed] (voice') -- (voice2); 
  \draw[->, dashed] (voice2) -- (vp2); 
  \draw[->, dashed] (vp2) -- (dp3); 
  \draw[->, dashed] (dp3) -- (tv); 

  \draw[<->, ultra thick] (he) -- (he2);

  \node (caption) at (0.5, -2) {‘He dressed himself’};
\end{tikzpicture}
Old Norse -\textit{sk}: consequences

- Simple example of syntactic reconstruction; accepted for over 100 years
  - (e.g. by Nygaard 1905, Gordon 1938, Faarlund 2004, Ottosson 2008)

- Trivial?
  - But its very straightforwardness weighs heavily against Lightfoot’s (2002a: 120) contention that reconstruction of syntax is possible only in cases of identity
Conclusions

• Syntactic reconstruction is qualitatively different from phonological reconstruction.

• This is because strings of sounds are transmitted, whereas strings of lexical items are not.

• However, we can still construct hypotheses in a principled manner, at least to some extent.
Thank you for listening!

References (selected)


References (selected)