Perfects and iamitivies

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Collaborators

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Long-distance collaboration with the Paralleltext.info project at the Philipps University of Marburg

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Perfects from ‘finish’ or ‘already’ according to WALS

The Perfect
21 languages

Authors: Östen Dahl, Viveka Velupillai
“Iamitives”

- Are the perfects from ‘finish’ and ‘already’ a gram-type of their own?
- Some of these are treated in Olsson (2013) under the label “iamitives”*, including
  - Indonesian/Malay *sudah*
  - Thai *lɛɛw*
  - Vietnamese *đã* and *rôi*
  - Mandarin *le*

(*from Latin *iam* ‘already’*)
‘Already’

- The English word *already* can be used in at least two ways:
  - With a stative predicate:
    - The baby is asleep already
  - With a dynamic (change-of-state) predicate:
    - The baby has already fallen asleep (or: fell asleep already)
- The two sentences mean roughly the same, however
- In both cases we contrast the present situation where a state holds to a past one where it did not hold
Iamitives often correspond to European perfects

English

- He is not here, for he **has been raised**... (Matt 28:6)
- I **have overcome** the world! (John 16:33)
- The fig tree that you cursed **has withered**! (Mark 11:21)

Indonesian

- Ia tidak ada di sini. Ia **sudah bangkit**...
- Aku **sudah mengalahkan** dunia!
- Pohon ara yang Bapak kutuk itu **sudah mati**!

English perfect (eng-leb-wbt-PFCTx) occurs in 1437 verses
Indonesian **sudah** (ind-bah-#sudah#) occurs in 1358 verses
The shared distribution is 638 verses (slightly less than half)
A major semantic difference: impact of iamitives with stative predicates

- A iamitive used with a stative predicate usually refers to a present state:

  Indonesian (Sneddon et al. 2010: 74; Olsson 2013:5)
  
  Kamar ini *sudah* bersih
  room this be.clean
  ‘This room is clean’ (not: ‘has been clean’)

  Vietnamese (Do-Hurinville 2006: 6; Olsson 2013:19)
  
  Paul *đã* gia
  P. be.old
  ‘Paul is old now’ (not: ‘has been old’)

- This indicates a major difference to perfects in European languages
- ...and is consistent with the source meaning being ‘already’
“Natural developments”

- Many iamitives are used seemingly redundantly with predicates denoting natural developments, such as ‘old’, ‘rotten’, ‘ripe’.
Examples of “iamitives” used with natural developments

INDONESIAN (ind-bah)

- 42001018 "Bagaimana saya tahu bahwa hal itu akan terjadi?" tanya Zakharia kepada malaikat itu. "Saya sudah tua, dan istri saya juga sudah tua."
- 43006004 Pada waktu itu sudah dekat Hari Raya Paskah Yahudi.

ENGLISH (eng-web)

- 42001018 Zacharias said to the angel, "How can I be sure of this? For I am an old man, and my wife is well advanced in years."
- 43006004 Now the Passover, the feast of the Jews, was at hand.
What is a “natural development” depends on culture...

’(lit.) already married’

’(lit.) not yet married’
Questions

- How different are (European) perfects and “iamitives”?
- Is there a discrete boundary between them?
- Along what dimensions do we find variation within the perfect gram type?
- How is the variation distributed areally?
The Parallel Bible Corpus

- 1273 translations of the New Testament
- 1109 different languages with ISO codes
- Somewhat patchy coverage but no European bias
The Parallel Bible Corpus

Red: languages in the corpus
Green: other languages
Basic methodological assumption

● The basic assumption for the kind of work reported here is:
  – Elements with similar function and/or meaning will have similar distributions in texts.

● Applied to parallel texts, the assumption will be:
  – Elements that are translational equivalents of each other will have similar distributions in a parallel corpus.
How to find members of a gram type – an idealized picture

1. Find "seed categories"
2. Find expressions with similar distributions
3. Define a generalized distribution
4. Check "goodness of fit" of found expressions to the generalized distribution

Repeat
What is grammatical space?

- A **semantic map** shows possible meanings as points in a **semantic space**
- The meanings of a linguistic item are a region in such a space
What is grammatical space?

- In grammatical space, a grammatical item is represented as a point.
- Distances between items represent differences in their distributions.

English *to*  Swedish *till*  French *à*
Parallel corpora

• We are studying grammatical space by comparing the distributions of grammatical items in parallel corpora.

• We are trying to find cross-linguistic gram types:
  – clusters of grams (= grammatical items (markers or constructions)) with similar distributions across languages

• ... but also variation within such clusters
How to find members of a gram type – in practice

● Collect candidates in all possible ways:
  – by automated searching
  – by educated guessing
● Try to find clusters of patterns with sufficiently similar distributions
● Identify a set of prototypical contexts – the loci in the corpus where the patterns occur uniformly
● Identify a set of negative contexts – loci where the patterns are not supposed to appear
Östling’s contribution

Aims of the thesis:
• exploration of Bayesian models for word alignment, how they can be improved through joint annotation transfer, and how they can be extended to parallel texts in more than two languages
• applications of the algorithms to problems from sign language research and linguistic typology

Deliverable:
• linked, annotated and parsed versions of all the Bible texts in the Parallel Bible Corpus

“Segments”

- A segment in the source text consists of all words that are dependent on one and the same verb
- A segment in a translation consists of all words that are linked to words in the same segment in the source text
- ... and any unlinked word in between two linked words from the same segment or between one linked word and a punctuation mark (rule applied recursively)
**Lexham English Bible: 1 John 2:7**

| POS | Form       | Value  | Base Form | Head | Foot | Word | 
|-----|------------|--------|-----------|------|------|------|    |
| 1   | Dear       | NOUN   |           | Dear |      | 1    | 7   |
| 2   | friends    | NOUN   | friend    |      |      | 2    | 7   |
| 3   | ,          | .      |          |      |      | 3    | 0   |
| 4   | I          | PRON   | I         |      |      | 4    | 7   |
| 5   | am         | VERB   | be        |      |      | 5    | 7   |
| 6   | not        | ADV    | not       |      |      | 6    | 7   |
| 7   | writing    | VERB   | write     |      |      | 7    | 7   |
| 8   | a          | DET    | a         |      |      | 8    | 7   |
| 9   | new        | ADJ    | new       |      |      | 9    | 7   |
| 10  | commandment| NOUN   | commandment|      |      | 10   | 7   |
| 11  | to         | PRT    | to        |      |      | 11   | 7   |
| 12  | you        | PRON   | you       |      |      | 12   | 7   |
| 13  | ,          | .      |          |      |      | 13   | 0   |
| 14  | but        | CONJ   | but       |      |      | 14   | 7   |
| 15  | an          | DET    | a         |      |      | 15   | 7   |
| 16  | old        | ADJ    | old       |      |      | 16   | 7   |
| 17  | commandment| NOUN   | commandment|      |      | 17   | 7   |
| 18  | which      | DET    | which     |      |      | 18   | 21  |
| 19  | you        | PRON   | you       |      |      | 19   | 21  |
| 20  | have       | VERB   | have      |      |      | 20   | 21  |
| 21  | had        | VERB   | have      |      |      | 21   | 21  |
| 22  | from       | ADP    | from      |      |      | 22   | 21  |
| 23  | the        | DET    | the       |      |      | 23   | 21  |
| 24  | beginning  | NOUN   | beginning |      |      | 24   | 21  |
| 25  |            | .      |           |      |      | 25   | 0   |
Finnish 1938 translation

1. Rakkaani rakkaani NOUN 2 7
2. , , . 3 7
3. en en PRON 4 7
4. minä minä PRON 4 7
5. kirjoita kirjoit VERB 7 7
6. teille teille PRON 12 7
7. uutta uu ADJ 9 7
8. käslyä käsly NOUN 10 7
9. , , . 13 7
10. vaan vaan CONJ 14 7
11. vanhan vanh ADJ 16 7
12. käslyn käsly NOUN 17 7
13. joka joka PRON 18 21
14. teillä teillä PRON 19 21
15. on on VERB 20 21
16. alusta alu NOUN 24 21
17. ollut ol VERB 21 21
18. ; ; . 25 0
My beloved, I am not writing to you a new commandment, but an old commandment...
Hixkaryana translation

62002007 1 Ronâhnàn ronâhnàn NOUN 2 7
62002007 2 komo komo DET _ 7
62002007 3 y y NOUN _ 7
62002007 4 _ _ _ _ 7
62002007 5 khananâhtoho khananâhtoho NOUN _ 7
62002007 6 kom kom DET _ 7
62002007 7 hoyeno hoyeno NOUN 9 7
62002007 8 txko txko NOUN 8 7
62002007 9 hoko hoko ADP _ 7
62002007 10 ryhe ryhe CONJ 14 7
62002007 11 âmenhehe âmenhehe VERB 7 7
62002007 12 _ _ _ 7
62002007 13 ohyakanye ohyakanye PRON 12 7
62002007 14 _ _ _ 7
62002007 15 Àro âro ADV _ 7
62002007 16 rma rma ADP _ 7
62002007 17 menytxatxownà menytxatxownà VERB _ 7
62002007 18 _ _ _ 7
62002007 19 amnyehra amnyehra NOUN 24 21
62002007 20 _ _ _ 25 7
62002007 21 Onenytxahtorà onenytxahtorà NOUN _ 7
62002007 22 ro ro ADP _ 7
62002007 23 komo komo DET _ 7
62002007 24 yokarymahra yokarymahra VERB _ 7
62002007 25 mak mak ADV 6 7
62002007 26 wehxaha wehxaha PRON 4 7
62002007 27 _ _ _ _ 0
Visualizing similarities of extracted perfect grams with Multi-Dimensional Scaling (MDS)

- MDS extracts dimensions from a distance matrix, the dimension reflecting most information first; i.e., constructs a space from the distance between pairs of $n$ data points with max. $n$-1 dimensions.
- Standard method in dialectometry (e.g., Nerbonne et al. 1996) and has been used in typology (e.g., Croft & Poole 2008, Wälchli & Cysouw 2012)
- The distance matrix used here takes Pearson’s $r$ transformed to a dissimilarity measure for calculating the matrix. Classical MDS is used here.
Original samples

Black: imitatives from Olsson (2013)

Red: 5x2 European perfects
### Prototypical contexts for "Europerfects"

<table>
<thead>
<tr>
<th>English PFCT</th>
<th>Indonesian #sudah#</th>
</tr>
</thead>
<tbody>
<tr>
<td>40019006$17+ What God has joined together</td>
<td>40019006$17+ apa yang sudah disatukan oleh Allah</td>
</tr>
<tr>
<td>40026056$5+ But all this has happened</td>
<td>40026056$5+ Tetapi memang sudah seharusnya begitu supaya</td>
</tr>
<tr>
<td>40028011$28+ the that had happened</td>
<td>40028011$28+ yang sudah terjadi .</td>
</tr>
<tr>
<td>42002020$15+ that they had heard and</td>
<td>42002020$15+ yang telah mereka dengar dan</td>
</tr>
<tr>
<td>42008056$17+ what had been done</td>
<td>42008056$17+ peristiwa itu</td>
</tr>
<tr>
<td>42009019$28+ that one of the old prophets is risen again</td>
<td>42009019$28+ salah seorang nabi zaman dahulu yang sudah hidup</td>
</tr>
<tr>
<td>43002010$25+ You have kept the good wine until now</td>
<td>43002010$25+ Saudara menyimpan anggur yang paling baik sampai sekarang !</td>
</tr>
<tr>
<td>43004046$13+ where he made the water into wine</td>
<td>43004046$13+ mana la pernah mengubah air menjadi anggur</td>
</tr>
<tr>
<td>43006046$18+ He has seen the Father</td>
<td>43006046$18+ , sudah melihat Bapa .</td>
</tr>
<tr>
<td>43010032$8+ I have shown you many good works from my Father</td>
<td>43010032$8+ Kalian sudah melihat Aku melakukan banyak pekerjaan baik , Bapa Dari semua</td>
</tr>
<tr>
<td>43012046$3+ I have come as a light into the world</td>
<td>43012046$3+ Aku datang ke dunia ini sebagai terang</td>
</tr>
<tr>
<td>43015003$12+ which I have spoken to you</td>
<td>43015003$12+ yang Kuberikan kepadamu .</td>
</tr>
<tr>
<td>43017014$3+ I have given them your word</td>
<td>43017014$3+ Aku sudah menyampaikan kepada mereka perkataan</td>
</tr>
<tr>
<td>43017022$13+ The glory I have given to them</td>
<td>43017022$13+ Bapa , dan</td>
</tr>
<tr>
<td>44010033$33+ the that have been commanded you by God</td>
<td>44010033$33+ Aku sudah memberikan mereka keagungan</td>
</tr>
<tr>
<td>44012018$20+ as about what had become of Peter</td>
<td>44012018$20+ Allah suruh Tuan katakan kepada kami .</td>
</tr>
<tr>
<td>44013029$5+ When they had fulfilled all things</td>
<td>44013029$5+ mengenai apa yang telah terjadi dengan Petrus .</td>
</tr>
<tr>
<td>44017031$4+ because he has appointed a day in which</td>
<td>44017031$4+ setelah mereka selesai melaksanakan semuanya yang</td>
</tr>
<tr>
<td>witnesses the</td>
<td>44017031$4+ Sebab ia sudah menentukan suatu</td>
</tr>
<tr>
<td>55002002$7+ which you have heard from me among many</td>
<td>55002002$7+ sudah kau Dengar dari saya di depan banyak orang</td>
</tr>
<tr>
<td>57001018$7+ if he has wronged you at all or</td>
<td>57001018$7+ Kalau ia bersalah atau</td>
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Prototypical contexts for ”Europerfects”

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<td>40028011$28 nahitabo .</td>
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<td>44010033$33+ the that have been commanded you by God</td>
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Prototypical contexts for iamitives

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40006005$49+ you they have received their reward
40006016$39+ you they have received their reward
40012028$18+ But then the kingdom of God has come on you
40017012$10+ that Eliah has come already
41007029$18+ the demon has gone out of your daughter
41009013$9+ that Eliah has come also
42011007$23+ The door is now shut , and
42011020$18+ But then the kingdom of God come to you
42014022$14+ Lord is done and
43004035$36+ that they are white already to harvest
43009027$8+ I told you already and
43011017$11+ he had been in the tomb four days already
43012028$17+ I have both glorified it and
43016011$13+ because the prince of this world has been judged
43019033$12+ he was already dead
48005024$8+ Those have crucified the flesh with its passions and lusts
51003009$11+ seeing that you have put off the old man with his doings
55002018$13+ that the resurrection is already past
58013023$8+ that our brother Timothy has been freed with whom

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43011017$11+ di tempat itu, Lazarus sudah empat hari lamanya diikubur.
43012028$17+ Aku sudah mengagungkan-Nya, dan
43016011$13+ dan mulai sebab penguasa dunia ini sudah dihukum
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48005024$8+ Orang-orang orang-orang itu sudah mematikan tabiat manusiannya dengan segala nafsu dan keinginannya.
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55002018$13 that the resurrection is already past
58013023$8+ that our brother Timothy has been freed with whom

Cebuano #na#
40005028$19+ uban kaniya, nakapanapaw na kaniya diha sa sulod sa iyang kaugalingong kasingkasing.
40006005$49+ Sa, kaninyo, nga sila nakadawat na sa ilang balus.
40006016$39+ Sa, kaninyo, nga sila nakadawat na sa ilang balus.
40012028$18+ Apan nan ang gingharian sa Dios nahidangat na diay diha kaniyo.
40017012$10+ nga si Elias nahianhi na
41007029$18+ ang yawa mipahawa na sa imong anak.
41009013$9+ nga si Elias nahianhi na
42011007$23+ ang pultahan gikatrangkahan na ug
42011020$18 Apan nan ang gingharian sa Dios nahidangat na diha kaniyo.
42014022$14 Agalon, nahimo ko na ang
43004035$36 mga hinog na aron pagaanhon.
43009027$8+ Gitug-anan ko na kay ug
43011017$11+ nga siya Lazaro upat na ka adlaw didto sa lubong.
43012028$17+ ko na kini, ug pagpasidunggan
43016011$13+ ug sa kay ang punoan niinning kalibutan gihukman na man.
43019033$12+ nga siya patay na na
48005024$8+ Ug mga ilang unod diha sa krus dala ang mga pangibog ug mga tinguha niini.
51003009$11+ maingon nga nahukasan na kamo sa inyong daan nga kinaiya uban sa mga batasan niini
55002018$13+ nga ang pagpangabanhaw nahitabo na
58013023$8+ nga ang atong igsoon nga si Timoteo gibuhian nga kaniya

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# Convergence of perfect and imitative grammar samples in iteration

<table>
<thead>
<tr>
<th>iteration</th>
<th>europerfects</th>
<th>imitatives</th>
<th>intersection</th>
<th>union</th>
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<td>4</td>
<td>281</td>
<td>331</td>
<td>242</td>
<td>370</td>
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Shared prototypical examples increase from 1 to 11
Result of four iterations and merging the samples
The final sample in 3D

European perfects

sizes of symbols represent number of occurrences in the NT translations

Link to 3D view
MDS analysis of the final sample

Symbol size indicates frequency in the NT
Geographical distribution of languages included

languages in the corpus included in final sample
languages in the corpus not included in final sample
languages not represented in the corpus
<table>
<thead>
<tr>
<th>Group</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippine</td>
<td>0.19</td>
</tr>
<tr>
<td>Indonesian</td>
<td>0.65</td>
</tr>
<tr>
<td>European</td>
<td>0.78</td>
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</table>
Natural developments

<table>
<thead>
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<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Philippine</td>
<td>0.745</td>
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<tr>
<td>Indonesian</td>
<td>0.828</td>
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<tr>
<td>European</td>
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Usage with perception verbs

<table>
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<th>Value</th>
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</thead>
<tbody>
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<tr>
<td>Indonesian</td>
<td>0.72</td>
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<tr>
<td>European</td>
<td>0.66</td>
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Experiential uses

<table>
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</thead>
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<tr>
<td>European</td>
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</table>
• Although the European perfects stand out from the others, it is not possible to separate perfects from iamitives so as to obtain two clearly distinct “gram types”
• At the same time, there is great variation within the grams treated by Olsson as iamitives
• There are also many grams that deviate significantly from European perfects without having the typical properties of iamitives
Grammaticalization paths?

• It appears that words meaning ‘already’, ‘now’, and ‘finish’ can grammaticalize in different ways...
• which may take them more or less closely to perfects of the traditional type
Grammaticalization paths?

Symbol size indicates frequency in the NT
Incipient grammaticalization of ‘already’ in Romance languages