Parsed corpus annotation (ad)ventures

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This talk is about parsed (treebank) annotation used for:

- Contemporary Japanese (Keyaki Treebank, NPCMJ)
- English (TSPC)
- Old Japanese (M97PC)
- Kolyma Yukaghir
- Child Japanese
- Contemporary Chinese
- ...

Talk overview

- aims of building parsed annotation
- background
- the contribution of accompanying interpretation
- annotation for Japanese
- how we start annotation

Our parsed annotation approach aims

- to provide fully searchable representations of texts that are described according to interpretations of the meanings of sentences.

This involves:

- analysing texts into units (NP-SBJ, PP-TMP, ADVP-MNR, IP-REL, etc.), and
- accounting for how the units are composed into meaningful expressions (with structural relations, and only as a last resort, indices),

On the shoulders of giants

- Penn Historical Corpus (Santorini 2010): ideas about phrase structure (a flattened X-bar), what nodes might be called, function marking, ideas about how to undertake annotation (scaffolding)
- SUSANNE Corpus and Lancaster approach (Sampson 1995): ideas about phrase structure (clause coordination represented as tag distinguished subordination), rich functional marking, rich morphological marking
- Alpino Corpus (van Noord 2002): XML encoding, internet based search (PaQu)

What's new?

- analysis (grammatical description) for different languages
- binding information (to resolve anaphoric dependencies)
- an interpretation procedure to ground the annotation
- almost entirely removes dependence on indexing
- an opening to integrate lexical semantics (PropBank/FrameNet)

Parsed annotation accompanied by interpretation

Parsed annotation becomes exponentially more revealing – and interesting – if accompanied by an interpretation mechanism that breathes life into the annotation.

With interpretation, a fuller description of a sentence can be achieved, by making aspects explicit that the raw annotation has left either implicit or underspecified.

A key objective of our annotation has been to reach a **critical mass** of organised information to support automatic interpretation procedures.

Automatic interpretation procedures can:

- from parsed annotation, reach a predicate logic / DRS representation
- from predicate logic / DRS representations, place indexing (bound variable) information into parsed annotation
- from indexed parsed annotation, obtain rich word dependency information
- from rich word dependency information, ...

Our annotation for Japanese

The **Keyaki Treebank** has a simple format for encoding structural and semantic information with bracketed trees.

Aims to optimise tasks of annotation creation.

Has released 38,911 trees (24,478 with full data) for download.

Offers a detailed manual. Has BCCWJ style / UniDic morphological analysis.

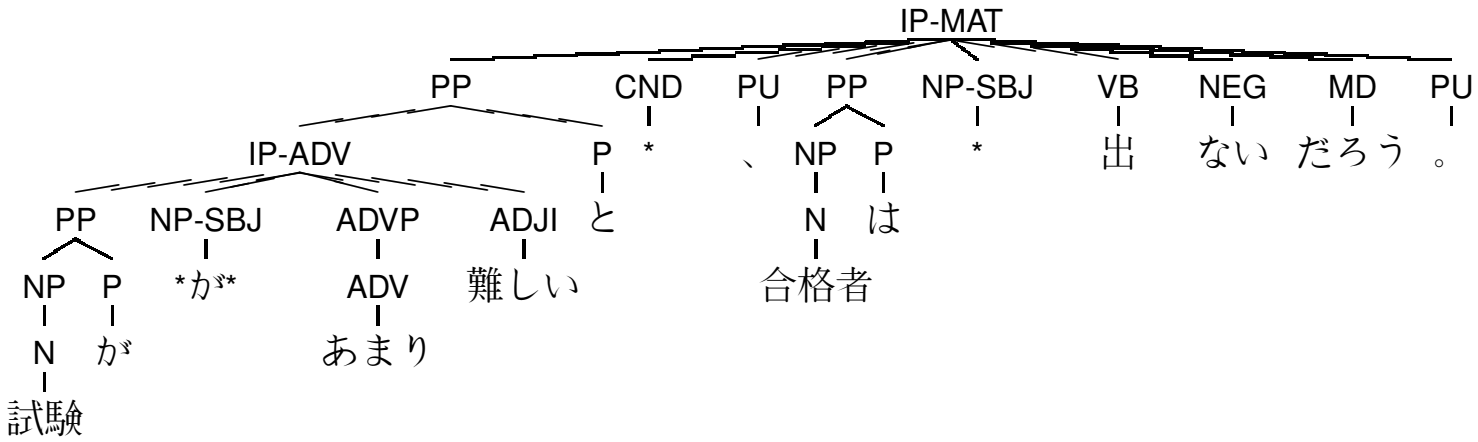
The **NINJAL Parsed Corpus of Modern Japanese** (NPCMJ) started as a repackaging and reworking of the Keyaki Treebank content.

Aims to optimise tasks of search and presentation.

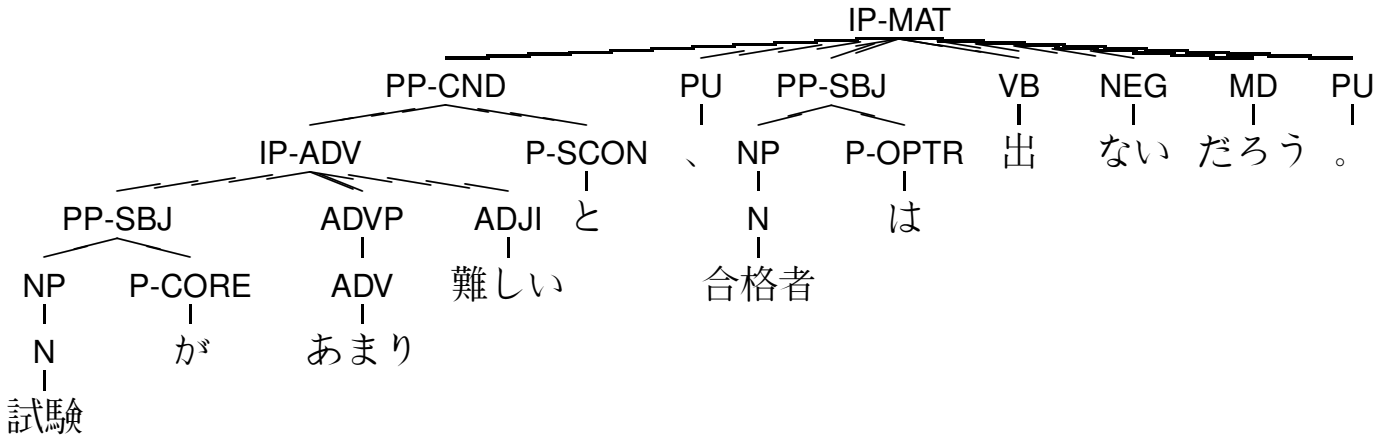
Has released 10,098 trees through a web interface.

(reversible) alterations to how functional information is encoded

`parse_undecorate`



`parse_decorate`



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</alpino_ds>
```

Starting parsed annotation

- First, morphological analysis is required, to give segmented words and parts-of-speech
- Second, there needs to be projection of tree structure
  - from a parser trained on already existing parsed sentences
  - via a scaffolding script
- Third, there needs to be human correction and elaboration