# Continuous Discontinuity in *It*-Clefts

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## Introduction

(1) *It     was     OHNO     [who won]*
    cleft pronoun + copula + clefted constituent + cleft clause

- **Expletive approach**: cleft pronoun is an expletive, cleft clause bears a direct syntactic/semantic relation to the clefted constituent
- **Discontinuous constituent approach**: cleft pronoun has the semantic function of definite article, cleft clause bears a direct syntactic/semantic relation to the cleft pronoun and is spelled-out after the clefted constituent through extraposition
- **Main goal**: to propose an analysis using Tree Adjoining Grammar (TAG) that captures the best of both traditional analyses

## Tension between the two approaches

**Support for the discontinuous constituent approach**:

- Cleft pronoun can be replaced with *this/that*, depending on the discourse contextual interpretation of the cleft clause (Hedberg 1990, 2000).
- Cleft clause is a restrictive relative clause, but it does not relate to the clefted constituent in the way a relative clause relates to its head noun (Jespersen 1927).
- Semantically, *it*-clefts have existential and exhaustive presuppositions, just as sentences with definite description subjects do (Percus 1997, Hedberg 2000). Presupposition of (1): Someone won, and only one person won.
- *It*-clefts have equative and predicational interpretations (Ball 1977, DeClerck 1988, Hedberg 1990, 2000), the readings attested in simple copular sentences. (2) *It was Ohno who won*. (3) *It was a kid who beat John*.
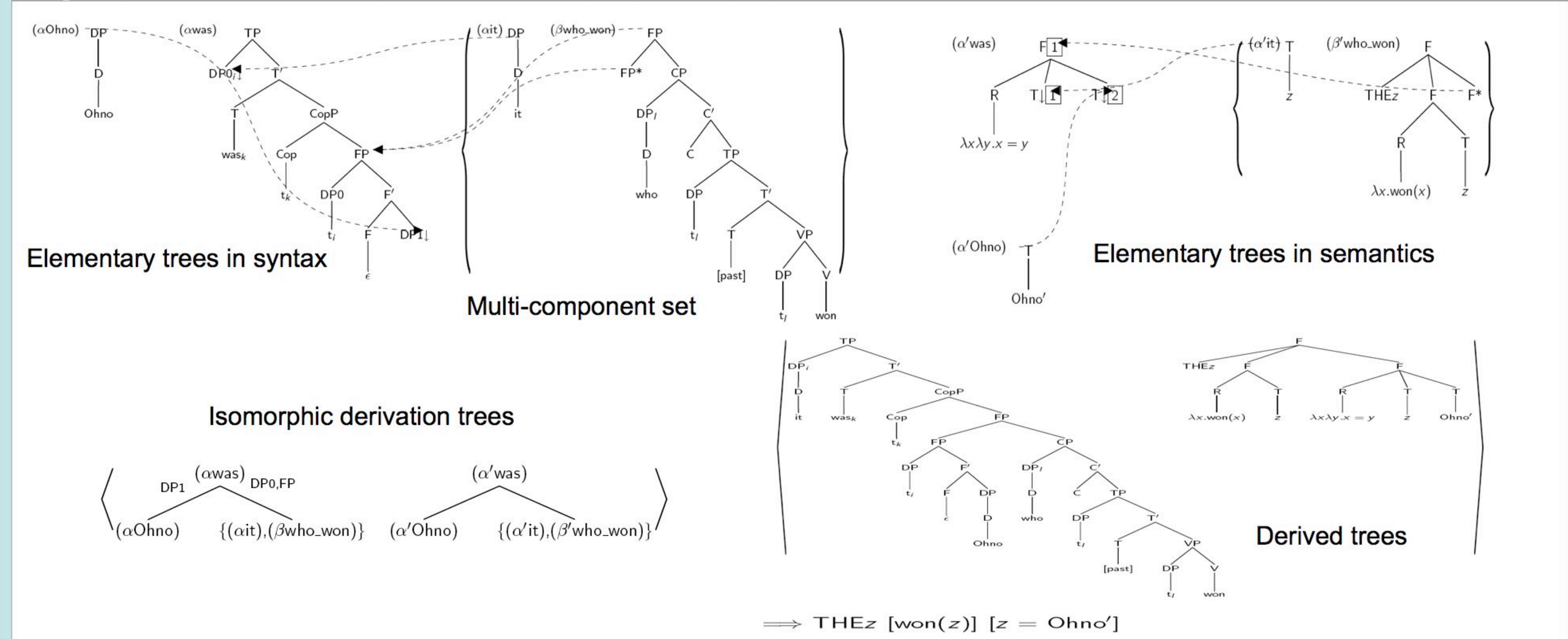
**Support for the expletive approach**:

- There is syntactic evidence that the clefted constituent and the cleft clause form a surface syntactic constituent (Delahunty 1982).
- Connectivity: In terms of binding and agreement, the clefted constituent appears to behave as if it were generated inside the cleft clause (Percus 1997). (4) *It was himself who John nominated.* (5) *It is John and Mary that like Pete*.
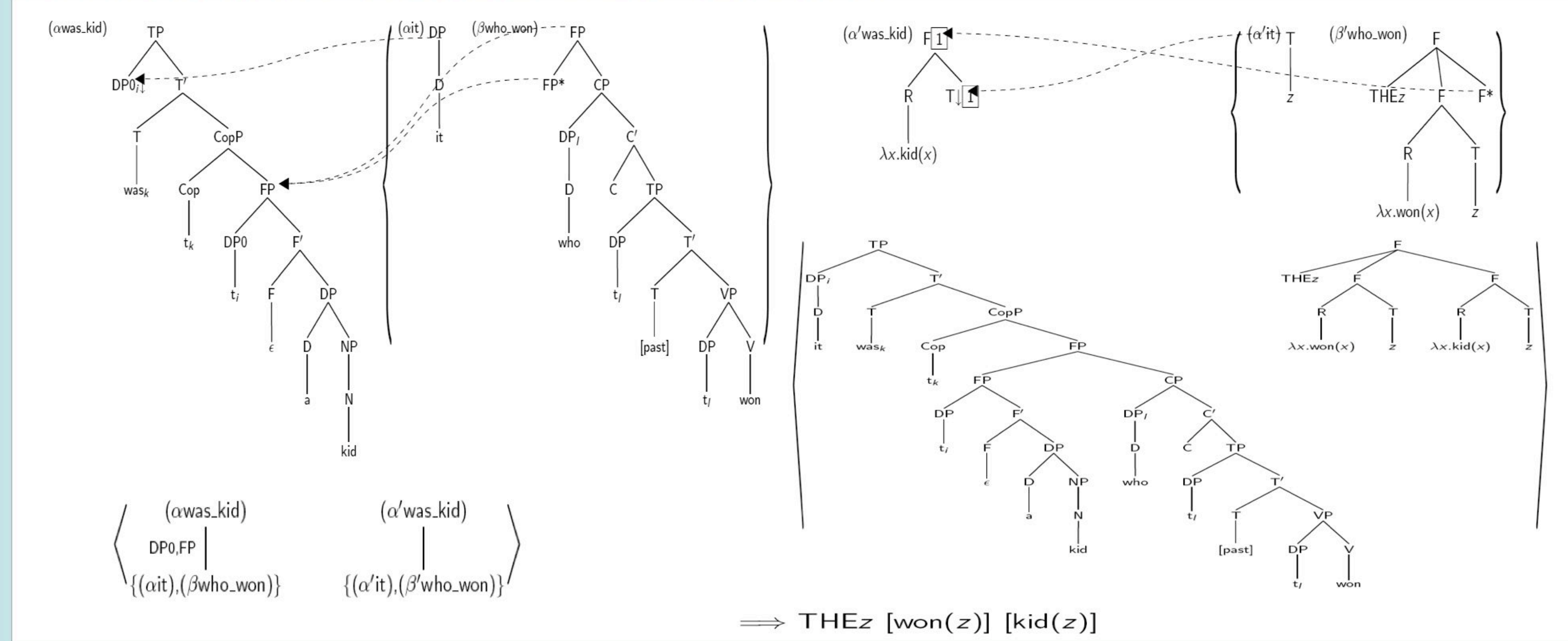
## Our proposal: TAG analysis

- Elementary trees represent extended projections of a lexical anchor, encapsulating all syntactic arguments and factoring away all recursion, and are composed by substitution or adjoining (Joshi and Schabes 1997, Frank 2002).
- An elementary tree can be decomposed into a multi-component (MC) set; the trees in an MC set adjoin or substitute into a single elementary tree (Weir 1988).
- Compositional semantics in TAG is done by defining semantics for each elementary tree, and composing them following the history of how elementary trees are put together to derive the sentence structure.
- TAG produces two structures: (I) derivation tree on which syntactic dependencies between elementary trees and compositional semantics are defined; (ii) derived tree on which aspects of surface constituency are defined.
- **Our TAG analysis**: In syntax, the derivation of *it*-clefts starts with an equative or a predicational copula elementary tree. It then composes with the elementary trees for the cleft pronoun and the cleft clause, which belong to a single MC set. In semantics, the trees in the MC set are defined as a definite quantified phrase.
- In the derivation trees, the cleft pronoun and the cleft clause form a syntactic/semantic unit, capturing the insight from the discontinuous constituent approach; in the syntactic derived tree, the clefted clause forms a constituent with the clefted constituent, not with the cleft pronoun, capturing the insight from the expletive approach. The tension is thus resolved.

## Equative *it*-cleft: It was Ohno who won.

Elementary trees in syntax

Elementary trees in semantics

Multi-component set

$\lambda x \lambda y . x = y$

$\lambda x . \text{won}(x)$

Isomorphic derivation trees

$$(\alpha\text{was}) \qquad (\alpha'\text{was})$$

$$\text{DP1} \quad \text{DP0,FP}$$

$$(\alpha\text{Ohno}) \quad \{(\alpha\text{it}),(\beta\text{who\_won})\} \quad (\alpha'\text{Ohno}) \quad \{(\alpha'\text{it}),(\beta'\text{who\_won})\}$$

Derived trees

$$\Longrightarrow \text{THE}z \, [\text{won}(z)] \, [z = \text{Ohno}']$$

## Predicational *it*-cleft: It was a kid who won.

$\lambda x . \text{kid}(x)$

$\lambda x . \text{won}(x)$

$$(\alpha\text{was\_kid}) \qquad (\alpha'\text{was\_kid})$$

$$\text{DP0,FP}$$

$$\{(\alpha\text{it}),(\beta\text{who\_won})\} \quad \{(\alpha'\text{it}),(\beta'\text{who\_won})\}$$

$$\Longrightarrow \text{THE}z \, [\text{won}(z)] \, [\text{kid}(z)]$$

## Conclusion and Future Work

- Our analysis reduces *it*-clefts to copular sentences with definite description subjects.
- The distinction between the derivation and the derived tree resolves the tension between the surface constituency and the syntactic/semantic dependency.
- The extended domain of locality and the use of MC set provide an account of the discontinuous constituent property of the cleft pronoun and the cleft clause without adopting movement to produce the effect of extraposition.
- The derivation-tree-based compositional semantics provides a simple compositional semantics without using an ad-hoc interpretive operation to associate the meaning coming from the cleft pronoun and the cleft clause.
- In Han and Hedberg (to appear), we show that our TAG analysis can be extended to account for the connectivity instantiated by binding and agreement.

### Selected References and Acknowledgements

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