

# Equating by quantifying over kinds: *Zo...als* equatives in Dutch

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## The data: Dutch *zo...als* equatives

- Equative constructions in Dutch involve using the morpheme *zo*, combined with a standard clause introduced by the standard marker (SM) *als*.
- This applies to both adjectival and verbal equatives; the only difference concerns the linear position of the standard *als*-clause (Corver 2018).

## Adjectival equatives

- (1) Jan is *zo* \**<als Sue>* groot *<als Sue>*.  
John is ZO ALS Sue tall ALS Sue  
'John is as tall as Sue.'

## Verbal equatives

- (2) Nadine had *zo* *<als Sigrid>* gerend *<als Sigrid>*.  
Nadine has ZO ALS Sigrid ran ALS Sigrid  
'Nadine ran as Sigrid ran.'

## Proform *zo*

- The morpheme *zo* is a cross-categorial proform, replacing either degrees with adjectives or manners with verbs in non-equative contexts.

- (3) Jan is 1.70m groot. Jane is ook *zo* groot.  
John is 1.70m tall Jane is also ZO tall  
'John is 1.70m tall and Jane is 1.70m tall too.'  
# 'John is 1.70m tall, and Jane is also tall at 1.75m.'  
(proform for degrees, not evaluative)

- (4) Jan gedroeg zich erg goed vandaag. Jane gedroeg zich ook *zo*.  
John behave himself very bad today Jane behave herself also ZO  
'John behaved badly today and Jane behaved so too.'  
(proform for manners)

## *Zo...als* equatives track degrees or manners like *zo*

- *Zo...als* equatives produce only degree readings or manner readings with adjectives and verbs just like *zo* in non-equatives.
- (5-a) is infelicitous as a continuation for (1). This entails that (1) must equate degrees. (6-b) is infelicitous as a continuation for (2). This means (2) must equate only manners.

- (5) Continuations for (1)  
a. #Jan is 1m85 en Sue 1m80.  
John is 1m85 and Sue 1m80  
'John's height is 1m85 and Sue's is 1m80.' (evaluative)  
b. Jan is 1m68 en Sue ook.  
John is 1m68 and Sue too  
'John's height is 1m68 and Sue is 1m68 too.'

- (6) Continuations for (2)  
a. Namelijk in cirkels.  
namely in circles  
'Namely in circles.'  
b. #Namelijk 2km per uur  
namely 2km per hour  
'Namely at 2km/h.'

## The analysis I: Quantifying over kinds

MAIN INGREDIENTS: ANDERSON AND MORZYCKI (2015)

- *Zo* is a proform introducing *kinds*, an ontological primitive in the grammar (semantic type  $\pi$ ).
- States and events, the denotations of adjectives and events respectively, are taken to *instantiate kinds*.
- States and events instantiating kinds return degrees and manners respectively as *distinguished properties*.
- *Als* is an equative quantifier relating two sets of kinds in a subset relation.

## The individual pieces

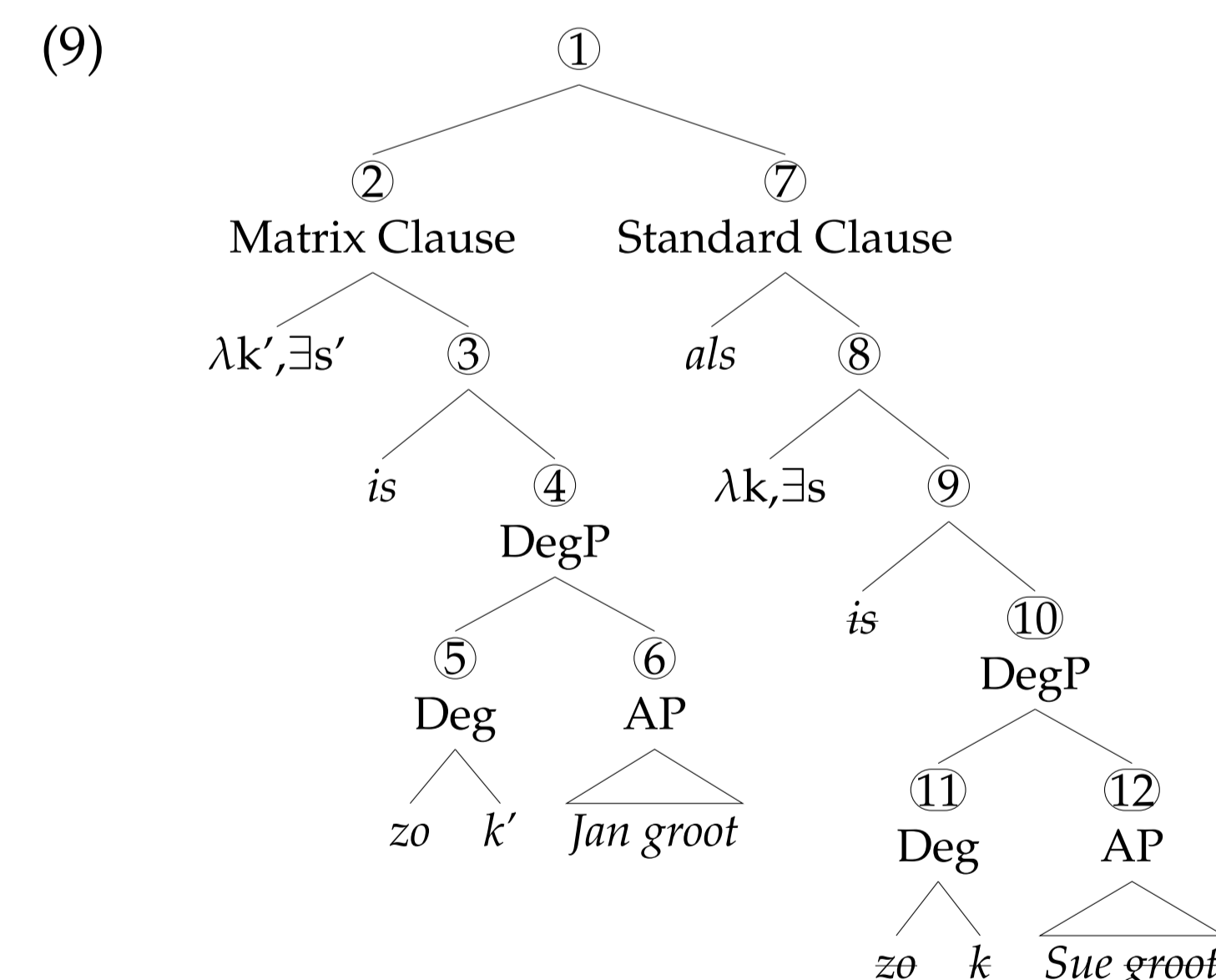
- *Zo* compositionally introduces a kind variable  $k$ , producing a type neutral property. The variable  $o$  ranges over either states  $s$  or  $e$ .
- *Als* is an equative quantifier over kinds, taking two sets of kinds  $K$  as arguments and asserting the first set is a subset of the second.

- (7)  $[[zo]]: \lambda k_{\pi} \lambda o. \cup k(o)$

- (8)  $[[als]]: \lambda K_{\pi t} \lambda K'_{\pi t}. \{k:K(k) = 1\} \subseteq \{k':K'(k') = 1\}$

## Composition: Adjectival equatives

- *Zo* is a functional head in the extended adjectival projection. It combines with a kind free variable and then combines with an adjectival projection via generalized PREDICATE MODIFICATION in the matrix and standard clauses.
- The free variable is obligatorily abstracted over at the propositional level, assuming the subject of the AP is introduced low, followed by EXISTENTIAL CLOSURE of the state variable.
- The *als*-clause standard only appears to be obligatorily 'extraposed' with adjectival equatives; it is base-generated in its surface position (Corver 2018).

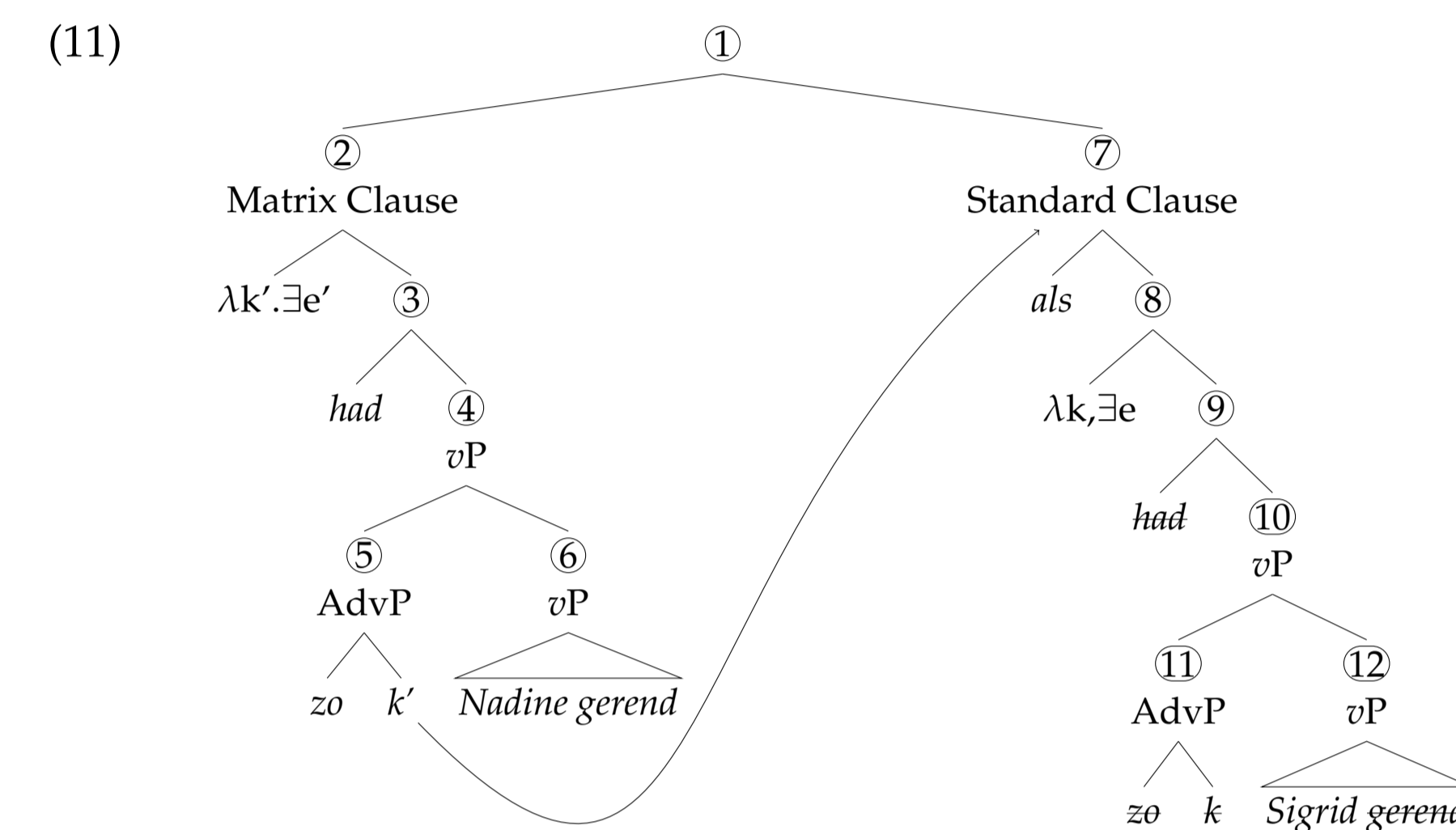


- (10) a.  $[[9]]: \lambda s. TALL(s, sue) \wedge \cup k(s)$   
b.  $[[8]]: \lambda k. \exists s [TALL(s, sue) \wedge \cup k(s)]$   
c.  $[[7]]: \lambda K'. \{k: \exists s [TALL(s, sue) \wedge \cup k(s)] = 1\} \subseteq \{k': K'(k') = 1\}$   
d.  $[[3]]: \lambda s'. TALL(s', jan) \wedge \cup k'(s')$   
e.  $[[2]]: \lambda k'. \exists s' [TALL(s', jan) \wedge \cup k'(s')]$   
f.  $[[1]]: \{k: \exists s [TALL(s, sue) \wedge \cup k(s)] = 1\} \subseteq \{k': \exists s' [TALL(s', jan) \wedge \cup k'(s')] = 1\}$   
'the set of state kinds Sue's height instantiates is a subset of the set of state kinds John's height instantiates (i.e., degree of tallness)'

## The analysis II: Quantifying over kinds

### Composition: Verbal equatives

- In verbal equatives, *zo* takes the *als*-clause as its complement in the matrix clause. It can appear *in-situ* following *zo*, or be extraposed to the right periphery due to (optionally) overt rightward QUANTIFIER RAISING (QR) (cf. Fox and Nissenbaum 1999, Bhatt and Pancheva 2004).



- (12) a.  $[[9]]: \lambda e [RUN(e, sigrid) \wedge \cup k(e)]$   
b.  $[[8]]: \lambda k. \exists e [RUN(e, sigrid) \wedge \cup k(e)]$   
c.  $[[7]]: \lambda K'. \{k: \exists e [RUN(e, sigrid) \wedge \cup k(e)] = 1\} \subseteq \{k': K'(k') = 1\}$   
d.  $[[3]]: \lambda e' [RUN(e', nadine) \wedge \cup k'(e')]$   
e.  $[[2]]: \lambda k'. \exists e' [RUN(e', nadine) \wedge \cup k'(e')]$   
f.  $[[2]]: \{k: \exists e [RUN(e, sigrid) \wedge \cup k(e)] = 1\} \subseteq \{k': \exists e' [RUN(e', nadine) \wedge \cup k'(e')] = 1\}$   
'the set of event kinds Sigrid's running instantiates is a subset of the set of event kinds Nadine's running instantiates (i.e., manner of running)'

## Supporting evidence

- The analysis captures the parallels between the proform use of *zo* and its use in constructing equatives (e.g., Anderson and Morzycki 2015).
  - It also captures the distribution of degree versus manner readings in equatives: state-kinds are degrees while event-kinds are manners.
  - The presence of an equative quantifier predicts scope-ambiguities with other scope-taking elements, such as with a matrix modal verb (Heim 2000, 2006).
  - This is the case even with verbal equatives equating manners (Hohaus and Zimmermann 2021, cf. Rett 2013).
- (13) Context: A foreign colleague can spend their research funds on equipment, books, and conference travel. She asks about how I may spend my funds and I reply...  
Ik mag mijn beurs exact *zo* *<als jij>* gebruiken *<als jij>*.  
I may my funding exactly ZO ALS you use ALS you  
'I may spend my funds in exactly the same way as you.'
- (14) Maar ik mag ze ook gebruiken om sprekers uit te nodigen.  
but I may her also use to speakers PRT PRT invite  
'But I may also spend it on inviting speakers.'
- Modal  $\gg$  *zo...als* in (13)  
 $\exists w [wRw \wedge \{k: I \text{ use my funds in } k\text{-manner in } w\} = \{k': \text{colleague uses her funds in } k'\text{-manner in } w'\}]$ , i.e., some world where we use funds identically, not all worlds
- (15) En voor niets anders!  
and for nothing else  
'And nothing else!'  
*zo...als*  $\gg$  Modal in (13)  
 $\{k': \text{colleague uses her funds in } k'\text{-manner in } w\} = \{k: \exists w [wRw \wedge I \text{ use my funds in } k\text{-manner in } w]\}$ , i.e., the manners colleague uses her funds is equal to all possible manners I can use mine

## Morpho-semantic variation in Germanic

### PMs correlating with degree readings: English

- Haspelmath and Buchholz (1998) suggest that verbal equatives typically do not have PMs while adjectival equatives do.
  - This correlates with the lack of degree readings in verbal equatives. In English, degree readings are impossible even with, e.g., degree achievement verbs in (16) (Rett 2013).
- (16) John (*\*as*) cooled the pie *as* he did the lasagna, # namely to 30 degrees / namely by leaving out on the window sill.

- Rett analyzes the English PM 'as' as an equative degree quantifier. English verbal equatives lack PMs and involve PREDICATE MODIFICATION between two sets of manners.
- Dutch verbal equatives are still marked with PM *zo*, even though degree readings are impossible.

- (17) We hebben de pizza (net) *zo* afgekoeld *als* de lasagne  
we have the pizza just ZO cooled.down ALS the lasagna  
'We cooled down the pizza like the lasagna.'

- (18) Namelijk door te blazen. (19) #Namelijk tot 21 graden.  
namely by to blow namely until 21 degrees  
'Namely by blowing.' 'Namely to 21 degrees.'

- Verbal equatives also exhibit scope ambiguity in (13)-(15), which is not predicted by a PREDICATE MODIFICATION analysis.

### PMs with ambiguity: German

- German is similar to Dutch; it uses a proform *so*, combined with the SM *wie*, to form equatives (Anderson and Morzycki 2015).

- (20) Ich bin *so* groß  
I am so tall  
'I am this tall.'
- (21) Ich bin *so* groß *wie* Peter.  
I am so tall WIE Peter  
'I am as tall as Peter.'
- (22) *so* getanzt  
so danced  
'danced like that'
- (23) John hat *so wie* Maria  
John has SO WIE Mary  
getanzt.  
danced  
'John danced the way Mary did.'

- Hohaus and Zimmermann (2021) show that degree readings are possible with, e.g., DAs, in (24)-(26).
- This motivates an analysis where the PM *so* is type-neutral, quantifying over either degrees or manners.

- (24) Wir haben die pizza *so* abgekühlt *wie* die lasagne.  
we have the pizza SO cooled WIE the lasagne  
'We cooled the pizza as we cooled the lasagne.'
- (25) Nämlich durch Pusten.  
namely through blow  
'Namely through blowing on it.'
- (26) Nämlich auf 21 grad  
namely to 21 degrees  
raumtemperatur.  
room.temperature  
'Namely to 21 degrees.'

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