Equating by quantifying over kinds

Zo…als equatives in Dutch and beyond

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Introduction

- We provide a compositional syntax-semantics for equatives in (Belgian) Dutch, which involve two morphosyntactic ingredients: *zo* and *als*.
- Descriptively, ***zo* seems to be a parameter marker (PM) marking what is being measured**, while ***als* is a standard marker (SM) marking the standard of comparison**.

(1) John is ***as*** tall ***as*** Sue (is).
comparee copula PM parameter SM standard (copula)

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(3) John (**as*) ran ***as*** Mary ran/did.
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- Rett (2013) observes that **the lack of a PM correlates with interpretive differences**: (3) only has a *manner reading* and not a *degree reading*.
- (3) can only refer to John running *in the same way* Mary did, not the same distance or at the same speed cf. (1) where John and Sue are of the same height.

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  (4) Nadine had ***zo*** <***als*** Sigrid> gerend <***als*** Sigrid>.
  Nadine has so as Sigrid ran as Sigrid
  'Nadine ran as Sigrid ran.'

- Nonetheless, like English verbal equatives, the only available reading here is that Nadine ran *in the same way* Sigrid ran, not the same distance or speed.
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Overview of analysis

- The PM *zo* compositionally introduces *kinds*. Its truth-conditional contribution is to **assert that its (eventuality) complement *instantiates* a kind**.
- A kind: "the plurality of all possible objects of some type" i.e., function from worlds to objects (Chierchia, 1998; Anderson and Morzycki, 2015).
- Assume **quantificational semantics** for *zo...als* equatives, following fairly standard quantificational analyses for comparatives (e.g., Heim, 2000, 2006).
- Since *zo* here introduces kinds, quantificational semantics comes from elsewhere; we propose it is encoded in the SM *als* (cf. Alrenga et al., 2012; Alrenga and Kennedy, 2014 for comparatives).

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Morpho-semantic Ingredients

- We follow Anderson and Morzycki (2015) in proposing ***zo* simply compositionally introduces a kind variable**.
- As with Anderson and Morzycki (2015), **kinds are taken to be a primitive type in the model**, represented here as type π.
- *Zo* is a **function from kinds to properties of objects**, asserting that **the object instantiates the kind**, i.e., $^{\cup}k(o)$ (Chierchia, 1998).
- The variable *o* ranges over either states (adjectives) (e.g., Wellwood, 2015) or events (verbs).

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- We deviate from Anderson and Morzycki (2015) in what contributes quantificational semantics (see appendix).
- Following proposals in e.g. Alrenga et al. (2012); Alrenga and Kennedy (2014), we **attribute quantificational semantics to the SM *als***.
- *Als* takes as arguments two sets of kinds and asserts that the first is a subset of the second (e.g., Rett, 2020; Hohaus and Zimmermann, 2021).

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Composition: Adjectival Equatives

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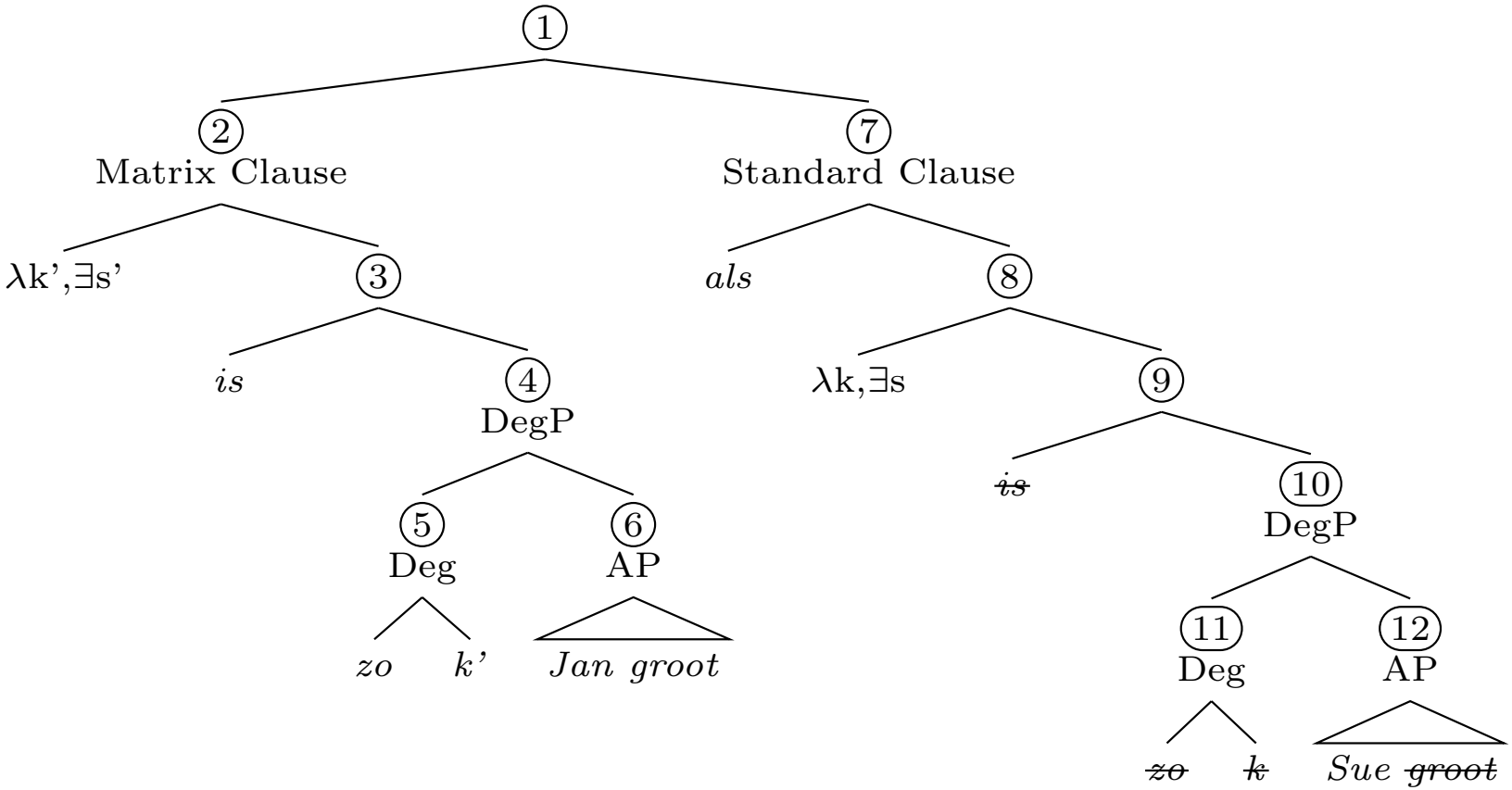

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- Matrix clause:

(8) a. ⟦⑤⟧: λo.$^{\cup}$k'(o) (Deg)
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- Standard clause:

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d. ⟦⑧⟧: λk.∃s[TALL(s,*sue*) ∧ $^{\cup}$k(s)] (Existential Closure, Lambda Abstraction)

- Final steps where *als* takes the two sets of kinds as argument:

(10) ⟦⑦⟧: λK'$_{\pi t}$.{k:∃s[TALL(s,*sue*) ∧ $^{\cup}$k(s)] = 1} ⊆ {k':K'(k') = 1}

(11) ⟦①⟧: {k:∃s[TALL(s,*sue*) ∧ $^{\cup}$k(s)] = 1} ⊆ {k':∃s'[TALL(s', *jan*) ∧ $^{\cup}$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'

Composition: Verbal Equatives

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

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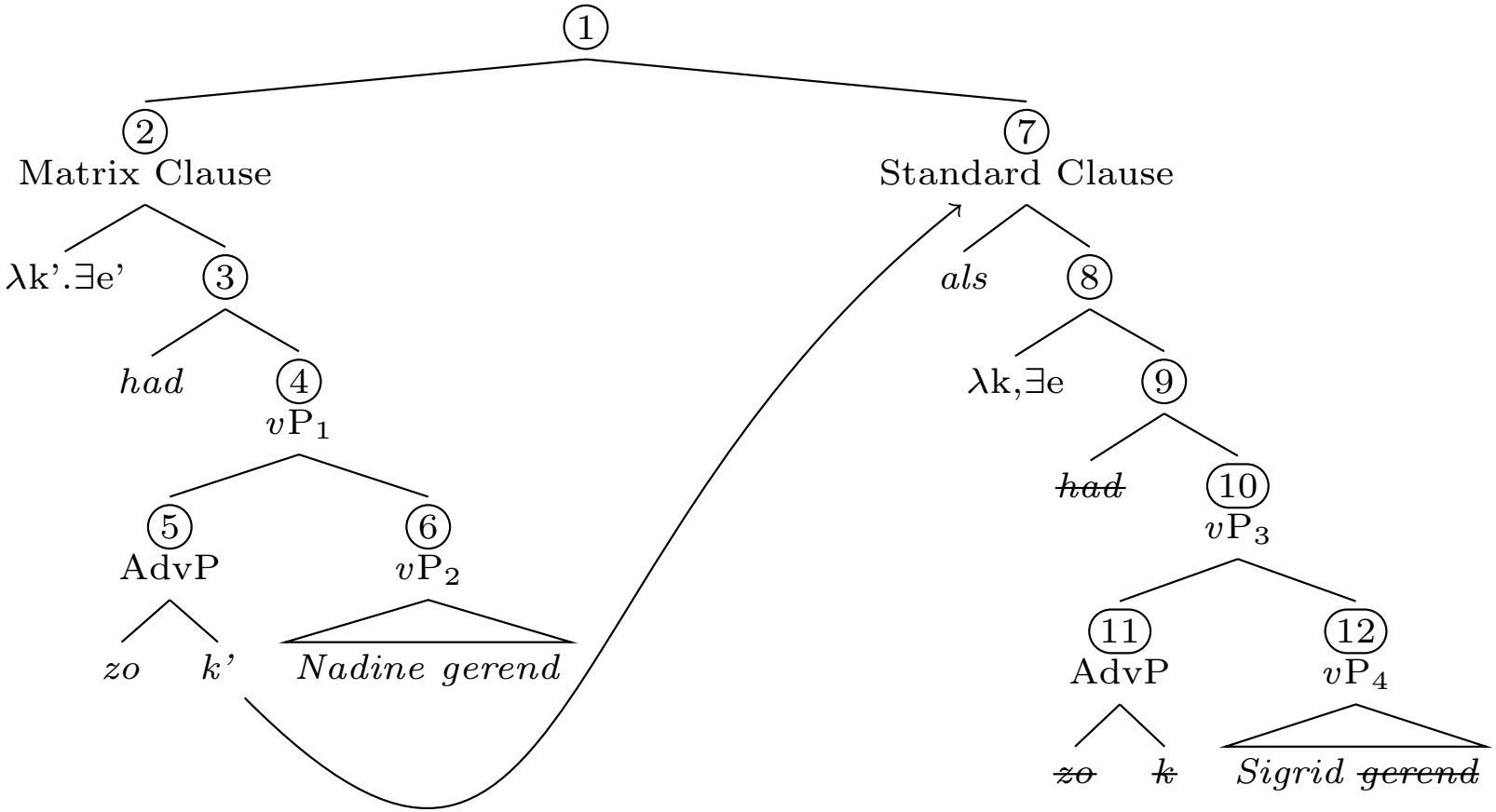

Composition: Verbal Equatives

- Matrix clause:

(13)
a. ⟦⑤⟧: λo.$^{\cup}$k'(o) (AdvP, standard clause trace provides *k'*)
b. ⟦⑥⟧: λe'.RUN(e',*nadine*) (vP_2)
c. ⟦③⟧: λe'.RUN(e',*nadine*) ∧ $^{\cup}$k'(e') (identical to vP_1 ④, PM)
d. ⟦②⟧: λk'.∃e'.RUN(e',*nadine*) ∧ $^{\cup}$k'(e')
(Existential Closure, Lambda Abstraction)

- Standard clause:

(14)
a. ⟦⑪⟧: λo.$^{\cup}$k(o) (AdvP)
b. ⟦⑫⟧: λe.RUN(e,*sigrid*) (vP_4)
c. ⟦⑨⟧: λe.RUN(e,*sigrid*) ∧ $^{\cup}$k(e) (identical to vP_3 ⑩, PM)
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(15) ⟦⑦⟧: λK'$_{\pi t}$.{k:∃e.RUN(e,*sigrid*) ∧ $^{\cup}$k(e) = 1} ⊆ {k':K'(k') = 1}

(16) ⟦①⟧: {k:∃e.RUN(e,*sigrid*) ∧ $^{\cup}$k(e) = 1} ⊆ {k':∃e'.RUN(e',*nadine*) ∧ $^{\cup}$k'(e') = 1 }
'the set of event kinds Sigrid's running instantiates is a subset of the the set of event kinds Nadines's running instantiates'

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- Matrix clause:

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a. ⟦⑤⟧: λo.$^{\cup}$k'(o) (AdvP, standard clause trace provides *k'*)
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Composition: Verbal Equatives

- Matrix clause:

(13)
a. $[\![\textcircled{5}]\!]$: $\lambda o.^{\cup}k'(o)$ (AdvP, standard clause trace provides *k'*)
b. $[\![\textcircled{6}]\!]$: $\lambda e'.\textsc{run}(e',nadine)$ (vP_2)
c. $[\![\textcircled{3}]\!]$: $\lambda e'.\textsc{run}(e',nadine) \wedge {}^{\cup}k'(e')$ (identical to vP_1 ④, PM)
d. $[\![\textcircled{2}]\!]$: $\lambda k'.\exists e'.\textsc{run}(e',nadine) \wedge {}^{\cup}k'(e')$ (Existential Closure, Lambda Abstraction)

- Standard clause:

(14)
a. $[\![\textcircled{11}]\!]$: $\lambda o.^{\cup}k(o)$ (AdvP)
b. $[\![\textcircled{12}]\!]$: $\lambda e.\textsc{run}(e,sigrid)$ (vP_4)
c. $[\![\textcircled{9}]\!]$: $\lambda e.\textsc{run}(e,sigrid) \wedge {}^{\cup}k(e)$ (identical to vP_3 ⑩, PM)
d. $[\![\textcircled{8}]\!]$: $\lambda k.\exists e.\textsc{run}(e,sigrid) \wedge {}^{\cup}k(e)$ (Existential Closure, Lambda Abstraction)

- Final steps where *als* takes the two sets of kinds as argument:

(15) $[\![\textcircled{7}]\!]$: $\lambda K'_{\pi t}.\{k:\exists e.\textsc{run}(e,sigrid) \wedge {}^{\cup}k(e) = 1\} \subseteq \{k':K'(k') = 1\}$

(16) $[\![\textcircled{1}]\!]$: $\{k:\exists e.\textsc{run}(e,sigrid) \wedge {}^{\cup}k(e) = 1\} \subseteq \{k':\exists e'.\textsc{run}(e',nadine) \wedge {}^{\cup}k'(e') = 1\}$
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Linear Position of Standard *Als*-clause

- Caveat: the standard *als*-clause can appear immediately following *zo* or on the right periphery with verbal equatives (12), but not for adjectival equatives (7) (Corver, 2018).
- We can understand this if *zo* is **a cross-categorial element** with different categorial status across contexts. ***Zo* is a head within the extended projection of the adjective**, meaning the standard *als*-clause in adjectival equatives is base-generated in its surface position (Corver, 1997, 2018).
- Alternatively, ***zo* is a phrasal modifier of VPs**, as evidenced by the fact that the *als*-clause can 'stay in-situ' next to *zo* preverbally in verbal equatives.

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- We take the **right-peripheral position of the *als*-clause in verbal equatives to be derived by** Quantifier Raising **(QR)**, which has been proposed to be rightward movement (most notably Fox and Nissenbaum, 1999).
- In verbal equatives, the *als*-clause, as a generalized quantifier over kinds, **must QR from its base position** as complement of *zo* as there is a semantic type-mismatch in this position.
- The possibility of two distinct linear positions means that **QR can either be covert (in-situ immediately following *zo*)** or **overt (right-peripheral)**.
- Scopal interactions with matrix modal verbs (to be discussed) provide evidence that **regardless of linear position, the *als*-clause always undergoes QR for semantic interpretation**.

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Degrees and Manners

- What is a state/event kind?

  'There is a sense that, in the case of states associated with gradable predicates, **degrees are a central part of what states are for**. The principal reason we talk about such states is to **compare them in a scalar fashion to others, or to a standard**.'

  'Nevertheless, it seems reasonable to suppose that a core part of what it is to be an event is to be realized in a certain manner. To be sure, for some events, we care a great deal about their temporal extent, and for others, about their spacial extent. But for virtually any event, **we care about how it took place**. We don't talk about events chiefly to measure them. We talk about them chiefly **to characterize or explain them**.'

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Degrees and Manners

- Not any collection of states and events across worlds corresponds to a degree or a manner.
- All possible states of **having the same 'amount' or less of a property correspond to a degree**, i.e., an equivalence class of states (cf. Cresswell, 1976; Schwarzchild, 2013).
- All possible events described by a verb **carried out in the same way independent of spatio-temporal location** correspond to a manner.

(17) a. $[\![\textit{Floyd is six feet tall}]\!]$: λs.$\textsc{tall}$(s,*floyd*) $\wedge$ $^{\cup}\textsc{six-feet}$(s)
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Degrees and Manners

- Degrees and manners are, in a sense, special sorts of properties of states and kinds since they correspond to **particular pluralities of such objects**.
- Anderson and Morzycki (2015): degrees and kinds are **distinguished properties** of eventualities, and *zo* accesses only such properties, implemented as a presupposition.

(18) a. DIST(o,P) is true iff P is among the distinguished properties of o.
b. $[\![zo]\!]$: $\lambda k.\lambda o{:}\textsc{dist}(o,{}^{\cup}k).{}^{\cup}k(o)$

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- Upshot of the proposed analysis: **we expect *zo* to be a general kind introducer referring to degrees or manners**.
- This is indeed what we find; in non-equative contexts, *zo* behaves like an **anaphoric pro-form**, referring to contextually provided degrees or manners.

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Supporting Evidence: Distribution of Readings

(19) Jan is 1.80m groot. Jane is ook ***zo*** groot.
John is 1.80m tall Jane is also ZO tall
'John is 1.80m tall and Jane is 1.80m tall too.'
'John is 1.80m tall, and Jane is also tall at 1.85m.'
(proform for degrees, not evaluative)

(20) Jan gedroeg zich erg goed vandaag. Jane gedroeg zich ook ***zo***.
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Supporting Evidence: Distribution of Readings

- This sensitivity to syntactic category of the parameter in the distribution of degree and manner readings **naturally carries over to equatives** if *zo*'s function is uniformly to introduce kinds that are distinguished properties of what it modifies.
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Supporting Evidence: Adjectival Equatives Only Have Degree Readings

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

(22) Continuations for (21)
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.' (degree)

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

(22) Continuations for (21)
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
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Supporting Evidence: Verbal Equatives Only Have Manner Readings

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

(24) Continuations for (23)
a. Namelijk in cirkels.
namely in circles
'Namely in circles.' (manner)
b. #Namelijk, 2km per uur
namely 2km per hour
'Namely at 2km/h.' (degree)

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- Crucially, *zo…als* verbal equatives never have degree readings **even with particular verbs classes that have been argued to involve degree variables in their semantics**.
- One prominent class of such verbs: **deadjectival degree achievement verbs**, which indicate that some object has **undergone a change in holding some degree of a property over the course of an event** (e.g., Kennedy and Levin, 2008).
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Supporting Evidence: Verbal Equatives Only Have Manner Readings

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

a. Namelijk door te blazen.
namely by to blow
'Namely by blowing.'

b. #Namelijk tot 21 graden.
namely until 21 degrees
'Namely to 21 degrees.'

(degree achievements with *zo…als*)

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Supporting Evidence: Scope Ambiguity with Matrix Modals

- One of the most striking pieces of evidence for a quantificational analysis of comparatives is that **the scope of comparison interacts with other scope-taking elements like matrix modal verbs** (Heim, 2000, 2006, *a.m.o.*).

(26) CONTEXT: My draft is 20 pages long.

a. De definitieve versie mag exact vijf pagina's langer zijn
the final version may exactly five pages longer be
dan de kladversie.
than the draft
'The final paper is allowed to be exactly five pages longer than this draft.'

b. Maar zelfs tien pagina's meer dan wat je nu hebt is nog
but even ten pages more than what you now have is still
oké.
okay
'But even ten pages more than what you have now will still be okay.' (minimum length 25 pages, modal ≫ DegP)

c. Maar in geen geval langer.
but in no case longer
'But definitely not longer!'
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- The **same scope ambiguity can be reproduced with *zo…als* adjectival equatives**, which produce degree readings only (21)-(22). This is derived **by attaching the *als*-clause to the embedded clause under the modal, or to the matrix clause above the modal**.

(27) CONTEXT: You just submitted your B.A. thesis and proudly show it to me. I inquire after its length and you tell me that it's 60 pages. I'm currently writing my master's thesis and I tell you...

a. Mijn master thesis mag net ***zo*** lang zijn ***als*** jouw bachelor
my master's thesis may exactly ZO long be ALS your bachelor
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paper
'My master's thesis is allowed to be exactly as long as your B.A. thesis.'

b. Maar vijf pagina's korter dan wat je nu ingediend hebt zou
but 5 pages shorter than what you now submitted have would
ook al oké zijn en tot 70 pagina's is ook nog toegelaten.
also already okay be and until 70 pages is also still allowed
'But even 5 pages shorter would be okay and 70 pages is allowed as well.' (modal ≫ *zo…als*)

c. En geen pagina meer!
and no page more
'And not a single more!' (*zo…als* ≫ modal)

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- More interestingly, **the same scope ambiguity can be reproduced with verbal equatives equating manners**, so long as the set of manners being equated is contextually specified.
- This is derived if the *als*-clause ***must*** **QR for interpretive reasons**. It can either attach to the embedded clause under the modal, or the matrix clause above the modal, **regardless of its surface linear position**.

(28) 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...

a. 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.'

b. Maar ik mag ze ook gebruiken om sprekers uit te nodigen.
but I may her also use to speakers PRT PRT invite
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Cross-Germanic Variation: English

- We have already seen one language which differs morphosyntactically in how equatives are built across adjectives and verbs: English.
- English marks adjectives with a PM but not verbs in equatives; **the presence of a PM corresponds with a degree reading** of the equative, **its absence with a property/manner reading**.

(29) a. Sue is ***as*** tall as Bill, but she is short
(degree reading, non-evaluative)

b. Sue is (***as**) tall ***like*** Bill, # but she is short.
(no PM, property reading, evaluative)

(30) a. Kim (***as**) cooled the pizza as Sue did, namely by blowing on it. (no PM, manner reading)

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English PM as a Degree Quantifier

- Based on these observations, Rett (2013) analyzes the **English PM *as* as a degree quantifier**, and **SM *as* as simply a generalized set abstractor**.
- P^{δ}: a proposition of semantic type t containing an instance of a free variable δ, which can range over degrees or manners. $[\delta \rightarrow \alpha]$: as_{SM} maps the variable δ to a corresponding variable of the same type α, which it lambda abstracts over.

(31) a. $[\![\text{as}_{PM}]\!]$: $\lambda D.\lambda D'.\text{MAX}(D) \leq \text{MAX}(D')$
b. $[\![\text{as}_{SM}]\!]$: $\lambda P^{\delta}.\lambda\alpha.[\![P^{\delta}]\!]^{[\delta \rightarrow \alpha]}$

(Rett, 2013, p. 1107-1108)

- α and δ correspond to degree variables in adjectival equatives; the composition would be identical to standard analyses of comparatives, differing only in the relation introduced by the PM ($\leq$ as compared to $<$ in comparatives).

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English Verbal Equatives

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- ρ takes an event predicate and introduces a relation $\Re$ between an event variable and a free manner variable.

(32) John danced as Sue danced.

a. $[\![John\ danced]\!] = [\![\text{OP}_m\ John\ danced\ \rho^m]\!] = \lambda$m.$\exists$e[DANCED(e,*john*) $\wedge$ $\Re$(e,m)]

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PREDICATE MODIFICATION, EXISTENTIAL CLOSURE

(Rett, 2013, p. 1122-1123)

- In prose: **there is a manner that characterizes John and Mary's dancing**.

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- In prose: **there is a manner that characterizes John and Mary's dancing.**

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- Since English verbal equatives lack PMs and only have manner readings (even with e.g., degree achievement verbs), **manner is taken by Rett (2013) to be a semantic primitive** introduced by a null head (ρ) that can be abstracted over.
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- German is closely related to Dutch in terms of the morphosyntax of equatives; it uses a PM *so* and an SM *wie*, typically translated as being equivalent to the *wh*-word 'how'.
- Both *so* and *wie* are **ambiguous between being anaphoric to kinds, degrees, and manners in non-equative contexts** (Anderson and Morzycki, 2015; Umbach et al., 2022).
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- German adjectival equatives **permit both degree and property readings**.
- **The latter is best demonstrated with a non-gradable adjective**; in English and Dutch, such uses are either ungrammatical or have a highly coerced (degree) reading along some gradable scale of prototypicality (*x is as much a prototypical amphibian as y is*) (Rett, 2013).

(33) Nadine ist ***so*** groβ ***wie*** Anna.
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- Nonetheless, even if the PMs are clearly historically related and have the same distribution, **the distribution of degree versus manner readings crucially differ**.
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References I

Alrenga, P. and Kennedy, C. (2014). *No more* shall we part: Quantifiers in English comparatives. *Natural Language Semantics*, 22:1–53.

Alrenga, P., Kennedy, C., and Merchant, J. (2012). A new standard of comparison. In Arnett, N. and Bennett, R., editors, *Proceedings of the 30th West Coast Conference on Formal Linguistics*, pages 32–42. Somerville, MA: Cascadilla Proceedings Project.

Anderson, C. and Morzycki, M. (2015). Degrees as kinds. *Natural Language & Linguistic Theory*, 33:791–828.

Chierchia, G. (1998). Reference to kinds across languages. *Natural Language Semantics*, 6(4):339–405.

Corver, N. (1997). The internal syntax of the Dutch extended adjectival projection. *Natural Language & Linguistic Theory*, 15:289–368.

Corver, N. (2018). The freezing points of the (Dutch) adjectival system. In Hartmann, J. et al., editors, *Freezing: Theoretical approaches and empirical domains*, pages 143–194. De Gruyter Mouton.

Cresswell, M. (1976). The semantics of degree. In Partee, B., editor, *Montague Grammar*, pages 261–292. New York: Academic Press.

Fox, D. and Nissenbaum, J. (1999). Extraposition and scope: A case for overt QR. In Bird, S., Carnie, A., Haugen, J., and Norquest, P., editors, *Proceedings of WCCFL 18*, pages 132–144. Cascadilla Press.

Haspelmath, M. and Buchholz, O. (1998). Equative and similative constructions in the languages of Europe. In van der Auwera, J. and Ó Baoill, D., editors, *Adverbial constructions in the languages of Europe*, pages 277–334. Berlin: Mouton de Gruyter.

Heim, I. (1985). Notes on comparatives and related matters. Ms., University of Texas, Austin.

Heim, I. (2000). Degree operators and scope. In Jackson, B. and Matthews, T., editors, *Proceedings of the 10th Semantics and Linguistic Theory conference*, pages 40–64. Ithaca: Cornell University.

Heim, I. (2006). Remarks on comparative clauses as generalized quantifiers. Ms., Massachusetts Institute of Technology.

Hohaus, V. and Zimmermann, M. (2021). Comparisons of equality with German *so...wie*, and the relationship between degrees and properties. *Journal of Semantics*, 38:95–143.

Kennedy, C. and Levin, B. (2008). Measure of change: The adjectival core of degree achievements. In McNally, L. and Kennedy, C., editors, *Adjectives and adverbs: Syntax, semantics and discourse*, pages 156–182. Oxford: Oxford University Press.

References II

Penka, D. (2016). Degree equatives: The same as comparatives? Presented at Equative Constructions Workshop, Universität zu Köln.

Rett, J. (2013). Similatives and the argument structure of verbs. *Natural Language & Linguistic Theory*, 31:1101–1137.

Rett, J. (2020). Separate but equal: A typology of equative constructions. In Hallman, P., editor, *Interactions of degree and quantification*, pages 163–204. Boston: Brill.

Schwarzchild, R. (2013). Degrees and segments. In Snider, T., editor, *Proceedings of SALT 23*, pages 212–238. CLC Publications, Cornell University, Ithaca: NY.

Umbach, C., Hinterwimmer, S., and Gust, H. (2022). German *wie*-complements: Manners, methods and events in progress. *Natural Language & Linguistic Theory*, 40:307–343.

Wellwood, A. (2015). On the semantics of comparison across categories. *Linguistics & Philosophy*, 38:67–101.

Appendix: Type-Shifting the Standard Clause

- While the proposed analysis largely follows Anderson and Morzycki (2015), we differ in what introduces quantificational semantics. Proposal for Dutch: the SM *als* is a quantifier over kinds.
- Anderson and Morzycki (2015) do not propose a dedicated quantifier over kinds.
- Rather, they assume that **type-shifting rules apply to the standard clause** to resolve type-mismatches with the kind-introducing PM in equatives.

Appendix: Type-Shifting the Standard Clause

- This is motivated in part by the language they investigate in detail: Polish.
- In Polish, **the PM appears to be *tak*, and the standard is marked by *jak***, which is typically translated as a *wh*-word that is ambiguous between degree and manner much like German *wie*.

(37) Floyd jest ***tak*** wysoki ***jak*** Clyde.
Floyd is TAK tall WH Clyde
'Floyd is as tall as Clyde.'

(38) Floyd śpiewał ***tak jak*** Clyde śpiewał.
Floyd sang TAK WH Clyde sang
'Floyd sang as Clyde sang.'

(Anderson and Morzycki, 2015, p. 816-817)

Appendix: Type-Shifting the Standard Clause

- Anderson and Morzycki (2015) note the **morphological similarity between *tak* and *jak* in Polish**; taking this seriously, they assume **both to be elements that introduce kinds**.

(39) a. $[\![tak]\!]$: $\lambda k.\lambda o.^{\cup}k(o)$
b. $[\![jak]\!]$: $\lambda k.\lambda o.^{\cup}k(o)$

- The standard clause in both adjectival and verbal equatives therefore denotes predicates of kinds.

Appendix: Type-Shifting the Standard Clause

(40) a. Floyd jest ***tak*** wysoki ***jak*** Clyde.
Floyd is TAK tall WH Clyde
'Floyd is as tall as Clyde.'

b. ⟦ λk ~~*jest*~~ [$_{AP}$ [$_{DegP}$ *jak k Clyde* ~~*wysoki*~~] ⟧:
λk.∃s[TALL(s,*clyde*) ∧ $^{\cup}$k(s)]

(adjectival equative)

(41) a. Floyd śpiewał ***tak jak*** Clyde śpiewał.
Floyd sang TAK WH Clyde sang
'Floyd sang as Clyde sang.'

b. ⟦ λk *jak k Clyde śpiewał* ⟧:
λk.∃e[SING(e,*clyde*) ∧ $^{\cup}$k(e)]

(verbal equative)

Appendix: Type-Shifting the Standard Clause

- Assuming the standard analysis in the comparatives literature that the standard clause is a complement of the degree morpheme, **the predicate of kinds denoted by the standard clauses are assumed to be complements to *tak***, which requires a kind as its first argument.
- This is the familiar type-mismatch problem; however, **the standard clause is *not* a quantifier in the analysis** and therefore cannot undergo QR.
- At this point of the composition, Anderson and Morzycki (2015) assume that **type-shifting rules apply to resolve such a type-mismatch**. Two rules such rules are widely assumed in the literature: Iota Shift or Existential Closure Shift.

Appendix: Type-Shifting the Standard Clause

(42) Iota Shift (from $<\tau$,t$>$ to τ, where τ is any atomic type):
shift $\mathrm{P}_{\tau t}$ to $\iota \mathrm{x}_{\tau}[\mathrm{P}(\mathrm{x})]$

(preferred when defined)

(43) Existential Closure Shift (from $<\tau$,t$>$ to $<<\tau$,t$>$,t$>$):
shift $\mathrm{P}_{\tau t}$ to $\lambda \mathrm{Q}_{\tau t}.\exists \mathrm{x}_{\tau}[\mathrm{P}(\mathrm{x}) \wedge \mathrm{Q}(\mathrm{x})]$

(dispreferred)

(Anderson and Morzycki, 2015, p. 814)

Appendix: Type-Shifting the Standard Clause

- With that much in place, Anderson and Morzycki (2015) suggest that **different type-shifting rules are employed in adjectival and verbal equatives**.
- The default Iota Shift is employed in the standard clause of adjectival equatives.
- This is because with degree state kinds, **there is indeed a unique state kind that any state instantiates**, namely, the equivalence class of states (degrees) that it is a member of.
- Iota Shift, is however, undefined with verbal equatives; **there is no unique kind or manner that an event instantiates**. Existential Closure Shift is employed for verbal equatives instead.

Appendix: Type-Shifting the Standard Clause

- Adjectival equatives:

(44) Floyd jest ***tak*** wysoki ***jak*** Clyde.
Floyd is TAK tall WH Clyde
'Floyd is as tall as Clyde.'

a. $[\![\lambda k\ \sout{jest}\ [_{AP}\ [_{DegP}\ jak\ k\ Clyde\ \sout{wysoki}\ ]\ ]\!]$:
$\lambda k.\exists s[\textsc{tall}(s,clyde) \wedge {}^{\cup}k(s)]$ (standard clause)

b. $[\![\textsc{shift}\ \lambda k\ \sout{jest}\ [_{AP}\ [_{DegP}\ jak\ k\ Clyde\ \sout{wysoki}\ ]\ ]\!]$:
$\iota k[\exists s[\textsc{tall}(s,clyde) \wedge {}^{\cup}k(s)]]$ (shift standard clause)

c. $[\![[\ tak\ \textsc{shift}\ \lambda k\ \sout{jest}\ [_{AP}\ [_{DegP}\ jak\ k\ Clyde\ \sout{wysoki}\ ]\ ]\ ]\!]$:
$\lambda o.{}^{\cup}\iota k[\exists s[\textsc{tall}(s,clyde) \wedge {}^{\cup}k(s)]](o)$ (*tak* complement)

d. $[\![Floyd\ jest\ wysoki]\!]$: $\lambda s'.\textsc{tall}(s,floyd)$ (matrix clause)

e. $[\![[\ tak\ \textsc{shift}\ \lambda k\ \sout{jest}\ [_{AP}\ [_{DegP}\ jak\ k\ Clyde\ \sout{wysoki}\ ]\ ]\ ]\ [\ Floyd\ jest\ wysoki\ ]\!]$:
$\lambda s'.\textsc{tall}(s,floyd) \wedge {}^{\cup}\iota k[\exists s[\textsc{tall}(s,clyde) \wedge {}^{\cup}k(s)]](s')$

- In prose: **Floyd's tallness state instantiates the unique degree state kind that Clyde's tallness instantiates.**

Appendix: Type-Shifting the Standard Clause

- Verbal equatives:

(45) Floyd śpiewał ***tak jak*** Clyde śpiewał.
Floyd sang TAK WH Clyde sang
'Floyd sang as Clyde sang.'

a. ⟦ λk [*jak k Clyde śpiewał*] ⟧: λk.∃e[SING(e,*clyde*) ∧ $^{\cup}$k(e)] (standard clause)

b. ⟦ SHIFT λk *jak k Clyde śpiewał*] ⟧:
λQ.∃k[∃e[SING(e,*clyde*) ∧ $^{\cup}$k(e)] ∧ Q(k)] (shift standard clause)

c. ⟦ λk' [*Floyd śpiewał tak k'*] ⟧: λk'.∃e'[SING(e,*floyd*) ∧ $^{\cup}$k'(e')] (matrix clause after QR of standard clause)

d. ⟦SHIFT λk *jak k Clyde śpiewał*] ⟧ (⟦λk' [*Floyd śpiewał tak k'*]⟧):
∃k[∃e[SING(e,*clyde*) ∧ $^{\cup}$k(e)] ∧ ∃e'[SING(e,*floyd*) ∧ $^{\cup}$k(e')]]

- In prose: **there is a manner kind which both Floyd's singing and Clyde's singing instantiates**.

Appendix: Type-Shifting the Standard Clause

- Anderson and Morzycki's analysis involving type-shifting leads to several consequences. First, **in adjectival equatives the standard clause is effectively a degree (state kind) definite description** (see e.g., Penka, 2016 for German). That means it is **interpreted in-situ and does not undergo QR**.
- **QR is motivated only for verbal equatives**. In addition, verbal equatives involve **existential quantification over manners (event kinds)**.

Appendix: Type-Shifting the Standard Clause

- It is clear that the analysis **cannot apply to Dutch because of two predictions** (it is an empirical question if these hold in Polish).
- Prediction I: since the standard clause in adjectival equatives is a degree definite description interpreted in-situ, **it should not show any kind of scopal interactions with other scope-taking elements**.
- This, of course, seems to not be borne out in Dutch adjectival equatives, which exhibits scope ambiguities with matrix modal verbs (27).
- In fact, Anderson and Morzycki (2015) provide the same analysis for comparatives, where the presence of scope ambiguities is well-established (in English) since Heim (1985, 2000, 2006).

Appendix: Type-Shifting the Standard Clause

- Prediction II: **Verbal equatives in their analysis do involve an existential quantifier** and therefore, QR and scope-taking. This, however, predicts rather weak truth conditions for verbal equatives; **two events need only share a manner in which it is carried out** to satisfy this, e.g., (45-d).
- This is, in fact, **the same prediction made by Rett's analysis for English**, which involves Predicate Modification of two sets of manners and then Existential Closure of the manner variable.
- Two further consequences follow from a meaning built on existential quantifcation over manners.

Appendix: Type-Shifting the Standard Clause

- First, we expect that the context below, which makes explicit that **the two events involve just one manner in common**, to be felicitiously described by the (English) verbal equative, which **does not seem to be borne out**.

(46) CONTEXT: Floyd and Clyde both sang at the party last night. Floyd sang really melodically and slowly. Clyde sang melodically as well, though he sang really hurriedly.

a. #? Floyd sang as Clyde sang.
b. #? Clyde sang as Floyd sang.

Appendix: Type-Shifting the Standard Clause

- Rather, a stronger meaning seems to be described by the verbal equative; it requires the comparee event to have **at least all of the same manners of the standard event, if not more**.
- In other words, this is **the sub-set relation**, as has been standardly assumed for equative quantifiers and also adopted here for Dutch.

(47) CONTEXT: Floyd and Clyde both sang at the party last night. Clyde sang really melodically and slowly. Floyd sang really melodically and slowly too, but also really goofily.

a. Floyd sang as Clyde sang (though Floyd also sang goofily).
b. ??Clyde sang as Floyd sang (though Floyd also sang goofily).

Appendix: Type-Shifting the Standard Clause

- Finally, even if there is QR of the existential quantifier over kinds in Anderson and Morzycki's analysis, it is unclear if it would explain the scope ambiguity in verbal equatives, as in Dutch (28) or in German (Hohaus and Zimmermann, 2021).
- Again, this seems to be because existential quantification seems too weak to capture the relevant interpretations.

Appendix: Type-Shifting the Standard Clause

- Even with QR, **the relevant interpretations seem indistinguishable**, which is not what is observed in Dutch, where two distinct interpretations are available.

(48) 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.'

a. ∃w'[wRw' ∧ ∃k[colleague spends her funds in k-manner in w' ∧ I spend my funds in k-manner in w'], i.e., some world where we happen to spend funds identically

b. ∃k[colleague uses her funds in k-manner in w ∧ ∃w'[wRw' ∧ I spend my funds in k-manner in w'] ,i.e., there is some k-manner colleague spends her funds and there is some world I spend my funds in k-manner