# Nominal Reference Beyond Individuals

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Motivation

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Rett (2014)

- (1) Numeral DPs in Subject position
  - a. [Four pizzas] are vegetarian.
  - b. [Four pizzas] is enough.

individual degree

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# (2) Numeral DPs in Object position

- a. Jane bought [three pizzas]. They were delicious.
- b. Jane bought [three pizzas]. It was more than we needed.

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### (3) Quantity-word DPs

- a. [Many/Three guests] are drunk.
- b. [Many/Three guests] is more than Bill had anticipated.

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#### (4) Bare plurals

- a. [French fries] were eaten by the senators.
- b. [French fries] is not enough. The senators will need protein.

- a. Jane bought [three pizzas]. They were delicious.
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### (4) Bare plurals

Motivation

- a. [French fries] were eaten by the senators.
- b. [French fries] is not enough. The senators will need protein.

### (5) Pseudo-partitives

- a. [Four feet of (the) plywood] are warped.
- b. [Four feet of (the) plywood] is more than Betty asked for.

Motivation

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Rett (2014)

#### (6) Definite DPs

- a. [The paintings he salvaged] were damaged.
- b. [The paintings he salvaged] was enough.

Motivation

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Rett (2014)

#### (6) Definite DPs

- a. [The paintings he salvaged] were damaged.
- b. [The paintings he salvaged] was enough.
- (7) Wh-questions with how many
  - a. [How many books] are on the table?
  - b. [How many books] is too many?

Motivation

Rett (2014)

#### (6) Definite DPs

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- b. [The paintings he salvaged] was enough.

### (7) Wh-questions with how many

- a. [How many books] are on the table?
- b. [How many books] is too many?

#### (8) Existential quantifier

- a. [Some (of the) cookies] are delicious.
- b. [Some (of the) cookies] is more than they deserve.

# Properties?

- The degree reading corresponds to a salient measure (often quantity) of the denoted individual.
- It conditions agreement, licensing the singular, inanimate pronoun it.
- It is distinct from the specific/non-specific ambiguity.
- Preliminary research suggests it's *very* common (Romance, Greek, Hebrew, at least some Germanic languages).

# Questions

Motivation

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- ? How general are these alternations?
- Is this indicative of some polysemy or systematic denotational ambiguity in nominals?
- What syntactic/semantic principles underlie these alternations?

## Basic contrast

Motivation

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- (9) a. Tres libros son.PL suficientes.PL 'Three books are enough'
  - b. Tres libros es.SG suficiente.SG 'Three books is enough'

### Basic contrast

- (9) a. Tres libros son.PL suficientes.PL 'Three books are enough'
  - b. Tres libros es.SG suficiente.SG 'Three books is enough'
- Enough of what?
  - (9a)  $\rightarrow$  of books
  - (9b) → of some property that can be sensibly predicated of three books

## Basic contrast

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- Enough of what?
  - (9a)  $\rightarrow$  of books
  - (9b) → of some property that can be sensibly predicated of three books
  - (10) Tres libros es suficiente { peso / material / ...} 'Three books is enough { weight / material / ...}'
- Orall (9b) and co. Non-Agreeing Degree Predicate constructions (NADPs).







Cross-linguistic connections?

# **Today**

Motivation

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Main goal

To provide a first description of the linguistic property of NADPs.

Hypothesis

In NADPs a (nominalized) individual exemplifies a non-conventional degree on a scale along determined by the degree predicate.

What kind of predicates count as NADPs?

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#### (11) a. Comparatives

En ajedrez dos torres es mejor (que una reina) 'In chess two towers is better than a queen'

Motivation



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En ajedrez dos torres es mejor (que una reina) 'In chess two towers is better than a queen'

#### b. Superlatives

Tres juguetes es lo mejor (que le puedes regalar) 'Three toys is the best that you can gift him'



#### (11) a. Comparatives

En ajedrez dos torres es mejor (que una reina) 'In chess two towers is better than a queen'

#### b. Superlatives

Tres juguetes es lo mejor (que le puedes regalar) 'Three toys is the best that you can gift him'

#### c. Equatives

Cuatro pizzas pequeñas es lo mismo (que dos grandes) 'Four small pizzas is the same as two big ones'

Motivation

(12) a. Excessives

Tres libros es demasiada (lectura)

'Three books is too much reading'

Motivation

#### (12) a. Excessives

Tres libros es demasiada (lectura)

'Three books is too much reading'

#### b. Assetives

Cuatro pizzas es suficiente (comida)

'Four pizzas is enough food'

#### (12) a. Excessives

Tres libros es demasiada (lectura)

'Three books is too much reading'

#### b. Assetives

Cuatro pizzas es suficiente (comida)

'Four pizzas is enough food'

Predicates expressing some form measurement or comparison, i.e. indicating degrees of difference or similarity are good in NA contexts.

### Limitation I

Motivation

 Predicates expressing no measurement/comparison do not form good NADPs.

(13) a. Cinco defensas { \*debe.SG / deben.PL } frenar al contrario 'Five defenders can stop the adversary'

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- Predicates expressing no measurement/comparison do not form good NADPs.
  - (13) a. Cinco defensas { \*debe.SG / deben.PL } frenar al contrario 'Five defenders can stop the adversary'
    - b. Tres coches mal aparcados { \*puede.SG / pueden.PL } bloquear la salida
      - 'Three poorly parked cars may block the exit'

Distribution

Motivation

- Predicates expressing no measurement/comparison do not form good NADPs.
  - (13) a. Cinco defensas { \*debe.SG / deben.PL } frenar al contrario 'Five defenders can stop the adversary'
    - b. Tres coches mal aparcados { \*puede.SG / pueden.PL } bloquear la salida

'Three poorly parked cars may block the exit'

- c. Dos litros de producto { \*va.SG / van.PL } a desatascar el desagüe
  - 'Two liters of product can unclogged the drainpipe'
- d. Cinco artículos { \*es.SG / son.PL } necesarios para obtener la acreditación
  - 'Five papers are requied in order to obtain the accreditation'

### Limitation II

Motivation

Predicates lexicalizing measurement/comparison do not form good NADPs.

#### (14) Comparatives

- a. Dos sofás ocupan.PL más espacio del que disponemos 'Two couches take more space than we have
- b. Dos sofás es.SG más espacio del que disponemos 'Two couches is more space than we have available
- c. \* Dos sofás ocupa.SG más espacio del que disponemos

#### (15) Excessives

- Tres libros pesan.PL demasiado
   'Three books weight too much
- b. Tres libros es.SG demasiado peso 'Three books is too much weight
- c. \* Tres libros pesa.SG demasido

### Limitation II

Predicates lexicalizing measurement/comparison do not form good NADPs.

#### (16) Assetives

- Tres libros bastaron.PL para entretenerlos 'Three books sufficed to entertain them'
- b. Tres libros fue.SG suficiente para entretenerlos 'Three books was enough to entertain them'
- c. \*Tres libros bastó.SG para entretenerlos

#### Limitation III

- Adjectives do not form good NADPs.
  - (17) a. Tres libros son.PL muy pesados 'Three books are very heavy
    - b. Tres libros es.SG mucho peso 'Three books is a lot of weight
    - c. \*Tres libros es.SG muy pesado(s)

### Limitation III

- Adjectives do not form good NADPs.
  - (17) a. Tres libros son.PL muy pesados

    'Three books are very heavy
    - b. Tres libros es.SG mucho peso 'Three books is a lot of weight
    - c. \*Tres libros es.SG muy pesado(s)
  - (18) a. Tres árboles son.PL demasiado altos 'Three tress are too high'
    - Tres árboles es.SG demasiada altura 'Three trees is too much height'
    - c. \* Tres árboles es.SG demasiado altos(s)

### Limitation IV

- There is no variant of a "positive" form in NADPs, they require an overt degree predicate.
  - (19) a. Tres libros son pesados 'Three books are heavy'
    - b. \*Tres libros { es.SG / son.PL } peso
      'Three books is weight'

### **Limitation IV**

- There is no variant of a "positive" form in NADPs, they require an overt degree predicate.
  - (19) a. Tres libros son pesados 'Three books are heavy'
    - b.\*Tres libros { es.SG / son.PL } peso
      'Three books is weight'
  - (20) a. Tres árboles son altos
    - b. \* Tres árboles { es.SG / son.PL } peso 'Three trees is weight

### Limitations

- The best results are obtained with predicational copular sentences; lexicalized variants of comparative/superlative constructions do not allow the alternation.
- Not any type of predicate/relation between degrees and individuals allows this alternation either: adjectives are not NADPs.
- There is no "positive" version of NADPs.

# Subjects

Motivation

 Existential and universal quantifiers do not typically make good subjects of NADPs.

```
(21) a.* {Varios / Pocos / Algunos / Muchos / Unos / Demasiados} libros es PRED 
{A variety / Few / Some / Many / sm / too many} books is PRED
```

es PRFD

# Subjects

Motivation

 Existential and universal quantifiers do not typically make good subjects of NADPs.

```
(21) a.* {Varios / Pocos / Algunos / Muchos / Unos / Demasiados}
libros es PRED
{A variety / Few / Some / Many / sm / too many} books is PRED
b.* {La mayoría de / Ámbos / Los / Cada (uno de)} libros
```

{Most / Both / The / Each (one of the)} books is PRED

# Subjects

- The best results are obtained with counting quantifiers involving (possibly modified) numerals:
  - (22) {Más de / Menos de / Unos } cuatro libros es PRED {More than / Less than / Some } four books is PRED

# Subjects

- Nonfinite clauses also work in similar contexts:
  - (23) a. Leer y resumir un libro { \*es.SG / son.PL } dos cosas differentes
    - 'Reading and summarizing a book are two different things'
    - b. Leer y resumir un libro { es.SG / \*son.PL } mucho trabajo 'Reading and summarizing a book is a lot of work'

# Subjects

Motivation

- Trope-like DPs too:
  - (24) a. La lectura y la presentación del libro { \*es.SG / son.PL } dos cosas differentes

Lit.: 'The reading and the commenting of a book are two different things'

b. La lectura y la presentación del libro { es.SG / \*son.PL } mucho trabajo

Lit.: 'The reading and the commenting of a book is a lot of work'

#### So far

Motivation

#### Predicates:

- The best NADPs are formed by predicative copular clauses with some form of degree predicate (i.e. too, enough, more, -est, as...as, etc.).
- However, adjectives (also predicative copular) do count as NADPs (i.e. there
  is no positive form).
- The degree predicate may optionally come overtly restricted by a noun, typically an abstract mass noun like weight, work, effort, distance, amount, entertainment...

#### So far

Motivation

#### Predicates:

- The best NADPs are formed by predicative copular clauses with some form of degree predicate (i.e. too, enough, more, -est, as...as, etc.).
- However, adjectives (also predicative copular) do count as NADPs (i.e. there is no positive form).
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#### Subjects:

- Numerals, modified or not, form the best subjects of NADPs.
- Definite descriptions referring to abstract nouns work well.
- Nonfinite clauses may also appear as subjects of NADPs. However:
  - Nonfinite clauses are OK with adjective (e.g. (23a) with difficult).
  - Agreement patterns of nonfinite clauses in subject position have their own quirks.

Motivation

- What is the meaning of (9b) and how is it different from (9a)?
  - (9) a. Tres libros son demasiados 'Three books are too many'
    - b. Tres libros es demasiado 'Three books is too much'
  - Intuitively, (9a) is about books, (9b) is about something else:
    - For a writer who signed a contract, it could be work, commitment, effort...
    - o For pre-schooler who has to carry them it could be too much weight.
    - For B&N executive it could be too many to give away.
    - For a struggling worker it could be too expensive.

..

- The ingredients of a NADP seem to include:
  - 1. A (possibly covert) noun providing a **dimension**.
  - A degree predicate expressing a comparison to some degree on that dimension.
    - In comparatives, one term of the comparison is provided by the standard.
    - In assetives, excessives, by a conventionalized threshold.
    - In equatives by the complement of as.
  - 3. A subject that acts as a **measuring unit**; i.e. it provides the measure that must interpreted on the scale built upon the dimension.

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- Consider:
  - Three kilos is too much weight
     Three kilo-units exceed some threshold of weight.
  - Three books is too much weight
     Three book-units exceed some threshold of weight.

- This is not to say that such constructions are allowed syntactically:
  - (25) a. Tres kilos de peso Lit.: 'three kilos of weight'
    - b. \* Tres libros de peso Lit.: 'Three books of weight'
  - (26) a. a weight of three kilos b. \*a weight of three books

- It (perhaps) provides a way to think about why there is no "positive" form:
  - (27) a.  $[three kilos is weight]^c \approx the weight determined by three kilos is weight$ 
    - b.  $[\![$  three books is weight $]\!]^c \approx$  the weight determined by three books is weight

- It (perhaps) provides a way to think about why there is no "positive" form:
  - (27) a.  $[three kilos is weight]^c \approx the weight determined by three kilos is weight$ 
    - b. [[three books is weight]] $^c \approx$  the weight determined by three books is weight
- Since these measuring units are by definition contextual (non-conventional)
  there can't be a standard of comparison for a positive form to supply. (I.e.
  perhaps we don't have standards of weight measured in books, only measured in conventional units.)

Motivation

# **Background: Foundations**

- Degrees are primitives, atomic types in the model (of type d).
- A scale is a tuple  $\langle \mathcal{D}_{\triangle_i}, \geq_{\triangle_i} \rangle$  including a set of degrees  $\mathcal{D}_{\triangle_i}$  along some dimension  $\triangle$  and an ordering relation  $\geq_{\triangle_i}$ .
- The task of the ordering relation is to impose some restrictions on the types of sets of degrees that may constitute a scale:
  - (28) **Definition of scale**: A set of degrees  $\mathcal{D}$  with the ordering relation  $\geq$  is a scale iff  $\forall d, d' \in \mathcal{D}$ :
    - a.  $d \ge d' \lor d' \ge d$

linearity

b.  $d \ge d' \to \exists d'' \in \mathcal{D}[d \ge d'' \land d'' \ge d']$ 

density

# **Background: Foundations**

- The ordering relation must "make sense" given the set of degrees it orders.
   Each scale must be matched to a dimension △ of measurement. This comes with two important consequences:
  - COMMENSURABILITY
     Degrees cannot be compared across-scales, because no degrees on different scales are ordered with respect to each other (Kennedy and McNally 2005).
    - (29) They call him "The Bus" because he's kind of...
      - a. as wide as he is tall.
      - b. # as wide as he is punctual.
  - CONGRUENCE
     Units of measurements can only refer to degrees (i.e. points on a scale) that match the underlying dimension they are conventionally determined to measure.

# Background: Gradability

Motivation

(30) Sam is tall.

 Gradable adjectives like "tall" denote relations between individuals and degrees (Seuren 1973, Cresswell 1976, Klein 1980, 1991, von Stechow 1984, Heim 1985, Bierwisch 1989...).

(31) 
$$[tall] = \lambda d \cdot \lambda x \cdot \mu_{HEIGHT}(x) = d$$

 Degree morphology (e.g. POS, comparatives, degree modifiers) saturate and impose restrictions on the degree argument.

(32) 
$$[Pos]^c = \lambda G_{\langle d, et \rangle} \cdot \lambda x_e \cdot \exists d[G(x) = d \land d > ST_C(G)]$$

(33) 
$$[(30)]^c = \exists d[\mu_{\mathsf{HEIGHT}}(\mathsf{sam}) = d \land d > ST_C(\mathsf{tall})]$$

# Background: Thresholds

Motivation

Excessives and assetives establish a comparison to a conventionally determined threshold, not a standard:

(34) a. 
$$[\![too]\!]^c = \lambda G_{\langle d,et \rangle} \cdot \lambda x_e \cdot \exists d [\![G(x) = d \land d > TH_C^{max}(G)]\!]$$
  
b.  $[\![enough]\!]^c = \lambda G_{\langle d,et \rangle} \cdot \lambda x_e \cdot \exists d [\![G(x) = d \land d \geq TH_C^{min}(G)]\!]$ 

# Background: Thresholds

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Excessives and assetives establish a comparison to a conventionally determined threshold, not a standard:

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b.  $[\![enough]\!]^c = \lambda G_{\langle d,et \rangle} \cdot \lambda x_e \cdot \exists d [\![G(x) = d \land d \geq TH_C^{min}(G)]\!]$ 

- (35) a. # Sam is tall<sub>ST</sub> {but not tall<sub>ST</sub> / she's tall<sub>ST</sub> in fact}.
  - b. Sam is  $tall_{ST}$  {but not too  $tall_{TH}$  / too  $tall_{TH}$  in fact}.
  - c. Sam is  $tall_{ST}$  {but not  $tall_{TH}$  enough /  $tall_{TH}$  enough in fact}.

# Background: Thresholds

Motivation

Excessives and assetives establish a comparison to a conventionally determined threshold, not a standard:

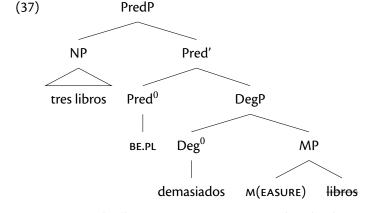
(34) a. 
$$[\![too]\!]^c = \lambda G_{\langle d,et \rangle} \cdot \lambda x_e \cdot \exists d [G(x) = d \land d > TH_C^{max}(G)]$$
  
b.  $[\![enough]\!]^c = \lambda G_{\langle d,et \rangle} \cdot \lambda x_e \cdot \exists d [G(x) = d \land d \geq TH_C^{min}(G)]$ 

- (35) a. # Sam is tall<sub>ST</sub> {but not tall<sub>ST</sub> / she's tall<sub>ST</sub> in fact}.
  - b. Sam is tall<sub>ST</sub> {but not too tall<sub>TH</sub> / too tall<sub>TH</sub> in fact}.
  - c. Sam is  $tall_{ST}$  {but not  $tall_{TH}$  enough /  $tall_{TH}$  enough in fact}.
- If Sam is 40 but discounts are only available for kids under 12 and seniors above 70, then Sam is too old and too young to get a discount:

(36) 
$$\exists d[\mu_{AGE}(sam) = d \land d > TH_C^{max}(old) \land d > TH_C^{max}(young)]$$

## Background: Base case

Motivation

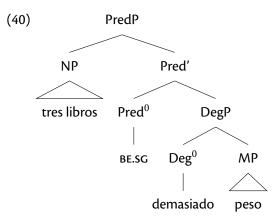


 PL agreement only allows an interpretation were three books are too many books. We use an individual measurement operator M and assume an elided nominal.

## Background: Base case

(38) 
$$\llbracket \mathsf{M} \rrbracket = \lambda P_{\langle et \rangle} \cdot \lambda n_d \cdot \lambda x_e \cdot P(x) \wedge |x| = n$$
  
(39)  $\llbracket (37) \rrbracket^c \Leftrightarrow \exists x [\mathsf{libros}(x) \wedge |x| = 3 \wedge 3 > TH_c^{max}(|x|)]$ 

- Numerals are modifiers:  $[NP]^c = \lambda x_e$ . libros $(x) \wedge |x| = 3$ .
- The NP is lifted to a GQ type via A (Partee 1987; CFs work too).
- The semantics of *too* is possibly not accurately represented (see Zhang 2018 and Grano 2022 for discussion).



Motivation

(41) 
$$[DegP]^c = \lambda x_e$$
.  $\exists d[\mu_{WEIGHT}(x) = d \land d > TH_c^{max}(WEIGHT)]$ 

If we proceed as before...

(42) 
$$[(40)]^c \Leftrightarrow \exists x [\text{libros}(x) \land |x| = 3 \land \exists d [\mu_{\text{WEIGHT}}(x) = d \land d > TH_c^{max}(\text{WEIGHT})]]$$

- This is not quite right:
  - we don't want to commit ourselves to existential quantification over books.
  - more generally, this is a statement about books. But three books is too much weight is not a statement about books, it's a statement about weight (using books as weight units).
  - o it doesn't account for why adjectives are not good NADPs.

Motivation

(43) a. Three books is too much work.

b. 
$$[(43a)]^c \Leftrightarrow \exists x [\mathsf{books}(x) \land |x| = 3 \land \exists d [\mu_{\mathsf{WORK}}(x) = d \land d > TH_c^{max}(\mathsf{WORK})]]$$

Motivation

(43) a. Three books is too much work.

b. 
$$[(43a)]^c \Leftrightarrow \exists x [\mathsf{books}(x) \land |x| = 3 \land \exists d [\mu_{\mathsf{WORK}}(x) = d \land d > TH_c^{max}(\mathsf{WORK})]]$$

(44) a. Three books is more work than I did d-much work

b. 
$$[(44a)]^c \Leftrightarrow \exists x [\mathsf{books}(x) \land |x| = 3 \land \\ \mathsf{MAX}(\lambda n' . \mathsf{work}(x) \land \mu_{\mathsf{WORK}}(x) = n') > \\ \mathsf{MAX}(\lambda d . \exists y [\mathsf{work}(y) \land \mathsf{I} \ \mathsf{did} \ d\text{-much} \ y])]$$

Motivation

• How can we rule out (45a) but not (46a)? Why isn't whatever sanctions (46a) available to (45a)?

(45) a. \*Three books is heavy.

b. 
$$[(43a)]^c \Leftrightarrow \exists x [books(x) \land |x| = 3 \land \exists d[\mu_{WEIGHT}(x) = d \land d > ST_c(WEIGHT)]]$$

(46) a. Three books is a lot of weight.

b. 
$$[(43a)]^c \Leftrightarrow \exists x [\mathsf{books}(x) \land |x| = 3 \land \exists d [\mu_{\mathsf{WEIGHT}}(x) = d \land d > TH_c^{max}(\mathsf{WEIGHT})]]$$

- A simple idea: subjects of NADPs cannot simply denote fully extensional objects. Instead they denote nominalized functions (à la Chierchia 1984, McNally 1997):
  - (47) If  $\beta$  is a *n*-place predicative expression,  $^{\downarrow}\beta$  is a singular term.
- This is the nominalization operator in its most general form: unlike in Chierchia (1998),  ${}^{\downarrow}f$  is defined for all  $f \in D_{(\sigma,\tau)}$ , so they can but need not be kinds:
  - As is clear from the previous discussion, not any old property will have a corresponding kind. The property of being a broken old shoe that Leo left behind is unlikely to have a corresponding kind.

Motivation

• A nominalization of *three books* is the entity correlate of the property *something* holds when it is three books.

(48) 
$$\downarrow$$
 [three books]  $^c = ^{\downarrow} \lambda x_e$ . book $(x) \land |x| = 3$  the entity correlate of the property of being three books

- Since that something is three books, that something shares all qualities of three-book individuals (and has none of non-three-book individuals).
- Whether entity correlate have or not property *P* depends however on the fate and composition of its extensional instances.

(49) 
$$[(40)]^c \Leftrightarrow \exists d[\mu_{\text{WEIGHT}}({}^{\downarrow}\lambda x_e \cdot \text{book}(x) \land |x| = 3) = d \land d > TH_c^{max}(\text{WEIGHT})]$$

(49) 
$$[(40)]^c \Leftrightarrow \exists d[\mu_{\mathsf{WEIGHT}}({}^{\downarrow}\lambda x_e \,.\, \mathsf{book}(x) \, \land \, |x|=3) = d \, \land \, d > TH_c^{max}(\mathsf{weight})]$$

- ② Does it makes sense to say that an entity correlate may be an argument of a measure function?
  - We no longer have a statement about books but about weight.
  - We are no longer committed to the existence of books.

Obes it makes sense to say that an entity correlate may be an argument of a measure function? (I.e.:  $\mu_{\text{WEIGHT}}({}^{\downarrow}\lambda x_e$  . book $(x) \land |x| = 3)$ ?)

- Obes it makes sense to say that an entity correlate may be an argument of a measure function? (I.e.:  $\mu_{\text{WEIGHT}}({}^{\downarrow}\lambda x_e$  . book $(x) \wedge |x| = 3)$ ?)
  - Let's compare with adjectives:
    - Adjectival predicates denote relations between degrees and ordinary (extensional) individuals on a conventionally determined dimension.

- ② Does it makes sense to say that an entity correlate may be an argument of a measure function? (I.e.:  $\mu_{\text{WEIGHT}}({}^{\downarrow}\lambda x_e$  . book $(x) \wedge |x| = 3)$ ?)
- Let's compare with adjectives:
  - Adjectival predicates denote relations between degrees and ordinary (extensional) individuals on a conventionally determined dimension.
  - NADPs involve nominals directly denoting the dimension. This has the effect of allowing us greater flexibility in terms of the units of measurement that we might deploy to build a scale on the basis of that dimension.

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- Two different tasks:
  - Adjectives place individuals on a scale by attributing them a degree along a dimension.
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- This is better represented in (49) vis-à-vis (40).

Motivation

Some other advantages: cases with non-finite subjects are straightforward:

(50) a. Leer el Quijote es demasiado.

'To read El Quijote is too much'

b. 
$$\mu_{\text{DIM}}({}^{\downarrow}\lambda e_{\nu} \cdot \text{read}(e) \wedge Th(e) = \text{EQ}) = d \wedge d > TH_{c}^{max}(\text{DIM})$$

- Some other advantages: cases with non-finite subjects are straightforward:
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- The semantic equivalence between (50) and (51) follows easily:
  - (51) La lectura del Quijote es demasiado.
    'The reading of El Quijote is too much'

- SG agreement in NADPs is also less mysterious:
  - $\varphi$ -morphology on the subject is "encapsulated" inside it's own phrase due to nominalization.
  - This renders its  $\varphi$ -features opaque for other predicates in the clause, triggering neuter/default agreement.
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- SG is not indicative of polysemy or coercion, but of nominalization.
  - Finally, we also gain some insight on why strong quantifiers do not form good NADP subjects: they can't nominalize easily.

#### Pancake constructions

- In Scandinavian (Swedish, Norwegian, Danish), predicative adjectives normally agree with the subject in terms of gender and number (data from Haugen and Enger 2019; their glosses).
  - (52) Pannekaker er gode pancake.f.def.pl be.prs good.f.pl 'The pancakes are good'
- This agreement pattern is sometimes disrupted, with interesting semantic consequences:
  - (53) Pannekakene er godt pancake.F.INDEF.PL be.PRS good.N.SG 'Pancakes are good'

#### Pancake constructions

Motivation

we argue that a crucial semantic feature of pancake subjects is absence of boundedness in space, and... we widen the semantic analysis to include constructions where the subject is a de-verbal noun... [we] hypothesize that pancake agreement originated in the semantics of infinitive subjects

[from Haugen and Enger 2019]

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[from Haugen and Enger 2019]

an example from Swedish is the sentence "Pannkakor är nyttigt", literally translating to "Pancakes is healthy" and meaning "Eating pancakes is healthy."

[from wikipedia]

- Modern Hebrew has two major types of copula: PronH (homophonous to nominative 3rd person pronouns) and PronZ (homophonous to demonstratives/impersonal pronouns).
- Unlike PronH, which always agrees, PronZ may surface with default agreement (see Greenberg 2008).
  - (54) yeladim ktanim ze avoda kaša children.m.pl small.m.pl PronZ.m.sg work.f.sg hard.f.sg "Little children is hard work"

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- The choice of copula has a semantic impact:

for instance, sentence [(54)] means that something related to little children, such as raising them or dealing with them, is hard work—not that children themselves are hard work

[from Danon 2012, 86]

Motivation

```
(55) a. me'a kariyot ze kaved
100 pillows.F.PL PronZ.M.SG annoying.M.SG
'100 pillows is heavy'
```

b. *šney orxim* ze me'acben two guests.m.pl PronZ.m.sG annoying.m.sG 'Two guests is annoying'

thus (55a) cannote mean that there are two specific guests that are annoying and (55b) cannot mean that there are 100 heavy pillows; such readings are only possible with the agreeing copula PronH.

[from Danon 2012, 91]

Motivation

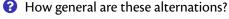
(56)\*rov ha-kariyot ze kaved most the-pillows.F.PL PronZ.M.SG heavy.M.SG Lit.: most pillows is heavy'

this is explained by the fact that... the subjects... cannot receive an interpretation at the type of predicates.

[from Danon 2012, 104]

### Questions

Motivation



Very general across languages, but quite limited in terms on the linguistic contexts in which they may appear; they're limited to certain types of degree predicates **and** certain types of subjects.

### Questions

- How general are these alternations? Very general across languages, but quite limited in terms on the linguistic contexts in which they may appear; they're limited to certain types of degree predicates and certain types of subjects.
- (2) Is this indicative of some polysemy or systematic denotational ambiguity in nominals?
  - It does not look like it. If so, why do not other types of measuring predicates (e.g. exceed, suffice, measure, etc.) form good NADPs?

### Questions

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- How general are these alternations? Very general across languages, but quite limited in terms on the linguistic contexts in which they may appear; they're limited to certain types of degree predicates and certain types of subjects.
- in nominals?
  It does not look like it. If so, why do not other types of measuring predicates (e.g. exceed, suffice, measure, etc.) form good NADPs?

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What syntactic/semantic principles underlie these alternations?

These are constructions where a non-conventional unit of measurement is used on a scale formed by a dimension that is directly supplied by either context or an abstract nominal.

# Making units of measurements

- The ingredients of NADPs include:
  - an overt Degree Predicate, such as a comparative/superlative/...in a predicative copular construction;
  - an often abstract mass noun, complement to the Degree Predicate that denotes a dimension along which the Degree Predicate establishes the relevant comparison;
  - a nominalized property in subject position that acts as a unit of measurement along said dimension.

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  - a nominalized property in subject position that acts as a unit of measurement along said dimension.
- This sheds light on:
  - SG agreement:  $\varphi$ -feature encapsulation.
  - The class of subjects: must be able to nominalize.
  - The ban on adjectives: different semantic tasks.
  - The obligatory degree predicate: avoids triviality.

- We may still can get *bona fide* individual/degree polysemy (examples from Brasoveanu:2009):
  - (57) a. The lump of cheese was two kilograms and Linus ate both of them in one sitting.
    - b. The cable's length was two meters, one of which Megan used to fix the car.
    - c. The milk in the bucket was worth ten dollars, which Gabby tucked away safely in the inner pocket of her jacket.
    - d. The milk cost Gabby the ten dollars Megan had given her.

- There seems to be better candidates for polysemy:<sup>1</sup>
  - (58) a. The 200 dollars that I've got in my pocket are/is all yours b. The 20M dollars that I've got invested in funds are/is all yours

<sup>&</sup>lt;sup>1</sup>Thanks for Peter Sutton for discussion.

- There seems to be better candidates for polysemy:1
  - (58) a. The 200 dollars that I've got in my pocket are/is all yours b. The 20M dollars that I've got invested in funds are/is all yours
- However, co-predication and agreement don't go hand in hand:
  - (59) a. The tenner in my pocket is enough for lunch.
    - b. The fiver in my pocket is enough for two coffees.
    - c. The tenners/fivers I have in my pocket are/#is all yours.

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    - b. The fiver in my pocket is enough for two coffees.
    - c. The tenners/fivers I have in my pocket are/#is all yours.
- This goes against the sentiment often found in the literature that singular agreement in such constructions might be due to coercion of a plural entity into a singular group / amount / kind

[from Brasoveanu 2009]

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- Moreover, Spanish does not pattern alike, which would be unexpected if being a good subject on NADPs would be indicative of good polysemous status:
  - (60) Los 20M\$ que invertí en fondos se { \*evaporó.SG / evaporaron.PL } cuando colapsaron los mercados 'The 20M\$ that I had invested in funds were/was wiped out when the markets collapsed

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  - (60) Los 20M\$ que invertí en fondos se { \*evaporó.SG / evaporaron.PL } cuando colapsaron los mercados 'The 20M\$ that I had invested in funds were/was wiped out when the markets collapsed
- It seems that we must dissociate NADP from/as indicator of polysemy.

# Thanks!

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