Singular Count Pseudopartitives

Julian Grove
University of Chicago

Sinn und Bedeutung 19
Georg August University at Göttingen
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Inversion constructions and (pseudo)partitives

"degree-inversion":

(1) too friendly (of) a linguist

"(nominal-internal) predicate-inversion":

(2) a jerk of a linguist

"(pseudo)pseudopartitives"??:

(3) three pounds of (the) cheese/cherries

Do these share a common syntax and/or semantics?

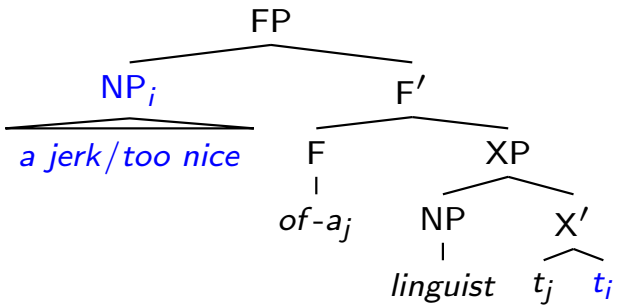
A common syntax/semantics?

Most of the literature: No.

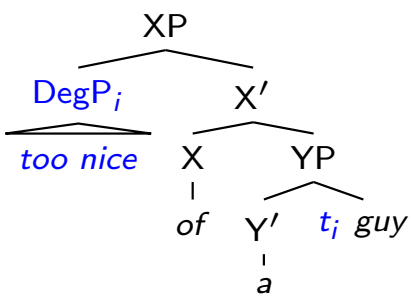
(Possible exceptions: Abney (1987), Corver (1998), and Kay and Sag (2012).)

Inversion constructions

{a jerk/too nice} of a linguist



(Troseth, 2009; Bennis et al., 1998, a.o.)

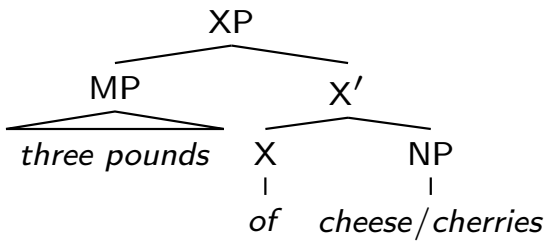


(Kennedy and Merchant, 2000)

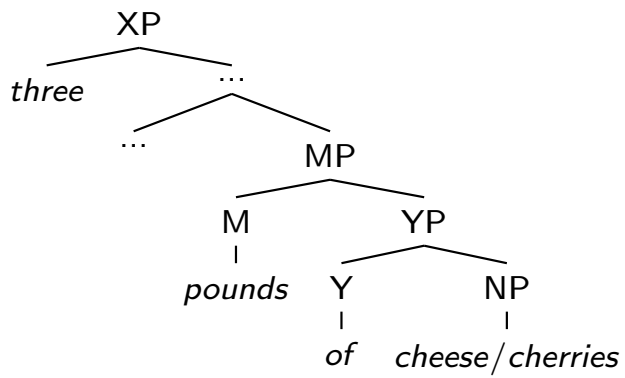
(Matushansky, 2002, a.o.)

Pseudopartitives

three pounds of cheese/cherries



(Schwarzschild, 2006, a.o.)



(Landman, 2004, "container" psdp)

A common syntax/semantics?

General consensus: in "inversion" constructions, the inverted phrase moves. In pseudopartitives, the measure phrase is base-generated in a dedicated projection.

A common syntax/semantics?

Predication within NP

In both construction types, both constituents appear to be predicative (Corver, 1998).

x is a jerk of a linguist $\rightarrow$
(a) x is a jerk
(b) x is a linguist

x is three gallons of water $\rightarrow$
(a) x is three gallons
(b) x is water

A common syntax/semantics?

The linking element

A surface similarity (noted in Corver (1998)).

a jerk of a linguist *three pounds of cheese*

A common syntax/semantics?

The linking element

A surface similarity (noted in Corver (1998)).

a jerk of a linguist	*three pounds of cheese*
Dutch	(partitive)
een etter van een jongen	*een doos van uw heerlijke koekjes*
'a jerk of a boy	'a box of your delicious cookies'
German	(partitive)
ein alter Schelm von Lohnbedien	*eine Dose von diesen leckeren Kekse*
'an old villain of waged servant'	'a box of those delicious cookies'
Hebrew	(pseudopartitive)
yofi šel sefer	*shvey kilo (šel) tapuxim*
'a beauty of a book'	'two kilos of apples'

A common syntax/semantics?

The linking element (contd.)

A surface similarity (noted in Corver (1998)).

a jerk of a linguist	*three pounds of cheese*
Italian	(pseudopartitive)
il tuo cretino di fratello	*una bottiglia di vino*
'your cretin of a brother'	'a bottle of wine'
Spanish	(pseudopartitive)
una maravilla de niño	*una botella de vino*
'a marvel of a child'	'a bottle of wine'
French	(pseudopartitive)
cet idiot de Jean	*une bouteille de vin*
'that idiot of Jean'	'a bottle of wine'

Outline

Plan: to explore the potential deeper similarity suggested by the surface similarity between inversion constructions and (pseudo)partitives.

- Some background on (pseudo)partitives: syntax and semantics
- Give an analysis of (pseudo)partitives
- Extend the analysis to inversion constructions
- Some predictions

Many measure phrases are ambiguous between a "container" and "substance" interpretation.

(4) a. Three bottles of wine broke (container)
b. Three bottles of wine spilled (substance)

Any claims here apply at least to substance (pseudo)partitives.

There is a semantic restriction on the measure phrase: the "monotonicity" constraint.

(5) a. sixty gallons of water
b. *sixty degrees Fahrenheit of water

Constraint on measure phrases (Schwarzschild, 2002, 2006):

Monotonicity: If α is type $\langle$d, $\langle$e, t$\rangle\rangle$, then α is "monotonic" if, for all $d, d' \in \mathsf{D_d}$ and $x, x' \in \mathsf{D_e}$, where $\alpha(d)(x)$ and $\alpha(d')(x')$, $d \geq_{\mathsf{D_d}} d'$ if $x \geq_{\mathsf{D_e}} x'$.

The relation between x and x' is the part-of relation holding among merelogical sums—masses or pluralities (Link, 1983).

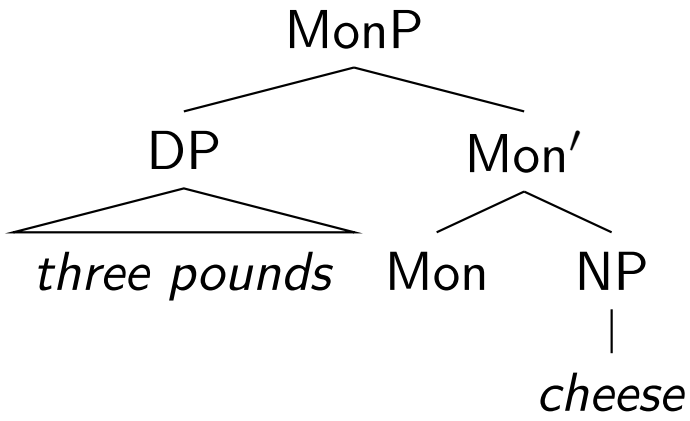
$[\![\textit{gallons}]\!] = \lambda n_{\mathsf{d}}.\lambda x_{\mathsf{e}}.\textbf{gallons}(\textsc{volume}(x)) = n$

More water $\rightarrow$ more gallons.

$[\![\textit{degrees Fahrenheit}]\!] = \lambda n_{\mathsf{d}}.\lambda x_{\mathsf{e}}.\textbf{F}(\textsc{temperature}(x)) = n$

More water $\not\rightarrow$ higher temperature.

In Schwarzschild (2006), the monotonicity of measure phrases is enforced with a head ('Mon') in the nominal extended projection.



$[\![\text{P}(\textit{three pounds of cheese})]\!] =$
$\exists x_{\text{e}}[\exists \textsc{Dim}[\textbf{cheese}(x)$ & $\textbf{3Oz}(\textsc{Dim}(x))$ & $\text{MON}(\textsc{Dim}, \textbf{cheese})$ &
$[\![\text{P}]\!](x)]]$

In Schwarzschild (2002), composition proceeds after assigning the appropriate semantics to the measure phrase itself.

$[\![\text{Measure phrase}]\!]_{\text{Pseudopartitive}} =$

$\lambda P_{\langle \text{e, t} \rangle}.\lambda x_{\text{e}}.P(x)$ & $[\![\text{Measure phrase}]\!](\mu(x))$ & μ is monotonic on P

where the measure phrase denotes a property of intervals of degrees.

Problem:

(1) How could an analysis of (pseudo)partitives be extended to inversion constructions if measure phrases have a semantics based on degree?

(2) How could the monotonicity of (pseudo)partitive measure phrases be analyzed if their semantics is *not* based on degree?

(Pseudo)partitives: some background

Brasoveanu (2007): measure phrase = predicate

Brasoveanu (2007): measure-phrase meanings undergo a degree-to-individual type shift.

Empirical support: gender and number agreement in Romanian.

(6)
(Cei)	doi	litri	de apă
(The.masc.pl)	two.masc	liter.masc.pl	of water.fem.sg
erau vărsati	/ *era	vărsată	
were spilled.masc.pl	/ *was	spilled.fem.sg	

(Brasoveanu, 2007, p. 5)

(Other empirical support: agreement of anaphora)

Agreement indicates head status. If measure-phrases are syntactically heads, then they are semantically properties.

The type shift is constrained by "individuation-by-measure".
Measure phrases are allowed to denote properties only if the property is informative about quantity.

Alternative: implement montonicity compositionally in the syntax, but make measure phrases denote properties.

Following Schwarzschild (2002), but where ⟦Measure phrase⟧ is a property of individuals:

$[\![\text{Measure phrase}]\!]_{\text{Pseudopartitive}} =$

$\lambda P_{\langle \text{e, t} \rangle}.\lambda x_{\text{e}}.P(x)$ & $[\![\text{Measure phrase}]\!](x)$ & $\exists Q_{\langle \text{d, } \langle \text{e, t} \rangle \rangle}[\exists d_{\text{d}}[Q$ is monotonic & $[\![\text{Measure phrase}]\!] = Q(d)]]$

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That's way too complicated!

A proxy for monotonicity: quantization (Krifka, 1989)

An $\langle \alpha, \mathrm{t} \rangle$-type predicate P has quantized reference (**QUA**(P)) iff $\forall x_\alpha [\forall y_\alpha [[P(x) \ \& \ P(y)] \rightarrow \neg \ y <_{\mathrm{D_e}} x]]$

A semantic concept found in the analysis of aspect and nominal reference (Krifka, 1989, 1992, a.o.), number (Harbour, 2014, a.o.), and stativity (Husband, 2012).

An updated proposal for Schwarzschild's Mon:

(1) Measure phrases denote properties

(2) $[\![\text{Mon}]\!] = \lambda P_{\langle \text{e, t} \rangle}.\lambda Q_{\langle \text{e, t} \rangle}$: $\mathbf{QUA}(Q).\lambda x_{\text{e}}.P(x)$ & $Q(x)$

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(1) Measure phrases denote properties

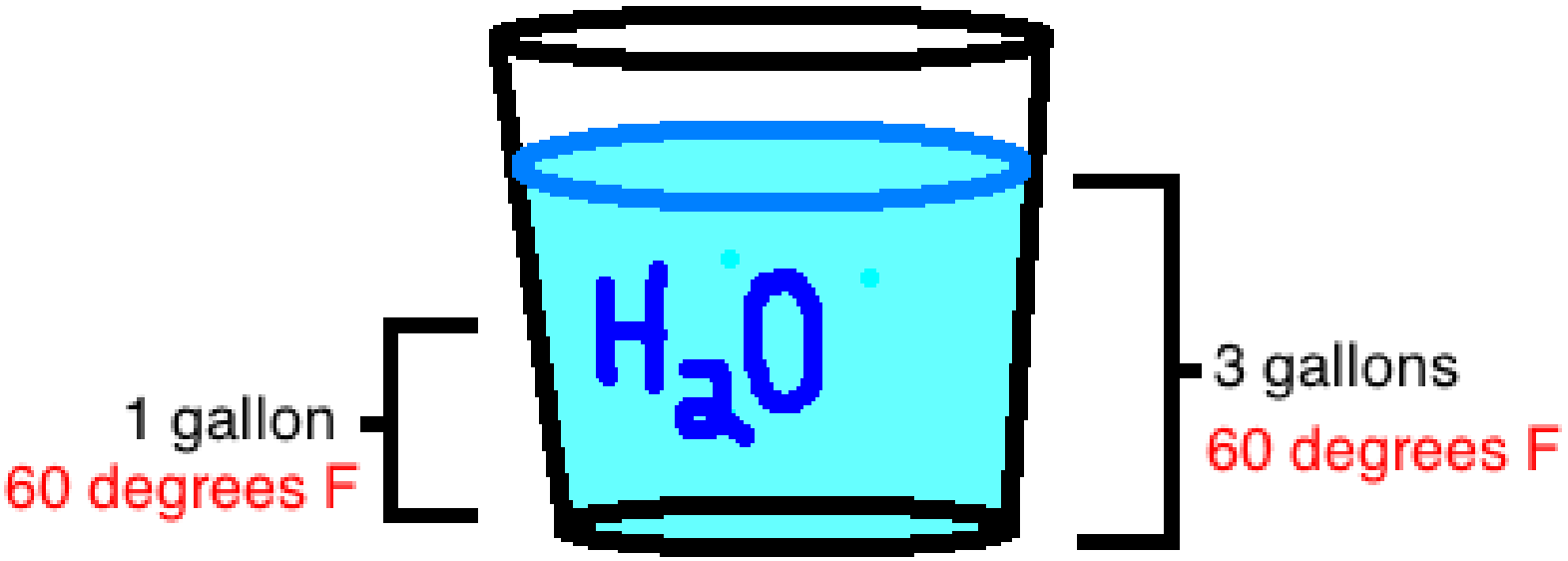
(2) $[\![\text{Mon}]\!] = \lambda P_{\langle e,\, t\rangle}.\lambda Q_{\langle e,\, t\rangle}$: **QUA**$(Q).\lambda x_e.P(x)$ & $Q(x)$

$[\![\textit{three gallons}\ \text{Mon}\ \textit{water}]\!] = \lambda x_e.[\![\textit{water}]\!](x)$ & $[\![\textit{three gallons}]\!](x)$

$[\![\textit{sixty degrees Fahrenheit}\ \text{Mon}\ \textit{cheese}]\!]$ = undefined
(Proper subparts of things measuring 60° also measure 60°.)

(Pseudo)partitives: an analysis

Measure phrase = predicate



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(Pseudo)partitives: an analysis

Measure phrase = predicate

What does quantized reference do for (pseudo)partitives?

(i) Ensures that measure phrases are monotonic

(ii) Correctly predicts that measure phrases are quantified...

(7) a. Three gallons of water were in the tub
b. As many gallons of water as were in the sink were in the tub
c. *Gallons of water were in the tub

Problem: at first glance, quantization incorrectly rules out the following.

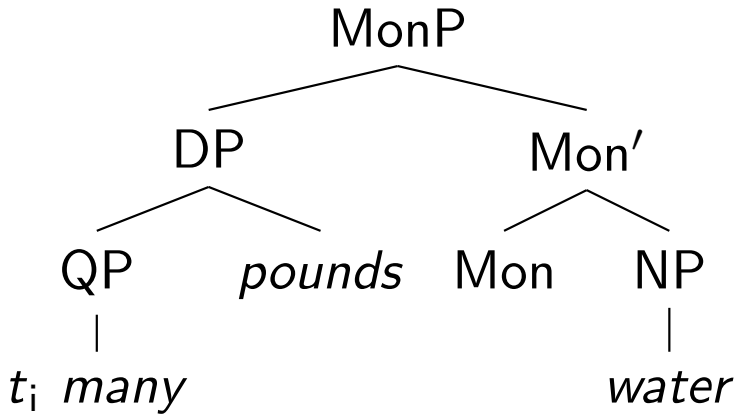
(8) a. Too many gallons of water were in the tub
b. More than/at least three gallons of water were in the tub
c. An ungodly amount of water was in the tub

If *too many gallons*, *more than/at least three gallons*, and *an ungodly amount* are predicates, they are not quantized. E.g., if twenty gallons is too many gallons, then so is twenty-one gallons,...

(Pseudo)partitives: an analysis

Measure phrase = predicate

One solution: scope the quantifiers out of the measure phrase.



Let's say $[\![t_i \textit{ many pounds}]\!]^g =$
$\lambda x_e.[\![\textit{many}]\!]^g(g(i))(x)$ & $[\![\textit{pounds}]\!]^g(x) =$
$\lambda x_e.3\text{-pounds}(x)$.

That's quantized.

(Pseudo)partitives: an analysis

Measure phrase = predicate

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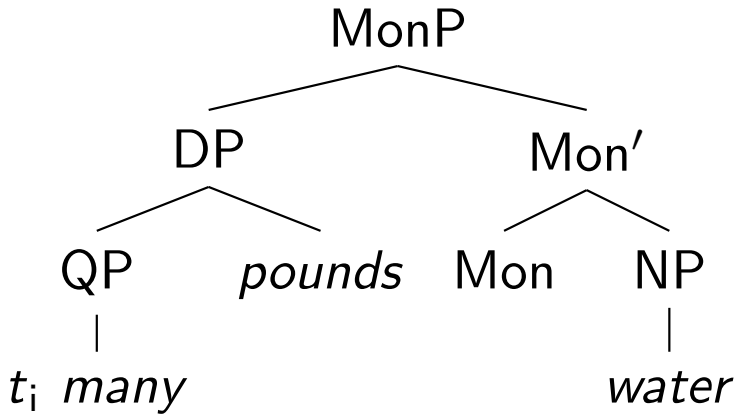

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$\lambda x_e.3\text{-pounds}(x)$.

That's quantized.

But, then everything has to be quantificational.

Better solution: weaken quantization to non-divisiveness (Krifka, 1989).

An $\langle \alpha, \mathrm{t} \rangle$-type predicate P has non-divisive reference ($\neg$**DIV**(P)) iff $\neg \forall x_\alpha [\forall y_\alpha [[P(x) \ \& \ y \leq_{\mathrm{D_e}} x] \rightarrow P(y)]]$

equivalently...

$\exists x_\alpha [\exists y_\alpha [P(x) \ \& \ y \leq_{\mathrm{D_e}} x \ \& \ \neg P(y)]]$

Still makes the right cut between monotonic and non-monotonic measure phrases and rules out bare measure nouns.

Interim summary

• Pseudopartitives can be properly analyzed as containing two predicates of indviduals.

• Non-divisiveness can serve as a proxy for the monotonicity constraint in (pseudo)partitives: it rules out non-monotonic measure phrases.

Next: extend the analysis to inversion constructions, but analyze them as properties of states.

Claim of this section: inversion constructions, examples repeated in (9), have a syntax and semantics parallel to that of pseudopartitives.

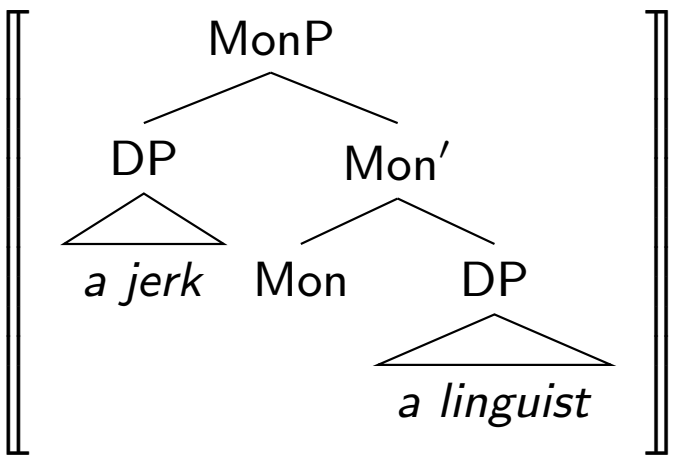
(9) a. too friendly (of) a linguist
b. a jerk of a linguist

But they denote properties of states.

States (type s) are eventualities that are in a relation with individuals who hold or are in them (see Davidson, 1967; Parsons, 1990, a.o.).

Claim, to be motivated: inversion constructions have a syntax and semantics like what follows.

a jerk of a linguist



$= \lambda s_s.s$ is a jerk-state & s is a linguist-state

Since we are talking about states, the semantics for Mon will have to be changed.

$[\![\text{Mon}]\!] = \lambda P_{\langle \text{s, t} \rangle}.\lambda Q_{\langle \text{s, t} \rangle}\colon \neg\mathbf{DIV}(Q).\lambda s_{\text{s}}.P(s)\ \&\ Q(s)$

$\neg\mathbf{DIV}(P)$ iff $\exists s_{\text{s}}[\exists s'_{\text{s}}[P(s)\ \&\ s' \leq_{\text{D}_\text{s}} s\ \&\ \neg P(s')]]$.

What does it mean for $s' \leq_{\text{D}_\text{s}} s$?

Inversion constructions

Stative orderings: Wellwood (2012)

Wellwood (2012) argues that states, like individuals (Link, 1983) and events (Bach, 1986), may be ordered by a linguistically-accessible relation.

If s and s' are *tall*-states, then $s >_{D_s} s'$ if holding s makes you taller than holding s' does.

Moreover, only those properties of states whose domains are ordered are gradable properties.

Result: the predicate of whose denotation $\neg$**DIV** is presupposed is expected to denote a non-divisive property of states.

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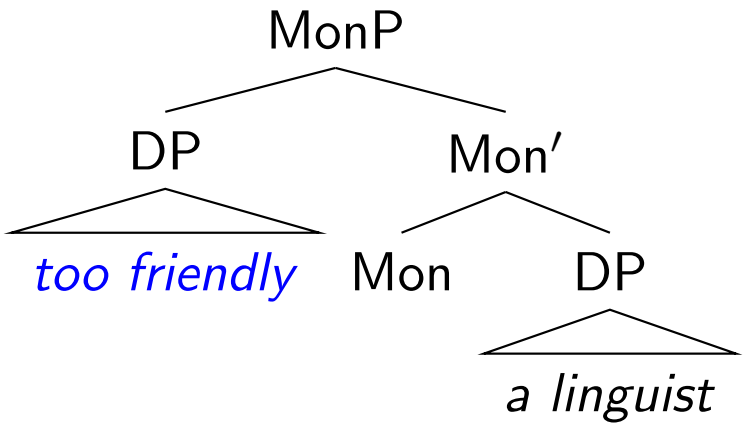
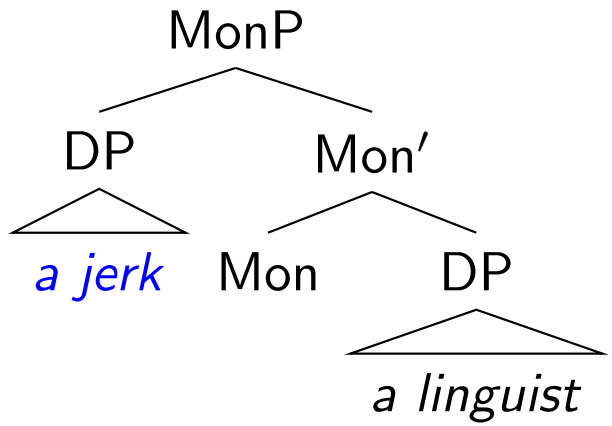
Another way of looking at it: the relevant noun or adjective should be gradable.





too friendly should be non-divisive
→ *friendly* should be gradable

a jerk should be non-divisive
→ *a jerk* should be gradable

Hard to test for adjectives (e.g., *too nice*) in English, because degree-inversion requires a degree modifier necessitating gradability anyway.

(10) *friendly of a linguist

Possible to test the general case for nouns, though.

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✓ *a marvel of a guy*
✓ *a sweetheart of a kid*
✓ *an idiot of a student*
✓ *an asshole of a librarian*
✓ *a jerk of a linguist*

Possible to test the general case for nouns, though.

✓ *a marvel of a guy*	**a guy of a marvel*
✓ *a sweetheart of a kid*	**a kid of a sweetheart*
✓ *an idiot of a student*	**a student of an idiot*
✓ *an asshole of a librarian*	**a librarian of an asshole*
✓ *a jerk of a linguist*	**a linguist of a jerk*

The first nouns in the left column gradable by tests in Morzycki (2009). Those in the right column fail the same tests.

Compare *an utter* {*marvel*, *sweetheart*, *idiot*, *asshole*, *jerk*} with #*an utter* {*guy*, *kid*, *student*, *librarian*, *linguist*}.

To test the same prediction for adjectives, there would have to be a language that doesn't require inverted adjectives to occur with degree modifiers.

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(11) Attributive adjectives

a. en høy mann
a tall man

b. en lykkelig mann
a happy man

(12) Inverted adjectives

a. høy en mann
tall a man

b. lykkelig en mann
happy a man

As predicted, non-gradable adjectives are ruled out when inverted.

(13) Attributive adjectives: non-gradable

a. en mann død
   a man dead

b. en Italiensk mann
   a Italian man

c. en digital klokke
   a digital watch

(14) Inverted adjectives: non-gradable

a. *død en mann
   dead a man

b. *Italiensk en mann
   Italian a man

c. *digital en klokke
   digital a watch

On the other hand, not all gradable adjectives appear to be acceptable in inverted position.

(15) Attributive adjectives

a. en humpete vei
   a bumpy road

b. en bøyd stang
   a bent rod

(16) Inverted adjectives

a. *humpete en vei
   bumpy a road

b. *bøyd en stang
   bent a rod

The two adjectives in (16) that cannot invert: *humpete* ('bumpy') and *bøyd* ('bent'). The English counterparts of these two are minimum-standard adjectives, and so are true of individuals relating to any degree at all on their respective scales (Kennedy and McNally, 2005; Kennedy, 2007, a.o.).

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It is just minimum-standard adjectives, however that are predicted to denote divisive properties of states (see Husband (2012) for relevant discussion).

Prediction: adding a degree modifier which makes the property non-divisive should render (16) acceptable.

This prediction appears to be borne out.

(17) Inverted adjectives: no modifier

a. *humpete en vei
bumpy a road

b. *bøyd en stang
bent a rod

(18) Inverted adjectives: with modifier

a. så humpete en vei
so bumpy a road

b. så bøyd en stang
so bent a rod

Is there a way to indepently test for the presence of a state argument in inversion constructions?

Conjecture: in English (though, not necessarily in other languages), only singular count nouns can denote properties of states. Mass and plural nouns must be individual/kind-denoting.

(19) a. Mary is an utter jerk
b. Those guys are utter jerks
c. This paper is utter nonsense

(20) a. How much of a jerk is Mary?
b. *How much (of) jerks are those guys?
(cf. *How many jerks*...)
c. How much (*of) nonsense is this paper?
(extensive interpretation only)

Schwarzschild (2006) argues that quantity adjectives like *much* occupy a functional projection higher than other adjectives (like *utter*).

It appears that the state argument of mass and plural nouns is closed off by the time the relevant functional structure comes in.

(21) a. Mary is an utter jerk
b. Those guys are utter jerks
c. This paper is utter nonsense

(22) a. How much of a jerk is Mary?
b. *How much (of) jerks are those guys?
(cf. *How many jerks*...)
c. How much (*of) nonsense is this paper?
(extensive interpretation only)

A second diagnostic for the availability of a state argument: deptictive secondary predication.

(23) He entered the room annoyed

The depictive secondary predicate contributes the entailment that there is a state of the relevant kind that overlaps temporally with the event described by the verb.

A semantics for a depictive head, taken from Pylkkänen (2002):

$$[\![dep]\!] = \lambda f_{\langle e,\ \langle s,\ t\rangle\rangle}.\lambda x_e.\lambda e_v.\exists s_s[f(x)(s)\ \&\ e \circ s]$$

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Prediction, given the last diagnostic: only singular count nouns should occur as secondary predicates.

This prediction appears to be verified, with individual variation in judgments.

(24) a. The dough ball came out of the oven a pizza
b. ??The dough ball came out of the oven pizza
c. ??The doughballs came out of the oven pizzas

(25) a. The batter will come out of the oven a cake
b. ??The batter will come out of the oven cake
c. ??The cups of batter will come out of the oven cakes

Summary: there is some evidence that only singular count nouns may denote stative properties in English.

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Prediction: only singular count nouns should occur in inversion constructions.

(26) a. too friendly (of) a linguist
b. *too friendly (of) linguists
c. *too tasty (of) cake

(27) a. a jerk (of) a linguist
b. *a jerk (of) linguists
c. *a disaster (of) cake

One last thing...

Because of their stative semantics, inversion constructions should prohibit occurrence with regular property-denoting modifiers, e.g., relative clauses.

(28) a. I read a long book that Camilla recommended
b. ??I read too long of a book that Camilla recommended

(29) a. Mary is a linguist that everyone admires
b. Mary is [a jerk of [a linguist] that everyone admires]

(29-b) seems to require attachment of the RC so that *a jerk* is in its scope, though not sure how to show that....

Conclusions

Things to fax home about...

(i) It is possible to give (pseudo)partitives a compositional analysis that involves intersecting two properties of individuals.

(ii) It is possible to give a parallel analysis of inversion constructions that reflects their observable similarities with pseudo(partitives).

(iii) If the analysis is on the right track, it shows that nouns, like adjectives and some verbs, can denote stative properties.

For the future

(i) How are inversion constructions interpreted as properties of individuals? (E.g., a type shift, some functional head,...)

(ii) What gets to "invert" in a given language? (Compare, e.g., English and Norwegian.) On the current account syntactic category may play a role, so that for example, while English allows only DegP, Norwegian also allows AP.

(iii) Why can only singular count nouns denote stative properties in English?

Thank you!

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