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**WITHOUT PREJUDICE**  
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## 1. *WITHOUT* OPAQUENESS

Prior literature: Feigenbaum 1996, 1997a, b, Vlachou 2000, Choi-Jonin 2006, Choi-Jonin and Mignon 2010 and the references quoted in these sources: Riegel 1977, Molinier 1993 and Cristea 2005 (via Choi-Jonin and Mignon 2010) and Cristea 1970 and Joly 1981 (via Vlachou 2000). No formal analysis.

### 1.1. Caritives: syntactic background

A **caritive** is generally a PP, but the corresponding case (**abessive** in Uralic, aka **privative** for Australian languages, anticomitative, or deprivative) is also attested:

- (1) Hän lähti ulkomaille raha-tta ja passi-tta. Finnish, Karlsson 2002:127  
 s/he.NOM went abroad.ALLAT money-ABES and passport-ABES  
*S/he went abroad without money and without a passport.*

A **caritive PP** can be an NP-adjunct or a VP-adjunct:

- (2) a. Elle était une petite enfant **sans** **parures** [...] Choi-Jonin 2006  
 she was a small child without adornments  
*She was a small child without any adornments.*
- b. Il a coupé le pain dur **sans** **couteau**. Choi-Jonin and Mignon 2010  
 he has cut the bread hard without knife  
*He cut the hard bread without a knife.*

VP-modifiers can be nominal (2b) or clausal (3):

- (3) a. Il tonne **sans** pleuvoir. Feigenbaum 1996  
 it thunders without rain.INF  
*There is thunder without rain.*
- b. Il est parti **sans** qu'on s'en aperçoive.  
 he is left without that+3SG.IMPERS REFL+CL.LOC perceive.subject  
*He has left without anyone noticing.* Choi-Jonin and Mignon 2010

The nominal complement of *sans* 'without' need not be bare and it can easily be definite:

- (4) a. Je me suis retrouvé **sans** Marie. Choi-Jonin and Mignon 2010  
 I me am found without Marie  
*I found myself without Marie.*
- b. l'utopie Yiddish **sans** un aréopage de propagandistes  
 the.utopia Yiddish without a areopagus of propagandists  
*a Yiddish utopia without an areopagus of propagandists*

But in NP-internal caritives the bare NP is preferred

What is the semantic type of a bare NP in a caritive in Romance and Germanic?

## 1.2. To *have* and to *have not*

Semantic intuition: Cristea 1970, Riegel 1977, Lagacé 1987, Muller 1991:404, Feigenbaum 1996, 1997a, b, Vlachou 2000, Choi-Jonin 2006, Sæbø 2009, Choi-Jonin and Mignon 2010: the caritive relation is negative and parasitic on possession:

(5) with (NEG (NP)) Muller 1991:404

Natural hypothesis: bare NPs here are properties (cf. the incorporating analysis of *have* and HAVE-verbs (Borthen 2003, Dobrovie-Sorin, Bleam and Espinal 2006, Espinal and McNally 2010, Le Bruyn, de Swart and Zwarts 2013))

Independent evidence: the partitive *de* in the presence of an intervening modifier (Grevisse 2006:1389; same intervention effect with *ni* ‘nor’, Larrivée 2009:70):

- (6) a. sans \*(presque) d' efforts  
without almost of efforts  
*almost without efforts*
- b. sans vraiment d' espoir  
without really of hope  
*really without hope*

To maintain a property analysis it is necessary to explain why the French *avoir* ‘have’ does not combine with a bare NP:

- (7) a. Han hadde rød ytterfrakk. Norwegian, Borthen 2003  
he had red coat  
*He had a red coat.*
- b. Il avait un manteau rouge. French  
he had a coat red  
*He had a red coat.*

Possible answers:

- the French *avoir* ‘have’ is not incorporating (why not?), or
- the overtiness of the indefinite article depends on case and *sans* assigns oblique rather than accusative

Assuming kind denotation explains the bareness and permits a contrast with *have*

Furthermore, the complement of a caritive preposition can be a (quantificational) DP and it can be plural:

- (8) a. le Louvre sans Mona Lisa/aucun tableau  
the Louvre without Mona Lisa/any painting  
*the Louvre without Mona Lisa/any paintings*
- b. une robe sans manches  
a dress without sleeves  
*a dress without sleeves*

The caritive preposition can take an e-type internal argument. Hence the denotation of a caritive bare NP in French should make it compatible with an  $\langle e, \langle e, t \rangle \rangle$  preposition

Hypothesis: the bare NP is kind-denoting (rather than property-denoting):

- (9)  $\llbracket \text{a bag without a zipper} \rrbracket$   
 $\lambda x . \text{bag}(x) \wedge \neg \text{WITH}(\text{ZIPPER})(x)$

Existential quantification is introduced internally to *without* concomitantly with realization

### 1.3. Without incorporation

The semantics of incorporation is not quite right:

- (10)  $\llbracket \text{a bag without a zipper} \rrbracket$   
 a.  $\lambda x . \text{bag}(x) \wedge \neg \exists y \text{ zipper}(y) \wedge \text{HAVE}(y)(x)$   $\Rightarrow$  wrong  
 b.  $\lambda x . \text{bag}(x) \wedge \exists y \text{ zipper}(y) \wedge \neg \text{HAVE}(y)(x)$   $\Rightarrow$  always true

(10a) asserts a total lack of zippers on the bag, but doesn't entail the uniqueness of the absent zipper

(10b) will always be true because there is always a zipper that a bag does not have

Option: the existential scopes over negation, but the possessum is relational and WITH is that of an instantiation relation (= the possessee is instantiated on the possessor):

Cf. Guéron 1985, 1995 and Tellier 1990 on relational nouns with *have* (e.g., *I have a sister*) and the extension of this analysis to all direct objects of *have* (Partee 1999; Landman 2004; Sæbø 2009, etc.)

- (10) c.  $\lambda x . \text{bag}(x) \wedge \exists y \text{ zipper}(x)(y) \wedge \neg \text{WITH}(y)(x)$

However, this presupposes that the relevant zipper exists and excludes the possibility that the bag never had any zippers in the first place!

Changing the scope does not help, as it excludes the possibility that a zipper remains on the bag (e.g., in a situation where one of the two zippers has been torn out):

- (10) d.  $\lambda x . \text{bag}(x) \wedge \neg \exists y \text{ zipper}(x)(y) \wedge \text{WITH}(y)(x)$

Both scopal relations are attested:

NB: For some people (11b) is weird and is interpreted as (11a)

- (11) a.  $\text{une porte sans poignée}$   $\Rightarrow$  ambiguous  
           a door without handle  
           a door without a handle  
 b.  $\text{un chien sans pied}$   $\neq$  a legless dog  
           a dog without foot  
           a dog without a leg  
 c.  $\text{une robe sans manches}$  = a sleeveless dress, a dress with (\*some) sleeves missing  
           a dress without sleeves  
           a dress without sleeves

The singular marking always entails a single possessee and the plural marking always entails plurality

The scope of the existential and the negation inside the caritive preposition must be fixed (cf. *-less*)

It turns out that the same issue has already been noted for other opaque predicates

## 2. KINDS OF NON-EXISTENCE

There are other instances where an indefinite has been treated as kind-referring: with caritive predicates (*missing*), with creation failure verbs (*prevent*) and language-specifically for kinds

### 2.1. The *missing* link

Higginbotham 1989, Zimmermann 2010: *missing* as an opaque predicate

Dowty 1985, citing Irene Heim and Emmon Bach: *missing* has an intensional subject:

- (12) a. A screw is missing from this TV set.  
b. The spare tire is missing from this car.

Higginbotham 1989: *missing* is an unaccusative predicate with intensional interpretation with the subject originating low. There is a transitive variant:

- (13) This TV set is missing a screw.

“In short, missing involves failing to have”. No specific proposal is made

Zimmermann 2010: *missing* is a two-place predicate requiring the entity its subject is missing from and a modal component: “After all, Peter cannot be said to be missing from the German government *x* just because it happens to have a vacancy and Peter does not happen to be a minister”.

- (14)  $(\forall j \triangleright_x i) [\neg I_i(\mathbf{p}, x) \& I_j(\mathbf{p}, x)]$   
where the transitive constant *I* expresses the concept of completing (being part of, taking part in, etc., and  $\triangleright_x$  introduces, roughly, possible worlds (indices) where the minimally different *x* is complete

In other words, *missing* means lacking a part that is obligatory for completeness

If the subject is quantified, it can scope above or below the universal...

...except this doesn't give rise to the precise truth-conditions required! Zimmermann 2010 introduces several hypotheses, including turning the missing part into a transitive property (e.g., *screw* is *screw of*), but does not arrive at a firm conclusion

Important: *missing* combines with a generalized quantifier, not a property!

Hence the intensionality cannot be achieved by assuming that the complement is a property, as in Zimmermann 1993 or Van Geenhoven and McNally 2005, but the analysis of Moltmann 1997 might work

- (15) Every screw is missing.  
a. All the screws are not where they are supposed to be. specific  
b. Where there are supposed to be screws, there is nothing. non-specific

But is this genuine ambiguity?

- (16) Two missing screws have been replaced. Zimmermann 2010

Zimmermann 2010 sketches an intentionalist analysis, with the denotation of the noun *screw* including both ordinary screws and missing ones (cf. Condoravdi, Crouch and van den Berg 2001, Condoravdi et al. 2001)

## 2.2. Preventing accidents

Condoravdi, Crouch and van den Berg 2001, Condoravdi et al. 2001: while (17) is ambiguous between a general and a specific readings, neither of the two asserts existence of an accident:

- (17) Safety procedures at Chernobyl prevented a serious nuclear accident.  
a. general: no accident occurred false  
b. specific: there was an accident that could have happened but didn't potentially true

Condoravdi, Crouch and van den Berg 2001: non-indefinite NPs are restricted to a specific reading implying a set of particular potential objects quantified over

The direct object of *prevent* is a DE-environment

Proposal: the direct object of *prevent* denotes in the domain of **concepts** rather than entities:

- (18) a.  $\exists y \exists X . X = \text{SNA} . \text{safety.procedure}(y) \& \text{prevent}(y, X)$  general  
b.  $\exists y \exists X . X \sqsubseteq \text{SNA} . \text{safety.procedure}(y) \& \text{prevent}(y, X)$  specific

The specific reading involves sub-types of a concept (there is a sub-type of accident that was prevented)

Problem: why is the article indefinite in (17) for the reading in (18a)?

The lexical meaning of *prevent* entails non-instantiation of the relevant concept:

(19)  $\forall x \forall T . \text{prevent}(x, T) \rightarrow \neg \text{instantiated}(T)$

What is a concept (both formally and intuitively)?

- Condoravdi et al.: it is an individual (a first-order entity)

In essence, it is what we call a kind when we do not mean the sum of all of its instantiations (cf. Carlson 2010)

### 2.3. Two kinds

The word *kind* is used to denote (at least) two different things:

- entities referred to by bare plurals or mass nouns in English generic sentences
- entities referred to by singular definite subjects of inherently kind level predicates (the same as *the well-established kind* of Krifka et al. 1995?)

(20) a. Tigers eat meat.  
b. The tiger is the largest cat species.

Intensionalized sum of all instantiations ( $\langle s, \langle e, t \rangle \rangle$  vs. a species or established kind (type *e*)

Rothstein 2013: the notion of *an encyclopedic kind* is independently needed:

Doron 2003, Rothstein 2013: A singular kind-denoting NP in Hebrew is bare and unlike a proper name not introduced with the direct object marker required for definites:

(21) be- yamim ele menase cevet mada'anim sqoti le-šabet (\*et) namer tasmani.  
in days these try.SG team scientists Scottish to-clone DOM tiger Tasmanian  
*Currently a Scottish team of scientists is trying to clone the Tasmanian tiger.*

The appearance of the definite article leads to anaphoric interpretation

In Hebrew there is no difference in definiteness: *prevent* cases are also bare

### 2.4. Intermediate summary

There is a technical way of handling the lack of existential commitment with wide scope – by assuming kind-denotation

This is compatible with the lack of an article in Romance and most Germanic in caritives

However, it excludes appealing to QR as a way of achieving the two scopal relations between the negation and the existential and does not explain the distribution of articles and their lack

## 3. RELATIONAL KINDS

The scopal issue in a nutshell (recap):

(22) une porte sans poignée ambiguous  
a door without handle  
*a door without a handle*  
a.  $\lambda x . \text{door}(x) \ \& \ \exists y [\text{handle}(y) \ \& \ \neg I(y, x)]$   
b.  $\lambda x . \text{door}(x) \ \& \ \neg \exists y [\text{handle}(y) \ \& \ I(y, x)]$

Where *I* is Zimmermann's completeness relation (or any other competing formulation)

(22a) asserts the existence of a handle that is not located on the door in question: always true

(22b) asserts that the door has no handles: retains the issue of interpretable number (the use of the singular entails the presupposition that there is only one handle)

### 3.1. What is needed: relational nouns

Intuition: it is not just any handle that the door is missing: it is its own handle

- (23) a.  $\lambda x . \text{door}(x) \ \& \ \exists y [\text{handle}(y,x) \ \& \ \neg \text{AT}(y, x)]$   
 b.  $\lambda x . \text{door}(x) \ \& \ \neg \exists y [\text{handle}(y,x) \ \& \ \text{AT}(y, x)]$

(23a) looks like the correct semantics for the specific reading of (22): there is a handle of the door that is not present at it

(23b) correctly claims that the door has no handles, but does not explain why the non-specific reading entails that there is only one handle on the door and that it should have one

Compositionality issues:

- In English the equivalent of the caritive NP has an indefinite article. How does a relational noun combine with an article?
- What happens when the complement of *without* is a definite or a universal NP?

These questions have been answered in the literature on possession

### 3.2. Where is possession?

Guéron 1985, 1995, Cowper 1989, Tellier 1990, Partee 1999, Sæbø 2009: *have* is (generally) semantically empty

Burton 1995, Ritter and Rosen 1997, Landman 2004: *have* is semantically underspecified to a relation between two entities

#### Possession is in the argument structure of the possessee

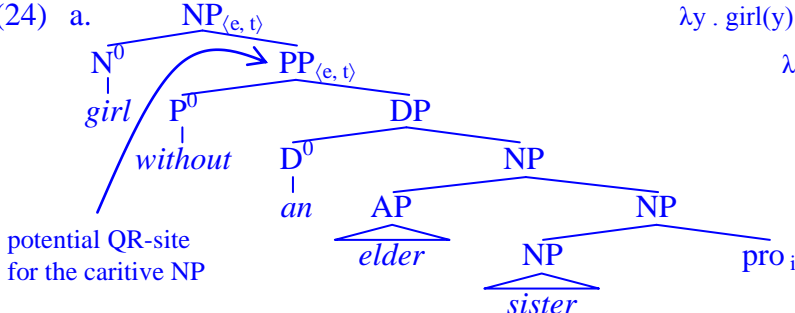
Guéron 1985, 1995, Tellier 1990, Sæbø 2009: the internal argument slot of relational nouns is saturated by a null pronoun, which is then {coindexed with/bound by} the subject of *have*.

Burton 1995: *have* and 's introduce an underspecified R relation which can be identified with that provided by the argument structure of the possessee

Similar proposals for adnominal possession (e.g., Higginbotham 1983, Burton 1995, Vikner and Jensen 2002, Karvovskaya 2018)

### 3.3. Where is the possessor?

For English the possessee-internal possessive machinery modulo some usual tricks seems to be enough:

- (24) a. 
 $\lambda y . \text{girl}(y) \ \& \ \neg \exists x . x \text{ is a sister of } y \ \& \ x \text{ is elder}$   
 $\lambda y . \neg \exists x . x \text{ is a sister of } y \ \& \ x \text{ is elder}$   
 $\exists x . x \text{ is a sister of } y \ \& \ x \text{ is elder}$   
 $\lambda x . x \text{ is a sister of } y \ \& \ x \text{ is elder}$
- The syntax tree for (24) a. shows the structure of the noun phrase 'The girl without an elder sister'. The root is NP<sub>(e,t)</sub>, which branches into N<sup>0</sup> (girl) and PP<sub>(e,t)</sub>. PP<sub>(e,t)</sub> branches into P<sup>0</sup> (without) and DP. DP branches into D<sup>0</sup> (an) and NP. This NP branches into AP (elder) and NP. The final NP branches into another NP (sister) and a null pronoun pro<sub>i</sub>. A blue arrow points from the null pronoun in the final NP back to the NP<sub>(e,t)</sub> root, indicating a potential QR-site for the caritive NP. The semantic formulas on the right show the lambda calculus representation of the structure, with the first formula corresponding to the specific reading and the others to different readings.

In Romance and the rest of Germanic the caritive NP (the possessee) is bare:

- is it an indefinite?
- can it scope?

Natural answer: it denotes a property (NP predicates are bare in both Romance and the rest of Germanic) or a kind

#### 4. A CONCEPTUAL SOLUTION

An NP can denote a property of entities or a **concept** (semantic sort  $e_k$ ):

- independently needed for *prevent*, where sub-concepts are introduced
- might involve a different composition module (cf. Bouchard 2005, McNally and Boleda 2004, 2017, McNally 2017)
- potentially the same thing as *templates* introduced by Piñón 2008 to account for verbs of creation (on which see also von Stechow 2001, Kamp and Roßdeutscher 2003, Forbes 2006 (chapter 7), etc.)

There is no QR: the existential always takes scope over negation internally to *without*:

- (25)  $\llbracket \text{sans poignée} \rrbracket =$
- a.  $\lambda x \in D_e. \exists y \in D_e [\text{handle}(y, x) \ \& \ \neg \text{AT}(y, x)]$
  - b.  $\lambda x \in D_k. \exists y \in D_k [\text{handle}(y, x) \ \& \ \neg \text{AT}(y, x)]$

In other words, the ambiguity in (22) is not an issue of scope:

- existential quantification does not lead to an assertion of existence
- existence (encoded above by the AT predicate) is relative to a location (cf. Freeze 1992, Borschev and Partee 1998)
- the existence of a *concept* “the handle of a bag” implies that bags normally have handles
- number is interpretable the same way it is for entities

This, however, is only the beginning, we need the composition:

- the possessee (*handle*) should be treated as primarily a concept (for (25b))
- a concept is a sort of entity and entities cannot be relational, so the representation in (25b) should be adjusted
- concepts needed here are not the encyclopedic or well-established kinds, they are constructed
- the connection to possession should be made clear

##### 4.1. The core concept

Starting hypothesis: *without* must take an entity-denoting complement (to account for QP and DP caritives)

Hence *handle* should denote an entity (the concept of a handle) and existential quantification in *without* should incorporate both **instantiation** as a sub-concept or as an individual and the **encoding of possession** (introduction of the internal argument)

Sæbø 2009: relational NPs contain a null pronoun, which is QRed and bound by a  $\lambda$ -operator (cf. Guéron 1985, 1995, Tellier 1990)

Problem: requires the noun to be transitive and the pronoun to be syntactically present

Alternative: existential disclosure (Dekker 1993):

NB: existential disclosure is a notion from dynamic semantics that is difficult to encode in model-theoretic terms

- (26)  $\Lambda x[\phi] \stackrel{\text{def}}{=} \lambda x' [\phi \wedge x=x']$  after Doetjes and Honcoop 1997:284

Existential disclosure works only if the entity presupposes a relation with another entity



Similar proposal by Burton 1995: possession is an unspecified relation that can be identified with the relation introduced by the possessee noun (R-Theta reading of Higginbotham 1983), also not encoded syntactically

For our concrete purposes, we define **possessive disclosure** of an individual:

The difference is that in (27) the existence of a salient relation is presupposed by introducing a free variable R, while (26) implies the presence of a free variable x in  $\phi$ , and thus necessitates a level of representation where the notation is visible

$$(27) \quad \Lambda x[y] =_{\text{def}} \lambda x . R(x)(y) \quad \text{the property of being related to } y$$

where R is the contextually salient relation invoked for possession

Defining now *without*:

$$(28) \quad \llbracket \text{without} \rrbracket = \lambda x . \lambda y : \Lambda z[x](y) . \neg AT(y, x)$$

In application to individuals, y is without x if there is a contextually salient relation linking x to y and x is not located at y:

$$(29) \quad \llbracket \text{an English football team without Beckham} \rrbracket = \lambda x : R(x)(B) . EFT(x) \ \& \ \neg AT(B, x)$$

R is most naturally understood here as the part-whole relation

With this semantics, *without* can combine with definite, indefinite and quantified NPs

## 4.2. What does this mean for concepts

Two ways of looking at concepts: as kinds (entities) or as properties (functions from indices (or possible worlds) to sets, type  $\langle s, \langle e, t \rangle \rangle$ )

Condoravdi, Crouch and van den Berg 2001, Condoravdi et al. 2001: presumably the latter

Practical choice: if concepts are type *e*, there is no need to rework NP-internal composition and determination

If they are  $\langle s, \langle e, t \rangle \rangle$ , then we need flexible types for determiners and quantifiers

$$(30) \quad \llbracket \text{a cat without a tail} \rrbracket = \lambda x_k : R(\text{CAT})(\text{TAIL}) . \text{CAT}(x_k) \ \& \ \neg AT(\text{TAIL}, x_k)$$

This is a predicate over sub-concepts of CAT, selecting those that do not have tails

There is a slight of hand in (30): the R relation introduced as a result of possessive disclosure is established between the concept CAT and the concept TAIL, yet the result is not a truth value but a predicate (over kinds, but it could also be over individuals). This is done so that we can have a single CAT concept yet treat the caritive PP as a modifier rather than a predicate

Given that the caritive PP does not seem to be able to function as a predicate, this might be the route required for all instance of *without*, turning it into the type  $\langle e, \langle \langle e, t \rangle, \langle e, t \rangle \rangle \rangle$ :  $\lambda x . \lambda f . \lambda y : \Lambda z[x](y) . f(y) \ \& \ \neg AT(y, x)$

## 5. CONCLUSION AND ISSUES FOR THE FUTURE

The ambiguity observed in the beginning is a matter of kind-modification rather than scope

The need for concepts has been independently motivated in a lot of literature

The unified perception of possession as parasitic on presupposed relations can be maintained

For the future:

- Can *prevention* be handled in the same way?
- If *missing* works with concepts, what is the denotation of *a missing screw*?
- How do concepts connect to intensional “reconstruction” relatives (see Grosu and Krifka 2004, though the phenomenon is broader, cf. *the man of my dreams*)?
- What about various kinds of creation verbs?
- What about VP-modifying caritives?



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