

# Functional indefinites: Skolemization As Alienable Possession

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- ▶ Choice functional accounts of indefinites (Kratzer, 1998) generate unattested readings for indefinites in non-monotonic contexts (Chierchia, 2001; Schwarz, 2001, 2011).
- ▶ I propose a formalization of functional interpretation of indefinites which separates the functional dependency from the semantics of indefinite determiners.
- ▶ Indefinite determiners uniformly introduce skolem functions  $f$  of type  $\langle\langle e, t \rangle, e\rangle$  that are existentially closed in the topmost level of the derivation (Matthewson, 1999).
- ▶ The differences between *some/a* and *a certain indefinites* are derived pragmatically, without a need for stipulations.

## Overview

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# Non-monotonic contexts

## NON-MONOTONIC CONTEXTS

- ▶ Let us consider the sentences in (1-a) and (1-b) in the following scenario:

*Smith and Baker are the teachers, both Sue and Mary (the students) read every book Smith praised, but only Sue read every book Baker praised.*

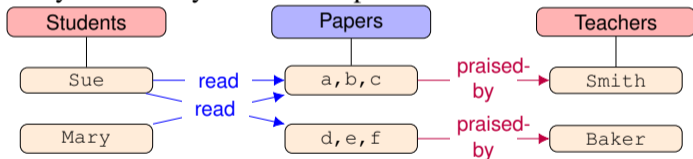
- (1) a. Not every student read every book *some* teacher had praised.  
 b. Not every student read every book *a certain* teacher had praised.
- ▶ (1-a) is judged false.
  - ▶ (1-b) is judged true.

- ▶ According to the choice functional analysis proposed by Reinhart (1997) and Winter (1997), a *choice function* variable introduced by an indefinite determiner can be bound by an existential quantifier at any level of the compositional derivation.
- ▶ Given the free scope of existential closure, two LFs in (2) can be assigned to the sentences containing indefinites in (1-a) and (1-b).

(2) a.  $\neg\forall x[\text{student}'(x) \rightarrow \exists f\forall z[\text{praised}'(z, f(\text{book}')) \rightarrow \text{read}'(x, z) ]]$

b.  $\exists f\neg\forall x[\text{read}'(x) \rightarrow \forall z[\text{praised}'(z, f(x, \text{book}')) \rightarrow \text{student}'(x, z) ]]$

- ▶ None of these sentences is ambiguous.
- ▶ The sentence (1-a) is only true when there is a student who didn't read every book any teacher had praised. →the LF in (2-a)
- ▶ The sentence (1-b) is equivalent to saying that not every student read every book every teacher had praised.. →the LF in (2-b)



- ▶ a choice functional account has to be equipped with some constraints to exclude the LF (2-b) for the sentence containing *a/some* in (1-a), and the LF (2-a) for the sentence containing *a certain* in (1-b).

## NON-MONOTONIC CONTEXTS

- ▶ To capture the behavior of *some/a* indefinites in non-monotonic contexts, we need some constraints to rule out LFs with the wide scope existential closure over choice function.
- ▶ The choice function variable associated with *a certain* indefinites either has to be obligatorily closed on the topmost level or alternatively stay free as proposed by Kratzer (1998).
- ▶ Given the cost associated with such stipulative constraints, it has been doubted whether or not the semantics of indefinites involves choice functions (Schwarz, 2001, 2011).



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# Proposal

## PROPOSAL

The functional dependency should be separated from the semantics of indefinite determiners.

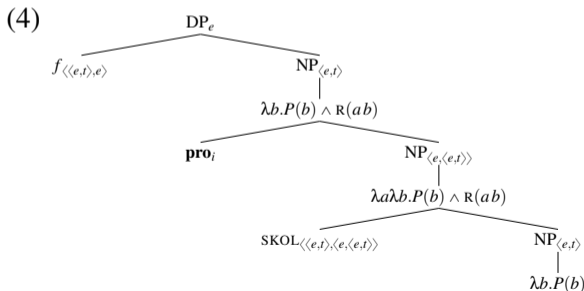
- ▶ The functional dependency between a DP and a higher quantifier is built in the NP level.
- ▶ Both *some/a* and *a certain* indefinites uniformly introduce skolem functions  $f$  of type  $\langle\langle e, t \rangle, e\rangle$  that are existentially closed in the topmost level of the derivation (Matthewson, 1999).
- ▶ The differences between two types of indefinites are derived pragmatically, without a need for stipulations.

## BUILDING A FUNCTIONAL DEPENDENCY

- ▶ Common nouns which are of type  $\langle e,t \rangle$  are shifted to  $\langle e, \langle e,t \rangle \rangle$  via a type-shifter SKOL.  
(3) SKOL  $P = \lambda a \in A. \lambda b \in \beta. [P(b) \wedge R(a,b)]$ , where R is a total function.
- ▶ A functional variable R, and an individual variable  $x_i$  are introduced.
- ▶ R is free variable whose referent is contextually determined.
- ▶ The variable  $x_i$  has to be bound by a higher quantifier in the structure.

## INDEFINITE DETERMINER

- ▶ The indefinite determiner is a skolem function of type  $\langle\langle e, t \rangle, e\rangle$
- ▶ It takes the functional NP, which is fed an individual pronoun  $a$  co-indexed with other bound variables in the larger structure, as argument and chooses a unique witness for every value of  $a$ .



## DIFFERENCE BETWEEN *some/a* AND *a certain* INDEFINITES

- ▶ The implicit functional variable R is subject to a strong contextual felicity condition (Tonhauser et al., 2013; King, 2018) such that it can only be felicitously used in linguistic contexts that already entail them.
- ▶ The reference implication of the functional variable cannot be accommodated. In the case of *a certain* indefinites, the reference implication can be locally accommodated.
- ▶ The presence of the NP modifier “*certain*” makes the accommodation strategy, which is otherwise unavailable, possible.

## Difference between *some/a* and *a certain* indefinites

- ▶ As *certain* indefinites can locally accommodate the existence of a function R, this type of indefinites are predicted to always yield functional readings.
- ▶ *some/a* indefinites can only give rise to functional readings iff the existence of R is entailed in **the linguistic context**.

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# Revisiting non-monotonic contexts

## NON-MONOTONIC CONTEXTS

- ▶ Consider (1-a) and (1-b), repeated here as (5-a) and (5-b), in the same context.

*Smith and Baker are the teachers, both Sue and Mary (the students) read every book Smith praised, but only Sue read every book Baker praised.*

- (5) a. Not every student read every book *some* teacher had praised.  
 b. Not every student read every book *a certain* teacher had praised.
- ▶ Under the new approach, both (5-a) and (5-b) are assigned the LF in (6).
- (6)  $\exists f \neg \forall x [ \text{Student}(x) \rightarrow \forall y [ \text{book}(y) \wedge \text{praised-by}_2(y, f(\lambda z.\text{teacher}(z) \wedge R(x, z))) \rightarrow \text{Read}_1(x, y) ] ]$



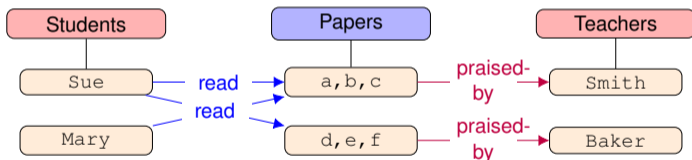
## NON-MONOTONIC CONTEXTS

- ▶ The sentence containing *a certain* indefinite in (5-b) is predicted to be true, as R can be easily accommodated.
- ▶ The sentence (5-a) is only predicted to be true if R has a referent the linguistic context.

- Computing  $R(x, \text{teacher}) \subseteq R_{\text{praised-by}}(y, \text{teacher}) \circ R_{\text{read}}(x, y)$  from the information in the linguistic context, there are two possible total functions that can serve as a referent for R:

$$(7) R_1 = \{ \langle \text{Sue}, \text{Smith} \rangle, \langle \text{Mary}, \text{Smith} \rangle \}$$

$$R_2 = \{ \langle \text{Sue}, \text{Baker} \rangle, \langle \text{Mary}, \text{Smith} \rangle \}$$



- As none of these options verifies (6), The sentence containing *some* indefinite (5-a) is correctly predicted to be false by this approach.

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- ▶ The functional dependency between a DP and a higher quantifier is built in the NP level.
- ▶ Both *a/some* and *a certain* indefinite determiners denote skolem functions which are existentially closed in the topmost level.
- ▶ The dependency between the indefinite and a higher quantifier is a result of the type-shifting operator SKOL that shift the type of an NP from  $\langle e, t \rangle$  to  $\langle e, \langle e, t \rangle \rangle$ .
- ▶ SKOL introduces a free functional variable whose referent is subject to a strong contextual felicity constraint such that the **linguistic context** should entail that the functional variable has a referent
- ▶ The difference between *a*, *some* and *a certain* indefinites is the availability of the accommodation strategy.
- ▶ Their different behavior in non-monotonic contexts follows from this pragmatic difference.

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Thank you!

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