

1 Data

- (1) Keng pom tus aub
Keng see CLF.SG dog
"Keng sees the dog."
- (2) Keng pom cov aub
Keng see CLF.PL dog
"Keng sees the dogs." (all of the relevant dogs)
- (3) Keng pom ib tus aub
Keng see INDEF CLF.SG dog
"Keng sees a/some dog." (non-specific)
- (4) Keng pom ib cov aub
Keng see INDEF CLF.PL dog
"Keng sees some dogs."
- (5) *Keng pom ib aub
Keng sees INDEF dog
"Keng sees a/some dog."

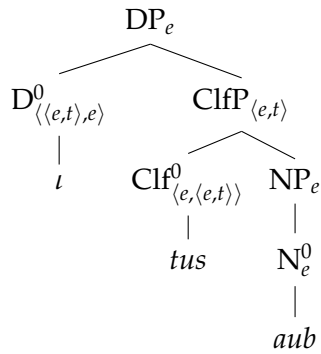
2 Proposal

2.1 Definities

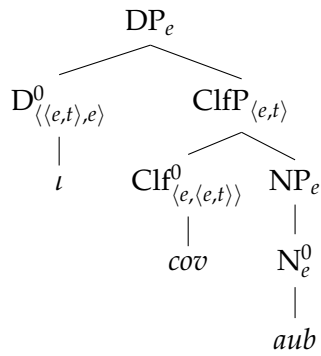
- (6) **Cov** covers A if: (Schwarzschild 1996)
 - a. **Cov** is a set of subsets of A
 - b. Every member of A belongs to some set in **Cov**
 - c. \emptyset is not in **Cov**
 - d. $\mathbf{Cov}(A) = \wp(A)$, without \emptyset
- (7) $\llbracket \text{cups} \rrbracket^{M,g} =$
 - a. $\{ \{ c_1 \oplus c_2 \oplus c_3 \},$
 - b. $\{ c_1 \oplus c_2 \}, \{ c_1 \oplus c_3 \}, \{ c_2 \oplus c_3 \},$
 - c. $\{ c_1 \}, \{ c_2 \}, \{ c_3 \} \}$
 - d. $\text{cups} = \wp(\text{cup})$, without \emptyset
- (8) $\llbracket \text{tus} \rrbracket^{M,g} = \lambda P \lambda x. P(x) \wedge AT(x)$
- (9) $\llbracket \text{cov} \rrbracket^{M,g} = \lambda P \lambda x. x \in \mathbf{Cov}(P)$
- (10) $\llbracket \iota \rrbracket = \lambda P : \exists x[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]]. \iota x[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]]$

2.2 Definite compositions

(11) Singular definite structure



(12) Plural definite structure



2.3 Indefinites

(13) $\llbracket ib \rrbracket^{M,g} = \lambda P_{\langle e, t \rangle} \cdot f_{cf}(\lambda y. P(y) = 1)$

2.4 Contexts

(14) $AUB_C: \{\text{Apollo, Mars, Copper}\}$

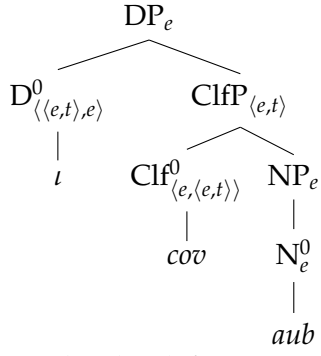
- a. $tus\ aub = A$
- b. $ib\ tus\ aub = A \text{ or } M \text{ or } C$

(15) $AUB_C: \{\text{Apollo, Mars, Copper}\}$

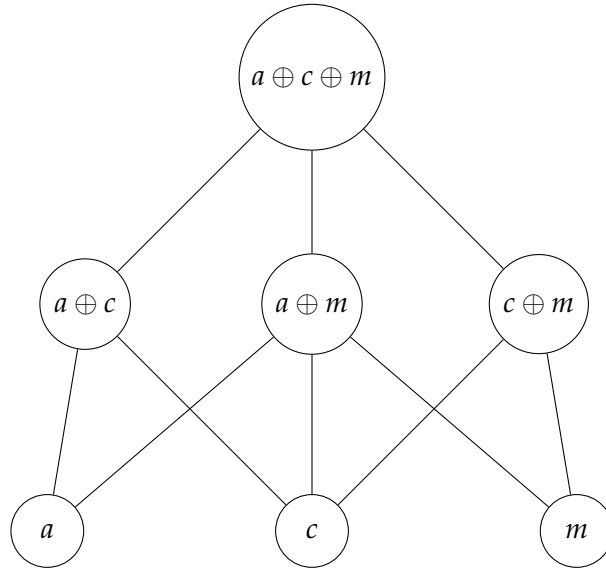
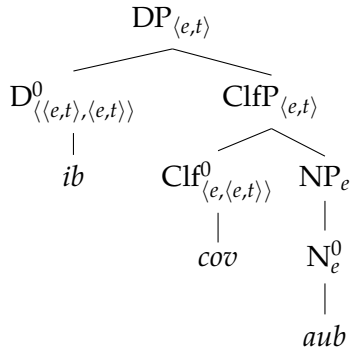
- a. $cov\ aub = AMC$
- b. $ib\ cov\ aub = AMC \text{ or } AM \text{ or } AC \text{ or } CM \text{ or } A \text{ or } M \text{ or } C$
- c. $ib\ cov\ aub = AM \text{ or } AC \text{ or } CM$ (via anti-presupposition)

2.5 Indefinites composition

Plural definite structure



Plural indefinite structure



3 Compositions

(16) Composition for *tus aub*

a. $\llbracket tus \rrbracket^{M,g} = \lambda P \lambda x. P(x) \wedge AT(x)$

(Lexical)

b. $\llbracket aub \rrbracket^{M,g} = \lambda x. \mathbf{DOG}(x)$

(Lexical)

c. $\begin{aligned} ClfP &= \llbracket Clf (\llbracket NP \rrbracket) \rrbracket \\ &= \llbracket tus (\llbracket aub \rrbracket) \rrbracket \\ &= [\lambda P \lambda x. P(x) \wedge AT(x)] (\lambda x. \mathbf{DOG}(x)) \\ &= \lambda x. \mathbf{DOG}(x) \wedge AT(x) \end{aligned}$

(FA+ β -reduction)

- d. $\llbracket \iota \rrbracket = \lambda P : \exists x[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]].ix[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]]$ (Lexical)
- e. $DP = \llbracket D(\llbracket ClfP \rrbracket) \rrbracket$ (FA+ β -reduction)
- $= \llbracket \iota(\llbracket tus\ aub \rrbracket) \rrbracket$
- $= \lambda P : \exists x[\mathbf{P}(x) \wedge \forall y[\mathbf{P}(y) \rightarrow y \leq x]].ix[\mathbf{P}(x) \wedge \forall y[\mathbf{P}(y) \rightarrow y \leq x]]$
- $(\lambda x.\mathbf{DOG}(x) \wedge AT(x))$
- $= \exists x[(\lambda x.\mathbf{DOG}(x) \wedge AT(x))(x) \wedge \forall y[(\lambda x.\mathbf{DOG}(x) \wedge AT(x))(y) \rightarrow y \leq x]]$
- $.ix[(\lambda x.\mathbf{DOG}(x) \wedge AT(x))(x) \wedge \forall y[(\lambda x.\mathbf{DOG}(x) \wedge AT(x))(y) \rightarrow y \leq x]]$
- $= ix[\mathbf{DOG}(x) \wedge AT(x) \wedge \forall y[\mathbf{DOG}(y) \wedge AT(y) \rightarrow y \leq x]]$
- defined iff: $\exists x[\mathbf{DOG}(x) \wedge AT(x) \wedge \forall y[\mathbf{DOG}(y) \wedge AT(y) \rightarrow y \leq x]]$

- (17) Composition for *cov aub*
- a. $\llbracket cov \rrbracket^{M,g} = \lambda P \lambda x. P(x)$ (Lexical)
 - b. $\llbracket aub \rrbracket^{M,g} = \lambda x. \text{DOG}(x)$ (Lexical)
 - c. $\text{ClfP} = \llbracket \text{Clf} (\llbracket \text{NP} \rrbracket) \rrbracket$ (FA+ β -reduction)
 - $= \llbracket cov (\llbracket aub \rrbracket) \rrbracket$
 - $= [\lambda P \lambda x. P(x)] (\lambda x. \text{DOG}(x))$
 - $= \lambda x. \text{DOG}(x)$
 - d. $\llbracket \iota \rrbracket = \lambda P : \exists x [P(x) \wedge \forall y [P(y) \rightarrow y \leq x]]. \iota x [P(x) \wedge \forall y [P(y) \rightarrow y \leq x]]$ (Lexical)
 - e. $\text{DP} = \llbracket \text{D} (\llbracket \text{ClfP} \rrbracket) \rrbracket$ (FA+ β -reduction)
 - $= \llbracket \iota (\llbracket cov aub \rrbracket) \rrbracket$
 - $= \lambda P : \exists x [\mathbf{P}(x) \wedge \forall y [\mathbf{P}(y) \rightarrow y \leq x]]. \iota x [\mathbf{P}(x) \wedge \forall y [\mathbf{P}(y) \rightarrow y \leq x]]$
 - $(\lambda x. \text{DOG}(x))$
 - $= \exists x [(\lambda x. \text{DOG}(x))(x) \wedge \forall y [(\lambda x. \text{DOG}(x))(y) \rightarrow y \leq x]]$
 - $. \iota x [(\lambda x. \text{DOG}(x))(x) \wedge \forall y [(\lambda x. \text{DOG}(x))(y) \rightarrow y \leq x]]$
 - $= \iota x [\text{DOG}(x) \wedge \forall y [\text{DOG}(y) \rightarrow y \leq x]]$
 - defined iff: $\exists x [\text{DOG}(x) \wedge \forall y [\text{DOG}(y) \rightarrow y \leq x]]$
- (18) Composition for *ib tus aub*
- a. $\llbracket tus \rrbracket^{M,g} = \lambda P \lambda x. P(x) \wedge AT(x)$ (Lexical)
 - b. $\llbracket aub \rrbracket^{M,g} = \lambda x. \text{DOG}(x)$ (Lexical)
 - c. $\text{ClfP} = \llbracket \text{Clf} (\llbracket \text{NP} \rrbracket) \rrbracket$ (FA+ β -reduction)
 - $= \llbracket tus (\llbracket aub \rrbracket) \rrbracket$
 - $= [\lambda P \lambda x. P(x) \wedge AT(x)] (\lambda x. \text{DOG}(x))$
 - $= \lambda x. \text{DOG}(x) \wedge AT(x)$
 - d. $\llbracket ib \rrbracket^{M,g} = \lambda P. f_{cf}(\lambda y. P(y) = 1)$ (Lexical)
 - e. $\text{DP} = \llbracket \text{D} (\llbracket \text{ClfP} \rrbracket) \rrbracket$ (FA+ β -reduction)
 - $= \llbracket ib (\llbracket tus aub \rrbracket) \rrbracket$
 - $= [\lambda P. f_{cf}(\lambda y. P(y) = 1)] (\lambda x. \text{DOG}(x) \wedge AT(x))$
 - $= f_{cf}(\lambda y. (\lambda x. \text{DOG}(x) \wedge AT(x))(y) = 1)$
 - $= f_{cf}.(\lambda y. \text{DOG}(y) \wedge AT(y) = 1)$
- (19) Composition for *ib cov aub*
- a. $\llbracket cov \rrbracket^{M,g} = \lambda P \lambda x. P(x)$ (Lexical)
 - b. $\llbracket aub \rrbracket^{M,g} = \lambda x. \text{DOG}(x)$ (Lexical)
 - c. $\text{ClfP} = \llbracket \text{Clf} (\llbracket \text{NP} \rrbracket) \rrbracket$ (FA+ β -reduction)
 - $= \llbracket cov (\llbracket aub \rrbracket) \rrbracket$
 - $= [\lambda P \lambda x. P(x)] (\lambda x. \text{DOG}(x))$
 - $= \lambda x. \text{DOG}(x)$
 - d. $\llbracket ib \rrbracket^{M,g} = \lambda P. f_{cf}(\lambda y. P(y) = 1)$ (Lexical)
 - e. $\text{DP} = \llbracket \text{D} (\llbracket \text{ClfP} \rrbracket) \rrbracket$ (FA+ β -reduction)
 - $= \llbracket ib (\llbracket cov aub \rrbracket) \rrbracket$
 - $= [\lambda P. f_{cf}(\lambda y. P(y) = 1)] (\lambda x. \text{DOG}(x))$
 - $= f_{cf}(\lambda y. (\lambda x. \text{DOG}(x))(y) = 1)$
 - $= f_{cf}.(\lambda y. \text{DOG}(y) = 1)$