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 Definites

(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. **Cov**(A) = $\wp$(A), without $\emptyset$

(7) $[\![\text{cups}]\!]^{M,g}$ =
  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. *cups* = $\wp$(*cup*), *without* $\emptyset$

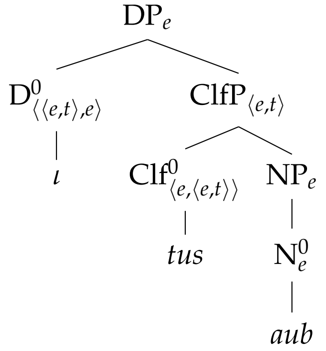
(8) $[\![\textit{tus}]\!]^{M,g} = \lambda P \lambda x.P(x) \wedge AT(x)$

(9) $[\![\textit{cov}]\!]^{M,g} = \lambda P \lambda x.x \in \textbf{Cov}(P)$

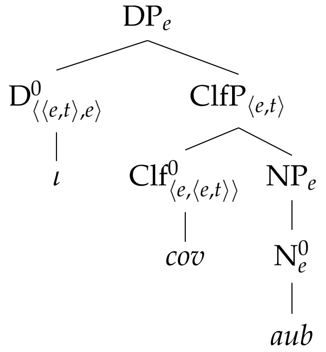
(10) $[\![\iota]\!] = \lambda P : \exists x[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]].\iota x[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]]$

2.2 Definite compositions

(11) Singular definite structure



(12) Plural definite structure



2.3 Indefinites

(13) $[\![\textit{ib}]\!]^{M,g} = \lambda P_{\langle e,t \rangle}.f_{cf}(\lambda y.P(y) = 1)$

2.4 Contexts

(14) AUB_C: {Apollo, Mars, Copper}

a. *tus aub* = A

b. *ib tus aub* = A or M or C

(15) AUB_C: {Apollo, Mars, Copper}

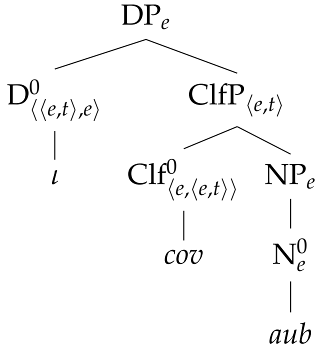
a. *cov aub* = AMC

b. *ib cov aub* = AMC or AM or AC or CM or A or M or C

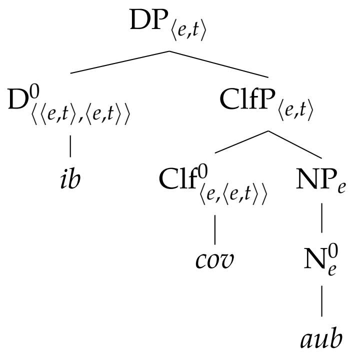
c. *ib cov aub* = AM or AC or CM (**via anti-presupposition**)

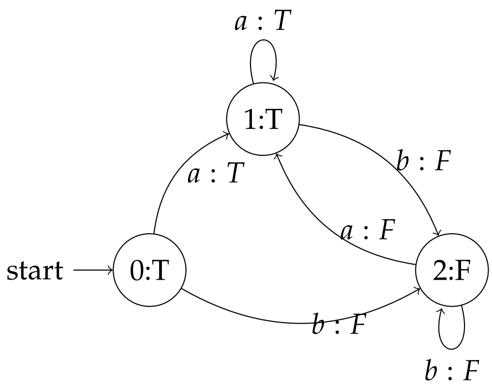
2.5 Indefinites composition

Plural definite structure



Plural indefinite structure





3 Compositions

(16) Composition for *tus aub*

a. $[\![\textit{tus}]\!]^{M,g} = \lambda P \lambda x.P(x) \wedge AT(x)$ **(Lexical)**

b. $[\![\textit{aub}]\!]^{M,g} = \lambda x.\textsc{dog}(x)$ **(Lexical)**

c. ClfP $= [\![\text{Clf } ([\![\text{NP}]\!])]\!]$ **(FA+β-reduction)**
$= [\![tus([\![aub]\!])]\!]$
$= [\lambda P \lambda x.P(x) \wedge AT(x)]\ (\lambda x.\textbf{\textsc{dog}}(x))$
$= \lambda x.\textsc{dog}(x) \wedge AT(x)$

d. $[\![\iota]\!] = \lambda P : \exists x[P(x) \wedge \forall y[P(y) \to y \leq x]].\iota x[P(x) \wedge \forall y[P(y) \to y \leq x]]$ **(Lexical)**

e. DP $= [\![\text{D } ([\![\text{ClfP}]\!])]\!]$ **(FA+β-reduction)**
$= [\![\iota\ ([\![\textit{tus aub}]\!])]\!]$
$= \lambda P : \exists x[\mathbf{P}(x) \wedge \forall y[\mathbf{P}(y) \to y \leq x]].\iota x[\mathbf{P}(x) \wedge \forall y[\mathbf{P}(y) \to y \leq x]]$
$(\lambda x.\textbf{\textsc{dog}}(x) \wedge AT(x))$

$= \exists x[(\lambda x.\textbf{DOG}(x) \wedge AT(x))(x) \wedge \forall y[(\lambda x.\textbf{DOG}(x) \wedge AT(x))(y) \rightarrow y \leq x]]$
$.\iota x[(\lambda x.\textbf{DOG}(x) \wedge AT(x))(x) \wedge \forall y[(\lambda x.\textbf{DOG}(x) \wedge AT(x))(y) \rightarrow y \leq x]]$
$= \iota x[\textsc{dog}(x) \wedge AT(x) \wedge \forall y[\textsc{dog}(y) \wedge AT(y) \forall y \leq x]]$
<u>defined iff:</u> $\exists x[\textsc{dog}(x) \wedge AT(x) \wedge \forall y[\textsc{dog}(y) \wedge AT(y) \rightarrow y \leq x]]$

(17) Composition for *cov aub*

a. $[\![\ cov\ ]\!]^{M,g} = \lambda P \lambda x.P(x)$ **(Lexical)**

b. $[\![\ aub\ ]\!]^{M,g} = \lambda x.\textsc{dog}(x)$ **(Lexical)**

c. ClfP = $[\![$ Clf ($[\![$ NP $]\!]$)$]\!]$ **(FA+β-reduction)**
$= [\![cov([\![aub]\!])]\!]$
$= [\lambda P \lambda x.P(x)]\ (\lambda x.\textbf{DOG}(x))$
$= \lambda x.\textsc{dog}(x)$

d. $[\![\ \iota\ ]\!] = \lambda P : \exists x[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]].\iota x[P(x) \wedge \forall y[P(y) \rightarrow y \leq x]]$ **(Lexical)**

e. DP = $[\![$ D ($[\![$ ClfP $]\!]$)$]\!]$ **(FA+β-reduction)**
$= [\![\ \iota\ ([\![\ cov\ aub\ ]\!])]\!]$
$= \lambda P : \exists x[\mathbf{P}(x) \wedge \forall y[\mathbf{P}(y) \rightarrow y \leq x]].\iota x[\mathbf{P}(x) \wedge \forall y[\mathbf{P}(y) \rightarrow y \leq x]]$
$(\lambda x.\textbf{DOG}(x))$
$= \exists x[(\lambda x.\textbf{DOG}(x))(x) \wedge \forall y[(\lambda x.\textbf{DOG}(x))(y) \rightarrow y \leq x]]$
$.\iota x[(\lambda x.\textbf{DOG}(x))(x) \wedge \forall y[(\lambda x.\textbf{DOG}(x))(y) \rightarrow y \leq x]]$
$= \iota x[\textsc{dog}(x) \wedge \forall y[\textsc{dog}(y) \rightarrow y \leq x]]$
<u>defined iff:</u> $\exists x[\textsc{dog}(x) \wedge \forall y[\textsc{dog}(y) \rightarrow y \leq x]]$

(18) Composition for *ib tus aub*

a. $[\![\ tus\ ]\!]^{M,g} = \lambda P \lambda x.P(x) \wedge AT(x)$ **(Lexical)**

b. $[\![\ aub\ ]\!]^{M,g} = \lambda x.\textsc{dog}(x)$ **(Lexical)**

c. ClfP = $[\![$ Clf ($[\![$ NP $]\!]$)$]\!]$ **(FA+β-reduction)**
$= [\![\ tus\ ([\![\ aub\ ]\!])]\!]$
$= [\lambda P \lambda x.P(x) \wedge AT(x)]\ (\lambda x.\textsc{dog}(x))$
$= \lambda x.\textsc{dog}(x) \wedge AT(x)$

d. $[\![\ ib\ ]\!]^{M,g} = \lambda P.f_{cf}(\lambda y.P(y) = 1)$ **(Lexical)**

e. DP = $[\![$ D ($[\![$ ClfP $]\!]$)$]\!]$ **(FA+β-reduction)**
$= [\![\ ib\ ([\![\ tus\ aub\ ]\!])]\!]$
$= [\lambda P.f_{cf}(\lambda y.P(y) = 1)]\ (\lambda x.\textsc{dog}(x) \wedge AT(x))$
$= f_{cf}(\lambda y.(\lambda x.\textsc{dog}(x) \wedge AT(x))(y) = 1)$
$= f_{cf}.(\lambda y.\textsc{dog}(y) \wedge AT(y) = 1)$

(19) Composition for *ib cov aub*

a. $[\![\ cov\ ]\!]^{M,g} = \lambda P \lambda x.P(x)$ **(Lexical)**

b. $[\![\ aub\ ]\!]^{M,g} = \lambda x.\textsc{dog}(x)$ **(Lexical)**

c. ClfP = $[\![$ Clf ($[\![$ NP $]\!]$)$]\!]$ **(FA+β-reduction)**
$= [\![\ cov\ ([\![\ aub\ ]\!])]\!]$
$= [\lambda P \lambda x.P(x)]\ (\lambda x.\textsc{dog}(x))$
$= \lambda x.\textsc{dog}(x)$

d. $[\![\ ib\ ]\!]^{M,g} = \lambda P.f_{cf}(\lambda y.P(y) = 1)$ **(Lexical)**

e. DP = $[\![$ D ($[\![$ ClfP $]\!]$)$]\!]$ **(FA+β-reduction)**
$= [\![\ ib\ ([\![\ cov\ aub\ ]\!])]\!]$
$= [\lambda P.f_{cf}(\lambda y.P(y) = 1)]\ (\lambda x.\textsc{dog}(x))$
$= f_{cf}(\lambda y.(\lambda x.\textsc{dog}(x))(y) = 1)$
$= f_{cf}.(\lambda y.\textsc{dog}(y) = 1)$