

2. SCHLENKER'S THEORY: INDEXICAL FUNCTIONS OF (BOUND) CONTEXTS

2.1 [+ actual] = function of **actual context** (\equiv Kaplan 1978)

English lexicon: Universal (B_U) + English-specific (B_E)

(B_U) sick $U \quad \lambda t \lambda w \lambda x. sick(x, t, w)$

think $U \quad \lambda t \lambda w \lambda c \lambda x [\forall c \in think(x, t, w): C(c)]$

(B_E) Schlenker 2003 syntax: restricted variables

$1s_x U x\{+author^*(x)\}$ $gx\{+author^*(x)\}k^{c^*,g}$ $= \underline{c}_A^*$, if $g(x) = \underline{c}_A^*$ $= \#$, otherwise	$PRS_t U t\{+present^*(t)\}$ $gt\{+present^*(t)\}k^{c^*,g}$ $= \underline{c}_T^*$, if $g(t) = \underline{c}_T^*$ $= \#$, otherwise	$IND_w U w\{+indicative^1(w, c^*)\}$ $gw\{+indicative^1(w, c^*)\}k^{c^*,g}$ $= \underline{c}_W^*$, if $g(w) = \underline{c}_W^*$ $= \#$, otherwise
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(B_E') Schlenker 2004 syntax: indexical functions (minus mystery 'presupposition')

$1s U c_A^*$ $gc_A^*k^{c^*,g}$ $= \underline{c}_A^*$	$PRS U c_T^*$ $gc_T^*k^{c^*,g}$ $= \underline{c}_T^*$	$IND U c_W^*$ $gc_W^*k^{c^*,g}$ $= \underline{c}_W^*$
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Abbreviation: For any assignment g and context \underline{c} :

g is \underline{c} -proper iff g “**properly represents the referential intentions**” of \underline{c}_A at \underline{c}_T in \underline{c}_W

Examples: (mystery conditions in **bold**--as Sam explained last time, they're difficult to explicate)

(1a) $1s_{(x)}$ be pregnant-PRS_(t)-IND_(w) Schlenker 2003

(1a') $pregnant(x\{+author^*(x)\}, t\{+present^*(t)\}, w\{+indicative^1(w, c^*)\})$

$\models_{\underline{c}^*,g} (1a')$

[(1a'), uttered in \underline{c}^* & evaluated w.r.t. a \underline{c}^* -proper assignment g , is true...]

iff (i) $g(x) = \underline{c}_A$ & $g(t) = \underline{c}_T$ & $g(w) = \underline{c}_W$

[the speaker of \underline{c}^* intends x to refer to self; t , to the time of \underline{c}^* ; and w , to the world of \underline{c}^*]

(ii) $\langle \underline{c}_A^*, \underline{c}_T^*, \underline{c}_W^* \rangle \in gpregnantk^{c^*}$

[the self of \underline{c}^* is “ **\underline{c}^* -pregnant**” at the time of \underline{c}^* in the world of \underline{c}^*]

(1a) $1s$ be pregnant-PRS-IND \approx Schlenker 2004

(1a'') $pregnant(c_A^*, c_T^*, c_W^*)$

$\models_{\underline{c}^*,g} (1a'')$

Kaplan 1978 sem

iff $\langle \underline{c}_A^*, \underline{c}_T^*, \underline{c}_W^* \rangle \in gsickk^{c^*}$

(1b) She_x think-PRS-IND $\lambda c[1s$ be pregnant-PRS-IND_c].

(1b'') $\forall c(c \in think(x\{female\ x\}, c_T^*, c_W^*))$ \approx Schlenker 2004

$\rightarrow pregnant(c_A^*, c_T^*, c_W^*)$

$\models_{\underline{c}^*,g} (1b'')$

Kaplan 1978 sem

[(1b'') uttered in \underline{c}^* & evaluated w.r.t. a \underline{c}^* -proper g is true...]

for '1s', 'PRS'

iff (i) $g(x) \in gfemalek^{c^*}$

(ii) $\forall \underline{c} \in gthinkk^{c^*}(g(x), \underline{c}_T^*, \underline{c}_W^*): \langle \underline{c}_A^*, \underline{c}_T^*, \underline{c}_W^* \rangle \in gpregnantk^c$

[for every context \underline{c} compatible with what $g(x)$ \underline{c}^* -thinks at the time of \underline{c}^* in the world of \underline{c}^* , the self of \underline{c}^* is “ **\underline{c} -pregnant**” at the time of \underline{c}^* in the world of \underline{c}]

2.2 $\{[-actual], PF-agr\} = \text{function of bound context}$ Slave lexicon: Universal (B_U) + Slave-specific (B_S)

(B_U) sick U $\lambda t \lambda w \lambda x. sick(x, t, w)$ iv
 think U $\lambda t \lambda w \lambda C \lambda x [\forall c \in think(x, t, w): C(c)]$ attitude report

(B_S) Schlenker 2003: restricted variables

$I_{x,c} \cup x\{+author(x, c)\}$	$PRS_{t,c} \cup t\{+present(t, c)\}$	$IND_{w,c} \cup w\{+indicative^1(w, c)\}$
$gx\{+author(x, c)\}k^{\varepsilon^*, g}$	$gt\{+present(t, c)\}k^{\varepsilon^*, g}$	$gw\{+indicative^1(w, c)\}k^{\varepsilon^*, g}$
$= g(c)_A$, if $g(x) = g(c)_A$	$= g(c)_T$, if $g(t) = g(c)_T$	$= g(c)_W$, if $g(w) = g(c)_W$
$= \#$, otherwise	$= \#$, otherwise	$= \#$, otherwise

(B_S') Schlenker 2004: indexical functions (minus mystery ‘presupposition’)

$1s_c \cup c_A$	$PRS_c \cup c_T$	$IND_c \cup c_W$
$gSE ck^{\varepsilon^*, g}$	$gTM ck^{\varepsilon^*, g}$	$gWRL ck^{\varepsilon^*, g}$
$= g(c)_A$	$= g(c)_T$	$= g(c)_W$

Examples:

(3a) sick pvb-IND-1s-be Rice PFV = MB IND
 (3a'') $sick(c^*_A, c^*_T, c^*_W)$ = English (1a)

$\models_{\varepsilon^*, g} (3a'')$ Kaplan 1978 sem
 iff $\langle \underline{c}^*_A, \underline{c}^*_T, \underline{c}^*_W \rangle \in gsickk^{\varepsilon^*}$

(3b) $\lambda c[sick \text{ pvb-IND}_c\text{-1s}_c\text{-be}] \text{ pvb-IND.3s}_x\text{-want/think}$ Rice PFV = MB IND
 (3b'') $\forall c(c \in think(x, c^*_T, c^*_W) \rightarrow sick(c_A, c_T, c_W))$

$\models_{\varepsilon^*, g} (3b'')$
 iff (i) g is \underline{c}^* -proper, i.e., $g(c) = \underline{c}^*$
 iff $\forall \underline{c} \in gthinkk^{\varepsilon^*}(g(x), \underline{c}^*_T, \underline{c}^*_W): \langle \underline{c}_A, \underline{c}_T, \underline{c}_W \rangle \in gsickk^{\varepsilon^*}$
 [for every context \underline{c} **compatible with what $g(x)$ \underline{c}^* -thinks at the time of \underline{c}^* in the world of \underline{c}^*** , the self of \underline{c} is “ \underline{c} -sick” at the time of \underline{c} in the world of \underline{c}]

Also English infinitive reports, e.g.:

(1c) $he_x \text{ intend-PRS-IND } \lambda c[1s_c \text{ buy-PRS}_c\text{-IND}_c \text{ him}_c\text{-self a car}]$

(1c'') $\forall c(c \in intend(x\{male\}x), c^*_T, c^*_W) \rightarrow \exists y(\text{buy.for}(c_A, y, c_A, c_T, c_W) \wedge \text{car}(y, c_T, c_W))$

$\models_{\varepsilon^*, g} (1c'')$
 [(3b'') uttered in \underline{c}^* & evaluated w.r.t. a \underline{c}^* -proper g is true...]
 iff (i) $g(x) \in gmalek^{\varepsilon^*}$
 (ii) $\forall \underline{c} \in gintendk^{\varepsilon^*}(g(x), \underline{c}^*_T, \underline{c}^*_W):$
 $\exists b(\langle b, \underline{c}_T, \underline{c}_W \rangle \in gcark^{\varepsilon^*} \& \langle \underline{c}_A, b, \underline{c}_A, \underline{c}_T, \underline{c}_W \rangle \in gbuy.for k^{\varepsilon^*})$
 [for every context \underline{c} **compatible with what the \underline{c}^* -male $g(x)$ \underline{c}^* -intends at the time of \underline{c}^* in the world of \underline{c}^*** , there is an entity b such that the self of \underline{c} “ \underline{c} -buys” b for self at the time of \underline{c} in the world of \underline{c} and b is a car at the time of \underline{c} in the world of \underline{c}]

Polish lexicon: Universal (B_U) + Polish-specific (B_P)

(B_U) sick U $\lambda t \lambda w \lambda x. sick(x, t, w)$ iv
 think U $\lambda t \lambda w \lambda c \lambda x [\forall c \in think(x, t, w): C(c)]$ attitude report

(B_P) a la Schlenker 2003

$I_x U x \{+author^*(x)\}$	$PRS_{t,c} U t \{+present(t, c)\}$	$IND_{w,c} U w \{+indicative^1(w, c)\}$
$gx \{+author^*(x)\} k^{e^*,g}$	$gt \{+present(t, c)\} k^{e^*,g}$	$gw \{+indicative^1(w, c)\} k^{e^*,g}$
$= \underline{c}_A^*$, if $g(x) = \underline{c}_A^*$	$= g(c)_T$, if $g(t) = g(c)_T$	$= g(c)_W$, if $g(w) = g(c)_W$
$= \#$, otherwise	$= \#$, otherwise	$= \#$, otherwise

(B_P') a la Schlenker 2004

$1s U c_A^*$	$PRS_c U c_T$	$IND_c U c_W$
$gc_A^* k^{e^*,g}$	$gc_T k^{e^*,g}$	$gc_W k^{e^*,g}$
$= \underline{c}_A^*$	$= g(c)_T$	$= g(c)_W$

Examples:

(4a) be.PRS-1s pregnant

(4a'') $pregnant(c_A^*, c_T^*, c_W^*)$ \approx English (1a)

$\models_{\underline{c}^*,g} (4a'')$

iff $\langle \underline{c}_A^*, \underline{c}_T^*, \underline{c}_W^* \rangle \in gpregnantk^{e^*}$

(4b) Anna_x PFV.say-PST_r-IND-3sf_x λc [be.PRS_c-IND_c-1s pregnant]

(4b'') $\forall c (c \in say(anne, t \{t < c_T^*\}, c_W^*) \rightarrow pregnant(c_A^*, c_T, c_W))$

$\models_{\underline{c}^*,g} (4b'')$

[(4b'') uttered in \underline{c}^* & evaluated w.r.t. a \underline{c}^* -proper g is true...]

iff (i) $g(t) < TM \underline{c}^*$

(ii) $\forall \underline{c} \in gsayk^{e^*}(gannek^{e^*}, g(t), \underline{c}_W^*): \langle \underline{c}_A^*, \underline{c}_T, \underline{c}_W \rangle \in gpregnantk^e$

[for every context \underline{c} compatible with what Anne \underline{c}^* -said at the \underline{c}^* -past time $g(t)$ in the world of \underline{c}^* , the self of \underline{c}^* is “ \underline{c} -sick” at the time of \underline{c} in the world of \underline{c}]

3. SCHLENKER'S MISTAKE: *de se* ENTAILS *de re*

Schlenker 2004:567

“...a *de se* reading entails the corresponding *de re* reading: in other words, if it is true that *John hopes to be elected*, it is also true that *John hopes, of John, that he will be elected*. As a result, a *de se* reading can be analyzed as a *de re* reading that has certain additional requirements.”

MB: Incorrect: *de se* and *de re* reports are logically independent—neither entails the other.

If John believes he might be Christ or Clinton, then a *de se* hope (*Let me be elected*) is independent of the corresponding *de re* hope (*Let him be elected*, with *him* referring to John).

Kaplan's 1990 pants-on-fire example vividly illustrates the intuitive difference between a *de se* belief/speech (*My pants are on fire*) vs. the corresponding *de re* belief/speech (*His pants are on fire*), even in a context where both express the same proposition. An unambiguously *de se* report (e.g. *After glancing in the mirror, Kaplan claimed to be on fire*) does not entail the corresponding *de re* report (e.g. *After glancing in the mirror, Kaplan reported the man he saw to be on fire*)

Indexicals and Reports Across Languages (2): Dynamics of point of view

1. CROSSLINGUISTIC CLASSIFICATION OF REPORT VERBS

- *Generalizations about argument structure & (non-)finiteness*

- (I) Only the subject of a report predicate can be the *se* ‘self’ in the complement.
 (U) Only the direct object of a speech report predicate can be *se*’s ‘you’ in the complement.
 (Th) Only the direct object of a report predicate can be *se*’s ‘theme’ in the complement.
 (F) If a report predicate has a finite complement, the downstairs *se* is the upstairs *se*.

- *Report verbs classified by \uparrow arguments & \downarrow (non-)finiteness*
 (E = English, K = Kalaallisut, S = Slave)

For each language, each class may contain any number of report verbs (RV). To avoid clutter, I give just one paradigm example of each class. The characteristic patterns are illustrated in (1)–(5') below:

(RV)	\uparrow Arg's	\downarrow Finite	\downarrow Non-finite (temporal <i>de se</i>)
	AGT(- Ω)	E. <i>say</i> [that...]	E. <i>claim</i> [to...], e.g. (1'E)
(1), (1')	K. <i>uqar-pu-q</i> [...ELA] say _{iv} -M-S [...-ELA]	S. [...(C)] 'eka- [...(C)] thus-AM-S-say (A)	K. v- <i>nirar-pu-q</i> [...ELA], e.g. (1'K) v-say _{viv} -M-S S. [...V] <i>ha-Ø-di</i> S. [...V] <i>ha-AM.S-say (C-iv)</i>
	EXP(- Ω)	E. <i>believe</i> [that...]	E. <i>want</i> [to...]
(2), (2')	K. <i>isuma-qar-pu-q</i> ... belief-have-M-S [...-ELA]	S. [...(C)] <i>ko-d-i-h-sho</i> [...(C)] <i>ko-d-AM.S-tv-know (A)</i>	K. v- <i>suri-vu-q</i> v-believe _{viv} -M-S S. [...V] <i>ye-n-in-wen</i> [...V] <i>ye-ne-AM.S-wnt/thnk (C'-iv)</i>
	AGT-THM	E. <i>say about</i> NP [that...]	E. <i>report</i> NP [to...]
(3), (3')	K. <i>uqa-atig-a-a</i> ... say _{iv} -about-M-S.O [...-ELA]	S. ...? (E)	K. v- <i>nirar-pa-a</i> v-say _{viv} -M-S.O S. ...? (D-tv)
	EXP-THM	E. <i>believe about</i> NP [that...]	E. <i>believe</i> NP [to...]
(4), (4')	K. <i>isuma-qar-vig-a-a</i> ... belief-have-iv\TV-M-S.O [...-ELA]	S. [...(C)] <i>s-u-de-Ø-li</i> [...(C)] O- <i>u-de-AM.S-want/think' (E)</i>	K. v- <i>sur(i-v)a-a</i> v-believe _{viv} -M-S.O S. [...V] <i>s-u-de-Ø-li</i> [...V] O- <i>ude-AM.S-wnt/thnk'(D'-tv)</i>
	AGT-EXP	E. <i>tell</i> NP [that...]	E. <i>tell</i> NP [to...]
(5), (5')	K. <i>uqar-vig-a-a</i> ... say _{iv} -iv\TV-M-S.O [...-ELA]	S. [...(C)] 'eka-se-de-yin-dí [...(C)] thus-O-TV-AM.S-say (A)	K. v- <i>qqu-va-a</i> v-tell _{viv} -M-S.O S. [...V] <i>se-de-yin-dí</i> [...V] O-AM-S-say (B-tv)

• *Intransitive report verbs: Spotlight on* ↑subject

(1) AGT(-Ω) + ↓Fin

E. Anne **said** (that) {I am pregnant, she_{se} is pregnant}.

K. Aani **uqar-pu-q** {naartu-su-nga, naartu-llu-ni} ≡ E

Aani say_{iv}-IND.IV-3s {pregnant-ELA₁.IV-1s pregnant-ELA_T-3s_T}

S. ...?

(1') AGT(-Ω) + ↓NFin (temporal *de se*)

E. Anne claimed {to be pregnant, to have been hit (by you)}.

K. Aani naartu-**nirar-pu-q**

Aani pregnant-say_{viv}-IND.IV-3s

Aani (ilin-nut) tillus-sima-**nirar-pu-q** ≡ E

Aani (you-sg.DAT) hit-prf-say_{viv}-IND.IV-3s

S. Simon ne-Ø-ji **ha-Ø-di**

Simon pvb-IPF.3s-be.scared **ha-IPF.3s-say**

'Simon said she/I was scared. (cf. Simon said: 'She's scared')

Simon rá-se-re-yi-ne-h-t'u, **ha-Ø-di**

Simon pvb-1s_{se}-CL-PFV-2s-tv-hit **ha-IPF.3s-say**

'Simon said you hit him (= se) (cf. Simon said: 'He_{you} hit me')

(2) EXP(-Ω) + ↓Fin

E. Anne **thinks** (that) {I am pregnant, she_{se} is pregnant}.

K. Aani **isuma-qar-pu-q** {naartu-su-nga, naartu-llu-ni}

Aani belief-have-IND.IV-3s {pregnant-ELA₁.IV-1s, pregnant-ELA_T-3s_T}

S. John 'erákie'ie wi-hsi ni **ko-d-i-h-sho**

John [parka 'PFV'.1s_{se}-make that] 3_Ω-TV-'PFV'.3s-tv-know

'John knows I made a parka.' (KR86:48)

(2') EXP(-Ω) + ↓NFin (temporal *de se*)

E. Anne **believes** herself_{se} [to be pregnant].

Anne **wants** [to get help (from you)]

K. Aani naartu-**suri-vu-q**

Aani pregnant-believe_{viv}-IND.IV-3s

Aani (ilin-nut) **ikiu-qqu-vu-q**

Aani (you-sg.DAT) help-want_{viv}-IND.IV-3s

S. 'eyá he-h-ti **ye-n-in-wen**

[sick pvb-'PFV'-1s_{se}-be] ye-ne-'PFV'.3s-want/think

'She thinks she_{se} is sick' (~ KR89:1293–4, cf. She thinks: 'I am sick')

be-ts'én rá-wo-n-dí **ye-n-in-wen**

[3s-to pvb-OPT-2s-help] ye-ne-'PFV'.3s-want/think

'He wants you to help {me, her}. (cf. He thinks: 'Let him_{you} help her.')

• *Transitive reports (1): Object linked to ↓se's 'res'*

(3) AGT-THM + ↓Fin

E. Anne **said about** one of my friends (that) {she_{res} was pregnant, he_{res} was in love with her_{se}}.

K. *Aani-p ikinnguti-ma ila-at uqa-atig-a-a*
Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg] say_{iv}-about-IND.TV-3s.3s

{*naartu-su-q, ajuuti-g-i-ni*}
{pregnant-ELA₁.IV-3s, in.love.with-ELA₁.TV-3s₁-3s_τ}

S. [*gee gá ra-ye-da gú*] *be-gow-ít- 'on*
[road along pvb-PRG.3s-walk C] 3s-PFV?-1p-find
'We found him while he was walking [back] along the road.' (KR89:1227)

(3') AGT-THM + ↓NFin (temporal *de se*)

E. Anne **reported** [one of my friends] {to be pregnant, to be in love with her_{se}}.

K. *Aani-p ikinnguti-ma ila-at naartu-nirar-pa-a.*
Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg] pregnant-say_{v_vv}-IND.TV-3s.3s

Aani-p ikinnguti-ma ila-at imminirmi-nik ajuutigi-nnin-nirar-pa-a.
Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg] ↑self-sg.MOD love-apass-say_{v_vv}-IND.TV-3s.3s

S. ...?

(4) EXP-THM + ↓Fin

E. Anne **believes about** one of my friends (that) {she_{res} is pregnant, he_{res} loves her_{se}}.

K. *Aani-p ikinnguti-ma ila-at isuma-qar-vig-a-a*
Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg] belief-have-iv\TV-IND.TV-3s.3s

{*naartu-su-q, ajuuti-g-i-ni*}
{pregnant-ELA₁.IV-3s, in.love.with-ELA₁.TV-3s₁-3s_τ}

S. '*abá se-ts'én rá-wo-dí* `` *y-u-de-Ø-li*
dad [1s_{se}-to pvb-OPT.3s_{SE:RES}-help]_{CP} 3s⁺-u-de-IPF.3s-want/think
'Dad thinks she should help me.'

(4') EXP-THM + ↓NFin (temporal *de se*)

E. Anne **believes** [one of my friends]_{se:res} {to be pregnant, to be in love with her_{se}}.

K. *Aani-p ikinnguti-ma ila-at naartu-sur(i-v)a-a.*
Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg] pregnant-believe_{v_vv}-IND.TV-3s.3s

Aani-p ikinnguti-ma ila-at imminirmi-nik ajuutigi-nnin-sur(i-v)a-a.
Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg] ↑self-sg.MOD love-apass-bel_{v_vv}-IND.TV-3s.3s

S. '*abá se-ts'én rá-wo-dí* `` *y-u-de-Ø-li*
dad [1s_{se}-to pvb-OPT.3s_{SE:RES}-help]_{CP} 3s⁺-u-de-IPF.3s-want/think
'Dad wants her to help him_{se}'. (cf. Dad thinks: 'She should help me.')

S. '*abá se-ts'én rá-wo-dí* `` *s-u-de-Ø-li*
dad [1s_{se}-to pvb-OPT.3s_{SE:RES}-help]_{CP} 1s-u-de-IPF.3s-want/think
'Dad wants me to help him_{se}'. (cf. Dad thinks: 'She_{me} should help me.')

• *Transitive reports (2):* ↑Object linked to ↓*se*'s 'you'

(5) AGT-EXP + ↓Fin

E. Anne **told** [one of my friends]₁ (that) {I was pregnant, she_{se} loved him₁}.

K. *Aani-p ikinnguti-ma ila-at uqar-vig-a-a*
 Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg] say_{iv-iv\}tv-IND.TV-3s.3s
 {*naartu-su-nga, asa-llu-gu*}
 {pregnant-ELA₁-1s love-ELA_τ-3s₁}

S. *Rachelle judin da-Ø-te nin 'eká-se-de-yin-di*
 Rachelle [where pvb-PFV.3s-go that] **thus**-1s-TV-PFV.3s-say (MB)
 'Rachelle told me where she was going.' (Rice 1989:1245)

(5') AGT-EXP + ↓NFin (temporal *de se*)

E. Anne **told** [one of my friends]₁ {to leave, to help her_{se}}.

K. *Aani-p ikinnguti-ma ila-at*
 Aani-ERG [friend-1s_τ.pl.ERG part.of-3p₁.sg]
 {*aalla-qqu-va-a imminirmi-nik ikiu-i-qqu-va-a*}
 {leave-tell_{viv}-IND.TV-3s.3s, ↑self-sg.MOD help-apass-tell_{viv}-IND.TV-3s.3s}

S. *te góhlinnin go-ts'é rá-w-í-t'a nax-ó-ke-di*
 [Norman Wells 3_π-to pvb-OPT-1p_{se}-go] 1p-CL-PFV.3p-say
 'They told us they (= *se*) were going to Norman Wells.'
 (cf. They told us: 'We_{se}'re going to Norman Wells.')

se-gha rá-wo-n-dí sé-d-i-n-di yilé
 [1s_{se}-for pvb-3s.OPT-2s_{se:u}-buy] 1s-TV-PFV-2s-say past
 'You told me to buy it for you.'
 (cf. You told me: 'You should buy it for me.')

2. REPORTS & INDEXICALS IN KALAALLISUT: OU ANALYSIS

• *Kalaallisut* lexicon:

pregnant-	U	[s s: EXP <i>pregnant</i> _{d_ω}]	...-IND
		[s s: EXP <i>pregnant</i>]	...-report v\ν
(1) <i>uqar-</i> ‘say _{viv} ’	U	[e pl e: AGT <i>say</i> _{d_ω} p]	~ Hintikka 1969
(1') <i>-nirar</i> ‘say _{viv} ’	U	[e pl (e: AGT <i>say</i> _{d_ω} p), (∃e ⊆ _p dσ), (AGT e = _p EXP dσ)]	<i>se</i> 's now+ <i>se</i>
(2') <i>-suri</i> ‘believe _{viv} ’	U	[s pl (s: EXP <i>bel</i> _{d_ω} p), (∃s ⊆ _p dσ), (EXP s = _p EXP dσ)]	<i>se</i> 's now+ <i>se</i>
(4') <i>-nirar</i> ‘say _{viv} ’	U	[e pl (e: AGT <i>say</i> _{d_ω} p), (∃e ⊆ _p dσ), (dk ^α <i>d</i> ωe = _p EXP dσ)]	<i>se</i> 's now+ <i>se</i> 's <i>res</i>
(5') <i>-suri</i> ‘believe _{viv} ’	U	[s pl (s: EXP <i>bel</i> _{d_ω} p), (∃s ⊆ _p dσ), (dk ^α <i>d</i> ωs = _p EXP dσ)]	<i>se</i> 's now+ <i>se</i> 's <i>res</i>
(3') <i>-qqu</i> ‘tell _{vvi} ’	U	[e pl (e: AGT <i>request</i> _{d_ω} p), (dε ⊆ _p ∅RES e), (EXP e = _p AGT dε), (dk ^α {e} = EXP e)]	<i>se</i> 's prospect + <i>se</i> 's <i>you</i>
-IND	U	^P [BEG dσ < _{d_ω} dε]; [dτ ⊆ _{d_ω} dσ];	factual report
	U	^P [dε < _{d_ω} dε]; [dε ⊆ _{d_ω} dτ];	
-ELA _T	U	^P [EXP dσ = dα]; [dτ ⊆ dσ]	elaboration
-ELA _L	U	^P [EXP dσ = dα]; [dτ ⊆ dσ]	
-1s	U	^P [sg dα, dα = _{d_ω} AGT dε]	
-3s _T	U	^P [sg dα, ¬ _{d_ω} (dα ○ (AGT dε + EXP dε))]	

• *Direct (de se) speech*(0_K) *Naartu-vu-nga*pregnant-IND-1s
'I am pregnant'

(S) Schlenker 2004

pregnant(c*_A, c*_T, c*_W)

indexical fnct.

(B) Bittner 2006

(Kaplan's ⟨c*_W, c*_T, c*_A, ...⟩ ~ MB ⟨^Tw*, ∅_{w*}^Te*, AGT_{w*}^Te*, ...⟩)*Start-up update* (cf. Kaplan 1978, Stalnaker 1978)[w| w = r]; [el e: AGT *speak.up*_{d_ω}]; [tl t =_{d_ω} ∅dε];^Tw*:• ^Te**Update by* (0_K)

|

^Tt* = ∅_{w*}^Te*

pregnant-

[s| s: EXP *pregnant*_{d_ω}];

—

s₁: EXP_{w*} s₁ prgn

-IND.

s₁: ^Te*-*real*, ^Tt*-*current*^P[| BEG dσ <_{d_ω} dε]; [| dτ ⊆_{d_ω} dσ];

.

• ∅_{w*}^TBEG_{w*} s₁ < ∅_{w*}^Te*

.IV

• t* ⊆ ∅_{w*} s₁^P[a| EXP dσ =_{d_ω} a];^Ta₁: s₁-*role*, ^Te*-*person*

-1s

• EXP_{w*} s₁ = ^Ta₁^P[| sg dα, dα =_{d_ω} AGT dε]• ^Ta₁ = AGT_{w*} e*

- \uparrow AGT + \downarrow Fin: *Spotlight on* \uparrow subject

(1_K) last.year Aani *say*_{iv}-IND.IV-3s pregnant-ELA_⊥.IV-1s
(last year Anne said I was pregnant)

temp. *co-specification*

(S) Schlenker 2004 (one construal)

$\exists t(t \subseteq \text{last.year.of } c^*_T$

$\wedge \forall c(c \in \text{say}(\text{anne}, t, c^*_W) \rightarrow \text{pregnant}(c^*_A, t, c_W))$)

temporal *de se*

(B) Bittner 2006

Presupposed input:

$\langle w^*, \langle \rangle, \langle \text{anne} \rangle \rangle$

Start-up update:

$[w | w = r]; [e | e: \text{AGT } \text{say.up}_{d\omega}]; [t | t =_{d\omega} \vartheta d\epsilon];$

$\top w^*:$

• $\top e^*$

|

$(\top) t^* = \vartheta_{w^*} e^*$

Update by (1_K):

siurna

last.year .sg (*if*)

$[k^\top k^\top \subseteq \text{last.year.of } \epsilon^*]; [t | t =_{d\omega} dk^\top \{d\epsilon\}]$

||

$\top t_1 \subseteq \text{last.yr. of } \top e^*$

Aani .sg (*if*)

$P[| d\alpha = \text{anne}]; [k^\alpha k^\alpha \sim d\alpha]; [a | a =_{d\omega} dk^\alpha \{d\epsilon\}]$

$\top a_1 = k^\alpha_1 w^* e^* = \text{anne}$

*say*_{iv}- (*uqar*-)

$[e | e: \text{AGT } \text{say}_{d\omega} p];$

•

$e_1: \text{AGT}_{w^*} e_1 \text{ say } p_1$

-IND.

$e_1: \top e^* \text{-real}, \top t_1 \text{-event}$

$P[| d\epsilon <_{d\omega} d\epsilon]; [| d\epsilon \subseteq_{d\omega} d\tau];$

• $\vartheta_{w^*} e_1 < \vartheta_{w^*} e^*$

.IV

• $\vartheta_{w^*} e_1 \subseteq \top t_1$

$P[| \text{AGT } d\epsilon =_{d\omega} d\alpha];$

$\top a_1: e_1 \text{-role}, \top e^* \text{-person}$

-3s

• $\text{AGT}_{w^*} e_1 = \top a_1$

$P[| \text{sg } d\alpha, \neg_{d\omega}(d\alpha \circ (\text{AGT } d\epsilon + \text{EXP } d\epsilon))]$

• $3s_{w^*, e^*} \top a_1$

pregnant-

$w_1 \in \top p_1$ (e_1 -speech)

$[s | s: \text{EXP } \text{pregnant}];$

—

$s_1 w_1: \text{EXP}_{w_1} s_1 w_1 \text{ pregnant}$

-ELA_⊥.IV

$s_1: \top t_1 \text{-curr.}$

$P[| \text{EXP } d\sigma = a]; [| d\tau \subseteq d\sigma];$

• $\top t_1 \subseteq \vartheta_{w_1} s_1 w_1$

-1s

$\perp a_2: s_1 \text{-role}, \top e^* \text{-person}$

$P[| \text{sg } d\alpha, d\alpha =_{d\omega} \text{AGT } d\epsilon]$

• $\text{EXP}_{w_1} s_1 w_1 = \perp a_2 = \text{AGT}_{w^*} e^*$

NB: This is *co-specification* of the topic time ($\vartheta_{w^*} e_1 \subseteq \top t_1 \subseteq \vartheta_{w_1} s_1 w_1$), not temporal *de se*.

(1_K²) last.year Aani *say*_{iv}-IND.IV-3s pregnant-ELA_T.IV-3s_T
 (Last Anne said she_{Anne} was pregnant)

temporal & individual
co-specification

(S) Schlenker 2004 (one construal)

$\exists t(t \subseteq \text{last.year.of } c^*_T$
 $\wedge \forall c(c \in \text{say}(\text{anne}, t, c^*_W) \rightarrow \text{pregnant}(c_A, t, c_W))$)

temporal & individual
de se

(B) Bittner 2006

Presupposed input:

$\langle w^*, \langle \rangle, \langle \text{anne} \rangle \rangle$

Start-up update:

$[w | w = r]; [e | e: \text{AGT } \text{say.up}_{d\omega}]; [t | t =_{d\omega} \vartheta d\epsilon];$

${}^T w^*: \bullet \quad {}^T e^*$
 $| \quad {}^T t^* = \vartheta_{w^*} e^*$

Update by (1_K²):

siurna

last.year .sg (*if*)

$[k^t | k^t \subseteq \text{last.year.of } \epsilon^*]; [t | t =_{d\omega} d\kappa^t \{d\epsilon\}]$

$\parallel \quad {}^T t_1 \subseteq \text{last.yr. of } {}^T e^*$

Aani .sg (*if*)

$P[| d\alpha = \text{anne}]; [k^\alpha | k^\alpha \sim d\alpha]; [a | a =_{d\omega} d\kappa^\alpha \{d\epsilon\}]$

${}^T a_1 = k^\alpha_1 w^* e^* = \text{anne}$

*say*_{iv}- (*uqar*-)

$[e | e: \text{AGT } \text{say}_{d\omega} p];$

$\bullet \quad e_1: \text{AGT}_{w^*} e_1 \text{ say } p_1$
 $e_1: {}^T e^* \text{-real}, {}^T t_1 \text{-event}$
 $\bullet \vartheta_{w^*} e_1 < \vartheta_{w^*} e^*$
 $\bullet \vartheta_{w^*} e_1 \subseteq {}^T t_1$
 ${}^T a_1: e_1 \text{-role}, {}^T e^* \text{-person}$
 $\bullet \text{AGT}_{w^*} e_1 = {}^T a_1$
 $\bullet 3s_{w^*, e^*} {}^T a_1$

-IND.

$P[| d\epsilon <_{d\omega} d\epsilon]; [l | d\epsilon \subseteq_{d\omega} d\tau];$

.IV

$P[| \text{AGT } d\epsilon =_{d\omega} d\alpha];$

-3s

$P[| \text{sg } d\alpha, \neg_{d\omega}(d\alpha \circ (\text{AGT } d\epsilon + \text{EXP } d\epsilon))]$

$w_1 \in {}^T p_1 \quad (e_1 \text{-speech})$

pregnant-

$[s | s: \text{EXP } \text{pregnant}];$

— $\underline{s}_1 w_1: \text{EXP}_{w_1} \underline{s}_1 w_1 \text{ pregnant}$

-ELA_T

$P[| \text{EXP } d\sigma = d\alpha]; [l | d\tau \subseteq d\sigma];$

$\underline{s}_1: {}^T t_1 \text{-curr.}$

-3s_T

$P[| \text{sg } d\alpha, \neg_{d\omega}(d\alpha \circ (\text{AGT } d\epsilon + \text{EXP } d\epsilon))]$

$\bullet {}^T t_1 \subseteq \vartheta_{w_1} \underline{s}_1 w_1$
 ${}^T a_2: \underline{s}_1 \text{-role}, {}^T e^* \text{-person}$

$\bullet \text{EXP}_{w_1} \underline{s}_1 w_1 = {}^T a_1$

$\bullet 3s_{w^*, e^*} {}^T a_1$

NB: This is *co-specification* of the α -topic ($\text{AGT}_{w^*} e_1 = {}^T a_1 = \text{EXP}_{w_1} \underline{s}_1 w_1$), not individual *de se*.

- \uparrow AGT + \downarrow NFin: *Spotlight on* [\uparrow subject = \downarrow *se*] + *temporal de se*

(1_K) last.year Aani pregnant-*say*_{viv}-IND.IV-3s
(Last year Anne claimed to be pregnant)

temporal & individual *de se*

(S) Schlenker 2004 (one construal)

$\exists t(t \subseteq \text{last.year.of } c^*_T$
 $\wedge \forall c(c \in \text{say}(\text{anne}, t, c^*_W) \rightarrow \text{pregnant}(c_A, t, c_W)))$

temporal & individual
de se

(B) Bittner 2006

Presupposed input:

$\langle w^*, \langle \rangle, \langle \text{anne} \rangle \rangle$

Start-up update:

[w| w = r]; [e| e: AGT *speak.up*_{d_o}]; [t| t =_{d_o} ϑ d ϵ];

$\top w^*$: • $\top e^*$
| $\top t^* = \vartheta_{w^*} e^*$

Update by (1_K):

siurna

last.year .sg (*if*)

[k^t | $k^t \subseteq \text{last.year.of } \epsilon^*$]; [t| t =_{d_o} $d\kappa^t\{d\epsilon\}$]

|| $\top t_1 \subseteq \text{last.yr. of } \top e^*$

Aani .sg (*if*)

$P[| d\alpha = \text{anne}]$; [k^{α} | $k^{\alpha} \sim d\alpha$]; [a| a =_{d_o} $d\kappa^{\alpha}\{d\epsilon\}$]

$\top a_1 = k^{\alpha}_1 w^* e^* = \text{anne}$

pregnant-

[\underline{s} | \underline{s} : EXP *pregnant*];

• e_1 : AGT_{w*} e_1 say p_1
 $w_1 \in p_1$ (e_1 -speech)

-*say*_{viv}- (*nirar*_{iv})

[e | p_1 (e: AGT *say*_{d_o} p),

($\vartheta e \subseteq_p d\sigma$), (temporal *de se*)

(AGT $e =_p$ EXP $d\sigma$); (individual *de se*)

$\underline{s}_1 w_1$: EXP_{w*} $\underline{s}_1 w_1$ prgn
 \underline{s}_1 : e_1 -**current**, e_1 -**person**

• $\vartheta_{w_1} e_1 \subseteq \vartheta_{w_1} \underline{s}_1 w_1$

• Ist_{w_1, e_1} EXP $\underline{s}_1 w_1$

e_1 : $\top e^*$ -**real**, $\top t_1$ -**event**

• $\vartheta_{w^*} e_1 < \vartheta_{w^*} e^*$

• $\vartheta_{w^*} e_1 \subseteq \top t_1$

$\top a_1$: e_1 -**role**, $\top e^*$ -**person**

• AGT_{w*} $e_1 = \top a_1$

• $3s_{w^*, e^*} \top a_1$

-IND.

$P[| d\epsilon <_{d\omega} d\epsilon]$; [$| d\epsilon \subseteq_{d\omega} d\tau$];

.IV

$P[| \text{AGT } d\epsilon =_{d\omega} d\alpha]$;

-3s

$P[| \text{sg } d\alpha, \neg_{d\omega}(d\alpha \circ (\text{AGT } d\epsilon + \text{EXP } d\epsilon))]$

NB: This is *individual de se* (AGT_{w₁} $e_1 = \text{EXP}_{w_1} \underline{s}_1 w_1$), as well as *temporal de se* ($\vartheta_{w_1} e_1 \subseteq \vartheta_{\underline{s}_1 w_1}$).

If the agent of e_1 is uncertain about his identity and/or the time of e_1 , then these conditions may hold, while the corresponding co-specification conditions fail, and vice versa.

- \uparrow AGT-THM + \downarrow NFin: \uparrow Obj *linked to* \downarrow se's 'res' + temporal *de se*

(3' κ) last.year Aani-ERG [friend-1s.pl.ERG part-3p \perp .sg] pregnant-say ν -IND.TV-3s.3s
(Last year Anne reported [one of my friends] to be pregnant)

(B) Bittner 2006

Presupposed input:

$\langle w^*, \langle \rangle, \langle anne \rangle \rangle$

Start-up update:

[w| w = r]; [e| e: AGT speak.up d_{do}]; [t| t = d_{do} ϑ d ϵ];

Update by (3' κ):

- | | |
|---|--|
| <p>1 last.year .sg (if)
[k$^{\alpha}$ k$^{\alpha}$ \subseteq last.year.of ϵ]; [t t = d_{do} dk$^{\alpha}${dϵ}]</p> <p>2 Aani .sg.ERG (if)
P[dα = anne]; [k$^{\alpha}$ k$^{\alpha}$ \sim dα]; [a a = d_{do} dk$^{\alpha}${dϵ}]</p> <p>3.1 friend.of- -1s.
[k$^{\alpha}$$_{\alpha}$ k$^{\alpha}$$_{\alpha}$ Dfriend.of α]; P[sg AGTd_{de} dϵ]
.pl.ERG (ib)
[k$^{\alpha}$ k$^{\alpha}$ = dαk$^{\alpha}$(AGTd_{do} dϵ), pl k$^{\alpha}$]; [a a = d_{do} dk$^{\alpha}${dϵ}]</p> <p>3.2 part.of- -3p\perp.
[k$^{\alpha}$$_{\alpha}$ k$^{\alpha}$$_{\alpha}$ \subseteq α]; P[pl dα, $\neg$$\text{d}_{\text{do}}$(d$\alpha$ \circ (AGT dϵ + EXP dα))];
.sg. (ib)
[k$^{\alpha}$ k$^{\alpha}$ = dαk$^{\alpha}$(dα), sg k$^{\alpha}$]; [a a = d_{do} dk$^{\alpha}${dϵ}]</p> <p>4.1 pregnant-
[s s: EXP pregnant];</p> <p>4.2 -sayν- (-nirarν)
[e pl (e: AGT sayd_{do} p),
(ϑe $\subseteq$$_p$ dσ), (temporal <i>de se</i>)
(dk$^{\alpha}$$\text{d}_{\text{do}}$e =$_p$ EXP dσ)] (\underline{s}_2 anchored to e_1-res)</p> <p>4.3 -IND.
P[dϵ <d_{do} dϵ]; [l dϵ $\subseteq$$\text{d}_{\text{do}}$ dτ];
.TV
P[AGT dϵ = d_{do} dα, $\neg$$\text{d}_{\text{do}}$(d$\alpha$ \circ dk$^{\alpha}${dϵ})];</p> <p>4.4 -3s.
P[sg dα, $\neg$$\text{d}_{\text{do}}$(d$\alpha$ \circ (AGT dϵ + EXP dϵ))]
.3s
P[sg dα, $\neg$$\text{d}_{\text{do}}$(d$\alpha$ \circ (AGT dϵ + EXP dϵ))]; [l dk$^{\alpha}${dϵ} = d_{do} dα]</p> | <p>$\top w^*$: • $\top e^*$
 $\top t^* = \vartheta_{w^*} e^*$</p> <p> $\top t_1 \subseteq$ last.yr. of $\top e^*$</p> <p>$\top a_1 = k^{\alpha}_1 w^* e^* = anne$</p> <p>$k^{\alpha}_2$: friends of AGT$\text{w}^*$ e^*
$\text{d}_{\perp} a_2 = k^{\alpha}_2 w^* e^*$
$\text{d}_{\perp} k^{\alpha}_3$: one of a_2-group
$\text{d}_{\perp} a_3 = k^{\alpha}_3 w^* e^*$</p> <p>• e_1: AGTw^* e_1 say p_1
$w_1 \in p_1$ (e_1-speech)</p> <p>— $\underline{s}_1 w_1$: EXPw^* $\underline{s}_1 w_1$ prgn
\underline{s}_1: e_1-current, e_1-res
• $\vartheta_{w_1} e_1 \subseteq \vartheta_{w_1} \underline{s}_1 w_1$
• EXP $\underline{s}_1 w_1 = k^{\alpha}_3 w^* e_1$
e_1: $\top e^*$-real, $\top t_1$-event
• $\vartheta_{w^*} e_1 < \vartheta_{w^*} e^*$
• $\vartheta_{w^*} e_1 \subseteq \top t_1$
$\top a_1$: e_1-role, $\top e^*$-person
• AGTw^* $e_1 = \top a_1$
• $3s_{w^*, e^*} \top a_1$
$\text{d}_{\perp} a_3$: e_1-role, $\top e^*$-person
• $k^{\alpha}_3 w^* e_1 = \text{d}_{\perp} a_3$
• $3s_{w^*, e^*} \text{d}_{\perp} a_3$</p> |
|---|--|

(3" κ) We left Bergen on May 3, 1721, and reached Greenland on July 3. About two miles from land,...

qaanna-t pingasu-t naapip-pa-vut.

kayak(man)-pl three-pl meet-IND.TV-1p.3p

...we met three kayakmen.

Taku-qqaar-a-tsigik puisi-t pingasu-u-suri-galuar-pa-vut.

see-first-FCT \top -1p.3p seal-pl three-be-believe ν -...but-IND.TV-1p.3p

When we first saw them, we mistook them for three seals. (*lit.* believed them to be...but...)

- \uparrow AGT-EXP + \downarrow NFin: \uparrow Obj *linked to* \downarrow se's 'you' + temporal *de se*

(5'K) last.year A.-ERG [friend-1s.pl.ERG part-3p₁.sg] \uparrow self-sg.MOD help-apass-*tell*_{v_v}-IND.TV-3s.3s
(Last year Anne asked [one of my friends] to help her_{se})

(B) **Presupposed input:**

$\langle w^*, \langle \rangle, \langle anne \rangle \rangle$

Start-up update:

[w| w = r]; [e| e: AGT *speak.up*_{d_{wo}}]; [t| t =_{d_{wo}} ϑ d ϵ];

Update by (5'K):

- | | |
|---|--|
| <p>1 last.year .sg (<i>if</i>)
[k^v k^v \subseteq last.year.of ϵ^*]; [t t =_{d_{wo}} dκ^v{dϵ}]</p> <p>2 Aani .sg.ERG (<i>if</i>)
P[dα = anne]; [k^v k^v \sim dα]; [a a =_{d_{wo}} dκ^v{dϵ}]</p> <p>3.1 friend.of- -1s.
[k^v k^v α^D friend.of α]; P[sg AGT_{dϵ} dϵ]
.pl.ERG (<i>ib</i>)
[k^v k^v = dαk^v(AGT_{d_{wo}} dϵ), pl k^v]; [a a =_{d_{wo}} dκ^v{dϵ}]</p> <p>3.2 part.of- -3p₁.
[k^v k^v $\alpha \subseteq \alpha$]; P[pl dα, \neg_{d_{wo}}(d$\alpha \circ$ (AGT dϵ + EXP dα))];
.sg. (<i>ib</i>)
[k^v k^v = dαk^v(dα), sg k^v]; [a a =_{d_{wo}} dκ^v{dϵ}];</p> <p>4 \uparrowself- -sg.MOD
[k^v k^v $\epsilon(\epsilon) \sim$ AGT ϵ]; P[sg dϵk^v];</p> <p>5.1 help-
[e_v e_v: AGT <i>help</i> dϵk^v];</p> <p>5.2 apass-
[AGT dϵe = AGT dϵk^v];</p> <p>5.3 -tell_{v_v}- (-<i>qqu</i>_v)
[e pl (e: AGT <i>request</i>_{d_{wo}} p),
(dϵe(e) \subseteq_p ϑRES e),
(EXP e =_p AGT dϵe(e))];
(dκ^v{e} = EXP e)]</p> <p>5.4 -IND.
P[dϵ <_{d_{wo}} dϵ]; [dϵ \subseteq_{d_{wo}} dτ];
.TV
P[AGT dϵ =_{d_{wo}} dα, \neg_{d_{wo}}(d$\alpha \circ$ dκ^v{dϵ})];</p> <p>5.5 -3s.
P[sg dα, \neg_{d_{wo}}(d$\alpha \circ$ (AGT dϵ + EXP dϵ))]
.3s
P[sg dα, \neg_{d_{wo}}(d$\alpha \circ$ (AGT dϵ + EXP dϵ))]; [dκ^v{dϵ} =_{d_{wo}} dα]</p> | <p>$\top w^*$: • $\top e^*$
 $\top t^* = \vartheta_{w^*} e^*$</p> <p> $\top t_1 \subseteq$ last.yr. of $\top e^*$</p> <p>$\top a_1 = k^v_1 w^* e^* = anne$</p> <p>$k^v_2$: friends of AGT_{w[*]} e[*]
$\triangleleft a_2 = k^v_2 w^* e^*$
$\perp k^v_3$: one of a₂-group
$\perp a_3 = k^v_3 w^* e^*$</p> <p>• e₁: AGT_{w[*]} e₁ requests p₁
w₁ \in p₁ (e₁-request)
 ϑ_{w_1} RES_{w₁} e₁: e₁-res.time</p> <p>• [e_v]₂e₁w₁ := e₂
AGT_{w₁} e₂ helps [k^v]₂e₁w₁e₂
e₂: e₁-<i>prosp. act. by</i> e₁-<i>you</i>
• $\vartheta_{w_1} e_2 \subseteq \vartheta_{w_1}$ RES_{w₁} e₁
• EXP_{w₁} e₁ = AGT_{w₁} e₂
• $\forall w$: EXP_w e₁ = k^v₃w e₁
[k^v]₂: e₁-<i>se, inst'd in</i> e₂
• [k^v]₂e₁ \sim AGT e₁
so [k^v]₂e₁w₁e₂ = AGT_{w₁} e₁
e₁: $\top e^*$-<i>real</i>, $\top t_1$-<i>event</i>
• $\vartheta_{w^*} e_1 < \vartheta_{w^*} e^*$
• $\vartheta_{w^*} e_1 \subseteq \top t_1$
$\top a_1$: e₁-<i>role</i>, $\top e^*$-<i>person</i>
• AGT_{w[*]} e₁ = $\top a_1$
• $3_{s_{w^*, e^*}} \top a_1$
$\perp a_3$: e₁-<i>role</i>, $\top e^*$-<i>person</i>
• k^v₃w[*]e₁ = $\perp a_3$
• $3_{s_{w^*, e^*}} \perp a_3$</p> |
|---|--|

(5'K'') ...talli-mi aappa-a-nik ussitar-pa-a-nga nipaar-sa-qqu-llu-nga.
...[arm-3s_T.sg.ERG pairmate-3s.sg.MOD signal-IND.TV-3s.1s] yell-stop-tell-ELA_T-1s
...he signalled to me with one hand, [thus] ordering me to stop yelling. (Bittner 2005:359)

3. REPORTS & INDEXICALS IN SLAVE: OU ANALYSIS

• *Slave lexicon:*

hit-	U	[$e e$: AGT $hit_{d\omega} d\kappa^\alpha$]	e.g. -IND-hit
	U	[$\underline{e} \underline{e}$: AGT $hit_{d\omega} d\kappa^\alpha$]	e.g. [...-hit] know
	U	[$\underline{e}_\varepsilon \underline{e}_\varepsilon$: AGT $hit_{d\omega} d\kappa^\alpha$]	e.g. [...-hit] say _{iv}
	U	[$\underline{e}_\sigma \underline{e}_\sigma$: AGT $hit_{d\omega} d\kappa^\alpha$]	e.g. [...-hit] think _{iv}
(1) -say	U	...	
(1') pvb-	U	[$p p = \text{Dom } d\underline{\varepsilon}$]	
-know	U	^P [$d\omega \in d\Omega$]; [$d\sigma$: EXP $believe_{d\omega} d\Omega$]	~ Hintikka 1969
(2') pvb-	U	[$s p p = \text{Dom } d\sigma\underline{\varepsilon}(s)$]	
-want/think _{iv}	U	[$d\sigma$: EXP $think_{d\omega} d\Omega$]	~ Hintikka 1969
(4') pvb-	U	[$e p p = \text{Dom } d\varepsilon\underline{\varepsilon}(e), e \notin_{d\omega} \text{Dom EXP}$]	
-say _{iv}	U	[$d\varepsilon$: AGT $say_{d\omega} d\Omega$]	~ Hintikka 1969
(5') pvb-	U	[$s p p = \text{Dom } d\sigma\underline{\varepsilon}(s)$]	
-want/think _{iv}	U	[$d\sigma$: EXP $think_{d\omega} d\Omega$]	~ Hintikka 1969
(3') pvb-	U	[$e p p = \text{Dom } d\varepsilon\underline{\varepsilon}(e)$]	
-say.to _{iv}	U	[$d\varepsilon$: AGT $say_{d\omega} d\Omega$]	~ Hintikka 1969
-OPT	U	^P [$d\sigma$: EXP $want_{d\omega} \text{Dom } d\underline{\varepsilon}$]; [$d\underline{\varepsilon} \subseteq \text{RES BEG } d\sigma$]	e.g. [...OPT] know
-OPT _{se}	U	^P [σ : EXP $want_{d\omega} \text{Dom } d\sigma\underline{\varepsilon}$]; [$d\sigma\underline{\varepsilon} \subseteq \text{RES BEG } \sigma$]	e.g. [...OPT] think _{iv}
-IND	U	^P [$\text{BEG } d\sigma <_{d\omega} d\varepsilon$]; [$d\tau \subseteq_{d\omega} d\sigma$]; U ^P [$d\varepsilon <_{d\omega} d\varepsilon$]; [$d\varepsilon \subseteq_{d\omega} d\tau$]; U ^P [$\text{BEG } d\sigma < d\varepsilon$]; [$d\tau \subseteq d\sigma$]; U ^P [$d\underline{\varepsilon} < d\varepsilon$]; [$d\underline{\varepsilon} \subseteq d\tau$];	e.g. [...IND] know
-IND _{se}	U	^P [$\text{BEG } d\sigma\underline{\sigma} < \sigma$]; [$\text{RES } d\sigma \subseteq d\sigma\underline{\sigma}$]; U ^P [$d\sigma\underline{\varepsilon} < \sigma$]; [$d\sigma\underline{\varepsilon} \subseteq \text{RES } \sigma$];	e.g. [...IND] think _{iv}
-STA	U	^P [$\text{BEG } d\sigma <_{d\omega} d\varepsilon$]; [$d\tau \subseteq_{d\omega} d\sigma$]; U ^P [$\text{BEG RES } d\varepsilon <_{d\omega} d\varepsilon$]; [$d\tau \subseteq_{d\omega} \text{RES } d\varepsilon$]; U ^P [$\text{BEG } d\sigma < d\varepsilon$]; [$d\tau \subseteq d\sigma$]; U ^P [$\text{BEG RES } d\underline{\varepsilon} < d\varepsilon$]; [$d\tau \subseteq \text{RES } d\underline{\varepsilon}$];	KR 'IPF'
-STA _{se}	U	^P [$\text{BEG } d\sigma\underline{\sigma} < \sigma$]; [$\text{RES } d\sigma \subseteq d\sigma\underline{\sigma}$]; U ^P [$\text{BEG RES } d\sigma\underline{\varepsilon} < \sigma$]; [$\text{RES } d\sigma \subseteq \text{RES } d\sigma\underline{\varepsilon}$];	e.g. [...STA] know
-1s	U	^P [$\text{AGT } d\underline{\varepsilon} = \text{AGT } d\varepsilon$]	e.g. [...STA] think _{iv}
-1s _{se}	U	^P [$\text{AGT } d\varepsilon\underline{\varepsilon} = \text{AGT } \varepsilon$]	Kaplan's '1s' ↓ _{se}

• *Direct (de se) speech*(0_S) *rá-se-re-yi-ne-h-t'u*

pvb-1s-CL-'PFV'-2s-tv-hit

pvb-1s-CL-IND-2s-tv-hit (KR 'PFV' = MB 'IND')

'You hit me'

(S) Schlenker 2004?

 $hit(c^*_U, c^*_A, c^*_T, c^*_W)$

indexical fnct.

(B) Bittner 2006

Start-up update[w| w = r]; [el e: AGT *speak.up*_{dω}]; [tl t =_{dω} θdε];**Update by** (0_S)

1.1 pvb-

[el];

1.2 -1s

-CL

 $P[al \text{ AGT } dε =_{dω} a]; [k^α | dα =_{dω} k^α \{dε\}]; [l \text{ CL } dκ^α];$

1.3 -IND. (topical instant)

 $P[l \text{ } dε <_{dω} dε]; [l \text{ } dτ \subseteq_{dω} \text{ RES } dε];$

1.4 -2s

 $P[al \text{ EXP } dε =_{dω} a, a =_{dω} \text{ AGT } dε];$

1.5 -tv

 $P[l \neg_{dω} (\text{AGT } dε \circ dκ^α \{dε\})];$

-hit

[l dε: AGT *hit*_{dω} dκ^α] $\top w^*: \bullet$
| $\top e^*$ $\top t^* = \vartheta_{w^*} e^*$ **AM-type** $e_1, (\text{RES}_{w^*} e_1)$ $\perp a_2: \top e^* \text{-pers}, e_1 \text{-role}$ • $Is_{w^*, e^*} \perp a_2$ • $\perp a_2 = k^α {}_2 w^* e_1$ $e_1: \top e^* \text{-real}, \top t^* \text{-curr.rs}$ • $\vartheta_{w^*} e_1 < \vartheta_{w^*} e^*$ • $t^* \subseteq \vartheta_{w^*} \text{ RES}_{w^*} e_1$ $\top a_1: \top e^* \text{-pers}, e_1 \text{-role}$ • $2s_{w^*, e^*} \top a_1$ • $\top a_1 = \text{AGT}_{w^*} e_1$ $e_1 \text{-description}$ • $\text{AGT}_{w^*} e_1 \text{ hit } k^α {}_2 w^* e_1$

- \uparrow EXP + \downarrow Fin: *Spotlight on* \uparrow subject

(2_s) John [parka pvb_∅-3s_∅-IND.1s-make that] 3_∅-TV-IND.3s-tv-know temp. *co-specification*
(John knows I made a parka)

(B) *Presupposed input:*

$\langle w^*, \langle \rangle, \langle john \rangle \rangle$

Start-up update:

[w| w = r]; [e| e: AGT *speak.up*_{d_ω}]; [t| t =_{d_ω} ϑ d $\underline{\epsilon}$]; $\uparrow w^*$:

Update by (2_s):

<p>1 John .sg (<i>if</i>) P[dα = <i>john</i>]; [kα kα ~ dα]; [a a =_{d_ω} dκ^α{d$\underline{\epsilon}$}]</p> <p>2 parka [kβ parka kβ];</p> <p>3.1 pvb_∅- [e];</p> <p>3.2 -3s_∅ P[b sg b]; [l dβ = dκ^β{d$\underline{\epsilon}$}];</p> <p>3.3 -IND. (topical instant) P[d$\underline{\epsilon}$ < d$\underline{\epsilon}$]; [l dτ \subseteq RES d$\underline{\epsilon}$];</p> <p>3.4 -1s P[AGT_{d_ω} d$\underline{\epsilon}$ = AGT d$\underline{\epsilon}$];</p> <p>3.5 -make [l d$\underline{\epsilon}$: AGT <i>make</i> dκ^α]</p> <p>4 that [p p = Dom d$\underline{\epsilon}$]</p> <p>5.1 pvb_∅- [s];</p> <p>5.2 -3s_∅-TV [kΩ dΩ =_{d_ω} kΩ{dσ}];</p> <p>5.3 -IND. (topical instant) P[BEG dσ <_{d_ω} d$\underline{\epsilon}$]; [l dτ \subseteq_{d_ω} dσ];</p> <p>5.4 -3s P[\neg_{d_ω}(dα \circ (AGT d$\underline{\epsilon}$ + EXP d$\underline{\epsilon}$)), (dα =_{d_ω} EXP dσ)];</p> <p>5.5 -know P[dω \in_{d_ω} dΩ]; [l dσ: EXP <i>believe</i>_{d_ω} dΩ]</p>	<p>$\uparrow w^*$:</p> <p>• $\uparrow e^*$</p> <p> $(\uparrow) t^* = \vartheta_{w^*} e^*$</p> <p>$\uparrow a_1 = k^\alpha_1 w^* e^* = john$</p> <p>$\perp k^\beta_2$: parka</p> <p>$w_3 \in \text{Dom } \underline{e}_3 = p_4$ AM-type</p> <p>•(—) $\underline{e}_1 w_1, (\text{RES}_{w_1} \underline{e}_1 w_1)$</p> <p>$\downarrow O$: $\uparrow e^*$-<i>pers</i>, \underline{e}_1-<i>role</i></p> <p>• $3s_{w^*, e^*} \perp b_2$</p> <p>• $\perp b_2 = k^\beta_2 w_1 \underline{e}_1 w_1$</p> <p>$\underline{e}_1$: $\uparrow e^*$-<i>real</i>, $\uparrow t^*$-<i>curr.rs</i></p> <p>• $\vartheta_{w_1} e_1 < \vartheta_{w_1} e^*$</p> <p>• $t^* \subseteq \vartheta_{w_1} \text{RES}_{w_1} e_1$</p> <p>$\downarrow S$: $\uparrow e^*$-<i>pers</i>, \underline{e}_1-<i>role</i></p> <p>• $\text{AGT}_{w_1} e^* = \text{AGT}_{w_1} \underline{e}_1 w_1$</p> <p>$\underline{e}_1$: <i>description</i></p> <p>• $\text{AGT}_{w^*} e_1 \text{ make } k^\alpha_2 w^* e_1$</p> <p>AM-type</p> <p>$\uparrow w^*$ — s_2:</p> <p>$\uparrow O$: s_2-<i>role</i></p> <p>• $3s_{w^*, e^*} \perp p_4$</p> <p>• $\perp p_4 = k^\Omega_4 w^* s_2$</p> <p>$s_2$: $\uparrow e^*$-<i>real</i>, $\uparrow t^*$-<i>current</i></p> <p>• $\vartheta_{w^*} \text{BEG}_{w^*} s_2 < \vartheta_{w^*} e^*$</p> <p>• $t^* \subseteq \vartheta_{w^*} s_2$</p> <p>$\uparrow S$: $\uparrow e^*$-<i>pers</i>, s_2-<i>role</i></p> <p>• $3s_{w^*, e^*} \uparrow a_1$</p> <p>• $\uparrow a_1 = \text{EXP}_{w^*} s_2$</p> <p>$s_2$-<i>description</i></p> <p>• $\text{EXP}_{w^*} s_2 \text{ knows } p_4$</p>
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NB: This is *co-specification* of the topic time ($\uparrow t^* \subseteq \vartheta_{w_1} \text{RES } \underline{e}_1 w_1$, $\uparrow t^* \subseteq \vartheta_{w^*} s_1$), not temporal *de se*.

- \uparrow EXP + \downarrow NFin: *Spotlight on* [\uparrow subject = \downarrow se] + temporal *de se*

(2'_S) [sick pvb-IND_{se}.1s_{se}-be] ye-ne-IND.3s-want/think
(She thinks she_{se} is sick.)

temp. & indiv. *de se*

(B) **Presupposed input:**

$\langle w^*, \langle a_1 \rangle, \langle \rangle \rangle$

Start-up update:

[w| w = r]; [e| e: AGT *speak.up*_{d_ω}]; [t| t =_{d_ω} ϑ dε]; $\top w^*$: •

Update by (2'_S): |

1 sick

[k^α | sick k^α];

$w_2 \in \text{Dom } [\underline{s}_\varepsilon]_2 s_3$

$\top e^*$

(\top) $t^* = \vartheta_{w^*} e^*$

$\perp k^\alpha_2$: sick EXP

2.1 pvb-

[\underline{s} |];

AM-type:

[\underline{s}_σ]₂s₃:

[\underline{s}_σ]₂s₃: s₃-*real*, s₃-*current*

2.2 -IND_{se}.

$\text{P}[| \text{BEG } d\sigma \underline{\sigma} < \sigma]; [| \vartheta \sigma \subseteq d\sigma \underline{\sigma}];$

• $\text{BEG}_{w_2} [\underline{s}_\sigma]_2 s_3 w_2 < \vartheta_{w_2} s_3$

• $\vartheta_{w_2} s_3 \subseteq \vartheta [\underline{s}_\sigma]_2 s_3 w_2$

2.3 -1s_{se}

$\text{P}[| \text{EXP } \sigma = \text{EXP } d\sigma \underline{\sigma}];$

\downarrow S: s₃-*pers*, [\underline{s}_σ]₂s₃-*role*

• $\text{EXP}_{w_2} s_3 = \text{EXP}_{w_2} [\underline{s}_\sigma]_2 s_3 w_2$

2.4 -be

[| EXP $d\sigma \underline{\sigma} = dk^\alpha \{d\sigma \underline{\sigma}\}$]

[\underline{s}_σ]₂s₃-*description*

• $\text{EXP}_{w_2} ([\underline{s}_\sigma]_2 s_3 w_2)$

= $k^\alpha_2 w_2 ([\underline{s}_\sigma]_2 s_3 w_2)$

3.1 ye-ne-

[s p | p = Dom $d\sigma \underline{\sigma}(s)$];

$\top w^*$: —

AM-type

s₃: p₃ = Dom [\underline{s}_σ]₂s₃

s₃: $\top e^*$ -*real*, $\top t^*$ -*current*

3.2 -IND.

$\text{P}[| \text{BEG } d\sigma <_{d\omega} d\varepsilon]; [| d\tau \subseteq_{d\omega} d\sigma];$

• $\vartheta_{w^*} \text{BEG}_{w^*} s_3 < \vartheta_{w^*} e^*$

3.3 -3s

$\text{P}[| \neg_{d\omega} (d\alpha \circ (\text{AGT } d\varepsilon + \text{EXP } d\varepsilon)), (d\alpha =_{d\omega} \text{EXP } d\sigma)];$

• $t^* \subseteq \vartheta_{w^*} s_3$

3.4 -*think*

[| dσ: EXP *think*_{d_ω} dΩ]

\uparrow S: $\top e^*$ -*pers*, s₃-*role*

• $3s_{w^*, e^*} \top a_1$

• $\top a_1 = \text{EXP}_{w^*} s_3$

s₃-*description*

• $\text{EXP}_{w^*} s_3$ think p₄

(2'_S²) [3s_{se}-to pvb-OPT_{se}-2s-help] *ye-ne*-IND.3s-want/think
 (He wants you to help {me, her}
 cf. He thinks: 'Let him_{you} help her.')

temp. & indiv. *de se*

(B) **Presupposed input:**

$\langle w^*, \langle a_1 \rangle, \langle a_2 \rangle \rangle$

Start-up update:

[**w** | **w** = *r*]; [**e** | **e**: AGT *speak.up*_{d_ω}]; [**t** | **t** =_{d_ω} ϑ **dε**]; [⊤]*w**: •

Update by (2'_S):

1 3s_{se}-
^P[**e**_σ | $\neg(d\alpha \circ (\text{EXP } \sigma + \text{AGT } \underline{e}_\sigma))$];
 -to
 [| EXP *dσ*_ε = *dα*];

[⊤]*e**
 (⊤)*t** = $\vartheta_{w^*} e^*$
AM-type
 [**e**_σ]₁*s*₃*w*₁
 \Downarrow D: [**e**_σ]₁*s*₃-**pers, -role**
 • $\neg(a_2 \circ (\text{EXP}_{w_1} s_3$
 $+ \text{AGT}_{w_1} [\underline{e}_\sigma]_1 s_3 w_1))$
 • $\text{EXP}_{w_1} [\underline{e}_\sigma]_1 s_3 w_1 = a_2$
 [**e**_σ]₁*s*₃: *s*₃-**desire, s**₃-**prosp.**
 • *s*₃: $\text{EXP}_{w^*} s_3$ wnt Dom [**e**_σ]₁*s*₃
 • $\vartheta[\underline{e}_\sigma]_1 s_3 w_1$
 $\subseteq \vartheta_{w_1} \text{RES}_{w_1} \text{BEG}_{w_1} s_3$
 \Downarrow S: [⊤]*e**-**pers, [e**_σ]₁*s*₃-**role**
 • $\text{EXP}_{w^*} e^* = \text{AGT}_{w_1} [\underline{e}_\sigma]_1 s_3 w_1$
[e_σ]₁*s*₃-**description**
 • $\text{EXP}_{w^*} e^* \text{help } \perp a_2$
[⊤]*w**: — **AM-type**
*s*₃: *p*₃ = Dom [**e**_σ]₁*s*₃
*s*₃: [⊤]*e**-**real, ⊤***t**-**current**
 • $\vartheta_{w^*} \text{BEG}_{w^*} s_3 < \vartheta_{w^*} e^*$
 • $t^* \subseteq \vartheta_{w^*} s_3$
 \Uparrow S: [⊤]*e**-**pers, s**₃-**role**
 • $3s_{w^*, e^*} \perp a_1$
 • $\perp a_1 = \text{EXP}_{w^*} s_3$
*s*₃-**description**
 • [⊤]*a*₁ thinks *p*₄

2.1 pvb-
 [|];

2.2 -OPT_{se}
^P[| **σ**: EXP *want*_{d_ω} Dom *dσ*_ε]; [| *dσ*_ε \subseteq ϑ RES BEG **σ**];

2.3 -2s
^P[| EXP_{d_ω} **dε** = AGT *dσ*_ε];

2.4 -help
 [| *dσ*_ε: AGT *help* EXP]

3.1 *ye-ne*-
 [*s p* | *p* = Dom *dσ*_ε(*s*)];

3.2 -IND.
^P[| BEG *dσ* <_{d_ω} **dε**]; [| **dτ** \subseteq _{d_ω} *dσ*];

3.3 -3s
^P[| $\neg_{d\omega}(\mathbf{d}\alpha \circ (\text{AGT } \mathbf{d}\varepsilon + \text{EXP } \mathbf{d}\varepsilon)), (\mathbf{d}\alpha =_{d\omega} \text{EXP } d\sigma)$];

3.4 -**think**
 [| *dσ*: EXP *think*_{d_ω} *dΩ*]

- \uparrow AGT + \downarrow NFin: *Spotlight on* [\uparrow subject = \downarrow se] + temporal *de se*

(1'_S) Simon [pvb-STA_{se}.3s_{se}-scared] *ha*-STA.3s-say
 (Simon said she/I was scared
 cf. Simon has said: 'She's scared'.)

temp. & indiv. *de se*

(B) **Presupposed input:**

$\langle w^*, \langle \rangle, \langle a_1, a_2 \rangle \rangle$

where $a_1 = \textit{simon}$

Start-up update:

[w| w = r]; [e| e: AGT *speak.up*_{d ω}]; [t| t =_{d ω} ϑ d ϵ]; $\top w^*$: •

Update by (1'_S): |

1 Simon .sg (*if*)

$\text{P}[d\alpha = \textit{simon}]; [k^\alpha | k^\alpha \sim d\alpha]; [\mathbf{a} | \mathbf{a} =_{d\omega} d\kappa^\alpha\{\mathbf{d}\epsilon\}]$

$w_2 \in \text{Dom } [\underline{s}_\epsilon]_2 e_3$

$\top e^*$

$(\top)t^* = \vartheta_{w^*} e^*$

$\top a_1 = k^\alpha w^* e^* = \textit{simon}$

AM-type:

2.1 pvb-

$[\underline{s}_\epsilon]_1$;

2.2 -STA_{se}.

$\text{P}[| \text{BEG } d\epsilon \underline{\sigma} < \epsilon]; [| \vartheta \epsilon \subseteq d\epsilon \underline{\sigma}];$

2.3 -3s_{se}

$\text{P}[| \neg(\text{AGT } \epsilon \circ \text{EXP } d\epsilon \underline{\sigma}), (\text{EXP } d\epsilon \underline{\sigma} = d\alpha_1)];$

2.4 -scared

$[| d\epsilon \underline{\sigma}: \text{EXP } \textit{scared}]$

3.1 *ha*-

$[e | p | (p = \text{Dom } d\epsilon \underline{\sigma}(e)), (e \notin_{d\omega} \text{EXP})];$

3.2 -STA.

$\text{P}[| \text{BEG RES } d\epsilon <_{d\omega} \mathbf{d}\epsilon]; [| \mathbf{d}\tau \subseteq_{d\omega} \text{RES } d\epsilon];$

3.3 -3s

$\text{P}[| \neg_{d\omega}(\mathbf{d}\alpha \circ (\text{AGT } \mathbf{d}\epsilon + \text{EXP } \mathbf{d}\epsilon)), (\mathbf{d}\alpha =_{d\omega} \text{AGT } d\epsilon)];$

3.4 -say

$[| d\epsilon: \text{AGT } \textit{say}_{d\omega} d\Omega]$

$\top w^*$:

•

(—)

$[\underline{s}_\epsilon]_2 e_3$:

$[\underline{s}_\epsilon]_2 e_3: e_3\text{-real}, e_3\text{-current}$

• $\text{BEG}_{w_2} [\underline{s}_\epsilon]_2 e_3 w_2 < \vartheta_{w_2} e_3$

• $\vartheta_{w_2} e_3 \subseteq \vartheta[\underline{s}_\epsilon]_2 e_3 w_2$

\downarrow S: $s_3\text{-pers}, [\underline{s}_\epsilon]_2 e_3\text{-role}$

• $\text{AGT}_{w_2} e_3 = \text{EXP}_{w_2} [\underline{s}_\epsilon]_2 e_3 w_2$

• $\text{EXP}_{w_2} [\underline{s}_\epsilon]_2 e_3 w_2 = a_2$

$[\underline{s}_\epsilon]_2 e_3\text{-description}$

• EXP is scared

AM-type

$e_3: p_3 = \text{Dom } [\underline{s}_\epsilon]_2 e_3$

$\text{RES}_{w^*} e_3: \top e^*\text{-real}, \top t^*\text{-cur}$

• $\vartheta_{w^*} \text{BEG}_{w^*} \text{RES}_{w^*} e_3 < \vartheta_{w^*} e^*$

• $t^* \subseteq \vartheta_{w^*} \text{RES}_{w^*} e_3$

\uparrow S: $\top e^*\text{-pers}, e_3\text{-role}$

• $\exists s_{w^*, e^*} \top a_1$

• $\top a_1 = \text{AGT}_{w^*} e_3$

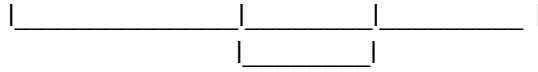
$e_3\text{-description}$

• $\text{AGT}_{w^*} e_3 \textit{say } p_3$

- \uparrow EXP-THM + \downarrow NFin: \uparrow Obj *linked to* \downarrow se's 'res' + temporal *de se*

(4'_S²) Dad [1s_{se}-to pvb-OPT_{se}-3s_{se}-help] 1s-u-de-STA.3s-want/think

temp. & indiv. *de se*



(Dad wants me to help him_{se}.)

cf. Dad thinks: 'Let her_{me} help me.'

(B) **Start-up update:**

[w| w = r]; [e| e: AGT *speak.up*_{d_ω}]; [t| t =_{d_ω} ϑ dε]; $\top w^*$: •

Update by (2'_S):

1 Dad .sg (*if*)

[k^α | k^α *dad.of* AGT_{d_ω} dε]; [a| a =_{d_ω} $d\kappa^\alpha$ {dε}]

2 1s_{se}-

$P[e_\sigma | \text{EXP } \sigma = d\kappa^\alpha\{e_\sigma\})$];

-to

[| $d\kappa^\alpha$ { $d\sigma_\varepsilon$ } = EXP $d\sigma_\varepsilon$];

3.1 pvb-

[|];

3.2 -OPT_{se}

$P[| \sigma: \text{EXP } \text{want}_{d_\omega} \text{ Dom } d\sigma_\varepsilon]; [| d\sigma_\varepsilon \subseteq \vartheta \text{RES BEG } \sigma]$;

3.3 -3s_{se}

[k^α | $\neg(k^\alpha\{d\sigma_\varepsilon\} \circ \text{EXP } \sigma)$], ($k^\alpha\{d\sigma_\varepsilon\} = \text{AGT } d\sigma_\varepsilon$);

3.4 -help

[| $d\sigma_\varepsilon: \text{AGT } \text{help EXP}$]

4.1 pvb_∅-

[s pl p = Dom $d\sigma_\varepsilon(s)$];

4.2 -1s

-u-de

[| AGT_{d_ω} dε =_{d_ω} $d\kappa^\alpha$ { $d\sigma_\varepsilon$ }]; [| CL $d\kappa^\alpha$]

4.3 -STA.

$P[| \text{BEG } d\sigma <_{d_\omega} d\varepsilon]; [| d\tau \subseteq_{d_\omega} d\sigma]$;

4.4 -3s

$P[| \neg_{d_\omega}(d\alpha \circ (\text{AGT } d\varepsilon + \text{EXP } d\varepsilon))$], ($d\alpha =_{d_\omega} \text{EXP } d\sigma$);

4.5 **-think**

[| $d\sigma: \text{EXP } \text{think}_{d_\omega} d\Omega$]

$\top e^*$

$(\top)t^* = \vartheta_{w^*} e^*$

$\top a_1 = k^\alpha_1 w^* e^*$

(e^* -agt's dad)

$w_2 \in \text{Dom } [e_\sigma]_{2s_4}$ **AM-type**

$[e_\sigma]_{2s_4} w_2$

$\Downarrow D: [e_\sigma]_{2s_4}$ -**pers, -role**

• $\text{EXP}_{w_2 s_4} = k^\alpha_1 w_2 [e_\sigma]_{2s_4} w_2$

• = $\text{EXP}_{w_2} [e_\sigma]_{2s_4} w_2$

$[e_\sigma]_{2s_4}: s_4$ -**desire, s₄-prosp.**

• $s_4: \text{EXP}_{w^*} s_4 \text{ wnt Dom } [e_\sigma]_{2s_4}$

• $\vartheta_{w_2} [e_\sigma]_{2s_4} w_2$

$\subseteq \vartheta_{w_2} \text{RES}_{w_2} \text{BEG}_{w_2} s_4$

$\Downarrow S: [e_\sigma]_{2s_4}$ -**person, role**

• $\neg(k^\alpha_2 w_2 [e_\sigma]_{2s_4} w_2 \circ \text{EXP}_{w_2 s_4})$

• $\top k^\alpha_2 w_2 [e_\sigma]_{2s_4} w_2$

= $\text{AGT}_{w_2} [e_\sigma]_{2s_4} w_2$

$[e_\sigma]_{1s_3}$ -**description**

• $\top k^\alpha_2 w_2 [e_\sigma]_{2s_4} w_2 \text{ help}$

$\text{EXP}_{w_2} s_4$

AM-type

$s_4: p_4 = \text{Dom } [e_\sigma]_{2s_4}$

$\Downarrow O: [e_\sigma]_{2s_4}$ -**person, role**

• $\text{AGT}_{w^*} e^* = \top k^\alpha_2 w_2 [e_\sigma]_{2s_4} w_2$

$s_4: \top e^*$ -**real, $\top t^*$ -current**

• $\vartheta_{w^*} \text{BEG}_{w^*} s_4 < \vartheta_{w^*} e^*$

• $t^* \subseteq \vartheta_{w^*} s_4$

$\uparrow S: \top e^*$ -**pers, s₄-role**

• $3s_{w^*, e^*} \top a_1$

• $\top a_1 = \text{EXP}_{w^*} s_4$

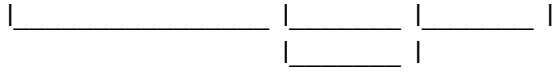
s_4 -**description**

• $\top a_1$ thinks p_4

- \uparrow AGT-EXP + \downarrow NFin: \uparrow Obj *linked to* \downarrow se's 'you' + temporal *de se*

(5' S) [1s_{se}-for pvb-3s.OPT_{se}-2s_{se}-buy] 1s-TV-IND.2s-say

temp. & indiv. *de se*



(You told me to buy it for you.

cf. You told me: 'You should buy it for me.')

(B) **Presupposed input:**

$\langle w^*, \langle \rangle, \langle b_1, k_1^\beta \rangle \rangle$

such that $k_1^\beta \sim b_1$

Start-up update:

[w| w = r]; [e| e: AGT *speak.up*_{d ω}]; [t| t =_{d ω} ϑ d ε]; $\uparrow w^*$: •

$\uparrow e^*$

Update by (5' S):

| $(\uparrow) t^* = \vartheta_{w^*} e^*$

2 1s_{se}-

$w_2 \in \text{Dom } [\underline{e}_\varepsilon]_2 e_4$

AM-type

[$k^\alpha \underline{e}_\varepsilon$ | AGT $\varepsilon = k^\alpha \{ \underline{e}_\varepsilon \}$];

• $[\underline{e}_\varepsilon]_2 e_4 w_2$

-for

\downarrow P: $[\underline{e}_\varepsilon]_2 e_4$ -**pers, -role**

[| d $\varepsilon \underline{\varepsilon}$ for d $\kappa^\alpha \{ d\varepsilon \underline{\varepsilon} \}$];

• AGT_{w $_2$} e $_4$ = $k^\alpha w_2 [\underline{e}_\varepsilon]_2 e_4 w_2$

3.1 pvb-

[|];•

• $[\underline{e}_\varepsilon]_2 e_4 w_2$ for $k^\alpha w_2 [\underline{e}_\varepsilon]_2 e_4 w_2$

3.2 -3s \varnothing

[| sg d κ^β , d $\beta = d\kappa^\beta \{ d\varepsilon \underline{\varepsilon} \}$]; [| CL d κ^β]

\downarrow O: $[\underline{e}_\varepsilon]_2 e_4$ -**person, role**

3.3 -OPT_{se}

\uparrow [| ε : AGT *want*_{d ω} Dom d $\varepsilon \underline{\varepsilon}$]; [| d $\varepsilon \underline{\varepsilon} \subseteq \vartheta$ RES ε] ;

• AGT_{w *} e * = $\uparrow k^\alpha w_2 [\underline{e}_\varepsilon]_2 s_4 w_2$

3.4 -2s_{se}

[k^α | ($k^\alpha \{ d\varepsilon \underline{\varepsilon} \} = \text{EXP } \varepsilon$), ($k^\alpha \{ d\varepsilon \underline{\varepsilon} \} = \text{AGT } d\varepsilon \underline{\varepsilon}$);

$[\underline{e}_\varepsilon]_2 e_4$: e $_4$ -**desire, -prosp**

• e $_4$: AGT_{w *} e $_4$ wnt Dom $[\underline{e}_\varepsilon]_2 e_4$

• $\vartheta_{w_2} [\underline{e}_\varepsilon]_2 e_4 w_2 \subseteq \vartheta_{w_2} \text{RES}_{w_2} e_4$

\downarrow S: $[\underline{e}_\varepsilon]_2 s_4$ -**person, role**

• $\uparrow k^\alpha w_2 [\underline{e}_\varepsilon]_2 e_4 w_2 \circ \text{EXP}_{w_2} e_4$

• $\uparrow k^\alpha w_2 [\underline{e}_\varepsilon]_2 e_4 w_2$

= AGT_{w $_2$} $[\underline{e}_\varepsilon]_2 e_4 w_2$

3.5 -buy

[| d $\varepsilon \underline{\varepsilon}$: AGT *buy* d κ^β]

$[\underline{e}_\varepsilon]_1 s_3$ -**description**

• $\uparrow k^\alpha w_2 [\underline{e}_\varepsilon]_2 e_4 w_2$ buy

$k^\beta w_2 [\underline{e}_\varepsilon]_2 e_4 w_2$

4.1 pvb \varnothing -

$\uparrow w^*$:

[e pl p = Dom d $\varepsilon \underline{\varepsilon}(e)$];

•

AM-type

e $_4$: p $_4$ = Dom $[\underline{e}_\varepsilon]_2 e_4$

4.2 -1s

-TV

[| AGT_{d ω} d $\varepsilon =_{d\Omega} d\kappa^\alpha \{ d\varepsilon \underline{\varepsilon} \}$]; [| CL d κ^α]

\downarrow O: $[\underline{e}_\varepsilon]_2 e_4$ -**person, role**

• AGT_{w *} e * = $\uparrow k^\alpha w_2 [\underline{e}_\varepsilon]_2 e_4 w_2$

4.3 -IND

(topical instant)

\uparrow [| d $\varepsilon <_{d\omega} d\varepsilon$]; [| d $\tau \subseteq_{d\omega} \text{RES } d\varepsilon$];

e $_4$: $\uparrow e^*$ -**real, $\uparrow t^*$ -current.rs**

• $\vartheta_{w^*} e_4 < \vartheta_{w^*} e^*$

4.4 -2s

\uparrow [| EXP_{d ω} d $\varepsilon =_{d\omega}$ AGT d ε];

• $t^* \subseteq \vartheta_{w^*} \text{RES}_{w^*} e_4$

4.5 -say

[| d ε : AGT *say*_{d ω} d Ω]

\uparrow S: $\uparrow e^*$ -**pers, e $_4$ -role**

• EXP_{w *} e * = AGT_{w *} e $_4$

e $_4$ -**description**

• AGT_{w *} e $_4$ say p $_4$

4. MULTIPLE EMBEDDING

• Kalaallisut(6_K) ¹*Siurna*

last.year

Last year...

²*Aani-p* ³*ikinnguti-ma* *ila-at* ⁴*uqar-sima-nirar-pa-a*
 Aani-ERG [friend-1s_T.pl.ERG part.of-3p_⊥.sg] *say*_{iv}-prf-*say*_{v\iv}-IND.TV-3s.3s
 ...Aani reported one of my friends to have said

⁵*anaana-ni* ⁶*naartu-su-q*
 [mum-3s_T.sg pregnant-ELA_⊥.IV-3s_⊥
 ... that her_{sc} (friend's or Aani's) mother was pregnant.

(B) $\langle w^*, \langle \rangle, \langle anne \rangle \rangle$ **Start-up update:**[w| w = r]; [e| e: AGT *speak.up*_{d_ω}]; [t| t =_{d_ω} ∅dε];**Update by** (6'_K):

- | | |
|---|---|
| <p>1 last.year .sg (<i>if</i>)
 $[k^r k^r \subseteq \text{last.year.of } \varepsilon^*]; [t t =_{d_\omega} dk^r\{\mathbf{d}\varepsilon\}]$</p> <p>2 Aani .sg.ERG (<i>if</i>)
 $P[d\alpha = anne]; [k^\alpha k^\alpha \sim d\alpha]; [a a =_{d_\omega} dk^\alpha\{\mathbf{d}\varepsilon\}]$</p> <p>3.1 friend.of- -1s.
 $[k^\alpha k^\alpha \text{ }^D\text{friend.of } \alpha]; P[sg \text{ AGT}_{d_\omega} \mathbf{d}\varepsilon]$
 .pl.ERG (<i>ib</i>)
 $[k^\alpha k^\alpha = d\alpha k^\alpha(\text{AGT}_{d_\omega} \mathbf{d}\varepsilon), pl k^\alpha]; [a a =_{d_\omega} dk^\alpha\{\mathbf{d}\varepsilon\}]$</p> <p>3.2 part.of- -3p_⊥.
 $[k^\alpha k^\alpha \subseteq \alpha]; P[pl d\alpha, \neg_{d_\omega}(d\alpha \circ (\text{AGT } \mathbf{d}\varepsilon + \text{EXP } d\alpha))];$
 .sg. (<i>ib</i>)
 $[k^\alpha k^\alpha = d\alpha k^\alpha(d\alpha), sg k^\alpha]; [a a =_{d_\omega} dk^\alpha\{\mathbf{d}\varepsilon\}];$</p> <p>4.1 <i>say</i>_{iv}- (<i>uqar</i>-)
 $[e k^\alpha e: \text{AGT } say k^\alpha];$</p> <p>4.2 -prf
 $[s (s = \text{RES } d\varepsilon), (\text{EXP } s = \text{AGT } d\varepsilon)];$</p> <p>4.3 -<i>say</i>_{v\iv} (<i>-nirar</i>_v)
 $[e pl (e: \text{AGT } say_{d_\omega} p), (\vartheta e \subseteq_p d\sigma), (dk^\alpha \mathbf{d}\omega e =_p \text{AGT } d\varepsilon)];$</p> <p>4.4. -IND
 $P[d\varepsilon <_{d_\omega} \mathbf{d}\varepsilon]; [d\varepsilon \subseteq_{d_\omega} \mathbf{d}\tau];$
 .TV
 $[\text{AGT } d\varepsilon =_{d_\omega} \mathbf{d}\alpha, \neg_{d_\omega}(\mathbf{d}\alpha \circ dk^\alpha\{\mathbf{d}\varepsilon\})];$</p> <p>4.5 -3s.
 $P[sg \mathbf{d}\alpha, \neg_{d_\omega}(\mathbf{d}\alpha \circ (\text{AGT } \mathbf{d}\varepsilon + \text{EXP } \mathbf{d}\varepsilon))]$
 .3s
 $P[sg d\alpha, \neg_{d_\omega}(d\alpha \circ (\text{AGT } \mathbf{d}\varepsilon + \text{EXP } \mathbf{d}\varepsilon))]; [dk^\alpha\{\mathbf{d}\varepsilon\} =_{d_\omega} d\alpha]$</p> | <p>$\top w^*$: • $\top e^*$
 $\top t^* = \vartheta_{w^*} e^*$</p> <p> $\top t_1 \subseteq \text{last.yr. of } \top e^*$</p> <p>$\top a_1 = k^\alpha_1 w^* e^* = anne$</p> <p>$k^\alpha_2$: friends of $\text{AGT}_{w^*} e^*$
 $\text{ }^{(\perp)} a_2 = k^\alpha_2 w^* e^*$
 $\perp k^\alpha_3$: one of a_2-group
 $\perp a_3 = k^\alpha_3 w^* e^*$</p> <p>$w_4 \in p_4$ (e_4-report)
 • $\underline{e}_4 w_4$: $\text{AGT}_{w_4} \underline{e}_4 w_4$
 say $k^\alpha_4 w_4 (\underline{e}_4 w_4)$
 — $\underline{s}_4 w_4 = \text{RES}_{w_4} \underline{e}_4 w_4$</p> <p>$\top w^*$:
 • e_4: $\text{AGT}_{w^*} e_4 say p_4$
 about $k^\alpha_3 w^* e_4 = \text{AGT}_{w_4} \underline{e}_4 w_4$</p> <p>• $\text{AGT}_{w^*} e_1 = \top a_1$
 • $3s_{w^*, e^*} \top a_1$
 $\perp a_3$: e_1-role, $\top e^*$-person
 • $k^\alpha_3 w^* e_1 = \perp a_3$
 • $3s_{w^*, e^*} \perp a_3$</p> |
|---|---|

- 5 **Reading 1:** *-ni* ‘-3s_τ’ refers to ^τAani (= *se* of *-nirar* ‘say_{wv}’)
 mum.of- -3s_τ
 $[k^{\alpha}_{\alpha} | k^{\alpha}_{\alpha} \text{mum.of } \alpha]; \text{P}[| \text{sg } \mathbf{d}\alpha]$
 .sg (subject of -ELA_⊥)
 $[k^{\alpha} | k^{\alpha} = \mathbf{d}\alpha \kappa^{\alpha}(\mathbf{d}\alpha), \text{sg } k^{\alpha}]; [a | a =_{\mathbf{d}\omega} \mathbf{d}\kappa^{\alpha}\{\mathbf{d}\varepsilon\}]$
- k^{α}_4 : mum of ^τa₁
 ${}^{\perp}a_5 = k^{\alpha}_4 w^* e^*$
- 5 **Reading 2:** *-ni* ‘-3s_{se}’ refers to \Downarrow *se* (= *se* of *uqar-* ‘say_{iv}’)
 mum.of- -3s_{se}
 $[k^{\alpha}_{\alpha} | k^{\alpha}_{\alpha} \text{mum.of } \alpha]; \text{P}[| \text{sg AGT } \mathbf{d}\underline{\varepsilon}]$
 .sg (subject of -ELA_⊥)
 $[k^{\alpha} | k^{\alpha} = \mathbf{d}\alpha \kappa^{\alpha}(\text{AGT } \mathbf{d}\underline{\varepsilon}), \text{sg } k^{\alpha}]; [a | a = \mathbf{d}\kappa^{\alpha}\{\mathbf{d}\underline{\varepsilon}\}]$
- k^{α}_4 : mum of AGT \underline{e}_4
 ${}^{\perp}a_5 = k^{\alpha}_4 w_4 \underline{e}_4 w_4$
- 6 pregnant- $w_6 \in k^{\Omega}_4 w_4 \underline{e}_4 w_4$ (\underline{e}_4 -speech)
 $[\underline{s}_{\varepsilon} | \underline{s}_{\varepsilon}: \text{EXP } \textit{pregnant}];$ — $[\underline{s}_{\varepsilon}]_6(\underline{e}_4 w_4) w_6$: EXP pregnant
 -ELA_⊥ $[\underline{s}_{\varepsilon}]_6(\underline{e}_4 w_4): \text{}^{\tau}\underline{e}_4$ -**curr.**
 $\text{P}[| \text{EXP } \mathbf{d}\varepsilon \underline{\sigma} = \mathbf{d}\alpha]; [| \vartheta \varepsilon \subseteq \mathbf{d}\varepsilon \underline{\sigma}];$
 -3s_⊥ • ${}^{\tau}\vartheta_{w_6} \underline{e}_4 w_6 \subseteq \vartheta_{w_6} [\underline{s}_{\varepsilon}]_6(\underline{e}_4 w_4) w_6$
 $\text{P}[| \text{sg } \mathbf{d}\alpha, \neg_{\mathbf{d}\omega}(\mathbf{d}\alpha \circ (\text{AGT } \mathbf{d}\varepsilon + \text{EXP } \mathbf{d}\varepsilon))]$ ${}^{\tau}a_5$: $[\underline{s}_{\varepsilon}]_6$ -**role**, ${}^{\tau}e^*$ -**person**
 • EXP_{w₆} $[\underline{s}_{\varepsilon}]_6(\underline{e}_4 w_4) w_6 = \text{}^{\tau}a_1$
 • 3s_{w₆, e₆} ${}^{\tau}a_1$