INDIVIDUALS AND POSSIBILITIES (1):
Notes on Stone (1999) ‘Reference to Possible Worlds’

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- Referential parallel: N and V refer to individuals and possible scenarios
- Anaphoric parallel 1: Discourse referents as concepts with restricted domains
- Anaphoric parallel 2: Anaphora constrained by domain restrictions, not embedding

1. REFERENCE TO INDIVIDUALS AND POSSIBILITIES IN SIMPLE CLAUSES AND BELOW

(1) Ty2: \( a_\rightarrow \{x\} \) ‘in world \( w \), entity \( x \) is a car’

Stone 1999: \( a_\rightarrow \{u\} \) ‘throughout possibility \( w \), concept \( u \) is realized as a car’

(2) John has a car.

- Extensional DRT semantics

\[
\nu[x, y; x = john, \text{car}(y), \text{have}(x, y)]^b = \{(g, h) | g[x, y]h \land h(x) = \text{I}(john) \land h(y) \in \text{I(car)} \land (\langle h(x), h(y) \rangle \in \text{I(have)}) \}
\]

- Recast in type logic (Muskens 1995)

\[
[u, v; u = john, \text{car}(v), \text{have}(u, v)] := \lambda ij.i[u, v]j \land u = john \land \text{car}(vj) \land \text{have}(uj, vj)
\]

- Reference to possible scenarios (Stone 1999, 1999, no need for Kratzer’s covert \( u \))

\[
[w; u \in john, \text{car}(v), \text{have}(u, v)] := \lambda ij.i[w, v]j \land \forall w(\exists w(w \in \omega w) = ujv = john \land \text{car}(vj) \land \text{have}(uj, vj))
\]

(3) Crosscategorial mood in Eskimo, e.g., -ssa ‘expectative (EXP)’

a. aqqatit mirsur-pa-kka. \[w; v, el \]
mittens-your \[w; v, me, v\] \[\{v, y\} \]
mittens-of \[w; v, me, v\] ‘I (sewed, am sewing) your mittens.’ (real mittens, real sewing)

b. aqqatit mirsur-ssa-va-kka. \[v; v \]
mittens-your \[w; v, me, v\] \[\{v, y\} \]
mittens-of \[w; v, me, v\] ‘I will sew your mittens’ (real mittens, exp. sewing)

c. aqqatit-ssa-ssa-akka. \[v; v \]
mittens-your \[w; v, me, v\] \[\{v, y\} \]
mittens-of \[w; v, me, v\] ‘I am sewing your mittens’ (exp. mittens, real sewing)

d. aqqatit-ssa-ssa-akka. \[v; v \]
mittens-your \[w; v, me, v\] \[\{v, y\} \]
mittens-of \[w; v, me, v\] ‘I will sew your mittens’ (exp. mittens, exp. sewing)

(4) Functional heads as mood indicators: {NOM, FIN} \sim \omega, \{OBL, INF\} \sim \omega^

<table>
<thead>
<tr>
<th>English</th>
<th>Polish</th>
<th>Eskimo</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Water.</td>
<td>Woda. ‘water.NOM’</td>
<td>Imiq. ‘water.NOM’</td>
</tr>
<tr>
<td>Out!</td>
<td>Wod-y! ‘water-GEN’</td>
<td>Imir-mik! ‘water-INS’</td>
</tr>
<tr>
<td>b. I’m going</td>
<td>Wychoze. ‘go.out-PRS.1SG’</td>
<td>Ani-vu-nqa. ‘go.out-FCT^2-1SG’</td>
</tr>
<tr>
<td>out!</td>
<td>Wyjsc! ‘go.out-INF’</td>
<td>Ani-llu-tit! ‘go.out-INF-2SG’</td>
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2. NOMINAL AND MODAL ANAPHORA

- Basic anaphoric parallel

(5) A bear came in.
\[ \text{I shot it.} \]
\[ \iff \exists \omega: \phi_{bear, \omega} \land \forall \omega: \phi_{come-in, \omega} \rightarrow \phi_{shot, \omega} \land \phi_{come-in, \omega} \]

(6) Suppose a bear comes in.
\[ \iff \exists \omega, \omega': \phi_{bear, \omega} \land \phi_{come-in, \omega'} \]
\[ \iff \forall \omega, \omega': \phi_{bear, \omega} \land \phi_{come-in, \omega'} \]
\[ \rightarrow \exists \omega: \phi_{shot, \omega} \land \phi_{come-in, \omega} \]

(Then) I will shot it.
\[ \iff \exists \omega: \phi_{shot, \omega} \land \phi_{come-in, \omega} \]

- Modal items as anaphorically linked predicates of possibilities

(8) Stone 1997, 1999 (Parameters: ) modal base, – ordering source
\[ \text{necc}_{\omega} (\omega_1, \omega_2) \]
\[ := \lambda \omega \exists \omega (\exists \omega' \land \phi_{\text{shot}, \omega'} \land \phi_{\text{come-in}, \omega'}) \]
\[ := \lambda \omega \exists \omega (\exists \omega' \land \phi_{\text{shot}, \omega'} \land \phi_{\text{come-in}, \omega'}) \]

(12) If I were taller, I wouldn’t be comfortable sleeping on two airline seats.
3. **Subordination as Top Level Concept Anaphora**

- **Negation**

(13) John has a car.
   \[\text{It is in the garage.}\]

(14) John does not have a car.
   \[\text{If } \omega, \omega' \circ \omega \text{, } \text{John, v; } [\text{not}]_{\text{in}}(\omega, \omega')\]

(15) Juuna biili-qar-pu-q.
    \[\text{Juuna car-have-FCT}_{\text{sg}}-35G\]
    \[\text{Unittittarfim-mi=p-pu-q. garage-in=be-FCT}_{\text{sg}}-35G,}\]

(16) Juuna biili-qa-ndgi-la-q.
    \[\text{Juuna car-have-not-SUBJ}_{\text{sm}}-35G\]
    \[\text{Unittittarfim-mi=ssa-galuar-pu-q. garage-in=be-EXP-INF}_{\text{sg}}-35G,}\]

(17) Anne Marie-ssa-qa-nda-gi-la-gut
    [Anne Marie-EXP]-be-at-not-SUBJ-1PL
    \[\text{‘We don’t have any Anne Marie’}\]

- **Other modal predicates**

(18) If a bear comes in,
    \[\text{John could just freeze.}\]
    \[\text{But Bill might escape.}\]

(19) If a bear comes in,
    \[\text{Legally you can’t shoot it, but hopefully you will.}\]

(20) A bear might come in.
    \[\text{We would be safe, because John has a gun.}\]
    \[\text{He would use it to shoot it.}\]

(21) There are two people in the room.
    \[\text{If one of them leaves the room, there will still be one prs in the rm.}\]

(22) Aqqati-ssa-tit
    \[\text{mittens-EXP-get-your}\]
    \[\text{mirsur-pa-kka. sew-FCT}_{\text{sg}}-15G.3\text{pl},}\]
    \[\text{Uqurtu-rujussu-u-{ssa, }#}{\text{2}}-{ppu-t warm-very-be-EXP}_{\text{sg}}-3}\text{pl},}\]

\[\text{http://www.rci.rutgers.edu/~mbittner (May 12, 2000; revised May 17)}\]