Determiners, indexical inference and aspectual adverbs

Aspectual adverbs modifying numerical determiners contribute important temporal scalar alternatives structure, creating cohesion by presupposing a stage level event serving as causal source topic, even when the subject is generic. The semantics of aspectual adverbs hence needs supplementing in information structure, when backgrounded, shared information is partitioned as past in relation to the focus information about the actual situation. This allows us to investigate indexical inference as a dynamic process, where new descriptive indexical predicates as \( \text{arrive} \) or \( \text{leave} \) are introduced in the conclusion.

The DRT semantics of the English aspectual adverbs in Smessaert & ter Meulen 2004 primarily captures the Boolean interactions between three truth-functional aspects of their meaning, based on the indexical interaction between the speech time, the current state and its past or future. The numerical scale associated with the determiner modified by the aspectual adverb \( \text{still} \) is decreasing into the future, whereas for \( \text{already} \) it is increasing. These monotonicity properties explain why (1a) is perfectly fine and coherent, as the decreasing \( \text{still} \) shares its monotonicity with the negative polarity \( \text{only} \). But (1b) prima facie requires reinterpretation for semantic reasons, as the increasing \( \text{already} \) ordinarily cannot modify \( \text{only} \), unless \( \text{three students} \) itself serves as bottom of the scalar alternatives and not the numerical determiner \( \text{zero} \).

\[
(1) \begin{align*}
\text{a. } & \text{There are still only three students here.} \\
\text{b. } & \text{*There are already only three students here.}
\end{align*}
\]

Accordingly, the interpretation of (1a) in (2) requires first accommodating the backgrounded information in the Common Ground (CG), then the focus structure determines the set of alternatives to the current situation, and finally the asserted information that the number of students is three is added as argument.

\[
(2) \begin{align*}
\text{D, cn} & \mid [\text{There are FOC still three students here}]_{D', \text{cn}+1} \\
\text{CG} & \mid (i) \text{there are students here } \Rightarrow \exists X [\text{students}(X) \& \text{loc}(X) = l_{n_a}] \\
& \mid (ii) \text{students are leaving } \Rightarrow \exists Y,e [\text{students}(Y) \& \text{leave}(e,Y) \& e \supset t_{n_a}] \\
\text{Focus structure: } & \lambda<n,n',t'> [n=|X| \& n \leq 3 \& t' \leq t_{n_a}] \\
\text{Focus: } & \lambda<n,n',t'> [n=|X| \& n \leq 3 \& t' \leq t_{n_a} (3, t_{n_a})]
\end{align*}
\]

Assuming the lexical semantics of \( \text{x leave y} \) in (3), we infer from (1a) using present perfect tense that some of the students, who were at the location \( y \) indexically referred to, have now left.

\[
(3) [[\text{leave (e, x, y)}]] = \lambda x, e [\text{loc}(x) = \text{loc}(sp) \& \text{move} (e, x) \Rightarrow F(\text{loc}(x) \neq \text{loc}(sp))])
\]

The anti-veridical aspectual adverbs share the common-ground conditions and the focus structure with their veridical counterpart, but negate the focus information. Accordingly, \( \text{not yet three} \) will be interpreted against the same backgrounded information as \( \text{already three} \), but denies that the actual number of students is three.

References