Actuality Entailment and
Quantificational Adverb Effect

Yi-Hsun Chen, Rutgers University, yh.chen13@rutgers.edu

Quantificational Adverb Effect (QAE)

Tsai and Portner (2008): Activity entailments (AE) in Mandarin arise when a quantificational adverb (Q-ADV) precedes the ability modal (ABL-Mod) while AE's disappear when the Q-ADV follows the ability modal.

(1) a. Zilu chanchang/youshihou neng canjia xiwu-huiyi. Zilu often able-to attend faculty-meetings 'Zilu is often/sometimes able to attend faculty meetings.'
   b. ...dan ta congclai mei canjia-guo renhe xiuwu-huiyi. but he never have.not attend-EXP any faculty-meetings '...but he has never attended any faculty meetings'

(2) a. Zilu neng chanchang/youshihou canjia xiwu-huiyi. Zilu able-to often sometimes attend faculty-meetings 'Zilu is able to attend faculty meetings often/sometimes. '
   b. ...dan ta congclai mei canjia-guo renhe xiuwu-huiyi. but he never have.not attend-EXP any faculty-meetings '...but he has never attended any faculty meetings'

QAE is summarized in (3):

(3) a. The presence of AE Q-ADV scopes above the ability modal. (Q-ADV > ABL-Mod)
   b. The absence of AE Q-ADV scopes below the ability modal. (ABL-Mod > Q-ADV) (Tsai & Portner 2008)

Puzzles

Bhatt (1999): ABLE > AE
   GEN > ABLE > No AE

   Imperfective aspect > ABL-Mod = No AE

Given that Q-ADV, as a counterpart of GEN, is NOT an aspect,
Q1. The nature of Q-ADVs: Why and how do Q-ADVs lead to AE?
Q2. Compositonality: How do we compositionally combine Q-ADVs and ability modals in a sentence and derive QAE?

A semantic Gap between Q-ADV & ABL-Mod

Problem 1: It's unclear whether a given proposition should be evaluated relative to a situation/event or to a world;
Problem 2: There is no relation specified between the situations/events quantified by Q-ADV and the worlds quantified by ABL-Mod.

This study assumes the following semantic principle, which preserves the description of a given situation across worlds (see Hacquard 2006, 2009, 2010 for an event version of this semantic principle).

(4) Preservation of Situation Description (PSD)
   For all worlds w1,w2, if s1 occurs in w1 and in w2, and s1 is a P-situation, then ceteris paribus, s1 is a P-situation in w2 as well.

Q-ADV > ABL-Mod => AE

(7) a. Zilu youshihou neng canjia xiwu-huiyi. Zilu sometimes able-to attend faculty-meetings 'Zilu is sometimes able to attend faculty meetings.'
   b. LF: ModP_{A1} ModP_{A2} ModP_{A3} ModP_{A4} ModP_{A5} ModP_{A6} ModP_{A7} V_{A1} V_{A2} V_{A3} V_{A4} V_{A5} V_{A6} V_{A7}
   c. 3s_{A1} \land 3s_{A2} \land 3s_{A3} \land 3s_{A4} \land 3s_{A5} \land 3s_{A6} \land 3s_{A7} \land \neg Zilu attends faculty meetings in s in r]
   d. There are some actual situations s that are minimal and contextually relevant and there is (at least) a best world r that is compatible with the circumstances of those actual situations s such that Zilu attends faculty meetings in s in r.

In (7), the Q-ADV youshihou 'sometimes' anchors the quantified situations to the actual world w0 and via PSD, AE arises.

ABL-Mod > Q-ADV => No AE

(8) a. Zilu neng youshihou canjia xiwu-huiyi. Zilu able-to sometimes attend faculty-meetings 'Zilu is able to attend faculty meetings sometimes.'
   b. LF: ModP_{A1} ModP_{A2} ModP_{A3} ModP_{A4} ModP_{A5} ModP_{A6} ModP_{A7} ModP_{A8} V_{A1} V_{A2} V_{A3} V_{A4} V_{A5} V_{A6} V_{A7} V_{A8}
   c. 3s_{A1} \land 3s_{A2} \land 3s_{A3} \land 3s_{A4} \land 3s_{A5} \land 3s_{A6} \land 3s_{A7} \land 3s_{A8} \land \neg Zilu attends faculty meetings in s in r]
   d. There is (at least) a best world r and there are some situations s such that s is part of r and r is compatible with the circumstances of s such that the proposition that Zilu attends faculty meetings is true in s in r.

In (8), the Q-ADV youshihou 'sometimes' anchors the quantified situations to the world r provided by ABL-Mod. Thus, no AE arises.

Conclusions

• When Q-ADV scopes ABOVE ABL-Mod, Q-ADV anchors the quantified situations to the actual world. Thus, AE arises. When Q-ADV scopes BELOW ABL-Mod, Q-ADV anchors the quantified situations to the worlds provided by ABL-Mod. Thus, no AE arises.
• (Perfective) Aspect should NOT be exclusively considered as the sole factor contributing to AE.
• This study implicates the existence of substantive semantic differences between Q-ADV and GEN in a way that the former leads to AE while the latter never does.

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Selected References