How to resolve NPI intervention effects on WHY: Evidence from an ERP study
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It is reported in the literature that Korean (& Japanese) WH-Phrases (WPs) cannot be licensed by their relevant Q morpheme at LF when intervened by a scope bearing element (SBE, Beck and Kim 1997, cf. Kim 2002) like a negative polarity item (NPI) or a quantifier (cf. Hoji 1985, Kim 1991, Sohn 1995, Beck and Kim 1997, Tanaka 1997, Hagstrom 1998, Kim 2002, Kratzer and Shimoyama 2002, Hwang 2010, among others): *[CP\[+wh\] ... SBE ... WP ...]. It is still debatable, however, whether WHY behaves like other WPs w.r.t. the Intervention Effect (IE). WHY is often claimed not to display the IE: √ *[CP\[+wh\] ... SBE ... WHY ...]. (See Cho 1998, Lee 2002, and Choi 2003 for Korean; see Miyagawa 1997, 1999, Kuwabara 1998, Watanabe 2000 for Japanese.) Ko (2005), however, observes that WHY in Korean (& Japanese) does display the IE, when licensed across a declarative clause: *[[CP\[+wh\] ... [CP\[-wh\] ... SBE ... WHY ...]] or *[[CP\[+wh\] ... SBE ... [CP\[-wh\] ... WHY ...]].

This paper is to investigate the resolution of the NPI-induced IE on WHY, examining whether the factual claims made in Ko (2005) are justified and whether the deviance that Ko attributes to the IE is syntactically or semantically driven, by conducting two experiments: an offline acceptability test and an ERP experiment. Twenty-four Korean speakers (male: 16, mean age: 24.7; range: 20-30) participated in the experiments. The experimental materials consisted of 3 types with different positions of way ‘why’ and amwuto ‘anyone’. Each type was composed of 3 conditions. In the descriptive data of the offline 5-scale (1: not at all acceptable, 5: definitely acceptable) acceptability task, the ANOVA results of the offline task indicated that all three types show a significant effect of the condition: \(F(2,46)=26.01, p<0.001\) in Type 1; \(F(2,46)=96.62, p<0.001\) in Type 2; and \(F(2,46)=72.20, p<0.001\) in Type 3.

ERPs were measured at the critical elements (bold-colored in the FIGURE) such as the matrix interrogative negative verbal complex in Type1, the embedded interrogative negative verbal complex in Type 2, and the embedded declarative negative verbal complex, and the matrix interrogative verbal complex in Type 3. The results of the overall analysis of 3 conditions in each type are as follows. In Type 1, there was a significant effect of condition, due to the difference between scrambled (amwuto & way order) and control conditions (way & amwuto) at the matrix interrogative negative verbal complex, i.e. reduced N400 effects at posterior in the 380-530 ms interval. In Type 2, there was a significant effect of condition, due to the difference between scrambled (amwuto & way) and control conditions (way & amwuto) in embedded clause, i.e. P600 effects at posterior in the 600-700 ms interval. In Type 3, there was a significant effect of condition, due to the difference between scrambled (amwuto & way) and control conditions (way & amwuto) at the embedded declarative negative verbal complex, i.e. N400 effects at anterior in the 380-530 ms interval, and also there was a significant effect of condition, due to the difference between global intervention (amwuto & way) and control conditions (way & amwuto) at the matrix interrogative verbal complex, i.e. reduced P600 effects at posterior in the 600-700 ms interval.

The results of the experiments raise several issues worth discussing. The first is ‘local’ intervention: Condition B vs. A. Granted that string vacuous dislocation/scrambling is generally prohibited in Korean (cf. Saito 1985), we find that the NPI overtly occurring prior to WHY (i.e., NPI – WHY order) will always induce an IE. The second is ‘global’ intervention: Condition C vs. A. In the conditions like (2C) and (3C), no IE is predicted to arise to WHY in the embedded [+/-Q] clause despite the presence of the NPI in the matrix clause. Contrary to the prediction, (2C) and (3C) are significantly different from their grammatical counterparts (2A) and (3A), respectively. Another ‘global’ intervention issue is that (2C) and (3C) are worse in acceptability than their counterparts (2B) and (3B) with ‘local’ intervention, respectively. The third is the effect of removing the NPI in (2C) and (3C). There were IEs retained at the critical word even after removing the NPI. This implies that the removed/scrambled NPI is reconstructed at LF immediately before WHY, which in turn engenders IEs for the latter. The final issue worth discussing is the comparison between (2C) and (3C).

Materials

Type 1: (way & amwuto in the matrix clause, [embedded Decl, matrix Neg + Q])

(1) with A as control:
A. way amwuto [Chelswu-ka Yenghuy-eykey hanguyhayss-ta-ko] sayngkakha-ci an-hass-ni?
   WHY ANYONE Chelswu-Nom Yenghuyey-to complained-Dec-C think didn’t-Q
   'Why didn’t anyone think that Chelswu complained to Yenghuy?'
B. amwuto way [Chelswu-ka Yenghuy-eykey hanguyhayss-ta-ko] sayngkakha-ci an-hass-ni?
C. amwuto [Chelswu-ka way Yenghuy-eykey hanguyhayss-ta-ko] sayngkakha-ci an-hass-ni?

Type 2. (way & amwuto in the embedded clause, [embedded Neg + Q, matrix Decl])

(2) with A as control:
   Chelswu-Top Yenghuy-Nom WHY ANYONE-to complain didn’t-Q wondered
   'Chelswu wondered why Yenghuy didn’t complain to anyone.'

Type 3. (way & amwuto in the embedded clause, [embedded Neg Decl, matrix Q])

(3) with A as control:
A. Chelswu-nun [Yenghuy-ka way amwu-eykeyto hanguyha-ci an-hass-ta-ko] sayngkakhayss-ni?
   Chelswu-Top Yenghuy-Nom WHY ANYONE-to complain didn’t-Dec-C thought-Q
   'Why did Chelswu think that Yenghuy didn’t complain to anyone?'
B. Chelswu-nun [Yenghuy-ka amwu-eykeyto way hanguyhaci an-hass-ta-ko] sayngkakhayss-ni?
C. amwu-eykeyto Chelswu-nun [Yenghuy-ka way hanguyhaci an-hass-ta-ko] sayngkakhayss-ni?

The results of the offline task

The results of ERPs

References (Selected)