On 'Multiple Scrambling' in Japanese

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It has been observed that if multiple constituents are scrambled out of an embedded clause, the result is degraded (1a vs. 1b) (Saito 1985; Koizumi 2000):

(1) a. **Hawai-de₁** John-ga [Kiyomi-ga   *t₁* Masami-ni purezento-o katta   to] omotteiru
　　　Hawaii-in   John-NOM Kiyomi-NOM   Masami-DAT present-ACC bought C   think

　　　(koto)
　　　(fact)

　　　'John believes that Kiyomi bought a present for Masami in Hawaii.'

　　b.??**Purezento-o₃ Masami-ni₂   Hawai-de₁** John-ga   [Kiyomi-ga *t₁ t₂ t₃* katta to]

　　　present-ACC   Masami-DAT Hawaii-in   John-NOM Kiyomi-NOM   bought C
　　　omotteiru (koto)

　　　think   (fact)

But, as Koizumi and Fukui and Sakai (2006; 'F&S') observe, 'multiple scrambling' improves significantly if the scrambled elements form a phonological phrase (2) (where phonological phrase is italicized):

(2) *Purezento-o Masami-ni Hawai-de* John-ga [Kiyomi-ga katta to] omotteiru (koto)

Koizumi argues that such cases are derived by scrambling of the remnant VP whose head V has been overtly raised. F&S argues against Koizumi, showing that it is possible to scramble a portion of an alleged VP as long as it forms a phonological phrase (3):

(3) *Masami-ni   Hawai-de* John-ga [Kiyomi-ga   purezento-o katta   to] omotteiru (koto)

F&S propose that the elements are reanalyzed at PF by Phrase-Level Merger, and then scrambling applies to this PF constituent. However, as F&S themselves admit, the notion of Phrase-Level Merger is obscure. We explore a different possibility and propose the following: (i) if material can scramble syntactically, it does; (ii) if scrambling targets material that is not a syntactic constituent, but is a prosodic constituent, then that material moves at PF (we call this movement *prosodic scrambling*). We argue that the target prosodic constituent is a major phrase, whose boundary is often marked by a pause/glottalization. The major phrase is also the domain for downstep. We adopt Itô and Mester's (2007) idea that major phrases in Japanese are recursive phonological phrases (φ's). In (1a), since *Hawai-de* 'Hawaii-in', being a syntactic constituent, can scramble syntactically, it does. (1b) cannot be generated by the narrow syntax because it does not involve movement of a syntactic constituent; neither can it be moved at PF because the fronted material is not combined into a single prosodic constituent. (2) cannot be derived syntactically, but it can involve prosodic scrambling because the fronted material forms a prosodic constituent by recursive embedding of the multiple φ's into a single φ (a major phase) (4):

(4) ***((Purezento-o)*φ *(Masami-ni)*φ *(Hawai-de)*φ*)*φ** John-ga [Kiyomi-ga katta to] omotteiru
　　　(koto)

Because such prosodic scrambling occurs after syntax (in the PF component), it is not subject to syntactic conditions, and the scrambled material can only be interpreted *in situ* at LF.

This analysis is supported by the following facts. First, long-distance scrambling of a 'true adjunct' results in complete ungrammaticality (5), which shows that a 'true adjunct' in the matrix domain can only be associated with the matrix clause at LF:

(5)*[**Riyuu-mo naku**]ᵢ Mary-ga [John-ga *tᵢ* sono setu-o sinziteiru to] omotteiru

　　reason-even without Mary-NOM John-NOM that theory-ACC believe C think

(koto)

(fact)

'Mary thinks that John believes that theory without any reason.'

When a 'true adjunct' is scrambled with another element with which it forms a major phrase by recursive embedding of φ's, however, the result (6) becomes fine (Sohn 1994; Koizumi 2000):

(6) *((Riyuu-mo naku)*_φ *(sono setsu-o)*_φ*)*_φ Mary-ga [John-ga sinziteiru to] omotteiru

　　reason-even without that theory-ACC Mary-NOM John-NOM believe C think

(koto)

(fact)

Since prosodic scrambling has no effect on LF, the scrambled 'true adjunct' in (6) can be properly associated with the embedded clause. Second, Saito (1985) claims that there is a syntactic constraint which bans scrambling of a nominative subject (7):

(7)*?**Sono ressya-ga**ᵢ John-ga [*tᵢ* Tookyoo-ni tuita to] omotteiru (koto)

　　that train-NOM John-NOM Tokyo-in arrived C think (fact)

　　'John thinks that that train has arrived in Tokyo.'

When a nominative subject scrambles with another element and they form a major phrase, however, the result (8) becomes fine:

(8) *((Sono ressya-ga)*_φ *(Tookyoo-ni)*_φ*)*_φ John-ga [tuita to] omotteiru (koto)

　　that train-NOM Tokyo-in John-N arrived C think (fact)

Since prosodic scrambling takes place after syntax, it is not subject to the syntactic constraint on scrambling of a nominative phrase. Finally, 'normal' long-distance scrambling is sensitive to syntactic island constraints (9a, 10a) (Saito 1985). When multiple elements forming a major phrase are fronted (9b, 10b), the acceptability improves significantly, since prosodic scrambling is not subject to syntactic island constraints:

(9) a.*?**Bill-ni**ᵢ Mary-ga [[*tᵢ* sono hon-o watasi wasureita] hito]-o sagasiteiru (koto)

　　Bill-DAT Mary-NOM that book-ACC give forgot person-ACC look-for (fact)

　　'Mary is looking for the person who forgot to give that book to Bill.'

b.?*((Bill-ni)*_φ *(sono hon-o)*_φ*)*_φ Mary-ga [watasi wasureta] hito]-o sagasiteiru (koto)

(10) a.*?**Bill-ni**ᵢ Mary-ga [John-ga *tᵢ* sono tokei-o ageta kara] okotteiru (koto)

　　Bill-DAT Mary-NOM John-NOM that watch-ACC gave because is-angry (fact)

　　'Mary is angry because John gave that watch to Bill.'

b.?*((Bill-ni)*_φ *(sono tokei-o)*_φ*)*_φ Mary-ga [John-ga ageta kara] okotteiru (koto)