The Distribution of Adjuncts in Japanese: Toward a Probe-goal Theory of Scrambling

1. Synopsis This paper discusses the distribution of Japanese adjuncts that is seemingly unrestricted. For example, (1) shows that the manner adjuncts subayaku ‘quickly’ and senzai-de ‘with detergent’ may occur in different positions in one clause. However, the distribution of adjuncts is in fact restricted; in (2), the adjuncts cannot be stranded by vP-fronting, suggesting that they must be placed within vP. Given this structural condition, we address whether the permutability of adjuncts is reduced to movement (i.e., scrambling); for instance, do vP-internal adjuncts occur in the sentence-initial position by scrambling? This paper claims that only adjuncts with $\phi$-features can be scrambled. Thus, the permutability of adjuncts is ensured in two ways: by scrambling of adjuncts or arguments.

2. Generalizations To argue for our position, we begin by making two assumptions. First, adjuncts are divided into two classes, lexical vs. syntactic, as shown in (3); L-adjuncts are created as single words with Infl(action) in lexicon, including the ku-inflection adjunct subayaku, while S-adjuncts are syntactic phrases projected by particular heads, including the PP-adjunct senzai-de. Second, considering the evaluative adjunct igainimo ‘surprisingly’, we assume it to originate in TP (or higher), as it must be stranded by vP-fronting and cannot occur in tense-less clauses, as shown in (4). Let us now consider what happens if either of subayaku or senzai-de co-occurs with igainimo. As illustrated in (5) and (6), the L-adjunct subayaku cannot precede igainimo, while the S-adjunct senzai-de can. This contrast leads to two generalizations. First, scrambling of L-adjuncts is impossible; if subayaku can be scrambled, it should be able to undergo “radical reconstruction” into vP (e.g., Saito 1994) and thus there should be no contrast between (5a) and (5c), which is contrary to the fact. Second, scrambling of S-adjuncts is possible. This is because the acceptability of (6c) shows that senzai-de can be interpreted as a manner adjunct in the same way as (6a), and thus suggests that it can be reconstructed into vP.

3. Analysis We derive these generalizations under Chomsky’s (2001) probe-goal theory of Agree. To begin, we make three assumptions: (i) subjects in Japanese can stay in their base positions (e.g., Kuroda 1992); (ii) the heads C and v have the unvalued counterpart of $\phi$-features that DP has (Chomsky 2001); (iii) those heads in Japanese can be given multiple EPP-features that trigger movement (cf. Chomsky 2001). Now, adopting Kitahara’s (2002) ideas that scrambling is “Match-driven”, we propose the algorithm for scrambling as follows: $\alpha$ can move $\beta$ to its edge only if (i) $\alpha$ c-commands $\beta$, (ii) $\alpha$ and $\beta$ have the same type of features (i.e., Match), and (iii) $\alpha$ has an EPP-feature. From this theory, the above generalizations follow. L-adjuncts cannot be scrambled, because they bear no $\phi$-features that C/v can match. Meanwhile, S-adjuncts can be scrambled if they contain elements with $\phi$-features (e.g., DP), as in the case of PP-adjuncts. Still, there remains a question: how can we derive the three word-order options in (1a) if the L-adjunct subayaku cannot be scrambled? We claim that they are obtained by scrambling of arguments, assuming that vP-internal adjuncts can also occur in VP, as illustrated in (7).

4. Consequences Let us highlight two consequences that the whole discussion gives rise to. First, the generalizations above refute Bošković and Takahashi’s (1998) theory that “scrambled” phrases are in fact base-generated in their surface positions. According to them, only the adjuncts that require license by feature checking can be “scrambled” (i.e., reconstructed, in this context). However, as shown in (6c), the S-adjunct senzai-de can obtain reconstruction effects, although it does not require any license by feature checking. Thus, the acceptability of (6c) cannot be predicted under Bošković and Takahashi’s theory. Second, the probe-goal theory of scrambling above entails that no “downward” nor “sideward” scrambling exists, because the probe that triggers scrambling of $\alpha$ must c-command the original position of $\alpha$; for example, “sideward” cases such as (8) are indeed unacceptable. Note that representational filters such as the Proper Binding Condition do not suffice to rule out (8), because the scrambled configuration can be reconstructed by an LF-deletion of the scrambled copy (Saito 1994).
Data and Figures

(1) a. (Subayaku) John-ga (subayaku) yuka-o (subayaku) migai-ta.
   quickly John-Nom floor-Acc polish-Past
   ‘John polished the floor quickly.’
   b. (Senzai-de) John-ga (senzai-de) yuka-o (senzai-de) migai-ta.
      detergent-with John-Nom floor-Acc polish-Past
      ‘John polished the floor with detergent.’

      floor-Acc quickly polish-even John-Nom do-T-Ben-Past
      ‘Polish the chair quickly, John did (for me).’
      floor-Acc detergent-with polish-even John-Nom do-T-Ben-Past
      ‘Polish the floor with detergent, John did (for me).’

(3) a. L(lexical)-adjuncts: i.e., [ROOT(Inf1)] (e.g., subaya-ku ‘quick-ly’)
   b. S(syntactic)-adjuncts: e.g., [TP [DP] P] (e.g., senzai-de ‘with detergent’)

      floor-Acc surprisingly polish-even John-Nom do-T-Ben-Past
      ‘To my surprise, polish the floor, John did (for me).’
      John-Nom surprisingly floor-Acc polish-while dance-Past
      ‘To my surprise, John danced while polishing the floor.’

(5) a. John-ga [TP igainimo yuka-o subayaku migai-ta].
      John-Nom surprisingly floor-Acc quickly polish-Past
      ‘To my surprise, John polished the floor quickly.’
   b. Yuka-o [TP igainimo subayaku migai-ta].
   c. ?? Subayaku [TP igainimo yuka-o migai-ta].

(6) a. John-ga [TP igainimo yuka-o senzai-de migai-ta].
      John-Nom surprisingly floor-Acc detergent-with polish-Past
      ‘To my surprise, John polished the floor with detergent.’
   b. Yuka-o [TP igainimo senzai-de migai-ta].
   c. Senzai-de [TP igainimo yuka-o migai-ta].

   i. If subayaku is in AD1 (with no scrambling), the order is: subayaku - Subj - Obj[Low]
   ii. If subayaku is in AD2 with no scrambling, the order is: Subj - subayaku - Obj[Low]
   iii. If subayaku is in AD2 and Obj is scrambled, the order is: Subj - Obj[High] - subayaku

    John-Nom floor-Acc Mary-Dat polish-while phone-do-Past
    ‘John phoned Mary while polishing the floor.’

References