On PF-LF Mismatch in the Japanese Light Verb Construction
Toru Ishii (Meiji University)

1. Introduction
(1) Transfer operations
   a. PF-Transfer → The sensory-motor (S-M) interface
   b. LF-Transfer → The conceptual-intentional (C-I) interface

(2) When do Transfer operations apply?
      The phases are the same for both Transfer operations. PF-Transfer and LF-Transfer apply simultaneously when structure-building completes a phase (CP/vP).
   b. Non-simultaneous Transfers
      Since PF-Transfer and LF-Transfer are independent operations, there is no a priori reason to assume that they should apply simultaneously in a derivation.

(3) Proposal
   a. Non-simultaneous Transfers in a Nominal Phrase
      The complement nominal phrase of a light verb in the light verb construction functions only as an LF-phase but not as a PF-phase.
   b. "Case Domain Fusion"
      When more than one case domain overlaps, "case domain fusion" must take place, where "case domain" is regulated by the Phase Impenetrability Condition (PIC).
2. Japanese Light Verb Constructions

2.1 Verbal Nouns (Complex Event Nominals) and Light Verb *suru*

(4) John·ga Bill·to·(no) aiseki·o sita koto·ga nai
    John·Nom Bill·with·(Gen) table·sharing·Acc did Comp·Nom Neg
    'John has never shared a table with Bill.' (Matsumoto 1996: 116)

(5) a. John·ga yooroppa·e tomodati·to ryokoo·o sita
    John·Nom Europe·to friend·with trip·Acc did
    'John made a trip to Europe with friends.'

    b. John·ga yooroppa·e·(no) tomodati·to·no ryokoo·o sita
    John·Nom Europe·to·(Gen) friend·with·Gen trip·Acc did
    (Cf. Tsujimura 2007: 314)

2.2 A PF-LF Mismatch in the Light Verb Construction

    Huang (1997), Saito and Hoshi (2000)

(7) John·ga Bill·to aiseki·o site·iru
    John·Nom Bill·with table·sharing·Acc doing·be
    'John is sharing a table with Bill.'

(8) PF-LF Mismatch
    a. 0-marking = LF: John and Bill are inside the nominal phrase.
       
       [NomP John·ga Bill·to aiseki·o site·iru]
       John·Nom Bill·with table·sharing·Acc doing·be
       (Agent, Theme)

    b. Case marking = PF: John and Bill are outside the nominal phrase.

6. Previous Analyses

3.1 Grimshaw and Mester's (1988) Argument Transfer Analysis

(9) a. suru 'do' ( ) <acc>

6. Case marking = PF: John and Bill are outside the nominal phrase.

(10) aiseki 'table·sharing' ( ) + suru 'do' (Agent, Theme) <acc>

    Argument Transfer
3.2 Lexical Decomposition Analyses

(11) S
    NP   NP   NP   V
    John-ga Bill-to aiseki-o site-iru
John-Nom Bill-with table-sharing-Acc doing-be
    (   ) (Agent, Theme) <acc>

(12) Tamen bang-le wo-de piao
    they tie-Perf my ticket
    'They kidnapped me.'

(13) a. [VP tamen [V DO [VP wo [V. bang piao]]]]
b. [VP tamen [y**bang** [VP wo [V. **t** piao]]]]

(14) Suru as an "Eventuality Predicate"

a. The Light Verb Construction: *Suru* is an overt form of the "eventuality predicate" DO.
   (i) S-selection
       This use of *suru* s-selects an agent as its subject and an action as its complement.
   (ii) C-selection
       It c-selects an NP complement, which is a gerundive construction, *i.e.* a nominalized verb phrase.
   (iii) Case
       It assigns the accusative case particle -o to the NP.

b. The Overtly Incorporated Construction: *Suru* is an overt form of the "eventuality predicate" DO, OCCUR, or BE
   (i) S-selection
       This use of *suru* s-selects an eventuality (an action, an event, or a state) as its complement. If *suru* s-selects an action (*i.e.* *suru* is an "eventuality predicate" DO), it also s-selects an agent as its subject. If *suru* s-selects a non-action or state (*i.e.* *suru* is an "eventuality predicate" OCCUR or BE), it does not s-select a subject.
   (ii) C-selection
       It c-selects a VP complement.
(iii) Case
Since VPs do not need Case, accusative case assignment does not take place.

(15) a. The Light Verb Construction
   John-ga Bill-to aiseki-o site-iru
   John-Nom Bill-with table-sharing-Acc doing-be
   'John is sharing a table with Bill.'

   b. The Overtly Incorporated Construction
   John-ga Bill-to aiseki-site-iru
   John-Nom Bill-with table-sharing-doing-be
   'John is sharing a table with Bill.'

(16) a. The Light Verb Construction
   John-ga [NP [VP Bill-to aiseki]]-o site-iru
   John-Nom Bill-with table-sharing-Acc doing-be
   'John is sharing a table with Bill.'

   b. The Overtly Incorporated Construction
   John-ga [VP Bill-to tʃi aiseki]-site-iru
   John-Nom Bill-with table-sharing-doing-be
   'John is sharing a table with Bill.'

(17) Argument Transfer as the Result of Complex Predicate Formation
When an "eventuality predicate" is combined with the main predicate of its complement, arguments of the individual predicates become arguments of the composite predicate.

(18) a. A flight occurred over the North Pole in a light aircraft in 1926.

   b. A flight over the North Pole occurred in a light aircraft in 1926.

   c. A flight over the North Pole in a light aircraft occurred in 1926.

   d. A flight over the North Pole in a light aircraft in 1926 occurred.

(19) a. John did yesterday's reading of the poem.

   b. John did the reading of the poem yesterday.
3.3 Incorporation Analyses

(20) a. S-structure
   John·ga Bill·to aiseki·o site·iru
   John-Nom Bill-with table-sharing-Acc doing-be
   (Agent, Them)

   b. LF
   John·ga Bill·to \(t_i\)-o aiseki\(_i\)-site·iru
   John-Nom Bill-with \(t_i\)-Acc \textit{table-sharing}\(_i\)-doing-be
   (Agent, Theme)

(21) Taroo·ga kotosi·no natu [Amerika·ni \textit{ryokoo}] to [Doitu·ni
Taro·Nom this year·Gen summer America·to \textit{travel} Conj Germany·to
\textit{ryuugaku}](·to)-o sita
study abroad(·Conj)-Acc did
Lit. 'This summer, Taro did a travel to the United States and a study abroad in
Germany.' (Fukui and Sakai 2006: 328)

(22) Constraint on an Across-the-Board Movement
An across-the-board movement of different elements into a single landing site is
prohibited.

4. Proposal

4.1 A Non-simultaneous Transfer Analysis

(23) \([_{nP} \text{John} \left[ \left[ \text{NP Bill·to aiseki} \right] n \right] ]\)
   John Bill-with table-sharing
   (Agent, Theme)

   LF phases have the status of a "proposition": either a phrase in which all \(\theta\)-roles
   are assigned or a full clause including tense and force.

(25) \([_vP \left[ \left[ _{nP} \text{John} \left[ \left[ \text{NP Mary·to aiseki} \right] n \right] \right] \right] \text{su} \right] \text{v}\]
   John Mary-with table-sharing do

\[\begin{array}{c}
\quad:\text{The clausal case domain = the accessible domain of } v \\
\quad:\text{The nominal case domain = the accessible domain of } n
\end{array}\]

a. There are two case marking systems in Japanese, *i.e.* the clausal case marking system (the lack of the genitive case particle *-no*) and the nominal case marking system (the presence of the genitive case particle *-no*).

b. The clausal case marking system involves two steps, *i.e.* Case assignment and Case licensing, whereas the nominal case marking system involves only Case licensing.

Licensing Conditions on Clausal and Nominal Case Markings

a. The clausal case marking is licensed within the accessible domain of the C/\(\nu\) the clausal case domain is equivalent to the accessible domain of C/\(\nu\).

b. The nominal case marking is licensed within the accessible domain of n; the nominal case domain is equivalent to the accessible domain of n.

c. The notion of accessible domain is regulated by the notion of c-command and the Phase Impenetrability Condition (PIC).

The Phase Impenetrability Condition (PIC)

In [ZP Z ... [HP a [H YP]]], the domain of H, *i.e.* YP, is not accessible to operations at ZP; only H and its edge are accessible, where ZP and HP are phases.

(adapted from Chomsky 2001: 13)

Case Domain Fusion

a. When more than one case domain overlaps, "case domain fusion" must take place.

b. "Case domain fusion" only takes place when the two phase heads are of the same type; transitive/experincier (T/E) or unaccusative (ergative)/passive (UA/P)

The case domain fusion is illustrated in (30)-(33).
Mary turned down John's trip to the United States.

4.2 Consequences

4.2.1 Case Marking of an External Argument

(35) *John-no Mary-to-no aiseki-o sita koto-ga nai

   John-Gen Mary-with-Gen table-sharing-Acc did fact-Nom Neg

   'John has never shared a table with Mary.'

4.2.2 The Ergativity Constraint

(36) a. *?Ya-ga mato-ni meityuu-o sita

   arrow-Nom target-Dat strike-Acc did

   'The arrow hit the target.' (Miyagawa 1989: 659)

b. *Ressya-ga Tokyo-kara tootyaku-o sita

   train-Nom Tokyo-from arrival-Acc did

   'The train arrived from Tokyo.'

(37) \[vP \[vP \[NP Tokyo-kara ressyayaku tootyuku] \] su\] v

   Tokyo-from train arrival <UA/P> do <UA/P>

\[\square\]: The clausal case domain = the accessible domain of \(v\)

\[\square\]: The nominal case domain = the accessible domain of \(n\)

4.2.3 Indeterminate Pronouns

(38) a. Taroo-wa Hanako-ni [dare-ga warui]to-mo iwa-nakat-ta

   Taro-Top Hanako-Dat anyone-Nom fault-that-MO say-Neg-Past

   Lit. 'Taro did not say to Hanako that anyone was wrong.'


   Taro-Top anyone-Dat Hanako-Nom fault-that-MO say-Neg-Past

   Lit. 'Taro did not say to anyone that Hanako was wrong.'

   (Fukui and Sakai 2006: 330)

(39) a. *Taroo-wa dare-ni hon-mo watasa-nakat-ta

   Taro-Top anyone-Dat book-MO hand-Neg-Past

   'Taro did not hand a book to anyone.'

b. Taroo-wa dare-ni soodan-mo si-nakat-ta

   Taro-Top anyone-Dat consultation-MO do-Neg-Past

   'Taro did not consult anyone.' (Kishimoto 2001: 624)
4.2.4 Topicalization, Relativization, Clefting, and Scrambling

(41) a. John-wa [Tokyoo-ni ryokoo]-o sita
    John-Top [Tokyo-to trip]-Acc did
    'John made a trip to Tokyo.'

b. Topicalization
   *Ryokoo-wa John-ga [Tokyoo-ni e_i] sita
   trip-Top John-Top Tokyo-to did (Matsumoto 1996: 114)

c. Relativization
   *[John-ga [Tokyoo-ni e_i] sita] ryokoo_i
   John-Nom Tokyo-to did trip
   Lit. 'the trip John made to Tokyo'

d. Clefting
   *[[OP_1 [John-ga [Tokyoo-ni t_j] sita]]-no]-wa ryokoo_i-o da
   John-Nom Tokyo-to did-Comp-Top trip-Acc be
   Lit. 'It is the trip that John made to Tokyo.'

e. Passivization
   *Ryokoo-wai John-ni-yotte [Tokyoo-ni t_j] s-are-ta
   trip-Top John-by Tokyo-to do-Passive-Past
   Lit. 'The trip was made to Tokyo by John.'

f. Scrambling
   *John-ga ryokoo-o_i Tokyoo-ni t_j sita
   John-Nom trip-Acc Tokyo-to did
   'John made a trip to Tokyo.'

   *Ryokoo-o_i John-ga Tokyoo-ni t_j sita
   trip-Acc John-Nom Tokyo-to did

(42) a. John-ga [kagaku-no ronbun]-o kaita
    John-Nom [chemistry-Gen paper]-Acc wrote
    'John wrote a paper on chemistry.'

b. Topicalization
   *Ronbun-wa John-ga [kagaku-no e_i](-o) kaita
   paper-Top John-Nom chemistry-Gen(-Acc) wrote
c. Relativization
   *\([\text{John-}\text{ga } [\text{kagaku-No } e_,\text{no } t_j(\cdot) \text{kaita}] \text{ronbun}_i]\)
   John-Nom chemistry-Gen(\cdotAcc) wrote paper
   Lit. 'the paper that John wrote on chemistry'

  d. Clefting
   *\([\text{OP}_i [\text{John-}\text{ga } [\text{kagaku-No } t_j] \text{kaita}] \text{no}\text{-wa ronbun}_i\cdot o \text{da}\]
   John-Nom chemistry-Gen wrote-\text{Comp}-\text{Top} paper-\text{Acc} be
   Lit. 'It is the paper that John wrote on chemistry.'

  e. Passivization
   * \(\text{Ronbun}_i\text{-wa John-ni-yotte [kagaku-no } t_j\text{] kak-are-ta}\)
   paper-\text{Top} John-by chemistry-Gen write-\text{Passive}-\text{Past}
   Lit. 'The paper was written on chemistry by John.'

  f. Scrambling
   * \(\text{John-}\text{ga ronbun}_i\cdot o_i \text{kagaku-no } t_j\text{ kaita}\)
   John-Nom paper-\text{Acc} chemistry-Gen wrote
   'John wrote a paper on chemistry.'
   * \(\text{Ronbun}_i\cdot o_i \text{John-}\text{ga kagaku-no } t_j\text{ kaita}\)
   paper-\text{Acc} John-Nom chemistry-Gen wrote

(43) \(\text{John-}\text{ga } \text{yooroppa-e(\cdotno ) ryokoo-o sita}\)
John-Nom Europe-to(\cdotGen) trip-\text{Acc} did
'John made a trip to Europe.'

(44) Topicalization
  a. *\([\text{Yooroppa-e ryokoo}_i\text{-wa John-}\text{ga } e_i \text{sita}\]
     Europe-to trip-\text{Top} John-Nom did
     'John made a trip to Europe.'
  b. \([\text{Yooroppa-e-no ryokoo}_i\text{-wa John-}\text{ga } e_i \text{sita}\]
     Europe-to-\text{Gen} trip-\text{Top} John-Nom did

(45) Relativization
  a. *\(\text{John-}\text{ga } e_i \text{sita [yooroppa-e ryokoo}_i\]
     John-Nom did Europe-to trip
     Lit. 'the trip John made to Europe'
  b. \(\text{John-}\text{ga } e_i \text{sita [yooroppa-e-no ryokoo}_i\]
     John-Nom did Europe-to-\text{Gen} trip
(46) \[n_{t} \textit{tJohn} ([n_{NP} \textit{yooroppa-e(-no) ryokoo} n]_{i-wa} \textit{John-ga} e_{i} \text{ sita}
\text{ Europe-to(-Gen) trip-Top} \quad \textit{John-Nom} \text{ did}
\]

'John made a trip to Europe.'

(47) Müller's (1996) Generalization

A trace with a (not necessarily c-commanding) antecedent in a position of type $\alpha$
must not be dominated by a category in a position of the same type $\alpha$.

(48) \[n_{t} \textit{tJohn} ([n_{NP} \textit{yooroppa-e-no} \text{ ryokoo} n]_{i-wa} \textit{TP John-ga} t_{i} \text{ sita} C]
\text{ Europe-to-Gen trip-Top} \quad \textit{John-Nom} \text{ did}
\]

5. **Constraints on the Distribution of Arguments**

5.1 **Grimshaw and Mester's (1988) Constraints on Argument Transfer**

(49) a. At least one non-subject argument of a verbal noun must be transferred to
a light verb.

b. An argument cannot be transferred unless all thematically higher
arguments are transferred as well.

(50) The subject argument must be transferred to a light verb.

(51) ?\textit{John-ga} \textit{Bill-to-no} \textit{aiseki-o} \text{ sita}
\text{ John-Nom Bill-with-Gen table-sharing-Acc did}

'John is sharing a table with Bill.' (Grimshaw and Mester 1988: 218)

(52) a. ?\textit{Sono deeta-ga} \textit{wareware-e-no} \textit{kare-no riron-ga matigatte iru to}-\textit{no}
\text{ that data-Nom us-to-Gen he-Gen theory-Nom mistaken be Compl-Gen}
\text{ syoomei-o site-iru proof-Acc doing-be} (Grimshaw and Mester 1988: 215-6)

b. \textit{Sono deeta-ga} \textit{wareware-e-no} \textit{kare-no riron-ga matigatte iru}
\text{ that data-Nom us-to-Gen he-Gen theory-Nom mistaken be}
\textit{koto-no} \textit{syoomei-o site-iru Compl-Gen proof-Acc doing-be}

(53) a. \textit{Sono deeta-ga} \textit{wareware-ni} \textit{[kare-no riron-ga matigatte iru to]-no}
\text{ GOAL THEME}
\text{ that data-Nom us-to he-Gen theory-Nom mistaken be Compl-Gen}
\text{ syoomei-o site-iru proof-Acc doing-be}

'That data proves to us that his theory is mistaken.'
b. *Sono deeta-ga [kare-no riron-ga matigatte iru to][wareware-e-no THEME GOAL
that data-Nom he-Gen theory-Nom mistaken be Comp us-to-Gen
syooomei]-o site-iru
proof-Acc doing-be (Grimshaw and Mester 1988: 224)

(54) a. Karera-wa soko-e [sono bussi-no yusoo]-o suru rasii
GOAL THEME
they-Top there-to the goods-Gen transport-Acc do seem
'It seems that they will transport the goods there.'

b. Karera-wa sono bussi-mo [soko-e-no yusoo]-o suru rasii
THEME GOAL
they-Top the goods-even there-to Gen transport-Acc do seem
'It seems that they will transport the goods there, too.'
(Matsumoto 1996: 118)

5.2 Distribution of Genitive-Marked Elements and Non-Genitive-Marked Elements

(55) a. John-ga [amerika-e 10-nen buri-ni kikoku]-o suru rasii
John-Nom [America-to after 10-years return]-Acc do seem
'It seems that John will return to his country, the United States, after 10
years of absence.'

b. John-ga [amerika-e 10-nen buri-no kikoku]-o suru rasii
John-Nom [America-to after 10-years Gen return]-Acc do seem

c. *John-ga [amerika-e no 10-nen buri-ni kikoku]-o suru rasii
John-Nom [Americak-to Gen after 10-years return]-Acc do seem

d. John-ga [amerika-e no 10-nen buri-no kikoku]-o suru rasii
John-Nom [America-to Gen after 10-years Gen return]-Acc do seem

(56) a. John-ga [10-nen buri-ni amerika-e kikoku]-o suru rasii
John-Nom [after 10-years America-to return]-Acc do seem
'It seems that John will return to his country, the United States, after 10
years of absence.'

b. John-ga [10-nen buri-ni amerika-e no kikoku]-o suru rasii
John-Nom [after 10-years America-to Gen return]-Acc do seem

c. *John-ga [10-nen buri-no amerika-e kikoku]-o suru rasii
John-Nom [after 10-years Gen America-to return]-Acc do seem

d. John-ga [10-nen buri-no amerika-e no kikoku]-o suru rasii
John-Nom [after 10-years Gen America-to Gen return]-Acc do seem
(57) a. There is a dependency between $n$ and a genitive-case-marked element.
b. There is a dependency between $v/C$ and a non-genitive-case-marked element.

(58) a. $[[\text{NP Amerika-e 10-nen buri-no kikoku n] su}] v$
America-to after 10-years Gen return do
b. $[[\text{NP Amerika-e no 10-nen buri kikoku n] su}] v$
America-to Gen after 10-years return do

6. Some Speculations on Verbal Nouns

(59) The Root Hypothesis (Pesetsky 1995, Marantz 1997)
A root is category-neutral; its category is determined by a syntactic environment where it appears.

(60) $\{\alpha, \{\text{destroy, OBJ}\}\}$

(61) The notion of accessible domain based on PF-phasehood is crucial for determining the category of a root.

(e.g.)
a. If a root appears in the accessible domain of $v$, it becomes a verb.
b. If a root appears in the accessible domain of $n$, it becomes a noun.

(62) John-ga Bill-to(-no) aiseki-o sita koto-ga nai
John-Nom Bill-with(-Gen) table-sharing-Acc did Comp-Nom Neg
'John has never shared a table with Bill.'

(63) $[v_P [v_P [n_P John [[\text{NP Mary-to(-no) aiseki}] n] su}] v]$
John Mary-with(-Gen) table-sharing do

7. Conclusion

References:


Chomsky, Noam. 2006. Approaching UG from below. Ms., MIT.


Miyagawa, Shigeru. 1990. Case realization and scrambling, Ms. Ohio State University.


Toru Ishii
School of Arts and Letters
Meiji University
1-1 Kandasurugadai, Chiyoda-ku
Tokyo, 101-8301 JAPAN
E-mail: tishii@kisc.meiji.ac.jp