**The Derivation of *Soo-su*:**
**Some Implications for the Architecture of Japanese VP**

**1. Synopsis:** In the Japanese literature, the syntactic unit *soo-su* 'do so' is assumed to 'replace' a VP by transformation when its content is recoverable form context (e.g. Nakau (1973)). However, under the Minimalist Program, such an operation disobeys the Inclusiveness Condition (Chomsky (1995)), suggesting that *soo* and *su* already exist at the stage of numeration, then merge into the unit *soo-su*, and are interpreted at semantics as anaphoric. In this talk, along these minimalist lines, I further analyze the syntactic and semantic properties of *soo-su* in a compositional way.

**2. Some Properties of *Soo* and *Su*:** There are some facts that any approach to *soo-su* should capture. First, *soo* cannot 'replace' adjunct expressions such as manner and resultative phrases:

(1) a. * Taro-ga hayaku$_i$ kabe-o nutta-node, Ziro-mo *soo*$_i$ nutta.
Taro-Nom quickly wall-Acc painted-because Ziro-also so painted
'Because Taro painted the wall quickly$_i$, Ziro painted it so$_i$, too.'

b. * Taro-ga kabe-o akaku$_i$ nutta-node, Ziro-mo *soo*$_i$ nutta.
Taro-Nom wall-Acc red painted-because Ziro-also so painted
'Because Taro painted the wall red$_i$, Ziro painted it so$_i$, too.'

Second, *soo-su* cannot be anaphoric to non-agentive predicates such as unaccusatives:

(2) a. Taro-ga [gakko-ni mukat]$_i$-ta-node, Ziro-mo [*soo-shi*]$_i$-ta.
Taro-Nom school-Dat direct-Past-because Ziro-also so-do-Past
'Because Taro [left for the school]$_i$, Ziro [did so]$_i$, too.'

b. * Taro-ga [gakko-ni tui]$_i$-ta-node, Ziro-mo [*soo-shi*]$_i$-ta.
Taro-Nom school-Dat arrive-Past-because Ziro-also so-do-Past
'Because Taro [arrived at the school]$_i$, Ziro [did so]$_i$, too.'

Third, *soo* and *su* in *soo-su* must keep adjacent:

(3) a. Taro-ga LGB-o yom-da-node, Ziro-mo *soo* *shi*-ta.
Taro-Nom LGB-Acc read-Past-because Ziro-also so do-Past
'Because Taro read LGB, Ziro did so, too.'

b. * Taro-ga LGB-o yom-da-node, *soo* Ziro-mo *t* *shi*-ta.
Taro-Nom LGB-Acc read-Past-because so Ziro-also do-Past
'Because Taro read LGB, Ziro did so, too.'

**3. Proposals:** Hallman (2004) proposes that *do so* in English has the structure in which *do* is an Agent-introducing head, *little v* (e.g. Chomsky (1995)), and constitutes *v*P with *so*, which Landman and Morzycki (2003) analyze as an event description that asserts that the event s is of kind k, where k is determined by context. One might claim that *soo-su* in Japanese has the same *v*P structure as *do so*. However, there is evidence that *soo-su* should be analyzed as a complex head $V^0$. According to Yumoto (2005), the verb *wasure-* 'forget' can merge with another V to make a V-V compound, and the structural status of such a compound is still $X^0$. Since *soo-su* can enter into syntactic compound formation with the verb, as in *soo-shi-wasure-ta* 'forgot to do so', *soo-su* as a whole should not be *v*P. Given this claim, I propose the semantic and syntactic properties of *soo* and *su* in *soo-su* as follows:

(4) a. *Soo* is of type <s, t>; [[*soo*$_i$]] = λs [s realizes k$_i$]
b. *Su* is of type <s, t>; [[*su*]] = λs [acting (s)]

(5) a. *Soo* is an verbal suffix and forms a complex head with *su* in syntax.
b. *Su* is required to merge with a little *v* [+Agent] due to its unergative semantics.

These proposals can assign, for example, (3a) the following syntactic and semantic representations (the latter created through Predicate Modification and Event Identification (e.g. Kratzer (1996))):

(6) a. Syntax: [$_v$ Ziro [$_V$ *soo*$_i$-*su*] *v*]
b. Semantics: ∃s [ Agent (**Ziro**)(s) & acting (s) & s realizes k$_i$]

(6b) is read as 'there was an event s such that the Agent of s was Ziro, s was an acting event and s was an instance of a contextually salient event-kind (here, the event-kind of *reading LGB*). Now, turning to the facts shown in (1-3), I claim that they naturally follow from my proposals; *soo* cannot 'replace' adjunct expressions, since what it 'replaces' must be of type <s, t> and I assume that the denotations of adjuncts are of type <<s, t>, <s, t>> or <<e, <s, t>>, <e, <s, t>>>; *soo-su* cannot be anaphoric to non-agentive predicates, since *su* in *soo-su* expresses an acting event and thus requires the existence of an agentive argument, which is licensed by *v*; *soo* and *su* in *soo-su* must keep adjacent, since they form an complex head and cannot be separated by any syntactic operations. Note that the semantics of *su* in (4b) predicts that, since it introduces no element of type <e>, the *soo-su* phrase in examples like (3a) fails to add an accusative argument (IA), as shown below:

(7) Taro-ga LGB-o yom-da-node, Ziro-mo (*Barriers-o) *soo shi*-ta.
Taro-Nom LGB-Acc read-Past-because Ziro-also Barriers-Acc so do-Past
'Because Taro read LGB, Ziro did so (Barriers), too.'

**4. Consequences:** It should be mentioned that it is not the case that the *soo-su* phrase is completely incompatible with the existence of IAs. As pointed out by Hinds (1973), there are some cases in which the *soo-su* phrase can co-occur with a dative argument, but not an accusative one:

(8) a. Taro-ga e-o musuko-ni ageta-node, Ziro-mo (musume-ni) *sooshi*ta.
Taro-Nom painting-Acc son-Dat gave-because Ziro-also daughter-Acc did.so
'Because Taro gave the painting to his son, Ziro did so (to the daughter), too.'

b. Taro-ga e-o musuko-ni ageta-node, Ziro-mo (*syashin-o) *sooshi*ta.
Taro-Nom painting-Acc son-Dat gave-because Ziro-also picture-Acc did.so
'Because Taro gave the painting to his son, Ziro did so (the picture), too.'

However, there are opposite cases as well, in which the *soo-su* phrase can co-occur with an accusative argument, but not a dative one:

(9) a. Taro-ga e-o kabe-ni hatta-node, Ziro-mo (*mado-ni) *sooshi*ta.
Taro-Nom painting-Acc wall-Dat stick-because Ziro-also window-Acc did.so
'Because Taro stuck the painting on the wall, Ziro did so (on the window), too.'

b. Taro-ga e-o kabe-ni hatta-node, Ziro-mo (syashin-o) *sooshi*ta.
Taro-Nom painting-Acc wall-Dat stick-because Ziro-also picture-Acc did.so
'Because Taro stuck the painting on the wall, Ziro did so (the picture), too.'

If the analysis of *soo-su* presented above is correct, it suggests that the dative argument in (8) and the accusative one in (9) are introduced by other heads than *su*, since it cannot license any IA (see (4b)). Thus, the *soo-su* phrases in (8) and (9) can be given the following syntactic schemas:

(10) a. (8): $[_v$ Ziro $[_X$ $IA_{Dat}$ $[_V$ $soo_i$-*su*] X] *v*] ($IA_{Dat}$ = possessor)
b. (9): $[_v$ Ziro $[_X$ $IA_{Acc}$ $[_V$ $soo_i$-*su*] X] *v*] ($IA_{Acc}$ = mover)

This conclusion makes some implications for the architecture of Japanese VP. First, Japanese has at least two types of dative arguments, possessor and non-possessor. Second, Japanese has at least two types of accusative arguments, mover and non-mover. Note that each type can originate in a different position. These implications suggest that Universal Grammar associate each type of head with a different type of argument, thereby facilitating the lexicon-syntax mapping.

**References:** **Chomsky, N. (1995)** *The Minimalist Program*, MIT Press. **Hallman, P.** (2004) "Constituency and Agency in VP," *WCCFL* 23, 101-104. **Hinds, J. (1973)** "Some Remarks on *Soo Su*," *Papers in Japanese Linguistics* 2, 18-30. **Kratzer, A. (1996)** "Severing the External Argument from Its Verb," *Phrase Structure and the Lexicon*, 109-137, Kluwer Academic Publishers. **Landman, M and M. Morzycki (2003)** "Event-kinds and the Representation of Manner," *WECOL 2002*, 136-147. **Nakau, M. (1973)** *Sentential Complementation in Japanese*, Kaitakusha. **Yumoto, Y. (2005)** *Fukugou-doushi/Hasei-doushi no Imi to Tougo*, Hituji Shobo.