Phrasal or Phasal Coordination? -From the Evidence of Suspended Affixation-

Synopsis: In this paper, introducing novel facts in Japanese that different categories can be coordinated, I will argue that the relevant factor is not the categorial isomorphism but whether the elements that are coordinated constitute a phase (Chomsky 2000, Embick 2010).

Facts: Japanese has three ways to connect two sentences as in (1).

(1)

Taroo-ga betsubetsu-no ronbun-o {kopii-si/kopi-si-te/kopii-shita sosite} fairu-si-ta. Taro-_{NOM} different-_{GEN} paper-_{ACC} copy-do/copy-do and.then file-do-PAST. 'Taro copied a paper and filed another different paper. / Taro copied and filed a paper.'

Among the three, the sentence with a bare-verbal element in the first conjunct is regarded as coordination (Takano 2004, Hirata 2006), since it can co-occur with *betsubetsu* 'different', which induces a sentence-internal reading, according to which the paper that is copied and the paper that is filed can be different as the translation in (1) indicates. Although the traditional analysis of Japanese sentential coordination (SC) is TP-coordination (Tomioka 1994, Nishiyama 2012 a.o.), the existence of T in the sentential coordination is not well-established. If the sentence in (1) involves TP-coordination, the shared part (i.e. *-ta*) must be moved to C via Across-the-board (ATB) movement. That is, (1) has the following structure:

(2) $[_{CP} [_{TP1} SUBJ OBJ V] [_{TP2} SUBJ OBJ V] C(=-ta)]$

However, if (2) is on the right track, we expect that negation, which amalgamates with -ta, always takes scope over SUBJ in (3), which is not the case.

(3) $\begin{bmatrix} TP & Zen'in-ga & ronbun-o & kopii-si \end{bmatrix} \begin{bmatrix} TP2 pro(SUBJ) pro(OBJ) & fairu-si \end{bmatrix}$ -nak-at-ta. Everyone-_{NOM} paper-_{ACC} copy-do file-do-NEG-COP-PAST.

'Everyone didn't copy and file a paper.' (everyone > not / not > everyone)

In (3), the subject universal quantifier can be outside the scope of the negation. I thus assume in line with Takano (2004) and Hirata (2006) that what is coordinated in (1) and (3) is vP as in (4).

(4) $[_{TP} \text{Zen'in-ga}[_{\nu P1} t_1 \text{ robun-o kopii-si}][_{\nu P1} t_1 pro(OBJ) \text{ fairu-si}]-nak-at-ta.$

Everyone-_{NOM} paper-_{ACC} copy-do file-do-neg-cop-past

'Everyone didn't copy and file a paper.' (everyone > not / not > everyone)

Issues: Crucial here is the scope interpretation observed in (5) and (7), where Suspended Affixation (SA) is invoked due to the presence of -(*s*)*ase* (causative) and -*nai* (negation). Given the above argument that what is coordinated is *caus*P, the scope facts regarding (5a) are not surprising; the causative morpheme takes scope over both *caus*P1 and *caus*P2. Moreover, the existence of CAUS in both clauses is evident by the realization of additional arguments. Observe:

- (5) a. [TP Hanako-ga [XP Masao-ni₁ [$_{causP1} t_1$ piano-o narai t_{sase}] [$_{causP2} t_1$ syuuji-o naraw t_{sase}]-ase]-ta]. Hanako-_{NOM} Masao-_{DAT} piano-_{ACC} learn Taro-_{DAT} calligraphy-_{ACC} learn-CAUS-PAST
 - b.[TP Hanako-ga [XP Masao-ni [$_{causP1} t_1$ piano- $_{ACC}$ learn –CAUS calligraphy- $_{ACC}$ learn-CAUS-PAST Hanako- $_{NOM}$ Masao- $_{DAT}$ piano- $_{ACC}$ learn –CAUS calligraphy- $_{ACC}$ learn-CAUS-PAST 'Hanko made Masao learn piano and Hanako made Masao learn calligraphy.'

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(V1<V2<CAUS /*V1<CAUS <V2/*V2<CAUS<V1))
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Here, (5a) only has a V1<V2<CAUS reading just like (5b), which indicates that (5a) has the following structure:

(6) $\begin{bmatrix} CAUSP & [causP1 \dots t_{caus}] & [causP2 \dots t_{caus}] & CAUS \end{bmatrix}$

However, if (6) is the right structure for the bare-verbal coordination, (7) will be problematic.

(7) Because he has to drive ...

Kare-wa [$_{\nu P1}$ sushi-o tabe] [$_{\nu P2}$ sake-o noma]-nak-at-ta.

he-TOP sushi-ACC eat sake-ACC drink-NEG-COP-PAST

'He neither ate sushi nor drunk sake. / He ate sushi but he didn't drink sake.'

 $(V1 \le V2 \le NEG / \sqrt{V2 \le NEG \le V1})$

(7) allows a V2 \leq NEG \leq V1 reading, which is unexpected if the relevant structure is (8).

(8) $[_{\text{NEGP}} [_{\nu P1} \dots t_{neg}] [_{\nu P2} \dots t_{neg}] \text{NEG}]$

The existence of a V2<NEG<V1 reading in (7) indicates that there is a case where only the second conjunct (i.e. vP2) is negated, which is normally ruled out due to the heterogeneous categories being coordinated (i.e. vP1 and NEGP). This is surprising since both CAUSE and NEG are suffixes to the verb, and the former is verbal and the latter is adjectival by nature. Note that logical combinations of negation and coordination do not work. Consider:

(9)									
P (vP1)	Q (vP2)	P∧Q	\sim (P \land Q)						
1	1	1	0						
0	1	0	1						
1	0	0	1						
0	0	0	1						

As shown in (9), the negation of both vP1 and vP2 does entail NEG(vP1) or NEG(vP2), so that a V1>NEG>V2 reading should also be possible. However, such an interpretation is not an option in (7). Analysis: To account for the contrast between CAUS and NEG, I propose that only phases can be coordinated, and that NEG constitutes a category-changing node and hence a phase in the sense of Bobaljik

and Wurmbrand (2013). NEGP should be regarded as a category-changing node since its conjugation is adjectival. Bobaljik and Wurmbrand (2013) argue that phases can be extended only when a given phase head is morphologically interpreted relative to a next phase. Given this, the phasal status of vP therefore extends to NEGP (cf. Embick 2010). The impossibility of a V2<CAUS<V1 reading in (5a) is not surprising since CAUS is a category-determining node (= an exponent of v) and hence it forms a phase, so that both causP1 and causP2 undergoes Spell-Out independently. Thus, (5a) is represented as:

(10) $\left[v_{P} \text{Taro-}_{TOP} \left[X_{P} \text{Masao-}_{DAT} \left[caus_{P1} \text{ piano-}_{ACC} \text{ learn } t_{caus}\right] \& \left[caus_{P2} \text{ calligraphy-}_{ACC} \text{ learn } t_{caus}\right] - CAUS - v\right]$ Phase 1 Phase 2

Note also that (11) is impossible since *narai* (=learn) is categorially neutral (an exponent of $\sqrt{}$) due to the absence of a categorial-determining head 'CAUS', and it is not phasal. Hence, the *V2<CAUS<V1 reading is excluded.

(11)	11) $\left[{}_{\nu P} \operatorname{Taro}_{TOP} \left[{}_{XP} \operatorname{Masao}_{DAT} \left[{}_{\sqrt{P1}} \operatorname{piano}_{ACC} \operatorname{learn} \right] \& \left[{}_{CAUSP} \operatorname{calligraphy}_{ACC} \operatorname{teach}_{CAUSP} \right] \right]$			
		Not a Phase!!	Phase	

This explains that the scope facts in (5a). Turning to (7), since NEG is a phase, it is possible to have (12).

(12) $[Kare_{TOP}]_1$ [$_{VP} t_1$ susi- $_{ACC}$ eat]&[$_{NEGP}$ [$_{VP2} t_1$ sake- $_{ACC} t_2$] drink₂-NEG]-COP-PAST

 $\leftarrow \leftarrow \leftarrow vP2 \Rightarrow \Rightarrow \Rightarrow \Rightarrow \Rightarrow (vP2 \text{ phase extends to NEGP})$

Consequences 1: This analysis predicts that since CAUS is morphologically inside NEG, movement of CAUS precedes the introduction of NEGP, hence NEG cannot take scope over only V2 and excluding a V2<NEG<V1 reading. This prediction is borne out:

(13) Hanako-ga [Masao-ni[$_{causp}$ piano-o narai t_{caus}] [$_{causp}$ syuuji-o naraw- t_{caus}] ase]-nak-at-ta Hanako-NOM Masao-DAT calligraphy-ACC learn-CAUS-NEG-COP-PAST piano-_{ACC} learn 'Hanko didn't Masao take piano lessons and Hanako didn't Masao take calligraphy lessons.'

 $(V1 \le V2 \le NEG / V2 \le NEG \le V1)$

Consequences 2: The proposed analysis also accommodates the following contrast in Turkish SA. According to Konfilt (2012), the affix -ma can form either a gerund (GER) or a result (RES) nominal. In this language, result nominal affix -ma cannot be suspended as follows:

(14)	a.	dun-dur-ma	b.	kizar-t-ma	c.	dun-dur-up	kizar-t-ma
		freeze-CAUS-GER/RES		roast-CAUS-GER/RES		freeze-CAUS-&	roast-CAUS-GER/RES
		freezing/ice cream		roasting/roasted food	1.	freezing and roas	sting/*ice cream and roast food

In the result interpretations, the event interpretation of a verb disappears and no internal argument can be selected by a verb (Grimshaw 1990). This is elucidated in terms of the lack of vP and $\begin{bmatrix} nP \\ nP \end{bmatrix}$ [root-caus] n] structure, which is proposed by Volpe (2005). As a result, the coordination of result nominals in (15b) is excluded since both conjuncts are not categorory-changing nodes and therefore, they are not phasal.

 $\begin{bmatrix} nP \\ vP \end{bmatrix} vP \end{bmatrix} \text{ freeze- CAUS} - v \end{bmatrix} \& \begin{bmatrix} vP \\ vP \end{bmatrix} vP \text{ roast- CAUS} - v \end{bmatrix} - GER \end{bmatrix} b.$ * $[_{nP}$ [freeze-CAUS] & [roast-CAUS]-RES] (15) a. Not a Phase! Phase Phase Not a Phase!