Remarks on Voice-bundling*

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1. Introduction

Pylkkänen (1999, 2001) argues for the separation of CAUSE from Voice (the functional head responsible for the assignment of an external θ-role, θ_{EXT}; Kratzer 1996) by presenting causative sentences that do not contain an external argument. Assuming that Universal Grammar makes CAUSE and θ_{EXT}, as in (1) below, available for selection (in the sense of Chomsky 2000), Pylkkänen further argues that language variation arises from the way that these pieces are packaged into a lexical item: Voice-bundling in Pylkkänen (2001) (cf. Bobaljik and Thráinsson 1998 for a similar proposal in the IP domain, i.e. a split Infl parameter).[1] Specifically, languages like English have CAUSE and θ_{EXT} bundled into one functional head, as in (2a), which enters as a unit into the syntactic computation, as depicted in (3a). In contrast, Voice-bundling is inoperative in languages like Japanese, as in (2b), and CAUSE and θ_{EXT} enter into the syntactic computation separately and function in their own right, as in (3b-i).[2] As Pylkkänen argues, the assumption that English has a bundled Voice, [CAUSE, θ_{EXT}], explains the fact that the language does not have causatives without external arguments, since it follows from this assumption that an external argument must appear if CAUSE is present.[3]

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[1] Following Pylkkänen (2001), I refer to the functional category which selects an external argument as Voice or θ_{EXT}. Voice/θ_{EXT} and CAUSE both belong to the class of functional categories which "verbalize" a category-neutral root, i.e. *v* in Marantz (1997, 2001).

[2] Finnish belongs to the latter type of language. See footnote 7.

[3] As Pylkkänen (1999, 2001) argues, the availability of lexical causatives based on unergatives also hinges upon this difference. I will not discuss such lexical causatives in this paper, but it is obvious that sentences like *Mary burped the baby* need some explanation. See Kiparsky (1997: 492) for an insightful comment.

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(1) Universal meanings (to be selected by a language and realized in functional heads)[4]

a. θ_{EXT}: $\theta_{EXT}^* = \lambda x \lambda e[\theta_{EXT}(e,x)]$

b. CAUSE: $CAUSE^* = \lambda f_{<s,t>} \lambda e[(\exists e')f(e') \& CAUSE(e,e')]$

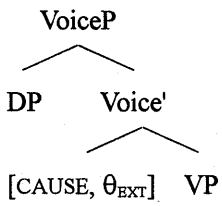
(Pylkkänen 1999: (3) with minor changes)

(2) Voice-bundling

a. ✓ English: CAUSE, θ_{EXT} → [C AUSE, θ_{EXT}] (a bundled Voice)

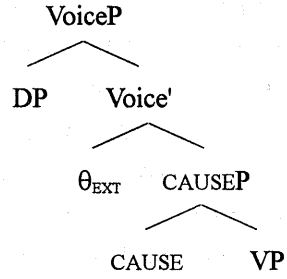
b. N/A Japanese: CAUSE, θ_{EXT} (a 'split' Voice)

(3) a. English

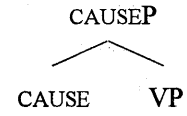


b. Japanese

i. CAUSE with an external argument



ii. CAUSE without an external argument



It should be noted that, though a bundled Voice functions as a unit in syntax, they are independent semantically, and thus, (3a) and (3b-i) are equivalent in terms of semantics. Specifically, if you assume that θ_{EXT}, CAUSE, VP and DP in (3) have the denotations in (4), then languages with a bundled Voice, [CAUSE, θ_{EXT}], and languages with a split Voice, CAUSE and θ_{EXT}, must undergo the same processes in the same order in the semantic computation, as given in (5): Functional Application of CAUSE* to VP* in (5-1) and Event Identification between θ_{EXT}* and (CAUSE VP)* in (5-2).[5] Though these composition

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[4] I follow Kratzer's (1996) notation here: for any string α, α* is the denotation of α. Note that $f_{<s,t>}$ is a function that maps events to truth values, with types, *s* and *t*, being events and truth values, respectively; it is not a function from possible worlds to truth values, as in Intensional Logic. Moreover, the event argument, *e*, should not be confused with *e*, individuals, in type theory. See footnote 5.

[5] Event Identification in Kratzer (1996) is a conjunction operation that applies to two functions to form another function; specifically, it applies to *f*, a function that maps individuals to functions from events to truth values, and *g*, a function from events to truth values, thereby yielding *h*, a function that maps individuals to functions from events to truth values, as illustrated in (i) by means of an extensional type logic with three basic types: individuals (type e), events (type s) and truth values

principles can apply freely whenever they can, the reversed order of application of these composition principles is impossible in this case, as in (5'), due to a type mismatch: Event Identification applying to θ_{EXT}* and VP* yields an unsaturated event, which is a function of type <e,<s,t>>, as in (5'-1'); CAUSE* takes a saturated event, which is a function of type <s,t>. Combining CAUSE* and θ_{EXT}* is not a possibility either, since they both are required to combine with a function from events to truth values and neither of them is of that type. Thus, the contrast between a bundled Voice and a split Voice presents a case of disparity between syntax and semantics.

(4) a. $\theta_{EXT}^* = \lambda x \lambda e[\theta_{EXT}(e,x)]$
b. $CAUSE^* = \lambda f_{<s,t>} \lambda e[(\exists e')f(e') \& CAUSE(e,e')]$
c. $VP^* = \lambda e[CausedEvent(e)]$
d. $DP^* = a$

(5) 1. $(CAUSE\ VP)^* = \lambda e[(\exists e')CausedEvent(e') \& CAUSE(e,e')]$
From (4b) & (4c) by Functional Application.
2. $(\theta_{EXT}\ (CAUSE\ VP))^* = \lambda x \lambda e[\theta_{EXT}(e,x) \& (\exists e')CausedEvent(e') \& CAUSE(e,e')]$
From 1 & (4a) by Event Identification.
3. $((\theta_{EXT}\ (CAUSE\ VP))\ a)^* = \lambda e[\theta_{EXT}(e,a) \& (\exists e')CausedEvent(e') \& CAUSE(e,e')]$
From 2 & (4d) by Functional Application.

(5') 1'. $(\theta_{EXT}\ (VP))^* = \lambda x \lambda e[\theta_{EXT}(e,x) \& CausedEvent(e)]$
From (4a) & (4c) by Event Identification.
2'. $(CAUSE\ (\theta_{EXT}\ (VP)))^*$: type mismatch

The aim of this paper is to argue that, though Pylkkänen (1999, 2001) is quite right in showing that causatives do not necessarily select external arguments, Voice-bundling is unnecessary for the following three reasons. First, the existence of CAUSE, which is prerequisite to Voice-bundling, is hardly attested in causatives without external arguments in Japanese. Second, it is empirically false to claim that Voice-bundling is operative in English, the only language which Pylkkänen (1999, 2001) identifies as having a bundled Voice; thus, we have no evidence which forces us to assume Voice-bundling. Third, it is logically possible that a language does not have causatives without external arguments even if it does not have a bundled Voice [CAUSE, θ_{EXT}].

The paper is organized as follows. In section 2, we review Pylkkänen's (1999, 2001) arguments for causatives without external arguments by focusing on Japanese adversity

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(type t).

(i)

f	g	→	h
<e,<s,t>>	<s,t>		<e,<s,t>>
$\lambda x \lambda e[\theta_{EXT}(e,x)]$	$\lambda e P(e)$		$\lambda x \lambda e[\theta_{EXT}(e,x) \& P(e)]$

causatives, and show that none of her arguments convincingly shows that CAUSE is present in adversity causatives. Given this, I suggest that the causative morphemes involved are transitivizers rather than causativizers. Section 3 presents counterexamples to the claim that Voice-bundling is operative in the English lexicon, i.e. causatives without external arguments in English, and it further argues that Voice-bundling is unnecessary even in languages that do not have causatives without external arguments even under Pylkkänen's own assumptions. Section 4 is a summary.

In this paper, we will consider Japanese and English, and we will not examine Pylkkänen's (1999, 2001) claims about Finnish. Thus, any statement that concerns Pylkkänen (1999, 2001) should be understood with this proviso in mind. Note, however, that the main claim of this paper holds nonetheless.

2. Separation of CAUSE from Voice in Japanese Adversity Causatives

Adversity causatives in Japanese are a subset of causatives with a causative morpheme *-(s)ase-*, and the nominative subjects involved are construed not as a causer, but rather as a participant adversely affected by the caused event. An adversative causative interpretation is clamed to arise when *-(s)ase-* takes a VP whose head is an unaccusative (Harley 1995). Sentences with this interpretation also allow the regular causative interpretation, i.e. with the subject interpreted as a causer (but not vice versa). This gives rise to an ambiguity, as illustrated in (6).[6]

(6) Taroo-ga musuko-o korob-ase-ta
Taro-Nom son-Acc fall.down-Cause-Past
a. 'Taro caused his son to fall down.'
b. 'Taro was adversely affected by his son falling down.'

(Pylkkänen 1999: (6))

Pylkkänen (1999, 2001) argues that Japanese adversity causatives provide evidence for the separation of CAUSE from Voice or what can be called Voice-splitting for brevity's sake.[7]

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[6] Many native speakers report that sentences like (6) are not acceptable with the subject interpreted as being adversely affected, though they accept them as causation. I will for now accept the data cited in Pylkkänen (1999, 2001) for the sake of discussion, but will address a question regarding the reported judgments in section 2.2. However, if we assume that the distribution of the adversative interpretation is formulated in (i) in footnote 16, then we can accommodate the variability in acceptability among native speakers.

[7] Pylkkänen (1999, 2001) argues that Finnish desiderative causatives, as in (i), are causatives without external arguments. According to Pylkkänen (1999, 2001), the desiderative interpretation arises when an agentive unergative verb is causativized, and this construction shows exactly the same points, i.e. (7a) and (7b), as Japanese adversity causatives do.

Specifically, she argues for the following:

(7) a. The subject arguments in Japanese adversity causatives are not external arguments.
b. Japanese adversity causatives are causative in the sense that CAUSE is present.

If the claims in (7) are true, then it follows that there are causatives without external arguments in Japanese. In this section, I examine her arguments for (7) in detail.

2.1 No External Arguments in Adversity Causatives

Pylkkänen (2001) argues that there is no external argument in adversity causatives by showing that they lack passive counterparts. As she argues, passivization renders the adversative interpretation unavailable, as given in (8). Thus, the unavailability of passivized adversity causatives can be straightforwardly explained if we assume that there is no external argument to suppress in adversity causatives.

(8) Musuko-ga sin-as(e-r)are-ta
son-Nom die-Cause-Pass-Past
a. 'The son was caused to die.'
b. *'Somebody's son died on him.' (with an implicit affected argument)
(Pylkkänen 2001: (11) with minor changes)

For those who do not accept adversity causatives, the same point can be illustrated by the following examples, which contain a lexical causative morpheme (Ø in this case) instead of the productive causative morpheme *-(s)ase-*.[8] In (9a), the subject in the first conjunct bears a different interpretation from that of Agent; in Pylkkänen's view, this is the adversative interpretation. In contrast, the subject in the second conjunct bears an Agent, as forced by the presence of the emphatic reflexive. If we passivize the first conjunct in (9a), then the whole sentence becomes unacceptable, as in (9b). The unacceptability of (9b) is explained as follows. The *by*-phrase in the first conjunct can only be interpreted as an Agent; thus, the first conjunct is contradictory to what the second conjunct describes, i.e. Taro did not instigate

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(i) Maija-a laula-Ø-tta-a.
Maija-Part sing-Des-Cause-3sg
'Maija feels like singing.' (Pylkkänen 1999: (14a))

[8] I assume that the first conjunct in (9a) is essentially equivalent to an adversity causative, the difference being only in the morphological realization of CAUSE. Assuming *-(s)ase-* to be the default realization of CAUSE (or of the transitive morpheme), as in Miyagawa (1998), allows us to entertain this treatment. We will examine English sentences corresponding to (9) in detail in section 3.1.

the breaking of his arm. This indicates that the first conjunct in (9a) does not have a corresponding passive form, and therefore that it does not contain an external argument.

(9) a. Taroo-ga ude-o ot-ta (or-Ø-ta) kedo
Taroo-Nom arm-Acc √break-Cause-Past but
zibun-de-wa or-Ø-anak-at-ta (<or-Ø-anak-ar-ta)
self-by-Top √break-Cause-Neg-Cop-Past
'Taroo broke his arm, but he didn't break it himself.'

b. *Taroo-no ude-ga kare-niyotte or-Ø-are-ta kedo
Taroo-Gen arm-Nom he-by √break-Cause-Pass-Past but
kare-zisin-wa or-Ø-anak-at-ta (<or-Ø-anak-ar-ta)
he-self-Top √break-Cause-Neg-Cop-Past
'Taroo's arm was broken by him, but he didn't break it himself.' (* in English)

2.2 Adversity Causatives are Causative

Pylkkänen (1999) argues that adversity causatives are causative. Her first argument involves a contrast between adversity causatives and passives. As Pylkkänen argues, adversity passives, but not adversity causatives, are felicitous with contexts where there is no cause, as in (10). Thus, she argues that the contrast in (10) can be explained if the causative morpheme *-(s)ase-* asserts the existence of a causing event.

(10) a. Context: Taro's father dies of natural causes. Adversity passive
Taroo-ga titioya-ni sin-are-ta
Taro-Nom father-Dat die-Pass-Past
'Taro was affected by his father dying.'

b. Context: Taro's father dies of natural causes. Adversity causative
#Taroo-ga titioya-o sin-ase-ta
Taro-Nom father-Acc die-Cause-Past
'Taro was affected by his father's dying.'

(Pylkkänen 1999: (9))

It seems, however, that one particular reading is overlooked in the judgment given in (10b): the reading in which Taro could not do anything in any way to save his father and eventually failed to prevent him from dying. This is one of the readings associated with permissive causation (Shibatani 1976: 254), and under this reading of the subject in (10b), the sentence is felicitous with the context specified, and Taro's not doing anything to save his father counts as

a causing event.[9]

In fact, this points to an important issue that has not been resolved in the discussions of adversity causatives. Though it is a widely accepted claim in the literature that Japanese has adversity causatives, most discussions, if not all, simply assert that there are some cases in which the subject of a causative is construed as being adversely affected, without demonstrating that the adversative interpretation exists independently of any other interpretation of the causer argument identified in the literature. If the causer in a causative receives a different interpretation, depending on a class of causative, i.e. an adversity causative or a permissive causative, it should be possible to elucidate one of the two readings truth-conditionally. However, no such argument has been advanced, to the best of my knowledge.[10] In this sense, the argument based on the contrast in (10) is incomplete unless it is shown that the adversative interpretation is distinct from all the other interpretations associated with the causer argument.

However, sentences like the first conjunct in (9a), which I assume to be parallel to adversity causatives, do not allow the permissive interpretation, since they involve lexical causative morphemes and typically have the manipulative causative interpretation. As we have seen above, the subject in the first conjunct bears a different interpretation from that of Agent, and moreover, the subject argument is rather a participant of the caused event. (9a) is repeated below:

(9) a. Taroo-ga ude-o ot-ta (or-Ø-ta) kedo
Taroo-Nom arm-Acc √break-Cause-Past but
zibun-de-wa or-Ø-anak-at-ta (<or-Ø-anak-ar-ta)
self-by-Top √break-Cause-Neg-Cop-Past
'Taroo broke his arm, but he didn't break it himself.'

As far as the world is concerned, some cause must be present for the breaking of Taro's arm to take place: some physical circumstances brought about the breaking of Taro's arm. However, when it comes to a linguistic event, it is unclear that the first conjunct in (9a) involves

[9] It might sound a bit odd to say that Taro's doing nothing counts as a causing event, but *Taro* should be a causer nonetheless; for instance, *John* is an Agent in sentences like *John didn't run*.

[10] Note that I do not argue against the existence of adversity causatives. I merely point out that it is still an open question whether adversity causatives exist in Japanese, though I see no reason to assume at present that they exist independently of permissive causatives. Thus, if one argues that adversity causatives fall under a class of permissive causatives, then one should show that they are not different. Ideally, a conjunction of a sentence and its negation can be a tool to investigate whether there is an ambiguity or not: if there is an ambiguity, then there are at least two interpretations associated with the sentence; if not, then the sentence is concluded to have only one interpretation. However, it seems that this conjunction test does not work without constructing sentences too complicated to be understood, given that the causer argument has various interpretations already, e.g. coercive vs. permissive, direct vs. indirect, etc.

CAUSE, since it is felicitous with the context where Taro has natural causes such as osteoporosis that break his limbs. Thus, I conclude that it is not the case that adversity causatives are infelicitous with contexts where there is no cause, and the contrast in (10) does not argue for the presence of CAUSE in adversity causatives.

Second, Pylkkänen cites the following examples involving the adverbial *katteni* 'by.self/on one's own'. The unaccusative in (11a) and the adversity passive in (11b) are both compatible with the adverbial, while the adversity causative in (11c) is not. She argues that, if (11c) is different from (11a) and (11b) in that an adversity causative is a causative and asserts the existence of a causing event, the contrast between the two can be predicted.

(11) a. Taroo-ga katteni koron-da (<korob-ta) Unaccusative
Taro-Nom by.self fall.down-Past
'Taro fell down by himself.'

b. Taroo-ga musuko-ni katteni korob-are-ta Adversity passive
Taro-Nom son-Dat by.self fall.down-Pass-Past
'Taro was affected by his son falling down all by himself.'

c. ??Taroo-ga musuko-o katteni korob-ase-ta Adversity causative
Taro-Nom son-Acc by.self fall.down-Cause-Past
'Taro was affected by his son falling down all by himself.'

(Pylkkänen 1999: (10))

However, the existence of a causing event is irrelevant in the cases at hand, and cases exist in which a causative is compatible with *katteni*, as in (12). (12) is a permissive causative with a dative-marked causee, and it has been noted that permissive causatives are associated with the *let* reading where the causer does not necessarily force the causee to perform the caused event and the causee is construed as being volitional to a certain degree. Thus, the contrast in (11) cannot be taken to be an argument for the existence of a causing event in (11c), and a different explanation must be sought for the unacceptability of (11c).

(12) Taroo-ga musuko-ni katteni korob-ase-ta
Taro-Nom son-Dat by.self fall.down-Cause-Past
'Taro let his son fall down all by himself.'

The third and last argument for the existence of a causing event in adversity causatives is that adversity causatives can have a *by*-phrase naming a causing event, as in (13a), while adversity passives cannot, as in (13b).

(13) a. Taroo-ga ame-niyotte yasai-o kusar-ase-ta Adversity causative
Taro-Nom rain-by vegetable-Acc rot-Cause-Past
'The vegetable was caused to rot on Taro by the rain.'
b. *Taroo-ga taifuu-niyotte fune-ni sizum-Ø-are-ta Adversity passive
Taro-Nom typhoon-by ship-Dat √sink-Inch-Pass-Past
'The ship sank on Taro by the typhoon.'

(Pylkkänen 1999: (11))

However, (13b) is hard to construe as an adversity passive – even without a *by*-phrase naming a causing event, as in (14). This is presumably due to the tendency for the dative-marked argument (the *ni*-phrase here) in this context to be an animate being.

(14) *Taroo-ga fune-ni sizum-Ø-are-ta
Taro-Nom ship-Dat √sink-Inch-Pass-Past
'The ship sank on Taro.'

A more adequate pair can be constructed. The examples in (15) contain *musuko* 'son' as the dative-marked argument, and, once the animacy restriction on the dative argument in adversity passives is properly accommodated, there is no contrast in acceptability between adversity causatives and passives. This casts doubt upon the validity of a *by*-phrase naming an event as a diagnostic to show the presence of CAUSE.

(15) a. Taroo-ga furyo-no ziko-niyotte musuko-o sin-ase-ta
Taro-Nom unexpectedness-Gen accident-by son-Acc die-Cause-Past
'Taro's son was caused to die on him by the unexpected accident.'
b. Taroo-ga furyo-no ziko-niyotte musuko-ni sin-are-ta
Taro-Nom unexpectedness-Gen accident-by son-Dat die-Pass-Past
'Taro's son died on him by the unexpected accident.'

To sum up, none of the arguments that Pylkkänen presents convincingly show that CAUSE is present in adversity causatives. Since it is not shown either that CAUSE cannot be present in adversity causatives, we cannot conclude from the data presented so far whether CAUSE is present or not in adversity causatives.

What Pylkkänen (1999, 2001) has shown, then, is that there is no correlation between the distribution of causatives morphemes and the distribution of external arguments. However, given the above discussion, it does not then follow that the presence of a causative morpheme reflects the presence of CAUSE. Moreover, it is clear that the productive causative morpheme *-(s)ase-* transitivizes unaccusative bases in adversity causatives and lexical

causatives without external arguments (as in (9) above). This can be seen from the fact that the argument of an unaccusative base is marked accusative in adversity causatives. Thus, what is certain from the data discussed is that a causative morpheme in adversity causatives transitivizes an unaccusative base (Nishiyama 1998). Therefore, I assume as a null hypothesis that a causative morpheme in adversity causatives is a transitivizer rather than a causativizer.[11]

3. Voice-bundling in English

In the last section, we reached the null hypothesis that a causative morpheme in adversity causatives is a transitivizer rather than a causativizer, and it remains as an open question whether CAUSE is present in adversity causatives. A negative answer to this question would remove the basis for Voice-bundling and Voice-splitting, since it crucially involves the existence of CAUSE. In this section, I keep to the assumptions that CAUSE is present in adversity causatives for the sake of discussion, and I present counterexamples to Pylkkänen's (1999, 2001) claim that Japanese and English differ in that the former, not the latter, has causatives without external arguments. I argue as well that Voice-bundling is not necessary under the assumptions that Pylkkänen holds, even if English did not have causatives without external arguments, and discuss what needs to be shown to invoke this operation. Finally, I suggest what is minimally assumed to account for causatives without external arguments on the basis of the discussion in section 2.2.

3.1 Causatives without External Arguments in English

As introduced briefly in section 1, Pylkkänen (1999, 2001) argues that English has a bundled Voice [CAUSE, θ_{EXT}] as a result of Voice-bundling in the lexicon, while Japanese has a split Voice, CAUSE and θ_{EXT}. This clearly predicts that if CAUSE is introduced into the syntactic computation, then an external argument is also introduced.[12]

However, there are cases in which lexical causatives involve subjects that are not external arguments, as illustrated in the following.[13,14]

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[11] Thus, I claim that in lexical causatives, the presence of CAUSE correlates with the distribution of external arguments. This also argues against Voice-splitting (into CAUSE and θ_{EXT}). See section 3.2 for discussion. Moreover, note that transitivizers of the kind assumed here do not fall under Burzio's generalization (Burzio 1986), since accusative Case is assigned in cases where an external argument is not assigned. The same holds if a causative morpheme denotes CAUSE.

[12] Note that the correlation holds only in one way. Clearly, it is false to say that, if an external argument is introduced, then CAUSE is also introduced, since there are non-causative verbs which select external arguments, i.e. *kick*, *run*, etc.

[13] For the purpose of this paper, I adopt the discrete thematic role hypothesis, which assumes that thematic roles are distinct entities in the grammar (cf. Dowty 1991).

(16) a. John broke his arm.
b. Mary ripped her sleeve.

There are two readings associated with the subjects in (16), aside from the ambiguities arising from the different interpretations of the pronouns involved. In one reading, the subjects are construed as instigating the events described (Agent). The other reading arises when the subject and the object are in a 'close' relation, typically a relation of possession (Inoue 1976, Amano 1995, Kageyama 1996, among others).[15] For instance, when the arm is understood as John's in (16a), and Mary is understood as wearing the sleeve in (16b), the subjects are construed as not to have instigated the events described, but rather merely to have undergone them (Affectee, for want of a better term). Verbs are also restricted in terms of whether or not the Affectee interpretation of the subject is allowed, and it has been shown that verbs which display the causative/inchoative alternation typically allow the Affectee interpretation (Inoue 1976, Kageyama 1996, cf. Amano 1995).[16] Thus, the verbs in (16) have inchoative alternants, as in (17).

(17) a. John's arm broke.
b. Mary's sleeve ripped.

In contrast to (16), the subject in (18) cannot be interpreted as an Affectee.

(18) John punched his arm.

The difference between (16) and (18) might seem at first to be somewhat impressionistic, but it can in fact be demonstrated in a linguistically relevant way that the sentences in (16) are truly ambiguous, while (18) is not. Specifically, the sentences in (16) are acceptable, while

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[14] Liina Pylkkänen (personal communication, November 2001) pointed out that sentences like (16) are not parallel to the adversity causative in that they do not seem to contain CAUSE. As we have seen in section 2.2, this seems to be true of adversity causatives as well.

[15] Languages vary as to what counts as a "close" relation. Specifically, inalienable possession seems to count as a "close" relation in every language, but languages vary in terms of whether alienable possession counts as such a relation. Moreover, the arguments in a "close" relation must be co-arguments of the same predicate (Takehisa 2001).

[16] Takehisa (2001, 2002) argues that the generalization concerning verbs which allows the Affectee interpretation should be characterized not in terms of causation (Kageyama 1996) or change of state (Amano 1995), but in terms of the non-obligatory presence of an Agent. This is formulated in (i).

(i) If the subject is interpreted as an Affectee, then the root of the verb involved does not necessarily require the presence of an external argument, where an external argument is a Proto-Agent (in the sense of Dowty 1991) — e.g. an Agent, an Experiencer, and the like.
(Takehisa 2002: (6))

However, the difference in this respect does not matter here.

that in (18) is unacceptable, when they are conjoined with their negative counterparts, as shown in (19). The presence of an emphatic reflexive facilitates the judgment. Assuming that conjoining a VP with its negated counterpart always leads to a contradiction, and hence that what is negated in (19) is the subject, we can conclude that the subjects in (16) receive such different interpretations that no contradictions arise, as in (19a-d), and that (19e) and (19f) are unacceptable because the subjects can only be interpreted in one way, i.e. as an Agent.

(19) a. John broke his arm, but he didn't break it. (himself).
b. John didn't break his arm (himself), but he broke it.
c. Mary ripped her sleeve, but she didn't rip it. (herself).
d. Mary didn't rip her sleeve (herself), but she ripped it.
e. *John punched his arm, but he didn't punch it. (himself).
f. *John didn't punch his arm (himself), but he punched it.

Note that this conjunction test works only when the conjunct containing an Agent is negated, and further that negating the conjunct containing an Affectee subject results in a contradiction, as in (20). This is because the sentence *John broke his arm* entails that John's arm broke, irrespective of the interpretation of the subject, with what we call an Affectee being merely a possessor of the object.[17]

(20) a. *John didn't break his arm, but he broke his arm (himself).
b. *John broke his arm (himself), but he didn't break his arm.

The discussion thus far shows clearly that there are causatives which lack an Agent. The next task is to show that the non-agentive, Affectee subject is not an external argument. This is illustrated in (21). The examples in (21) indicate that there are no passive counterparts to sentences with an Affectee subject. Specifically, the sentences are contradictory and hence unacceptable, suggesting the *by*-phrases in (21) can only be interpreted as Agents. This fact is straightforwardly explained if there is no external argument to suppress and an Affectee subject is an internal argument.[18]

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[17] The following example is pragmatically deviant on the assumption that the defining characteristic of an Affectee is being a possessor. This is because the first conjunct, containing an Agent, entails what the second conjunct describes, and thus the second conjunct in (i) is as redundant as the second conjunct in the sentence *John is a student of physics, and he is a student.*

(i) #John broke his arm (himself), and he broke his arm.

[18] Mikinari Matsuoka (personal communication, November 2001) pointed out that in sentences with an Affectee subject, the object DP may receive inherent Case and thus resist undergoing movement. It is unclear how this assumption is independently motivated, and more importantly, this assumption

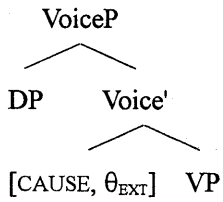
(21) a. *Taroo's arm was broken by him, but he didn't break his arm (himself).
b. *Mary's sleeve was ripped by her, but she didn't rip her sleeve (herself).

Therefore, we can conclude that there are causatives without external arguments in English, and that it is thus impossible to assume that Voice-bundling is operative in the English lexicon. Since the English is the only language which Pylkkänen identifies as having a bundled Voice, the conclusion reached here casts doubt upon the existence of Voice-bundling itself.

3.2 Is Voice-bundling Necessary?

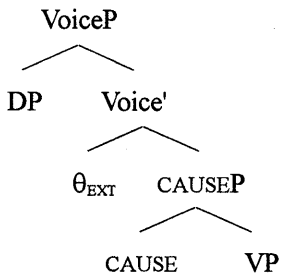
To the extent that causatives without external arguments do exist, it is true that CAUSE does not necessarily introduce an external argument. Pylkkänen (1999, 2001) implements this correlation for languages which have causatives without external arguments, and for those (now hypothetical) languages which lack causatives without external arguments, respectively, as in (3a) and (3b), repeated here for convenience. CAUSE and θ_{EXT} are assumed to be independent syntactic heads for the first type of language, as in (22b); they are bundled together as [CAUSE, θ_{EXT}], for the second type of language, as in (22a).

(22) a. Languages which lack causatives without external arguments

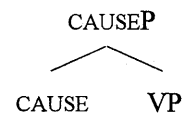


b. Languages which have causatives without external arguments

i. CAUSE with an external argument



ii. CAUSE without an external argument



Assuming these two distinct characterizations immediately accounts for the availability of

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departs from the widely accepted view that an argument receives inherent Case from the head that assigns it a particular theta-role (Chomsky 1986). Since there is no difference in the θ-role of the object in sentences with an Agent and those with an Affectee, this possibility is not pursued here.

causatives without external arguments. However, the following considerations suggest that Voice-bundling is unnecessary even in Pylkkänen's analysis.

First, as we have seen in the last section, there is no empirical evidence for Voice-bundling: English does have causatives without external arguments, contrary to Pylkkänen's claim. As mentioned above, since English is the only language which Pylkkänen identifies as having a bundled Voice, nothing forces us to assume Voice-bundling. Thus, it is still an empirical question whether there are languages which lack causatives without external arguments.[19]

Second, not all causatives (based on unaccusatives) allow an external argument not to be selected even within a single language, as illustrated in the following examples from Japanese. Here, the verb shows the causative/inchoative alternation, as shown in (23a, b), and thus does not necessarily select an Agent, but the causative alternant does not allow an Affectee subject, as in (23c); therefore, the data suggest that the distribution of Affectees should be characterized as in (24).[20] Note that (23) satisfies the possession condition, which is independently posed on the Affectee interpretation.

(23) a. Taroo-no asi-ga dai-ni no-t-ta (no-r-ta)
Taro-Gen foot-Nom stand-Dat √get.on-Inch-Past
'Taro's foot got on the stand.'

b. Taroo-ga asi-o dai-ni no-se-ta
Taro-Nom foot-Acc stand-Dat √get.on-Cause-Past
'Taro put his foot on the stand.'

c. *Taroo-ga asi-o dai-ni no-se-ta kedo
Taro-Nom foot-Acc stand-Dat √get.on-Cause-Past but
zibun-de-wa no-se-nak-at-ta (<no-se-nak-ar-ta)
self-by-Top √get.on-Cause-Neg-Cop-Past
'Taro put his foot on the stand, but he didn't do it himself.' (* in English)

(24) If the subject is interpreted as an Affectee, then the verb must show the causative/inchoative alternation.

The examples in (23) clearly show that there are cases in which causatives without external arguments are impossible even in languages which have the structures in (22b-ii). In other

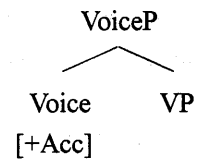
[19] If there are different kinds of phenomena correlated with the structures in (22), we would no doubt need to assume Voice-bundling. As mentioned in footnote 3, Pylkkänen (1999, 2001) argues that the availability of causativized unergatives is another evidence that points to Voice-splitting. I will leave the examination of causativized unergatives for future research.

[20] This formulation is in fact incorrect, given sentence pairs like *John injured his arm, but he didn't do it himself/*John's arm injured.* See footnote 16 for the formulation in Takehisa (2002). See also Takehisa (2000, 2001, 2002) for arguments for a Case-theoretic approach, which derives (24), and arguments against a causation-based approach (Kageyama 1996) or an approach based solely on semantic considerations (Amano 1995).

words, allowing the structure in (22b-ii) is a necessary, but not sufficient, condition for causatives without external arguments, and the unavailability of causatives without external arguments in a language does not immediately lead to the conclusion that that language has the structure in (22a). One might assume that [CAUSE, θ_{EXT}] (and hence (22a)) is involved in (23c); however, if we assume that a bundled Voice, [CAUSE, θ_{EXT}], as well as a split Voice, CAUSE and θ_{EXT}, are available in Japanese, then we immediately lose the predictive power that Pylkkänen's analysis has entirely. Therefore, it should be concluded that causatives without external arguments can, but not must, appear in languages with (22b), and hence that it is logically possible that the structures in (22b) are involved even in languages which lack causatives without external arguments, if they exist. Note furthermore that in Pylkkänen's analysis, once Voice-bundling is unnecessary, Voice-splitting becomes unnecessary as well. This is because Voice-bundling only makes sense together with Voice-splitting in her analysis, i.e. to account for the availability of causatives without external arguments. This conclusion opens up again the possibility of having several kinds of Voice (Harley 1995, Nishiyama 1998, contra Chomsky 1995).[21]

The discussion thus far has assumed that CAUSE and θ_{EXT} are distinct pieces and that the structures in (22b) must be assumed in languages which have causatives without external arguments. Recall that we reached the following in section 2: θ_{EXT} is not present in adversity causatives, and that causative morphemes in adversity causatives are transitivizers rather than causativizers in the sense that it merely marks the object accusative. Given these, (22b-ii) is excluded as the structure for adversity causatives, and another kind of Voice must be assumed instead, as in (25). This is what is minimally assumed for a causative morpheme in adversity causatives. Something like this must be assumed under Pylkkänen's analysis of adversity causatives, as in (22b-ii), to ensure accusative Case licensing in cases where no external argument is assigned.

(25)



However, Voice in (25) necessitates replacing Burzio's generalization in any formulation (Burzio 1986), along with other counterexamples presented by Marantz (1991). Since I do not have any promising alternative at present, I leave this for future research.

[21] At least two kinds are necessary: transitive and unaccusative. See Harley (1995) and Nishiyama (1998) for the evidence from Japanese causative/inchoative verbs.

4. Summary

In this paper, I have presented three arguments against Voice-bundling of the kind proposed by Pylkkänen (1999, 2001): first, CAUSE, which is prerequisite to Voice-bundling, is hardly attested in Japanese adversity causatives; second, English, the only language Pylkkänen identifies as having a bundled Voice, has causatives without external arguments, which are parallel to adversity causatives; third, we cannot logically conclude that a language has a bundled Voice just because that language lack causatives without external arguments – Voice-bundling is not the only option even under Pylkkänen's own assumptions.

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