

THREE PIECES OF ACQUISITION EVIDENCE FOR THE v -VP FRAME*

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1. Introduction: The Syntactic Representation of Agentive Verbs

This paper presents evidence for the v -VP frame in the syntactic representation of agentive verbs from our longitudinal study on a Japanese-speaking child, Akkun, over the period of five years. He showed various patterns in the process of the acquisition of agentive verbs, and we argue that those patterns can be explained elegantly with the v -VP frame.

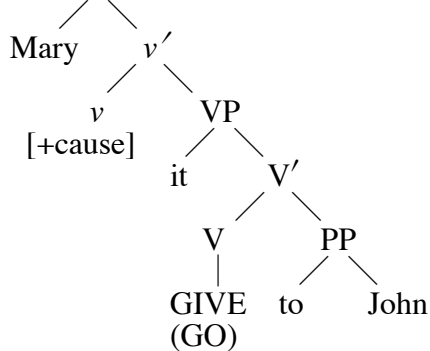
The v -VP frame developed out of Larson's (1988) VP-shell analysis of ditransitive sentences such as (1).

(1) Mary gave it to John

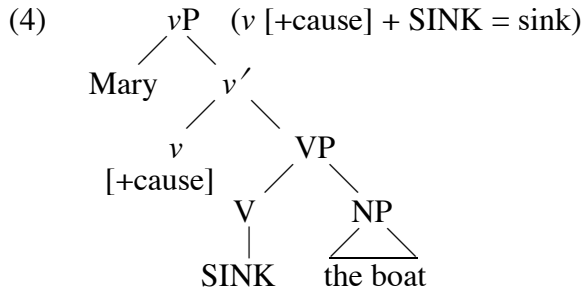
According to this analysis, there are two layers of VPs where the higher V assigns the agent role to its Spec. This was generalized to all agentive sentences in Hale and Keyser 1993 and Chomsky 1995. That is, the agent role is always assigned by the higher verb, called v in distinction with the lower verb V, to its Spec. Thus, (1) and (2) have the representations in (3) and (4), respectively.

(2) Mary sank the boat

(3) v P (v [+cause] + GIVE = give)



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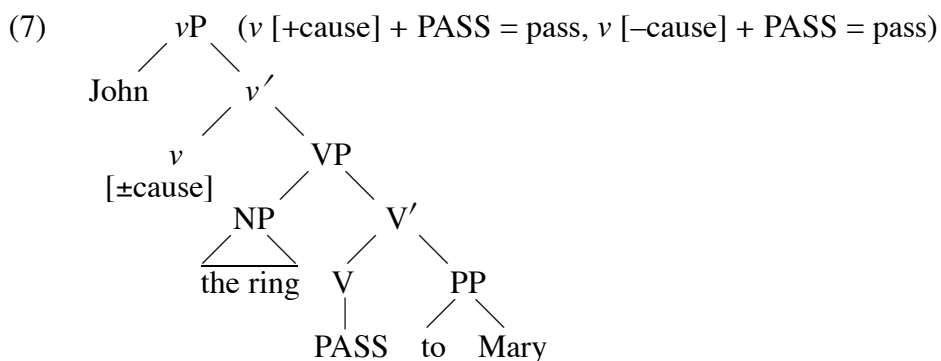


According to one version of this analysis, the verb *give* consists of two abstract verbs, as illustrated in (3). The higher one, small *v*, assigns the agent role to the subject of the sentence and takes a VP complement. It has the meaning of CAUSE. The lower one, capital GIVE, has the basic meaning of GO and takes two arguments, the theme and the goal. In (3), the agent is *Mary*, the theme is *it*, and the goal is *John*. The small *v*-projection represents the ACTIVITY or CAUSE, and the large V-projection represents the CHANGE OF STATE. The precise meaning of the ditransitive sentence (1) is that Mary DID something and that she CAUSED the event that it goes to John. The lower V is raised to the higher *v*-position, and then they together yield the lexical item *give*. And finally, the highest argument, *Mary*, moves to TP Spec, and assumes the subject position of the sentence. (4) is basically the same except that the event Mary CAUSED is the boat's sinking.

This analysis provides an elegant account for the alternation in (5) and also that in (6), discussed in detail in Baker 1996.

- (5) a. Mary sank the boat
 b. The boat sank
- (6) a. John passed the ring to Mary
 b. The ring passed to Mary

The structure of (6a) is shown in (7).



Exactly as in (3), there are two verbs in the structure (7): the small *v* and the capital PASS. The higher verb, small *v*, assigns the agent role to *John*. The small *v*-projection expresses the CAUSE of the event, whereas the lower V-projection expresses the resulting CHANGE OF STATE. Accordingly, *the ring* GOES or PASSES to *Mary*. The lower verb, capital PASS, is

raised to the small *v*-position, and small *v* + capital PASS yield the lexical item *pass*. The highest argument, *John*, assumes the subject position of the sentence.

On the other hand, (6b), the unaccusative counterpart of (6a), has only two arguments, the theme and the goal. *The ring* is the theme, and *Mary* is the goal. Since the agent argument is missing, one possibility is that the small *v*-projection is absent and there is only the large V-projection in this case. The highest argument, *the ring*, is raised to the TP Spec position and becomes the subject of the sentence. An alternative possibility, with similar effects, is that the small *v* is present but has the feature [–cause]. Unlike the small *v* with [+cause], the small *v* with [–cause] does not assign the agent role to its Spec position. In this case also, the highest argument is *the ring* because the agent is absent. Hence, *the ring* becomes the subject of the sentence. Capital PASS is raised to the [–cause] *v* and they yield the lexical item *pass*, which is identical in form to the ditransitive *pass*. We assume the latter analysis because the [–cause] small *v* shows up overtly in some cases in Japanese, as will be shown directly.

In the following sections, we present data from our longitudinal study on Akkun that seem to provide direct evidence for the *v*-VP frame just illustrated. In Section 2, we discuss the early stage in the acquisition of verbs and argue that there is a point when he realizes *v* with the verb *do*, which is *tiyu* in his actual speech. The claim is that the *v*-VP frame shows up directly at this stage. Then, in Section 3, we consider the process of the acquisition of the actual verb forms. In particular, we discuss some consistent “mistakes” made in this process, where unaccusative verbs are used in place of the corresponding agentive (di)transitive verbs. We suggest that those mistakes are made because Akkun assumes initially that there is no phonological distinction between the [+cause] small *v* and the [–cause] small *v* and that *v* is phonologically null in Japanese as in English. Finally, in Section 4, we present data on the acquisition of the causative morpheme *-sase*. It is widely assumed that *-sase* is a large V taking a sentential complement. Akkun started the productive use of causative sentences rather late. This is expected because the construction is complex with an embedded structure. However, our data indicate that specific kinds of examples with *-sase* are observed relatively early. We analyze those early instances as cases where Akkun employs *-sase* as a realization of the [+cause] small *v*. We show that this hypothesis makes a prediction, based on learnability considerations, for the adult syntax of causative sentences, and that the prediction is indeed borne out.

2. Stage I: The Emergence of the *v*-VP Frame

There are some utterances with no overt verbs that convey ditransitive meanings in the very early stage. Akkun’s typical utterances around the age 2 are shown in (8)–(10).

- (8) Koe. Papa hai doozyo ∅ (2;0)
This Daddy yes please

‘This one. (I want to give it) to Daddy.’

- (9) Motto koe buubu Ø (2;1)
more this water

‘(I will give) more water to this.’

- (10) Koe Akkun Mama hai doozyo Ø (2;5)
this Mommy yes please

‘Mommy, please give this to Akkun(/me).’

In all of these examples, the verb is missing. This is clear in the case of (9). There is no verb, but the number of arguments and the intended meaning show that the verb *give* is missing. In (8) and (10), the phrase *hai doozyo* appears at the end of the utterance. These words literally mean ‘yes’ and ‘please’, but the phrase *hai doozo* means ‘here you are’ in the adult usage. Akkun seems to be using it to express the meaning of *give* or possibly transfer of an item from one person to another. He did not use an actual verb in the ditransitive construction at this stage.

At around 2;5, Akkun started placing *tiyu* at the end of utterances quite productively. Some examples are shown in (11)–(16). *Tiyu/tita/tite* are *suru/sita/site* in adult speech, and they correspond in meaning to ‘do/did/doing’ in English.

- (11) Mama Akkun hai doozyo *tiyu* (2;5)
Mommy yes please do

‘Akkun(/I) will give it to Mommy.’

- (12) a. Kotyan koe Akkun hai doozyo *tiyu* (2;7)
this yes please do

‘Akkun(/I) will give this to Kotyan.’

- b. Kotyan koe Akkun hai doozyo *tita* (2;7)
this yes please did

‘Kotyan gave this to Akkun(/me).’

- (13) Mama Akkun paku *tiyu* (2;7)
Mommy *onomatopoeia* do

‘Mommy, please make Akkun(/me) eat this.’

- (14) Koko maamoi maamoi *tiyu* (2;9)
here circular circular do

‘(Please) draw a circle here.’

- (15) Akkun nezi kuyukuyu tite, konoko syabeyu (2;9)
 screw turn around doing this one talk

‘When Akkun(/I) will wind this one around, it will talk.’

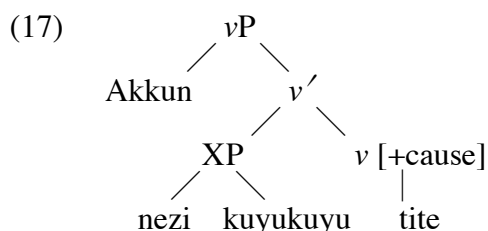
- (16) Mama, otitayo. Akkun-ga poi tita kaya (3;0)
 Mommy fell -Nom *onomatopoeia* did because

‘Mommy, (it) fell (on the floor), because Akkun(/I) threw (it down).’

Note that *tiyu/tita/tite* did not appear in the sentences similar to (11)–(12) before this period. Many utterances without these items had been observed, such as *Mama, Akkun, hai doozyo*; *Akkun, Kotyan, hai doozyo*; *Akkun, Kotyan, hai doozyo*; and so on.

There are a few more observations that we can make with these examples. First, the “predicates” that appear right before *tiyu/tita/tite* in (13)–(16) are typically onomatopoeic or mimetic expressions. For example, *paku* in (13) is the sound that describes a person putting a food into his or her mouth or a food going into a person’s mouth. The utterance means, ‘Please mother put this in Akkun’s mouth’ or more literally ‘Mother makes this food go into Akkun’s mouth’. *Maamoi* in (14), which corresponds to *marui* in adult speech, means ‘circular’. Akkun said this to his mother, meaning ‘I ask you to write circles here’ or more literally ‘I ask you to cause there to be circular things here’. *Kuyukuyu* in (15), which corresponds to *kurukuru* in adult speech, is a mimetic word describing things turning around. He tried to say that he will wind the screw, or more literally that he will cause the screw to turn around and as a result the toy will talk. Similarly, *poi* in (16) is the sound that describes a person throwing something away. He intended to say that he threw something away, or more literally that he caused something to be thrown away and as a result it fell on the floor.

As should be clear by now, Akkun seems to be using *tiyu/tita/tite* to describe an activity that causes a certain event or change of state. The adult counterpart of *tiyu/tita/tite*, *suru/sita/site*, can assign the agent role, like the English verb ‘do/did/doing’. Further, the rest of the utterance seems to describe an event or a change of state. Thus, *tiyu/tita/tite* seems to correspond exactly to the small *v*. The structure of (15), then, for example, will be as in (17).



In (17), *tite* describes an activity that causes a screw to turn around, and *Akkun* is the agent. The complement of the small *v* is indicated not as VP but as XP because it lacks a verb. Again, *kurukuru* is a mimetic word describing things turning around, and the XP expresses the

meaning that ‘the screw turns around’.¹

If the analysis shown in (17) is correct, we have direct evidence for the *v*-VP frame for agentive verbs. Akkun, at one point, started using *tiyu/tital/tite* as realizations of the [+cause] small *v* to express agentivity, and he formed agentive (di)transitives productively based on his grammar at the time. Since *kurukuru-suru* is not a regular Japanese verb, he has to acquire the actual verb later. But at this point, he realizes the small *v* as *tiyu/tital/tite* phonetically.

3. Stage II: The Acquisition of the Lexical Items for *v*-V

According to what we proposed so far, Akkun already utilizes the *v*-VP frame when he starts adding *tiyu/tital/tite* at the end of his sentences. But he is still a step away from the adult grammar: he needs to acquire the actual lexical items for the *v*-V combination. In English, for example, as was illustrated in (7), the speaker knows that the [+cause] small *v* + capital PASS is realized as *pass*, and so is the [–cause] small *v* + capital PASS.

Akkun’s acquisition of actual verbs starts early and proceeds step by step. Around age 3, he uses unaccusative verbs correctly, as in (18) and (19).

- (18) *dango-ga uta pakan tite, dango-ga atta* (2;9)
 dumpling-Nom lid *onomatopoeia* doing dumpling-Nom there-be

‘There was a dumpling (when I) opened the lid of the dumpling (box).’

- (19) ... *Akkun-no papa-ga muti yatta toki, ame-ga hutta* (3;0)
 -Gen Daddy-Nom mosquito did when rain-Nom fell

‘When ... Akkun’s Daddy lit a mosquito coil, it rained.’

Around the same period, ditransitive verbs are also observed. As shown in (20)–(21), the ditransitive verb *ageyu*, which means ‘give’ and corresponds to *ageru* in adult Japanese, appears at 2;7, and its past counterpart *ageta* ‘gave’ appears at 2;10.

- (20) *Mama tyotto ageyu* (2;7)
 Mommy a little give

‘Mommy, (I will) give you a little bit.’

- (21) *Kinnou Akkun akatyan toki, papa ni koe ageta* (2;10)
 yesterday baby when Daddy to this gave

‘Akkun gave this to Daddy when he was a baby yesterday (= in the past).’

¹ It is not clear whether *Akkun-ga nezi-o kurukuru-suru* ‘Akkun-Nom screw-Acc going around-do’ is grammatical in adult grammar. It certainly makes sense with *to* ‘that’ as in *Akkun-ga nezi-o kurukuru to suru*, that is, with embedded structure. Of course, (15) as such is not grammatical.

But as this acquisition process proceeds step by step, Akkun keeps making a systematic “mistake” and it lasts for some time. The “mistake” is related to the alternation in (6), repeated in (22).

- (22) a. John passed the ring to Mary
 b. The ring passed to Mary

This kind of alternation is widely attested, and we have many (di)transitive-unaccusative pairs like ‘John sank the boat/The boat sank’ with the verb *sink*, and ‘John opened the door/The door opened’ with the verb *open*. Note here that both lexical items in the alternation have the same surface form. For example, both the transitive *sink* and the unaccusative *sink* are realized as *sink*. We may then say that both the [+cause] small *v* and the [–cause] small *v* are realized as zero-morphemes (i.e., without phonological content).

Japanese is also abundant with this kind of alternation, but the situation is a little different. Let us consider the pairs in (23).

- (23) a. *mi-se-ru* (= show-pres.) / *mi-ru* (= see-pres.)
 b. *utu-s-(r)u* (= copy-pres.) / *utu-r-(r)u* (= be copied-pres.)
 c. *todok-e-ru* (= deliver-pres.) / *todok-(r)u* (= be delivered-pres.)
 d. *os-ie-ru* (= teach-pres.) / *os-owar-(r)u* (= be taught)

The pair, *utu-s* ‘copy’/*utu-r* ‘be copied’, is used in (24a) and (24b).

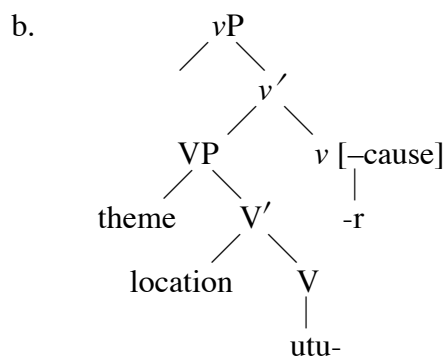
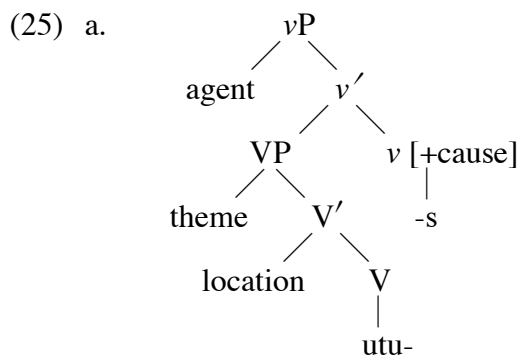
- (24) a. Taroo-ga Hanako-o syasin-ni *utu-s-(r)u* (transitive)
 -Nom -Acc picture-in copy-pres.

‘Taroo takes a picture of Hanako.’

- b. Hanako-ga syasin-ni *utu-r-(r)u* (unaccusative)
 -Nom picture-in be copied-pres.

‘Hanako appears in a picture.’

Note here that the transitive verb and the unaccusative verb have different forms, *utu-s* and *utu-r*. This suggests that the [\pm cause] small *v*’s are overt in Japanese. The structures of (24a) and (24b) are shown in (25a) and (25b), respectively. *Utu* is the common verb in both structures. And in (25a), *-s* represents the [+cause] small *v*, whereas in (25b), *-r* represents the [–cause] small *v*.



However, the way [\pm cause] small v 's are spelled out is idiosyncratic in Japanese. That is, it is not the case that the [+cause] small v is always spelled out as $-s$ and the [-cause] small v as $-r$, as in (25). For example, we have different realizations of the [\pm cause] small v 's in (26).

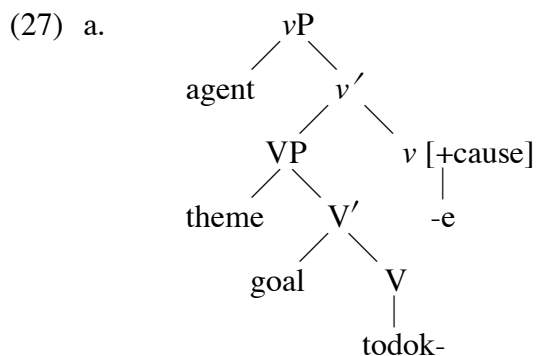
- (26) a. Hanako-ga hon-o Taroo-ni todok-e-ru (ditransitive)
 -Nom book-Acc -Dat deliver-pres.

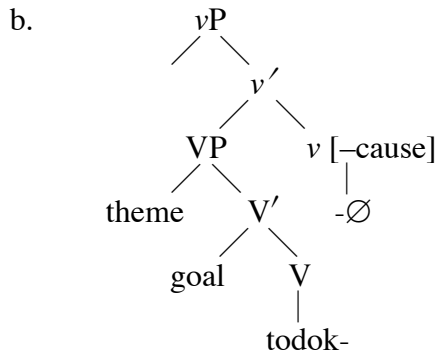
‘Hanako delivers a book to Taroo.’

- b. Hon-ga Taroo-ni todok- \emptyset -(r)u (unaccusative)
 book-Nom -Dat be delivered-pres.

‘A book is delivered to Taroo.’

The structures of (26a) and (26b) are shown in (27a) and (27b), respectively. We have the verb, *todok*, and the [+cause] small v is realized as $-e$ and the [-cause] small v as a zero morpheme.





With this background, let us now consider the “mistakes” that Akkun made. He frequently used unaccusatives for (di)transitives, but never vice versa. Some examples are provided in (28)–(33). As indicated, this kind of “mistake” continues for two years up to age 4;8.

- (28) Koe ziityan ni miyu (2;9)
 this Grandfather to see

‘I show this to Grandfather.’

- Instead of *mi-se-ru* ‘show’, Akkun produced what corresponds to *mi-ru* ‘see’ in adult speech. *Mi-ru* is probably nonagentive here. If so, he is using an unaccusative form for a ditransitive verb.

- (29) Akkun ima kaya koe nayabu (2;11)
 now from this be-in-line

‘From now, Akkun(I) will put these in line.’

- Instead of *narab-e-ru* ‘put ... in line’, Akkun produced what corresponds to *narab-(r)u* ‘be ... in line’. This is the usage of an unaccusative form for the transitive verb.

- (30) Nee, ati-o hirogat-te (3;7)
 Int legs-Acc spread(unaccusative)-request

‘Please spread your legs.’

- Instead of *hirog-e-te* ‘spread-request’ (transitive), Akkun produced *hirog-at-te* ‘spread-request’ (unaccusative). Again, he is using an unaccusative form for a transitive verb. The same comment applies to (31) and (32) as well.

- (31) Kore, ai-toku kara saa (4;5)
 this open(unaccusative)-keep as Int

‘(I will) open this and keep it open.’

- Instead of *ak-e* ‘open’ (transitive), Akkun produced *ai* ‘open’ (unaccusative).

- (32) Kono yatu ni isi-o doi-te-moratte nee (4;6)
 this thing by rock-Acc remove-have Int

‘(I will) have the rocks removed by this one.’

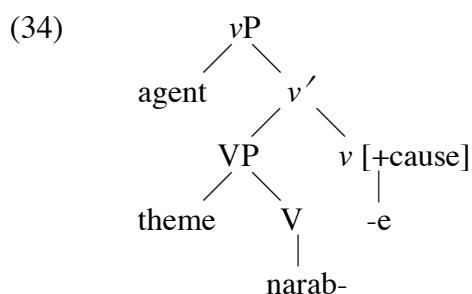
- *Doi* is probably nonagentive here. If so, instead of *dok-e* ‘remove’ (transitive), Akkun produced *doi* ‘remove’ (unaccusative).

- (33) *Todok-ok-ka*, ano hito ni *todok-(y)oo todok-(y)oo* (4;8)
 arrive-let’s that person to arrive-let’s arrive-let’s

‘Let’s send (it). Let’s send (it) to that person.’

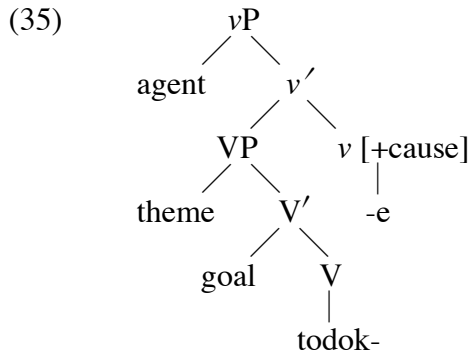
- Instead of *todok-e* ‘deliver’, Akkun produced *todok* ‘be delivered’. So, he is using an unaccusative form for a ditransitive verb.

What is happening here seems quite clear. First let us consider (29). *Narab-∅-(r)u* is an unaccusative verb meaning ‘be in line’. Akkun uses it in the form of *nayab-∅-(r)u*. But what he intends is the transitive *narab-e-ru* ‘put something in line’. The structure of what he intended to say is shown in (34).



This is a transitive structure, and there are places for agent and theme. But he does not use *-e*. That is, although the [+cause] small *v* should be realized as *-e* in this case, he uses a *zero morpheme* instead.

The other examples can be analyzed in basically the same way. As we saw before, *todok-(r)u* is an unaccusative verb meaning ‘(something) is delivered (to somebody)’. *Todok-e-ru*, on the other hand, is a ditransitive verb meaning ‘(somebody) delivers (something to somebody)’. (33) is intended as ‘let’s send/deliver it to that person’. So, the form *todok-e-yoo* is required, where *-e* is the [+cause] small *v* and *-yoo* is ‘let’s’. The structure that Akkun has in mind must be as in (35).



But, again, he assumes that the [+cause] small *v* is a *zero morpheme* and fails to produce *-e*. Thus, what he utters is identical to the unaccusative form *todok-∅-(y)oo*.

More generally, it seems that Akkun starts out with the VP, representing STATE or CHANGE OF STATE. He then embeds this under [\pm cause] small *v*'s but initially assumes that [\pm cause] small *v*'s are always a zero morpheme, as in English. This predicts not only that he makes the kind of “mistake” he does but also that the “mistake” never occurs in the opposite direction—that is, he never uses (di)transitives for unaccusatives. The prediction is indeed borne out.

Interestingly, it is not that Akkun always made this “mistake.” He was apparently already in the process of acquiring the correct adult forms of (di)transitive verbs, and the correct adult forms were used occasionally with the incorrect ones. This is illustrated in (36).

- (36) a. Baatyan ni koe mityeyu (2;10) cf. (28)
 Grandmother to this show
 ‘I’ll show this to Grandmother.’
- b. Tigau. Ak-e-toku dake (4;5)
 no open-keep just
 ‘No. I’ll just keep it open!’

Around the same time Akkun uttered (28) using *mi-∅-ru* ‘see’ instead *mi-se-ru* ‘show’, he produced (36a) with *mityeyu*, which corresponds to the correct adult form of the verb. Similarly, in the same month as he uttered (31) with the unaccusative *ai-∅-toku* ‘open-unaccusative keep’, he produced (36b) with the correct *ak-e-toku* ‘open-transitive keep’. This makes the “mistakes” he made all the more significant. It is neither that he only used the unaccusative forms nor that the “mistakes” were random.

4. On the Acquisition of Syntactic Causatives

In this section, we consider Akkun’s production of sentences with the causative morpheme *-sase* ‘make, let’. It is said that Japanese has syntactic and lexical causatives. The

(di)transitives in the pairs in (23) are lexical causative verbs. Another alternation of this kind is shown in (37).

- (37) a. Hanako-ga Taroo-ni yoohuku-o ki-se-ru
 -Nom -Dat clothes-Acc dress-pres.

‘Hanako puts the clothes on Taroo.’

- b. Taroo-ga yoohuku-o ki-ru
 -Nom clothes-Acc wear-pres.

‘Taroo wears the clothes.’

(37a) is a ditransitive construction with the verb *ki-se*, where *-se* is the [+cause] small *v* that assigns the agent role to the subject. The sentence has a causative meaning because of the presence of this small *v*. Hence comes the name “lexical causative.”

Parallel to this, Japanese has the causative morpheme *-sase*, which is a verbal suffix morphologically but is an independent predicate syntactically. An example with *-sase* is given in (38).

- (38) Hanako-ga Taroo-ni yoohuku-o ki-sase-ru
 -Nom -Dat clothes-Acc wear-cause-pres.

‘Hanako makes/lets Taroo put on the clothes.’

This kind of causative is quite productive, as indicated in (39).

- (39) a. John-ga Mary-ni susi-o tabe-sase-ta
 -Nom -Dat sushi-Acc eat-cause-past

‘John made/let Mary eat sushi.’

- b. Isya-ga kanzya-ni kusuri-o nom-(s)ase-ta
 doctor-Nom patient-Dat medicine-Acc drink-cause-past

‘The doctor made the patient take medicine.’

- c. Sensei-ga seito-ni tegami-o kak-(s)ase-ta
 teacher-Nom student-Dat letter-Acc write-cause-past

‘The teacher made/let the students write letters.’

- d. Hahaoya-ga kodomo-ni hon-o yom-(s)ase-yoo to si-ta
 mother-Nom child-Dat book-Acc read-cause-try Comp do-past

‘The mother tried to make her child read a book.’

In Section 4.1, we discuss Akkun's acquisition of sentences with this causative morpheme *-sase*. In particular, we show that although he seems to have acquired syntactic causatives around age 5, he produced isolated examples with *-sase* much earlier. We argue that he employed *-sase* as a realization of [+cause] v in those examples. This implies that Akkun assumed at one point that the [+cause] v can be realized as *-sase* along with the other morphemes discussed in the preceding sections. Interestingly, this seems to predict that he maintains this assumption even after he acquires *-sase* as an independent V taking a sentential complement. This is so because it would probably require indirect negative evidence to reject his initial assumption. In Section 4.2, we discuss Matsumoto 2000, as that analysis suggests that the prediction is indeed borne out. He argues that *-sase* can form lexical causatives in addition to syntactic causatives.

4.1. *-Sase* as a Realization of v

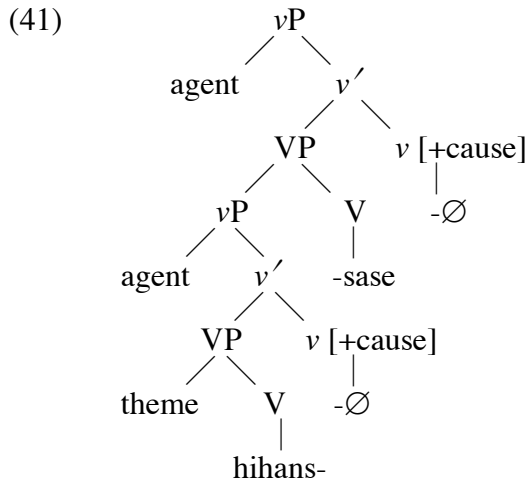
We just mentioned that a causative sentence with the morpheme *-sase* is assumed to involve a complex structure with a sentential complement. One piece of evidence is provided in (40).²

- (40) a. *Hanako_i-ga kanozyo_i-o hihansi-ta
 -Nom she-Acc criticize-past
 ‘Hanako_i criticized her_i.’
- b. Hanako_i-ga Taroo-ni kanozyo_i-o hihans-(s)ase-ta
 -Nom -Dat she-Acc criticize-cause-past
 ‘Hanako_i made/let Taroo criticize her_i.’

In (40a), *Hanako* and *kanozyo* ‘she’ cannot refer to the same person. This is due to Condition B of the binding theory, which prohibits coreference between a name and a pronoun that are clausemates. On the other hand, in the case of the causative sentence (40b), this coreference is allowed. This shows that the name and the pronoun are not clausemates—that is, the example has a structure with embedding.

More specifically, (40b), for example, has the structure in (41).

² The proposal that *-sase* takes a sentential complement was first made in Kuroda 1965. The evidence in (40) is discussed in detail in Oshima 1979.



-Sase is an independent large V, and there are two layers of small *v*-projections that represent the complex structure. Note in particular that the structure contains two positions for agents. The structure roughly corresponds to that of English causative sentences ‘someone made someone do something’.

Then, what was Akkun’s pattern of the acquisition of causative sentences? He first did not use the causative forms in the context where we expected them. He consistently omitted the causative morpheme *-sase* and just used the regular verbs as illustrated in (42)–(44).

- (42) Mama Akkun *non-de* (2;8)
 Mommy drink-request

‘Mommy, please feed me (with milk).’

- (43) Papa koe *nui-de* (2;10)
 Daddy this undress-request

‘Daddy, please take these (clothes) off me.’

Intended meaning: Daddy, please make me undressed.

Literal meaning: Daddy, please take off your clothes.

- (44) Mama-ga pantyu *nui-da* toki (3;2)
 Mommy-Nom underpants undress-past when

‘(I hurt) when Mommy took underpants off me.’

Intended meaning: ... when Mommy took my underpants off me.

Literal meaning: ... when Mommy took her underpants off.

Take a look at the sensational utterances that Akkun made. He said ‘Mommy, Akkun, drink’ without the causative *-sase* as the glosses of (42) show. But his utterance means ‘Mommy, please make Akkun drink this’. He said ‘Daddy, this, take off’ in (43), but he intended to say ‘Daddy, please make me undressed’. The verb form should have been *nug-(s)ase-te* ‘undress-make-request’ instead of *nui-de* ‘undress-request’ to convey this meaning.

In the adult grammar, what he said means ‘Daddy, please take your clothes off’. Strikingly, (44) also has a completely different meaning from what Akkun intended to say. In adult speech, it means ‘when Mommy took off her underpants’. What he intended is ‘when mommy took my underpants off me’, and the verb should have been *nug-(s)ase-ta* ‘take off-cause-past’ instead of *nui-da* ‘take off-past’.

The question that arises with these examples is why this omission of *-sase* happens. Note that this is observed in the same period that Akkun often assumed that the [+cause] small *v* is a zero morpheme. So, we suspect that (42)–(44) contain this zero morpheme. Then, these examples are lexical causative sentences in Akkun’s grammar.

The causative morpheme appears much later, at around the age 5. At that point we observed sentences like (45)–(46).

- (45) Name-tee, name-tee, name-*sase-te*. Akkun name-tai (4;9)
 lick-want lick-want lick-make-request lick-want

‘(I) want to lick (the candy). Let me lick it. Akkun(/I) wants to lick it.’

- (46) Obaatyan-no toko de tabe-masu. Att, biiru dake nom-*(s)ase-te*
 Grandma-Gen place at eat-pres. (formal) Int beer only drink-let-request

kudasai (5;3)
 please

‘(I will) eat (dinner) at Grandma’s place. Eh, allow me only to drink beer (here), please.’

(45), for example, has the expected syntactic properties of a syntactic causative. The morpheme *-sase* correctly appears in *name-sase-te* ‘let me lick’, and the semantic subject of *name-* ‘lick’ (Akkun) receives an agentive interpretation. In (46), at age of 5;3, he is using the formal style of speech as part of a joke. He says ‘(I will not eat here.) I will eat at Grandmother’s place. But please allow me only to drink beer (before I go to Grandmother’s place)’.

Here comes a puzzle. Although Akkun started producing causative sentences such as (45) and (46) at around the age of 5, there are sporadic instances of the morpheme *-sase* much earlier. Examples are given in (47) and (48).

- (47) Akkun-ni tabe-*sase-tee* (3;6)
 -Dat eat-cause-request

‘Please feed Akkun(/me) (with food).’

- (48) *Nomi-tatye-te* (3;7) (*-Tatye* seems to correspond to the adult *-sase*.)
 drink-cause-request

‘Please feed me (with miso soup).’

The question is what they are. If the structure of causatives in (41) is acquired later, then, what would be the structure of (47) and (48)?

We would like to suggest that a hint lies in their interpretation. As noted earlier, there are two agents in a standard causative sentence. Thus, *Taroo* as well as *Hanako* are interpreted as agents in (40b). This property of causatives is clearly represented in the structure in (41), which contains two positions for agents. However, it is absent in (47) and (48). The former means ‘Feed Akkun (with food)’. So *Akkun*, if anything, assumes the goal role. Similarly, (48) means ‘Feed me (with liquid)’. Based on this observation, we would like to suggest that *-sase* in (47) and (48) is not an independent V but a lexical realization of the [+cause] small *v*. Recall that at this stage, Akkun was struggling with the various realizations of the [+cause] *v*. Sometimes it is *-s*, sometimes it is *-e*, and sometimes it is *-se*, as in (24a), (26a), and (37a), respectively. It is therefore not surprising if Akkun assumed that *-sase* is one of those forms. Further, this fits perfectly with our speculation about (42)–(44). The adult grammar requires *-sase* in those examples. We suspected that Akkun did not produce this element because he assumed a [+cause] *v* in its place. As these utterances were observed when Akkun often assumed that *v* is a zero morpheme, we would then expect the utterances in (42)–(44). He most likely had a zero morpheme small *v* in those examples, and later, filled the slot with *-sase*. Note that (42)–(44) do not contain two agents in their intended meanings. The predicate in (42) is ‘feed (someone with something)’ and that in (43)–(44) is ‘strip (someone of something)’.

4.2. Further Evidence from Syntax

Our analysis of (47) and (48) makes an interesting prediction. According to this analysis, Akkun first assumed that *-sase* is a realization of the [+cause] small *v*. Then, later, he realizes that the morpheme represents an independent verb and acquires the syntactic causative. But there must be two *-sase*’s in his grammar at this point. That is, the acquisition of *-sase* as V does not automatically exclude *-sase* as *v*. It would probably require indirect negative evidence to reach the conclusion that *-sase* is not a realization of the [+cause] *v*. Thus, the final grammar that he acquires is quite likely to have two *-sase*’s: one is an independent verb, and the other is small *v*.

Interestingly, Matsumoto (2000) proposes that *-sase* is ambiguous exactly in this way in the adult grammar of Japanese. Earlier, we mentioned a piece of evidence for the biclausality of causative sentences based on Condition B of the binding theory. Another piece of evidence can be found when we examine the behavior of the reflexive pronoun *zibun* ‘self’. As shown in (49a), *zibun* is subject oriented.

- (49) a. Taroo_i-ga Hanako_j-ni zibun_{i/*j}-no hon-o age-ta
 -Nom -Dat self-Gen book-Acc give-past
 ‘Taroo gave self’s book to Hanako.’
- b. Taroo_i-ga Hanako_j-ni zibun_{i/j}-no namae-o kak-(s)ase-ta
 -Nom -Dat self-Gen name-Acc write-cause-past
 ‘Taroo made Hanako write self’s name.’

In (49a), the subject *Taroo* qualifies as *zibun*’s antecedent, but the indirect object *Hanako* does not. On the other hand, in the causative sentence (49b), both *Taroo* and *Hanako* are possible antecedents for *zibun*. This indicates that a causative sentence has two subjects—that is, it has a structure with an embedded sentence. Note also that the dative argument *Hanako* is interpreted as an agent in (49b), given that the subject of the verb *kak-* ‘write’ is assigned the agent role.

In examples like (50a-b), however, the agentivity of the dative argument is less clear.

- (50) a. Taroo-ga Hanako-ni kutu-o hak-(s)ase-ta
 -Nom -Dat shoes-Acc put on-cause-past
 ‘Taroo made Hanako put on shoes’
- b. Taroo-ga Hanako-ni miruku-o nom-(s)ase-ta
 -Nom -Dat milk-Acc drink-cause-past
 ‘Taroo made Hanako drink milk’

(50a), for example, seems to be ambiguous. It can mean ‘Taroo gave an order to Hanako and made her put on shoes’. In this case, *Hanako* is an agent. But the sentence can also mean ‘Taroo put shoes on Hanako’s feet’. In this latter case, *Hanako* does not seem to be an agent but instead a goal.³

The latter interpretation is clearly observed with examples like (51a-b).

- (51) a. Sono onnanoko-ga ningyoo-ni kutu-o hak-(s)ase-ta
 that girl-Nom doll-Dat shoes-Acc put on-cause-past
 ‘The girl put shoes on a doll.’

³ Note that (47) and (48) are ambiguous in the same way. Thus, (i) can mean that ‘Hanako made/let Taroo eat it’ or that ‘Hanako fed Taroo with it’.

(i) Hanako-ga Taroo-ni sore-o tabe-sase-ta
 -Nom -Dat it-Acc eat-cause-past

- b. Sono onnanoko-ga ningyou-ni miruku-o nom-(s)*ase*-ta
 that girl-Nom doll-Dat milk-Acc drink-cause-past
 ‘The girl fed a doll with milk’

As a doll cannot be an agent, (51a) only has the interpretation where it is a goal. Matsumoto (2000) proposes that in this case, a causative sentence does not have a complex structure with an embedded clause but has only one verb of the form *V-sase*. This is consistent with the structure where *-sase* is a realization of the [+cause] *v*.

Matsumoto, further, points out that his proposal is confirmed by the example in (52).

- (52) Hanako_i-ga umaretakari-no akatyan_j-ni zibun_{i/*j}-no kutusita-o hak-(s)*ase*-ta
 -Nom new born-Gen baby-Dat self-Gen socks-Acc put on-cause-past
 ‘Hanako put self’s socks on a new born baby’

As a new born baby cannot be an agent, the dative phrase in (52) is interpreted as a goal. And *zibun* in this example unambiguously refers to *Hanako* and not the baby.

According to this analysis, *-sase* is ambiguous in the adult grammar of Japanese. When it is an independent large *V*, it takes a *v*-projection as its complement and yields a complex structure. In this case, the dative argument is interpreted as an agent. In the other case, it combines with a large *V* and forms a complex verb to yield a simple sentence with no embedding. The dative argument is then interpreted as a goal. In our terms, this means that *-sase* is a realization of the [+cause] small *v*. Hence, if Matsumoto’s proposal is correct, the prediction made from the analysis of Akkun’s acquisition data is indeed borne out. *-Sase* can be a realization of the [+cause] *v* in the adult grammar as well.

5. Conclusion

In this paper, we presented acquisition data obtained from a longitudinal study and examined their implications for the analysis of agentive (di)transitive verbs. It was shown that the use of *tiyultitalite* ‘do/did/doing’ at the early stage provides direct evidence for the analysis based on small *v* and large *V*. The elements seem to be realizations of the [+cause] *v*. Then we examined the process of the acquisition of actual lexical items. We suggested that the “mistakes” made at this stage are due to Akkun’s assumption that Japanese is exactly like English—that is, that [±cause] small *v*’s are zero morphemes. If [±cause] small *v*’s are zero morphemes, then they receive a straightforward explanation based on the *v*-VP frame. Finally, we discussed the acquisition of syntactic causatives. We proposed that the causative morpheme *-sase* is used initially as a realization of the [+cause] small *v*. This initial use of *-sase* predicts that it is ambiguous between *V* and *v* in adult Japanese, and we argued that the prediction is indeed borne out.

The discussion in this paper, we believe, provides strong support for the *v*-VP frame. According to our analysis, the process of the acquisition of (di)transitive verbs illustrated in this paper does not necessarily reflect the acquisition of the predicate-argument structures associated with verbs. The predicate-argument structures of large *V*'s and small *v*'s are acquired quite early. What requires time is the acquisition of the lexical form of each *V* and, more importantly, the forms in which [\pm cause] small *v*'s are realized. The latter, in particular, must proceed step by step, because the realization of [\pm cause] small *v* depends on the associated large *V* in Japanese. This is part of the reason that Akkun makes the “mistakes” illustrated in Section 3. And as this acquisition process proceeds successfully, he starts producing lexical causatives with *-sase* much before he acquires syntactic causatives.

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