On recent debates on the Tense Alternation Generalization: A reply to Fujii et al. (2023)

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1 Introduction

The Tense Alternation Generalization (TAG) is a generalization about the syntactic and semantic properties of (morphologically) tensed embedded clauses that goes as follows:

(1) Tensed subordinate clauses in Japanese act like infinitives if and only if their predicate does not alternate between nonpast and past forms.

This generalization has played a key role in previous syntactic accounts of certain 'finite control' (=(2a)) and 'finite raising' (=(2b)) constructions in Japanese by Uchibori (2000) and Fujii (2006). The idea is simple: tense morphemes are morphologically there but syntactically vacuous in embedded clauses.

(2) a. Ken$_i$-ga [PRO$_i$ ie-o de-{**ru**/*__ta__} koto-o ketuisi-ta.
K.-NOM home-ACC leave-NPST/PST COMP-ACC decide-PST
'Ken decided to leave home.' (**finite control**)

b. Ken$_i$-ga [t_i dekake-{**ru**/*__ta__}] yooni nat-ta.
K.-NOM go out-NPST/PST COMP become-PST
'Ken started going out (regularly).' (**finite raising**)

The status of TAG is an important issue in syntax and semantics since its viability directly pertains to the larger issue of how much and what kind of cross-linguistic universal is to be accounted for in different components of grammar.

Akuzawa and Kubota (A&K; Akuzawa and Kubota 2020, 2021; Kubota and Akuzawa 2020) have scrutinized the status of TAG, noting several empirical and theoretical issues for it and proposing an alternative, semantic analyses in which many of the facts traditionally attributed to TAG follow from independently motivated assumptions about (lexical and compositional) semantics. Simply put, A&K take the embedded clauses in (2) to be full-fledged tensed clauses, arguing that the empty subject in (2a) is a run-of-the-mill zero pronoun and that the subject in (2b) remains within the embedded clause (see sections 2, 4 and 5 for more details). Fujii et al. (2023) have recently responded to A&K's work, raising two issues with the latter, one pertaining to A&K's argument against a TAG-based analysis of finite raising, and the other pertaining to one incomplete aspect of an earlier version of A&K's semantic analysis of finite control with respect to how/whether the obligatory binding of the embedded subject argument is ensured (which, as we show below, is resolved in Akuzawa and Kubota (2024)).

In this paper, we critically examine the validity of Fujii et al.'s (2023) argument, with the aim of disentangling the complex (and subtle) relationship between the syntactic

and semantic approaches to finite control/raising. While our own conclusion is in line with A&K's earlier claims, we believe that this discussion will be useful to our opponents too. We start with a summary of A&K's semantic analysis of finite control in section 2. Section 3 reviews A&K's criticism of TAG overlooked by Fujii et al. Sections 4–5 address more directly the rebuttal of A&K by Fujii et al. Section 6 concludes the paper.

2 The semantic analysis of finite control by A&K

To make the present paper independently readable, we start with a quick review of A&K's semantic analysis of finite control. A&K characterize the core semantic property common to all *koto*-taking control verbs via the notions of *de se* attitudes (Morgan 1970; Chierchia 1989) and responsibility (Farkas 1988), with the following key components:

(3) a. a *de se* proposition P denoted by the embedded clause
b. a (possibly counterfactual) volitional action Q inherent in the verb's meaning
c. a causal relation between P and Q

Let us illustrate this with (2a), with the future-oriented control verb *ketui-suru* 'decide'.

(4) a. *De se* proposition P = 'leaving home' (denotation of the complement clause, which corresponds to the 'goal' to be realized)
b. Volitional action Q (what the agent recognizes needs to be done to achieve P)
c. Causal relation between P and Q; Q is a necessary condition for P

This can be made more precise by assigning the lexical meaning in (5) to the verb.[1]

(5) $\mathbf{decide} = \lambda P \lambda x \lambda t \lambda w. \underline{\forall \langle x_0, w_0, t_0 \rangle \in Alt^{epst}_{x,t,w} : \exists t' > t_0 . \exists Q . \mathbf{discret}(Q)(x_0)(t_0)(w_0) \wedge [P(x_0)(t')(w_0) \rightarrow Q(x_0)(t_0)(w_0)]}; \forall \langle x_1, w_1, t_1 \rangle \in Alt^{volit}_{x,t,w} . Q(x_1)(t_1)(w_1)$

The variable P (which corresponds to the embedded clause) is semantically a property of type $\langle e, \langle i, \langle s, t \rangle \rangle \rangle$. The assumption here is that the embedded subject position is obligatorily bound by the lambda operator to create a 'centered proposition' (type-identical to a property) before it is given as a semantic argument to the matrix verb. The details of the compositional semantics is spelled out in section 5.

In (5), the part of the denotation before the semicolon is the presupposition, and the part after that corresponds to the truth conditions.[2] Alt^{epst} and Alt^{volit} are the epistemic and volitional alternatives that can be defined along the following lines:

(6) a. $Alt^{epst}_{x,w,t} = \{\langle x', w', t' \rangle |$ x self-identifies themselves as x' and w' is consistent with the knowledge of x in w at t about how the world is at t' $\}$
b. $Alt^{volit}_{x,w,t} = \{\langle x', w', t' \rangle |$ x self-identifies themselves as x' and x' acts in w' at t' in such a way that is consistent with the volitional commitments of x in w at t $\}$

Note also that the property Q that constitutes a necessary condition for the realization of P ('$P \rightarrow Q$') cannot be any arbitrary property, but has to be something that the agent can *choose* to make true or false. **discret** ('at one's discretion') is meant to capture this idea (see A&K 2024 for a further decompositional analysis). The intuition here is that, among the numerous preconditions that support the truth of P, only those that are under one's control are relevant for the truth of 'decide to P'.

Thus, (5) presupposes that there is some action Q that is at x's discretion such that it is a precondition for bringing about P (= (4a,c)). On the basis of this presupposition, the sentence asserts that x is volitionally committed to Q (= (4b)).

Other types of control verbs have more complex meanings, with different types of causal relations and presuppositions/entailments about P and Q (see A&K 2024 for details). This means that intentional commitment to the content of the complement clause itself is not necessarily part of the meaning of all control verbs. But importantly, in A&K's proposal, all *koto*-taking control verbs in Japanese share an abstract core meaning component schematically represented in (4).

On A&K's analysis, the tense distribution in the embedded clause (which was taken to be evidence for TAG in an earlier syntactic account by Fujii (2006)) follows from specific lexical semantic properties of the control verbs. To see this point, we need to spell out some basic assumptions about temporal interpretations of (control-type) attitude predicates. First, A&K assume the following meanings for the tense morphemes *-ru* and *-ta*, as modifiers of type $\langle\langle e, \langle i, \langle s, t\rangle\rangle\rangle, \langle e, \langle i, \langle s, t\rangle\rangle\rangle\rangle$:[3]

(7) a. $\mathbf{NPST} = \lambda P \lambda x \lambda t \lambda w.P(x)(t)(w) \wedge t \geq t_{eval}$
b. $\mathbf{PAST} = \lambda P \lambda x \lambda t \lambda w.P(x)(t)(w) \wedge t < t_{eval}$

This is essentially a straightforward formalization of the relative tense system of Japanese, in which t_{eval} corresponds to the attitude holder's 'now' when the tense is embedded under an attitude predicate.

With this assumption in place, we can spell out the denotation of control sentences. Embedded clauses in control sentences denote centered propositions of type $\langle e, \langle i, \langle s, t\rangle\rangle\rangle$:

(8) $\lambda x.\mathbf{NPST}(\mathbf{leave\text{-}home})(x) = \lambda x \lambda t \lambda w.\mathbf{leave\text{-}home}(x)(t)(w) \wedge t \geq t_{eval}$

Then, with (5), the meaning of (2a) can be calculated as in (9), on the assumption that the embedded evaluation time gets identified as the attitude holder's 'now' t_0 (for a completely formal analysis, see A&K (2024); also, here, $w*$ designates the 'actual world').

(9) $\mathbf{PAST}(\mathbf{decide})((8))(\mathbf{k}) = \exists t.\forall\langle x_0, w_0, t_0\rangle \in Alt^{epst}_{\mathbf{k},t,w*} : \exists t' > t_0.\exists Q.\mathbf{discret}(Q)(x_0)(t_0)(w_0)$
$\wedge[[\mathbf{leave\text{-}home}(x_0)(t')(w_0) \wedge t' \geq t_0] \rightarrow Q(x_0)(t_0)(w_0)]; \forall\langle x_1, w_1, t_1\rangle \in Alt^{volit}_{\mathbf{k},t,w*}.$
$Q(x_1)(t_1)(w_1) \wedge t < t_{now}$

Note that *ketui-suru* imposes the constraint $t' > t_0$ (i.e. the attitude holder's 'now' precedes the time at which the content of decision is supposed to take place). The embedded (nonpast) tense independently imposes the non-precedence relation: $t' \geq t_0$. The net effect is $t' > t_0$, which faithfully respects the lexical restriction of the verb. Replacing the embedded nonpast tense with the past tense results in a translation in which the temporal restriction from the embedded tense is reversed: $t' < t_0$. This directly conflicts with the lexical specification of the verb and thus it is correctly predicted that *ketui-suru* is incompatible with embedded past tense.

Due to space limitations we cannot reproduce A&K's proposal in full detail, but essentially, the tense distribution in other types of control verbs are explained in purely semantic terms along similar lines. In particular, with factive regret-type verbs (e.g. *kookai-suru*), the fact that the past tense is obligatory (with eventive predicates) follows from the fact that one can only regret things whose consequences obtain at the time of regretting. See A&K 2024 for details on other control predicates.[4]

To summarize, A&K's proposal derives the major properties of finite control from the lexical semantics. One missing piece, though, is how the doxastic center of the *de*

se proposition gets indentified as the embedded subject. On A&K's (2020) semantic analysis, the embedded unexpressed subject in (2a) is just the ordinary zero pronoun, and nothing guarantees that it gets identified as the doxastic center (so, for example, the analysis as is doesn't even exclude an overt referential NP to appear in the embedded subject position). We turn to this issue in section 4.

3 Overlooked issues with TAG

Here, we review and elaborate on three issues with TAG identified by Akuzawa (2018) and A&K (2020) which are overlooked in Fujii et al. (2023).[5] First, as initially observed by Uchibori (2000, 204) and recognized as a counterexample to TAG by Akuzawa (2018), at least one class of verbs, specifically, those that take factive complement clauses such as *kookai-suru* ('regret'), *hansei-suru* ('reflect on') and *zihu-suru* ('take pride in') permit tense alternation. This fact naturally follows from the lexical meaning of *kookai-suru* with one standard assumption: statives allow non-furue readings with the *-ru* form.

(10) Ken$_i$-wa [$\emptyset_i$ Tokyoo-ni i-{**ru/ta**}] koto-o kookaisi-ta.
K.-TOP Tokyo-at be-NPST/PST COMP-ACC regret-PST
'Ken regreted being/having been in Tokyo.'

The class of verbs that exhibit this alternation pattern is limited to factive verbs. One might then attempt to save TAG by treating this class simply as an exception (a possibility pointed out by an anonymous reviewer). However, we find such a move implausible. Disregarding these verbs as exceptions would not explain their exceptional behavior, while, on the competing semantic analysis, this apparent anomaly is a straightforward consequence of lexical semantics. Moreover, with factive verbs out of the place, the initial plausibility of TAG would actually be severely compromised, since, in that case, a much simpler (and more traditional) assumption treating the *-ru* form under control verbs to be infinitival would suffice to accommodate all cases.

Second, the embedded clause can host a nominative subject, given the right pragmatic context (Hasegawa 1984/85). This presents a problem for TAG on the standard assumption that nominative case is licensed only in finite clauses (Takezawa 1987).

(11) Ken$_i$-wa [(hokanaranu) {kare$_i$/zibun$_i$}-ga odor-u] koto-o ketuisi-ta.
K.-TOP none.other.than he/himself-NOM dance-NPST COMP-ACC decide-PST
'Ken decided to dance himself.'

The occurrence of an overt embedded subject directly contradicts the non-finite status of the complement clause predicted by TAG. By contrast, this fact is entirely consistent with A&K's account, which takes the embedded clause to be a full-fledged tensed clause.

Note incidentally that the fact that (11) is less than perfect for some speakers is naturally expected on A&K's approach: other things being equal, the preferred option would be the zero pronoun strategy in Japanese when the referent is unambiguously identifiable. But a reviewer wonders whether the degraded status of (11) might be due to a resumption-type speech error in which the lower copy of movement gets pronounced. We find such a possibility unlikely for a couple of reasons. Note first that there is a clear contrast between *koto*-taking verbs and unequivocally nonfinite compound verbs in whether overt embedded subjects are accepted. Compare (11) with (12):

(12) *Ken$_i$-wa [(hokanaranu) {kare$_i$/zibun$_i$}-ga tegami-o kaki]-naosi-ta.
K.TOP none.other.than he/himself-NOM letter-ACC write-again-PST
Intended: 'Ken re-wrote the letter again himself.'

Moreover, lexicalization of the null subject in finite control is observed in other languages as well, such as Korean and Romance languages (cf. Landau (2015, 80)). Landau notes (and the Japanese data above are consistent with this observation) that lexicalization of the normally unexpressed embedded subject is observed in precisely those cases in which the pronoun is semantically focused. What is particularly noteworthy here is that this exactly represents a case in which 'other things' are *not* equal in the above sense: zero pronouns cannot be the target of focus marking since they lack morphological form. We thus take the pattern in (11) to be a reflection of a fully grammatical principle.[6]

Third, and finally, there is a case that suggests that the empirical scope of TAG is limited. A&K (2024) point out that the contrast between control and non-control is observed not only in *koto*-marked clauses but also in event nominals, as in (13). Assuming that event nominals mirror clausal structures and host a syntactic subject in lexical representations,[7] this contrast is straightforward on the semantic account.

(13) a. Ken$_i$-wa [$\emptyset_{i/*j}$ syutuba]-o {ketuisi/kookaisi}-ta.
K.-TOP running.for.election-ACC decide/regret-PST
'Ken decided to run/regretted having run for the election.'

b. Ken$_i$-wa [$\emptyset_{i/j}$ syutuba]-o soozoosi-ta.
K.-TOP running.for.election-ACC imagine-PST
'Ken imagined (his own/somebody else's) running for the election.'

While examples like these do not prove that TAG is wrong (they are simply out of the scope of TAG, since event nominals are syntactically tenseless), they suggest that it may be missing an important generalization, since on a TAG-based analysis, the striking parallel between the *koto*-taking verbs and event nominals would be a sheer accident. It is worth noting that the pattern in (13) is an instance of the so-called 'control in DP', a phenomenon that is observed widely cross-linguistically (Landau 2013, Section 5.6).

Fujii et al. (2023) do not even mention the three issues noted above, all of which were already discussed in A&K's earlier work. If one of the goals of their paper was to 'defend the TAG approach to (obligatory) control' (Fujii et al. 2023, 112), as the authors themselves state, the very choice to remain silent on these issues (whether deliberate or not) was a rather unfortunate missed opportunity.

4 Does finite raising require TAG?

A&K (2021) argued for a non-raising analysis of *yooni naru* in (14a): the embedded clause is a finite clause hosting an overt subject with full-fledged tense, and the matrix unexpressed subject $\emptyset$ is a non-referential expletive.[8] Fujii et al. (2023) respond to this argument, defending the raising analysis due to Uchibori (2000) and Fujii (2006) schematized in (14b) in which the embedded tense is syntactically defective and the subject raises to the matrix clause. Note that (14a,b) are string-identical and both are consistent with standard diagnostics for 'raising' (e.g., idiom chunks).

(14) a. $\emptyset$ [NP-NOM ...T$_{[+\text{fin}]}$] yooni naru b. NP$_i$-NOM [t_i ... T$_{[-\text{fin}]}$] yooni naru

Fujii et al.'s (2023) argument essentially takes the following form. They first note two cases, one involving honorification and the other involving the nominative-genitive conversion, which suggest that the subject NP in the *yooni naru* construction can (at least optionally) appear in the matrix clause in surface structure.[9] Based on this observation, they conclude that A&K's (2021) non-raising analysis is inadequate since it entails that the subject uniformly appears inside the embedded clause as in (14a).

Before getting into details, there is one point that needs to be made clear. Given the way the argument is structured, the two cases Fujii et al. (2023) discuss lend support for TAG *only if* plausible alternatives to a TAG-based analysis can be safely eliminated. The main point we aim to establish below is that this crucial condition is not satisfied.

4.1 Honorification and *yooni naru*

The first data point comes from the honorification pattern in (15), which shows that the honorific morpheme can attach to either the embedded verb or the matrix verb.

(15) Yamada sensei-ga hinpanni seki-o {a. suru yooni narareta,
Prof.Y.-NOM frequently cough-ACC do.NPST COMP become.HON.PST
b. sareru yooni natta}.
do.HON.NPST COMP become.PST
'Professor Yamada began to cough frequently.' (Fujii et al. 2023: 115)

Assuming that subject honorification is triggered by the existence of a local syntactic subject in overt syntax, the fact that both patterns of honorification are possible with *yooni naru* suggests that, descriptively, both structures in (14) need to be recognized.

One possible assumption consistent with A&K's (2021) approach is lexical ambiguity along the lines of (16), with a shared change of state core meaning but with different argument structures (non-raising (16a) (= (14a)) vs. 'control-like' (16b)).

(16) a. ***yooni naru* 1:** $\emptyset$ [NP-NOM ...$T_{[+fin]}$] yooni naru (with $\emptyset$ an expletive)
b. ***yooni naru* 2:** NP_i-NOM [$\emptyset_i$ ...$T_{[+fin]}$] yooni naru (with $\emptyset$ a zero pronoun)

Yooni naru 1 is monadic and asserts that the event denoted by the embedded clause begins to occur repeatedly, whereas the dyadic variant *yooni naru* 2 indicates that a repetitive property begins to be attributed to someone or something.[10] While it is not totally clear whether volitional commitment (cf. (3)) is involved here, there is an intriguing resemblance between the underlying dispositional meaning of this use of *yooni naru* and certain dispositional predicates in English that induce control interpretations (such as *The key will serve to open the door*; Landau (2013, 33–34)). Thus, a control-like analysis seems justified on the basis of this semantic parallel.

This lexical ambiguity analysis predicts that the (high vs. low) position of the honorification marker disambiguates the available reading. Specifically, attaching *rare* to the higher verb *naru* should disambiguate the sentence to *yooni naru* 2 that has the property attribution entailment on the subject. This prediction is indeed born out.

(17) Oonen-no meesensyu-tati-ga intai {a.* suru yooni narareta,
former star.players retire do.NPST COMP become.HON.PST
b. sareru yooni natta}.
do.HON.NPST COMP become.PST
'Former star players have started to retire.'

Here, *yooni naru* attaches to *intai-suru* 'retire', which denotes an unrepeatable process. Thus, a coherent interpretation can be obtained only if plural event predication with distinct subjects is involved. This is possible with the monadic *yooni naru* 1, with the plural subject scoping under *yooni naru*, but with the dyadic *yooni naru* 2, the plural subject distributively scopes over *yooni naru*, excluding this construal.

The issue that (15) raises for Fujii et al.'s (2023) own proposal is actually much trickier. In particular, as (at least implicitly) acknowledged by Fujii et al. (2023) themselves,

in order to ensure that both structures in (14) are available, it doesn't suffice to simply assume that finite raising involves the English-type surface movement of an embedded subject to the matrix clause. To overcome this difficulty, they suggest that both overt raising (of the standard English type) and covert raising (in which the embedded subject moves to the matrix clause only at LF) are available for *yooni naru*.

(18) a. Overt raising analysis: $[_{TP}$ Subj-NOM $[_{CP}$ ___ $[_{VP}$.. $]$ $T_{[-fin]}$ yooni] nar $T_{[+fin]}$ $]$

b. Covert raising analysis: $[_{TP}$ ___ $[_{CP}$ Subj-NOM $[_{VP}$.. $]$ $T_{[-fin]}$ yooni] nar $T_{[+fin]}$ $]$

But this analysis faces several issues. First, it is unclear under what conditions raising can be covert. Since covert raising is not a standardly recognized option, merely saying that raising can be overt or covert just amounts to adding another syntactic stipulation. Moreover, (18b) relies on a non-standard assumption, specifically, long-distance case assignment (note also that the status of the matrix subject position in (18b) is unclear; see footnote 8). Unless properly constrained, this leads to an undesirable prediction about raising cross-linguistically where covert raising is predicted to be possible in other languages as well, such as English (**It is likely John to be a teacher*).

To summarize, the honorification pattern in (15) is readily accounted for in A&K's approach by recognizing lexical ambiguity. Fujii et al.'s (2023) proposal involves, on top of TAG, an additional stipulation whose precise theoretical characterization is unclear.

4.2 Nominative-genitive conversion and *yooni naru*

The other issue Fujii et al. (2023, 117) raise pertains to the acceptability of examples such as (19) involving the nominative-genitive conversion (NGC).

(19) Sono eigyoobutyoo-wa motto sono syoohin-{a. ga, b. ga, c. (??)no,
that sales.manager-TOP more that product- NOM NOM GEN
d. (*)no} ureru yooni naru- {a. koto-o b. to, c. koto-o,
GEN sell.NPST COMP become.NPST KOTO-ACC TO KOTO-ACC
d. to} kakusinsimasita.
TO convince.POL.PST
'The sales manager was convinced that that product would sell better.'

Their argument goes as follows. The results of an acceptability survey reveal that genitive subjects are more acceptable with the nominal complementizer *koto* attached to *yooni naru* than with *to* as shown in (19c,d). They take this contrast, in particular the relative well-formedness of (19c) as compared to (19d), as evidence for the assumption that the subject is in the higher clause (thus undergoing NGC licensed by *koto* (but not by *to*)). By contrast, on A&K's (2021) assumption that NGC in *yooni naru* is licensed by the nominal status of *yoo* in *yooni naru*, the contrast in (19c,d) would be unexpected.

There are several issues regarding Fujii et al.'s (2023) survey and their interpretation of the results. The first thing to note pertains to the division of participants into two groups (we'd like to thank a reviewer for pointing out this issue with Fujii et al.'s (2023) argument). According to Fujii et al. (2023, 118), 'the participants were divided into two groups: those who preferred relative-clause NGC above average (labeled 'Upper') and those who did not (labeled 'Lower')'. Statistically significant difference in the (19c,d)-type data was found only in the 'Upper' group. Fujii et al. justify this grouping by

the fact that there is a wide range of idiolectal variation regarding the acceptability of NGC. However, they don't discuss why taking average rating as the threshold would constitute the right division of participants into the NGC-accepting and NGC-rejecting populations. Without the actual distribution of the ratings, it is unclear, for example, how many of the Upper group accepted NGC as clearly grammatical. Moreover, the number of individuals in the two groups are not given in their paper, thus, we can't tell how representative the reported contrast in their Upper group was.

Additionally, note that the existence of a statistical difference doesn't by itself guarantee that its source is a grammaticality contrast. This issue is especially worrisome given that the reported statistical difference (which reflects a very subtle difference in judgment to begin with) was detected only after artificially excluding a subset of the participants with vulnerable criteria that could be regarded as arbitrary. In fact, a similar difference in acceptability seems to be present in examples such as the following:

(20) Ken-wa Yuki-ga eego-**no** dekiru yooni natta {a. (??)koto-o,
K.-TOP Y.-NOM English-**GEN** can.NPST COMP become.PST KOTO-ACC
b. (*)to} sitta.
TO learn.PST
'Ken learned that Yuki had become able to speak English.'

In (20), the genitive-marked nominal (*eego-no*) is arguably originally an argument of the embedded clause. But then, the contrast between the *koto*-marked clause and the *to*-marked clause in this type of data (including (19)) may simply be due to some processing-oriented illusory effect in which a genitive is (mis)licensed merely on the basis of shallow matching with *koto*, regardless of its structural origin.

For the reasons given above, we think that the particular conclusion that Fujii et al. (2023) draw on the basis of their experimental results is too strong. Moreover, assuming that *yooni naru* is lexically ambiguous along the lines of (15), the contrast in prediction between Fujii et al.'s (2023) TAG-based analysis and A&K's non-TAG-based analysis actually disappears: in both, (19c) should be as good as any run-of-the-mill NGC examples, so its degraded status remains a puzzle for both.

5 Does finite control require TAG?

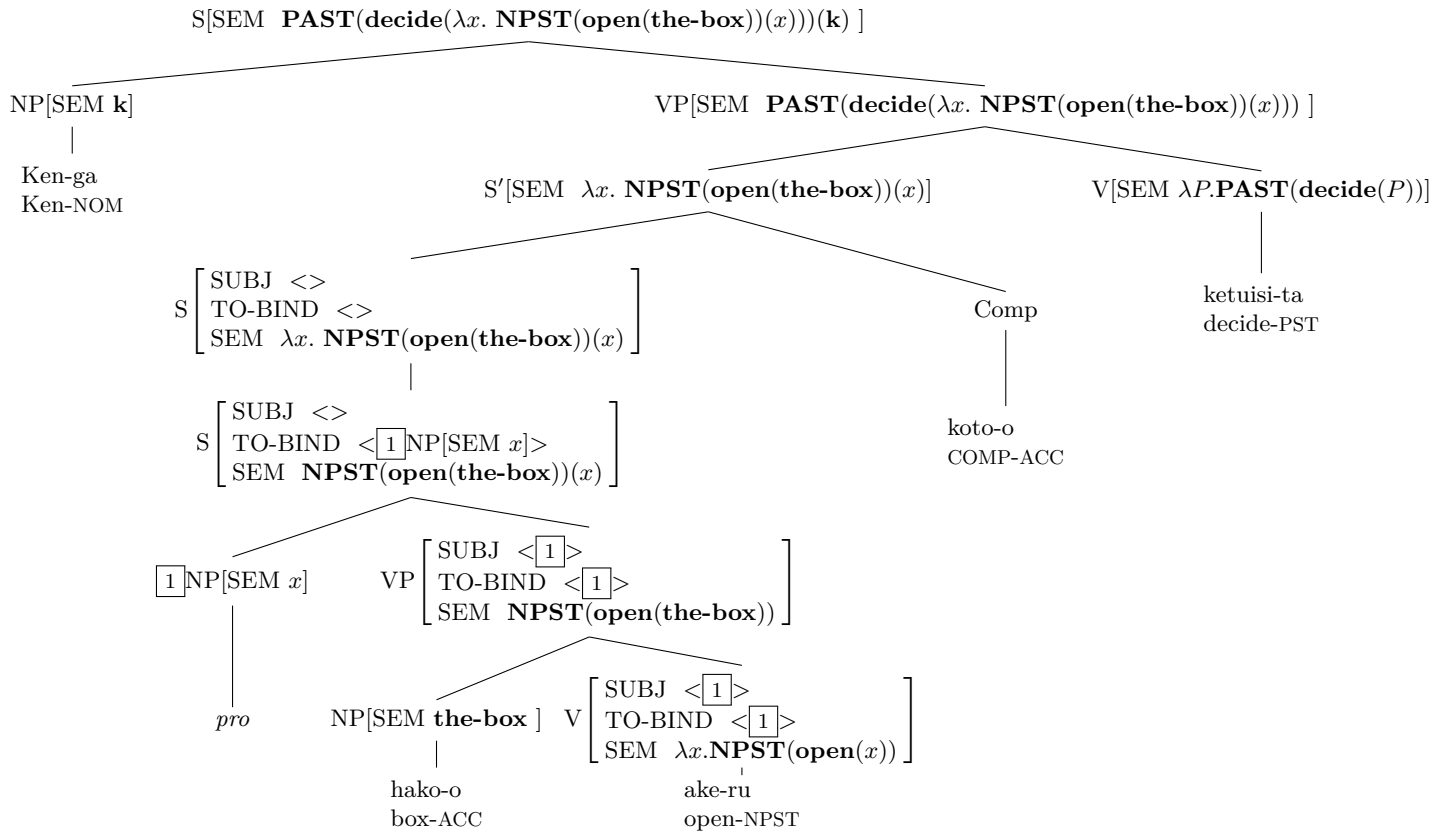
The other issue Fujii et al. (2023) note about A&K is that the semantic analysis is incomplete in one respect: the obligatory binding of the embedded subject by the matrix controller argument does not follow from the semantic analysis alone. This alone is a sound observation, but they go on to draw the conclusion that TAG (or its equivalent) is needed to enforce this effect. In what follows, we contend with Fujii et al. (2023) on this latter point, showing that there is a logical leap in their argument: just showing an incomplete aspect of A&K's proposal doesn't immediately lead to the conclusion that TAG is the right auxiliary assumption to be adopted. Indeed, there is a different alternative to achieve semantic binding of the embedded subject, which utilizes only a subset of the assumptions needed in a TAG-based analysis to enforce the same effect.

What is needed is an interface condition explicitly linking the embedded subject to the doxastic center of the centered proposition denoted by the complement clause. One possible way to achieve this effect, sketched in section 4.2 in A&K (2024), would be to enforce it by feature inheritance along lines of (21) in an HPSG-style grammar.

In (21), semantic composition proceeds by function application, except at the unary projection in the embedded clause. The TO-BIND feature keeps track of the embedded

subject, originally via the coindexation with tag $\boxed{1}$ in the lexical specification of the embedded verb *ake-ru*. This value then gets passed up to the clausal level via feature inheritance (in a way similar to gap percolation in *wh*-dependency in G/HPSG). At the point a complete sentence is formed, a special unary rule cancels out the TO-BIND value and establishes lambda binding in semantics (see also von Stechow 2004 for a similar interface condition). The application of this unary rule is motivated by the semantic type requirement of the matrix control verb on its first argument ($\langle e, \langle i, \langle s, t\rangle\rangle\rangle$, as opposed to the ordinary proposition type $\langle i, \langle s, t\rangle\rangle$). Lambda binding triggered by feature inheritance in (21) correctly ensures the semantic binding of the embedded subject position. Note that this analysis treats both cases involving zero pronouns and cases involving overt pronouns/reflexives in the embedded subject position such as (11) by the same mechanism. In both cases, the pronoun contributes a variable (x in (21)) and it gets bound by the lambda operator at the unary projection that is responsible for semantic type change (from $\langle i, \langle s, t\rangle\rangle$ to $\langle e, \langle i, \langle s, t\rangle\rangle\rangle$).

(21)



One point worth emphasizing is that even in TAG-abiding approaches, the lambda binding in semantics needs to be ensured by some mechanism at the syntax-semantics interface analogous to (21).[11] In this respect, the lambda binding of the designated argument introduces no additional complexity. Thus, Fujii et al.'s (2023) remark that 'the semantic approach seems to fail to accommodate the obligatory binding effect in control if TAG is dispensed with' (Fujii et al. 2023, 121) is too strong.

6 Conclusion

We have critically examined Fujii et al.'s (2023) response to A&K's reassessment of TAG. Our conclusion remains the same as A&K: the semantic approach captures all the facts that the syntactic approach is intended to capture, without recourse to TAG (which is stipulated in the latter). Moreover, three known issues of TAG still remain to be addressed in the latter. Thus, Occam's razor dictates us to abandon TAG.

In our view, TAG was, after all, a rough syntactic approximation of deeper semantic principles governing the syntax-semantics interface of control. Now that we have a much better understanding of the deeper semantic principles themselves, it seems reasonable to conclude that this generalization has largely finished its historical role. We would, of course, be delighted to be proven wrong; some might discover in the future some surprising reason(s) why TAG cannot be dispensed with. But our conclusion remains the same until and unless such a fact is discovered.

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Abstract

A recent article by Fujii et al. (2023) criticizes Akuzawa and Kubota's (A&K; Akuzawa and Kubota 2020, 2021; Kubota and Akuzawa 2020) reassessment of a syntactic generalization about morphologically finite complement clauses known as the Tense Alternation Generalization. In this paper, we offer a response to Fujii et al. (2023) by critically examining their arguments. Our response consists of three components. First, we review A&K's semantic analysis of finite control that dispenses with TAG, in order to provide a background for the discussion. Then, we elaborate on three empirical issues with TAG identified by A&K that remain unaddressed in Fujii et al. (2023). Finally, we show that both of the key claims of Fujii et al. (2023) fail to achieve the goal of defending TAG as a viable syntactic generalization. This leads us to the conclusion that A&K's argument that TAG should be abandoned remains fully valid. A larger issue that emerges from this discussion pertains to the division of labor between syntax and semantics in analyzing (finite) control phenomena. The semantic proposal by A&K can be thought of as an attempt to reinterpret the core insights of the syntax-dominant approach represented by Fujii (2006) as a reflection of independently motivated underlying semantic properties.

Notes

[1]The formula in (5) is slightly updated from the version in Kubota and Akuzawa (2020) cited in Fujii et al. (2023) to reflect the *de se* property of the lexical semantics of control verbs more explicity by treating modal alternatives as sets of world-individual-time coordinates, along lines of the analysis presented in Akuzawa and Kubota (2024). We'd like to thank an anonymous reviewer for clarification on this point.

[2]There is one minor technical issue with the denotation in (5). The variable Q that is existentially bound in the presupposition part appears in the truth-conditional component as well. This cross-dimensional binding is impossible with a static definition of the existential in predicate logic. In a fully formalized analysis, this existential quantifier should be replaced by some version of dynamic existential (in, e.g., Dynamic Predicate Logic (Groenendijk and Stokhof 1991)) that can extend scope cross-dimensionally.

[3]For expository ease, we adopt here a slightly informal analysis in which t_{eval}, the 'evaluation time', is a free variable that somehow gets indentified as the attitude holder's now when embedded under an attitude predicate. For a fully compositional analysis, see Akuzawa and Kubota (2024).

[4]An anonymous reviewer wonders whether A&K's proposal is consistent with the existence of non-control verbs that allow tense alternation, such as *hihan-suru* ('criticize'). The answer is simple: such predicates are entirely consistent with A&K's proposal. Note that the latter only makes a claim about the semantic properties of verbs that induce control interpretations, hence, it says nothing about tense alternation of non-control verbs. Empirically, there is no reason to assume that *hihan-suru* imposes a specific semantic restriction on the temporal order between the embedded and matrix events, so, the fact that it allows both the past and the nonpast tenses on the embedded verb is unremarkable (and requires no special theoretical explanation).

[5]An anonymous reviewer suggests that the NPI licensing pattern might be taken to cast further doubt on the 'defective tense' implication of TAG. Unlike grammaticalized modal predicates such as *koto-ga deki-ru*, the embedded tense with *koto*-taking control verbs seems to constitute a finite clause boundary blocking NPI licensing: **Ken-wa [nani-mo tabe-ru] koto-o ketsuishi-na-katta* (Intended: Ken didn't decide to eat anything) vs. *Ken-wa [nani-mo tabe-ru] koto-ga deki-na-katta* (Ken couldn't eat anything).

[6]Even proponents of TAG typically don't dispute the grammaticality of (11). For example, Fujii (2006, 90–91) attributes the licensing of an embedded nominative to non-structural case assignment by 'inherent' or 'default' case not dependent on finite T. However, at least this attempt doesn't seem particularly successful since it lacks independent support, and it remains unclear if it can be made consistent with the case assignment-driven raising analysis of control advocated by Fujii (2006) himself.

[7]This can be justified by the fact that, when the semantically bound argument is overt, it has to correspond to external argument, in a way parallel to the clausal case:

(i) Ken-wa {a. zisin-niyoru buka-no/b. *buka-niyoru zisin-no} uragiri-o
K.-TOP { self-by subordination-GEN/ subordinat-by self-GEN} betrayal-ACC
ketuisi/kookaisi-ta.
decide/regret-PST
'Ken {decided to betray/regretted betraying} his subordinate himself.'

[8]This structure is in line with Shibatani (1978) with one exception: a phonetically null expletive occupies the matrix subject position, ensuring that the construction is not left without a subject. We remain agnostic about the exact syntactic status of this

expletive. Note that Fujii et al.'s (2023) analysis requires, in addition to covert raising, an assumption that is virtually identical to this covert expletive (in the underlined matrix subject position in (18b)). We'd like to thank an anonymous reviewer for clarification on this point.

[9]There are two other data points on which Fujii et al. (2023) dispute A&K's (2021) claim, which are less central to the issue under contention here. We comment on them briefly just for the sake of completeness. First, as noted by Fujii et al. (2023), the NPI licensing data originally offered by A&K (2021) do not distinguish between the raising and non-raising analyses, on the condition that covert raising can be assumed as an analytic option in the former. Second, A&K (2021) took the unavailability of indirect passive for *yooni naru* as evidence for the non-raised status of the subject NP. Fujii et al. (2023) question this contrast, noting the possibility that the ill-formedness of the relevant example might be attributed to a (yet to be clarified) different factor.

[10]The availability of *yooni naru* 2 can be motivated by an analogy-based reanalysis of the sort frequently found in diachronic syntactic change: the somewhat anomalous clause structure of *yooni naru* 1 involving an unpronounced expletive subject in the matrix clause triggers a reanalysis in which the embedded subject is 'misparsed' as an argument of the matrix verb *naru*. Such a reanalysis is likely to be further facilitated by the fact that *naru*, as a lexical verb, is a dyadic change of state verb.

[11]See in particular Landau's (2015) treatment of 'logophoric control' in this connection, which recognizes PRO and works out the semantic binding explicitly. Landau's work makes it clear that syntactic binding alone doesn't by itself ensure semantic binding, and that the parallel between syntactic and semantic binding somehow needs to be stipulated or otherwise made to follow from some other assumptions—Landau (2015, 27) himself ventures to develop an elaborate argument according to which this 'follows' from the 'radically impoverished' nature of the minimal pronoun PRO, but the complex set of assumptions he makes to induce this effect seem to be hardly uncontroversial. Another piece of work that is relevant here is Hornstein and Pietroski (2010), which can be seen as another attempt to derive this effect, but their own proposal crucially involves some nonstandard assumptions that the authors themselves admit are 'tendentious'. We leave it for future work to compare their proposal with the more standard view on *de se* interpretation that we ourselves subscribe to.