Actor-sensitivity and Obligatory Control in Kavalan and Some Other Formosan Languages*

Yung-Li Chang  
Wei- tien Dylan Tsai  
National Chung Cheng University  National Tsing Hua University

It is shown in this paper that in Kavalan and some Formosan languages, verbs in object-control complements are required to undergo causativization. We argue that the peculiar requirement may be due to a well-observed constraint, i.e., the Actor-sensitivity constraint, which in turn follows from the morphological properties of voice affixes attested in these languages. It follows that control dependency should be thematically determined rather than grammatically determined, a conclusion against the standard structural approach.

Key words: control, causative, Actor-sensitivity, Kavalan, Formosan languages

1. Setting the stage

Control dependency (also known as Equi-NP deletion) can generally be divided into two types, that is, obligatory control and optional control, with respect to whether the embedded missing subject obligatorily takes a unique antecedent. In obligatory control constructions, the embedded missing subject (represented by the empty pronominal PRO) is required to be either coreferential with the matrix subject, as in (1a), or with the matrix object, as in (1b):

(1) a. John promised Mary [PRO to behave himself].
    b. John persuaded Mary [PRO to behave herself].

* An earlier version of this paper was presented at the Sixth International Symposium on Chinese Languages and Linguistics July 14-16, 1998, Academia Sinica. We are grateful to the audience there, in particular, C.-T. James Huang and Paul J.-K. Li, for their insightful comments and advice. Thanks are also due to two anonymous reviewers for their useful corrections and suggestions. The study reported here is financially support by an NSC research grant (NSC 87-2411-H-001-013). We are grateful to our project director, Jane Chih-Chen Tang, and the other co-director, Bonnie Chiu, for their warm support.

1 For detailed discussions of the distinction between obligatory control and optional control, readers are referred to Williams (1980).
It is generally claimed that the sentence in (1a) involves subject control, which we refer as *promise*-type construction, while the sentence in (1b) involves object control, which we refer as *persuade*-type construction. In both cases, the embedded missing subject is required to take a unique antecedent. By contrast, the requirement does not hold in optional control constructions. Compare: (cf. Huang 1989:200 and Haegeman 1994:277)

(2) a. John wonders how [PRO\_i/j to behave oneself/himself].
   b. John and Bill discussed [PRO\_i/j behaving oneself/themselves].

In (2), the embedded missing subject does not have a unique antecedent. It is open to two options: it can either take generic reference, as evidenced by the generic reflexive *oneself* or be bound to the matrix argument, depending on the context. In other words, unlike in obligatory control constructions, the reference of the embedded missing subject is contextually rather than thematically or grammatically determined in optional control constructions. Accordingly, the reference of the embedded missing subject is harder to predict in optional control constructions than in obligatory control constructions. To avoid the expected complexities, this paper will be confined to the study of obligatory control constructions, leaving optional control constructions aside.

The paper is organized as follows. Section 2 presents some less known control phenomena in Kavalan and attributes them to the Actor-sensitivity constraint. Section 3 provides further support for our position, using evidence from some other Formosan languages. Section 4 discusses the typological and theoretical implications of the analysis. It is argued that the Actor-sensitivity constraint can follow from the morphological properties of voice affixes and that control dependency should be thematically determined rather than grammatically determined. Section 5 reaches a brief conclusion.

2. Actor control and Actor-sensitivity in Kavalan

2.1 The two restrictions

In Kavalan *persuade*-type constructions, the embedded verb is required to take the causative prefix *pa-*.

---

2 Examples from Kavalan and Tsou are drawn from our own field notes, collected from 1996 through 1999. We would like to thank our informants, in particular, Achun Pan (born in 1928), Change Pan (born in 1948), Chengchung Cheng (born in 1939) and Hsingshi Wang (born in 1942) for their consistent help.
In (3-4a), where the matrix verb is a *persuade*-type verb, the embedded verb is required to take the causative prefix *pa*-. Without *pa*-, the grammaticality of the sentence decreases sharply, as in (3-4b). This observation also holds true with the control verb inflected for Patient voice. For example:

(5) a. pawRat-an-naři ni abasì aiku pa-ʔtun tu taquq
    force-PV-3S.Gen Gen Abas 1S.Nom Cau-kill Acc chicken
    lit. ‘I was forced by Abas such that she caused me to kill a chicken.’

b. ?? pawRat-an-naři ni abasì aiku maʔ-tun tu taquq
    force-PV-3S.Gen Gen Abas 1S.Nom AV-kill Acc chicken
    for ‘I was forced by Abas to kill a chicken.’

As in (5a), the embedded verb is required to undergo causativization as well, even though the control verb is inflected for Patient voice.

While the control verb can be inflected either for Actor voice or for Patient voice, the embedded verb can only bear Actor voice. This is also the case when the embedded verb is causativized. For example:

---

3 The control verb is preferred to be inflected for Non-Actor voice as in (5), though it is also fine to bear Actor voice. We will return to this issue in 3.2.

4 The abbreviations used in this paper are as follows:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acc</td>
<td>accusative case</td>
</tr>
<tr>
<td>AV</td>
<td>Actor voice</td>
</tr>
<tr>
<td>Cau</td>
<td>causative</td>
</tr>
<tr>
<td>Cl</td>
<td>classifier</td>
</tr>
<tr>
<td>Gen</td>
<td>genitive case</td>
</tr>
<tr>
<td>Nom</td>
<td>nominative case</td>
</tr>
<tr>
<td>PV</td>
<td>Patient Voice</td>
</tr>
<tr>
<td>S</td>
<td>singular</td>
</tr>
<tr>
<td>Lin</td>
<td>linker</td>
</tr>
<tr>
<td>'-'</td>
<td>indicates that the following is an affix</td>
</tr>
<tr>
<td>'='</td>
<td>indicates that the following is a clitic</td>
</tr>
</tbody>
</table>
(6) a. *pawRat a tina-na tu sunis qaynәp-an
   force Nom mother-3S.Gen Acc child sleep-PV
b. *pawRat-an-na ni abas aiku ʔtuŋ-әn ya taquq
   force-PV-3S.Gen Gen Abas 1S.Nom kill-PV Nom chicken
c. *pawRat a tina-na tu sunis pa-qaynәp-an
   force Nom mother-3S.Gen Acc child Cau-sleep-PV
d. *pawRat-an-na ni abas aiku pa-ʔtuŋ-әn ya taquq
   force-PV-3S.Gen Gen Abas 1S.Nom Cau-kill-PV Nom chicken

This restriction together with the obligatory causativization of embedded verb conspire to exclude the Patient argument of control verb from serving as a controller. With the causativization of the embedded verb, the sentences in (3a) and (5a) can be semantically represented as something like (7):

(7) pawRat (abas, aiku, pa- (PRO, …
   force Actor Patient Cause Actor

As shown in (7), the Kavalan persuade-type sentences all involve Actor control: the matrix Actor abas serves as the controller of the first embedded missing subject all the time, regardless of what grammatical relation it has.5 This is also attested in promise-type constructions, as will be shown in the next section.

2.2 Kavalan promise-type constructions

Unlike persuade-type constructions, Kavalan promise-type constructions do not observe the causativization of embedded verb. For example:

(8) a. m-paska=isu mәʔtuŋ tu taquq
   AV-try=2S.Nom AV-kill Acc chicken
   ‘You tried to kill a chicken.’

5 The capitalized Actor is used as a cover term for those theta roles underlined in the following examples: the agent in (i), the experiencer in (ii), or the theme in (iii):
(i) Clinton bombed Sudan.
(ii) Clinton hates Starr.
(iii) Clinton fell.
b. paska-an-na=pa ma-ʔtuŋ tu taquq
    try-PV-3S.Gen=Fut AV-kil Acc chicken
    lit. ‘A chicken will be tried by him such that he kills (it).’

As in (8), the embedded verbs does not take the causative prefix pa-. Still, as in persuade-type constructions, Kavalan promise-type matrix verbs can be inflected either for Actor voice (as in 8a) or for Patient voice (as in 8b), while the embedded verbs can only be inflected for Actor voice. Thus, sentences with embedded verbs inflected for PV are ruled out, as illustrated in (9):

(9) *paska=pa=iku ʔtuŋ-an ya taquq
    try=Fut=1S.Nom kill-PV Nom chicken

Semantically, the sentences in (8a) and (8b) can be represented as (10), with irrelevant points aside:

(10) mpaska/paskan (xᵢ, maʔtuŋ (PRO,…
    try Actor kill Actor

It is evident that in Kavalan, promise-type constructions always involve Actor control as well: the matrix Actor (represented as xᵢ) always controls the reference of the embedded missing subject, no matter what grammatical relation it has.

2.3 Summary: Actor-sensitivity

We have seen that in Kavalan Actor outranks other thematic relations and occurs as the antecedent of the embedded missing subject all the time, regardless of what grammatical relation it has and what kind of verb it patterns with. Not only the so-called subject control (promise-type) but also object control (persuade-type) turn out to be Actor control actually. This indicates that control operations are sensitive to Actor, that is, Actor-sensitive in Kavalan. The restriction triggers the causativization of embedded verb in persuade-type control constructions. Pay special attention to the asymmetry

---

6 The sentence in (8b) will also be fine if the accusative marker tu is replaced by the nominative case marker ya, that is:
   (i) paska-an-na=pa ma-ʔtuŋ ya taquq
   For details, see Chang (1997:134-137).

7 Meanwhile, it is not immediately clear why an embedded verb can only be inflected for Actor voice. There should be no a priori reason for the restriction. For example, English verbs in
that the causativization of embedded verb occurs in persuade-type control constructions but not in promise-type control constructions. This promise-persuade asymmetry re-currents among Formosan languages, as will be discussed in the subsequent sections.

3. Actor-sensitivity elsewhere
3.1 Actor-sensitivity in some other Formosan languages

Likewise, it is reported by Yeh (1997) that verbs in control complements are required to be inflected for Actor voice in Formosan languages other than Kavalan. Moreover, the causativization of embedded verbs in persuade-type control constructions is attested as well. For example:

(11) Budai Rukai (Yeh 1997:95)

a. pakyadili ku ama ki ina pa-lumay ki lavavalake
   force Nom father Obl mother Cau-beat Obl child
   ‘Father forced Mother to beat the child.’

b. ky-pakyadili ku ina ki ama pa-lumay ki lavavalake
   force Nom mother Obl father Cau-beat Obl child
   ‘Mother was forced by Father to beat a child.’

control complements can be inflected for passive as well. For example:
(i) a. John promised to be examined by the doctor.
   b. John persuaded Mary to be examined by the doctor.
Assuming his lexicase framework, Starosta (1991, 1998) attributes the restriction to the transitivity of embedded verbs: verbs inflected for AV are intransitive while verbs inflected for NAV are transitive. Under his theory, only intransitive verbs are allowed in control complements. His explanation, however, seems to us to be not very straightforward. We would like to argue instead that the restriction may have something to do with the finiteness of embedded verbs. We assume that verbs inflected for AV can be identified as non-finite while their NAV counterparts cannot. It is well-known that AV verbs are more flexible in temporal interpretation than NAV verbs: they can be interpreted as present tense, past tense, or generic tense while NAV verbs can only be interpreted either as past tense or future tense. Given that root verbs are generally not attested, AV verbs turn out be the best candidate to serve as non-finite verbs. Our assumption is also supported by the fact that AV verbs, instead of NAV verbs, occur as citation forms, which are non-finite for sure.

8 Obliquely marked Patients are all interpreted as definites in Yeh (1997). But, to my best knowledge of Formosan languages, they should be indefinite instead. Thus, the interpretation of (11a) should be ‘Father forced Mother to beat a child’ rather than ‘Father forced Mother to beat the child.’
3.2 Some complications: Lexical properties or Actor-sensitivity?

Meanwhile, Yeh notes that causativization of embedded verbs is not obligatory in some of the above-mentioned Formosan languages, while a different meaning is intended. Take Puyuma for example:

(14) Puyuma (Yeh 1997:97, also in Teng 1997:41, 45)
   a. adi tu-pasi-i i ukak kan pilay
      Neg 3S.Gen-force-NAV Nom Ukak Obl Pilay
      pa-takaw da paysu
      Cau-steal Obl money
      ‘Pilay did not force Ukak to steal money.’
   b. paisi m-okan i pilay
      force(AV) AV-eat Nom Pilay
      ‘Pilay forced himself to eat.’

As in (14a), the control sentence with a causativized embedded verb expresses the Actor’s use of compulsion to make the Patient do something, while the control sentence

---

9 József Szakos (p.c.) argued that ḣaḥḳa should be treated as an adverb meaning ‘forcefully’ or as a modal auxiliary meaning ‘must’ instead. On this analysis, the sentence in (13) involves a mono-clausal instead of bi-clausal construction, where pa-boni serves as the main verb. This explains why pa-boni should take the causative morpheme pa: pa is used to license a causee (which serves as the eater in this case). Along this line of thought, however, pa-boni should have been inflected for Patient voice in accord with the preverbs i and ḣaḥḳa. For the time being, we keep this option open, pending further study.
without a causativized embedded verb simply conveys the Actor’s coercion of himself, as in (14b). In view of the contrast, Yeh claims that the emergence of the causative morpheme is to add a new argument (e.g. the Patient ukak in 14a) and render it as the argument shared by the matrix verb and the embedded verb, thereby deriving pivotal constructions. Without the causativization of embedded verbs, control sentences are claimed to behave like serial verb constructions. On this view, control verbs will be identified as a two-place predicate in both promise-type and persuade-type control constructions. It turns into be a three-place predicate with the help of the embedded causative morpheme in persuade-type control constructions. In other words, the embedded causative morpheme forms a complex predicate with the control verb.

At first sight, Yeh’s analysis appears to be plausible. However, a closer inspection shows that Yeh’s analysis deserves further elaboration. First, Yeh’s analysis predicts that control verbs will remain as a two-place predicate if embedded verbs do not undergo causativization. But this prediction is not borne out. In the data Yeh provides, it is found that control verbs can take three arguments in the constructions where embedded verbs do not undergo causativization. Take Saisiyat for example:

(15) Saisiyat (Yeh 1997:98)
   a. /oya/ /i/iBih pa-siʔæl ka pazay ka korkorĩ
      mother force Cau-eat Acc rice Acc child
      ‘Mother forced the child to eat.’
   b. /oya/ /i/iBih hi nonak s-om-iʔæl ka ?alaw
      mother force Acc self eat-AV Acc fish
      ‘Mother forced herself to eat the fish.’

As shown in (15b), the non-causativized embedded verb somiʔæl occurs as a complement of the matrix verb and the matrix verb takes three obligatory arguments (including the accusatively marked argument nonak) on a par with its causativized counterpart pasiʔæl in (15a). This indirectly indicates that the causative morpheme does not serve to satisfy the need of argument addition and argument-sharing. Without causativization, there is still an argument shared by the matrix verb and the embedded verb. Argument-sharing is supposed to be intrinsically existent in the persuade-type control constructions; it should be natural in the constructions. In addition, it is also conceptually unlikely that argument-sharing is the driving force of peculiar causativization of the embedded verb. On the contrary, the argument-sharing will be derived more easily without the causativization of embedded verbs, as attested in persuade-type control constructions in English. For example:
(15’) John persuaded Mary to leave.

Under the traditional analysis, Mary in (15’) plays dual roles: it serves as the Patient of the matrix verb and the Actor of the embedded verb as well. In other words, Mary is an argument shared by the matrix verb and the embedded verb. Obviously, the argument-sharing can be done without any peculiar device, as opposed to that in Formosan languages at issue.

Second, on Yeh’s view, control verbs inflected for different voice will be identified as a same lexical category. For example, in (14), the NAV control verb *pasisii and the AV control verb *paisi will both be analyzed as a two-place predicate. And the reason why *pasisii-sentence (14a) allows three arguments but *paisi-sentence (14b) two arguments will be because the control verb *pasisii occurs with the causative morpheme pa-, which contributes an extra argument to the sentence. However, the analysis can not account for the contrast Yeh and Teng (1997) observe, which states that in Puyuma NAV control verbs can occur with the embedded causative morpheme while AV control verbs can not. This is suggested in (14) and also shown below:

(16) Puyuma (Teng 1997:39)

a. tu-rāŋarōŋa-yaw [pa-ŋɔk[ŋ]a əraw] kan pilay i ukak
   3S.Gen-persuad-NAV Cau-drink Obl wine Obl Pilay Nom Ukak
   ‘Pilay persuaded Ukak to drink wine.’

b. *rāŋarōŋa [pa-ŋɔk[ŋ]a əraw] kan pilay i ukak
   persuade (AV) Cau-drink Obl wine Obl Pilay Nom Ukak

Actually, this is also the case in Tsou. For example:

(17) Tsou

a. i-ʔo ʔahiy-a pa-bon-i na taini
   NAV-1S.Gen force-PV Cau-eat-AV Nom 3S.Nom
   ‘I forced him to eat.’

b. *mi-ʔo ʔahiy-i taini pa-bon-i
   AV-1S.Nom force-AV 3S.Obl Cau-eat-AV

As in (17), the NAV control verb ʔahiy can occur with the embedded causative morpheme pa- while the AV control verb ʔahiy can not. Instead, the AV control verb ʔahiy can only be used as a verb which does not take Patient as its argument:
(18) Tsou
mi-ʔo ʔahi-y-i bon-i
AV-1S.Nom force-AV eat-AV
‘I forced (myself) to eat.’

This is similar to the situation in Puyuma (see 14b). In both cases, the AV control verbs occur as promise-type control verbs and do not occur with an embedded causative morpheme, in contrast with their NAV counterparts shown in (14a) and (18).

A question then arises: Why is the causativization of embedded verbs restricted to constructions where control verbs are inflected for NAV? Following Starosta (1997), we assume that AV verbs are intransitive while NAV verbs are intransitive. In AV constructions, Actor is the only argument in matrix clause and serves as the controller of the missing subject in embedded clauses. Thus, no causativization is needed. In contrast, in NAV constructions, there are two arguments in matrix clauses competing for control: Actor and Patient. To prevent Patient from becoming the controller, causativization is thus employed. Take Tsou for illustration. The ʔahiya-ʔahiyi contrast shown in (17a) and (18) can be roughly represented as the semantic structures (19a-b) respectively:

(19) a. ʔahiya (x_i, y_j, pa (PRO_i…
force Actor Patient Cau Actor
b. ʔahiyi (x_i, boni (x_i…
force Actor eat Actor

Voice inflection aside, the case in question is similar to the control verb mianqiang (勉強) in Chinese, as shown below:

(20) Chinese
a. wo_o mianqiang [PRO_i daying]
I force consent
‘I forced (myself) to consent to that.’
我,勉強 (PRO_i 答應).
b. wo_o mianqiang ta_j [PRO*ij daying]
I force him consent
‘I forced him to consent to that.’
我,勉強他_j [PRO*ij 答應].

As in (20), mianqiang can be used either as a two place predicate (20a) or as a three-place predicate (20b). This is also true with the English control verb expect:
In other words, the AV verb ʔahyä behaves like mianqiang and expect in their subject-control use (promise-type) whereas the PV verb ʔahyäa behaves like mianqiang and expect in their object-control use (persuade-type). Remember that it has been shown in section 2 that the causativization of embedded verb occurs only in persuade-type control constructions. It is therefore not surprising that only ʔahyäa can occur with the embedded causative morpheme, given that the causative morpheme is used to prevent the Patient from serving as a controller.

The Actor-sensitivity effect is widely attested among Formosan languages. Consider first the Saisiyat data shown in (15), repeated here as (22):

(22) Saisiyat (Yeh 1997:98)

a. ʔoyaʔ ʔiʔiʔi biʔaʔ pa-siʔiʔial ka pazay ka korkorî
   mother force Cau-eat Acc rice Acc child
   ‘Mother forced the child to eat.’

b. ʔoyaʔ ʔiʔiʔi hiʔi ʔonak s-iʔiʔial ka ʔalaw
   mother force Acc self  eat-AV Acc fish
   ‘Mother forced herself to eat the fish.’

Pay attention to the sentence in (22b). The sentence in (22b) appears to be a counterexample to our analysis. The control verb ʔiʔiʔi biʔaʔ occurs as a three-place predicate and takes a control complement where the verb does not take the causative morpheme. It seems that the Patient ʔonak can serve as the controller as well, violating Actor-sensitivity. However, a closer inspection shows that this is not the case. Note that since the Patient ʔonak occurs as a reflexive of the Actor ʔiyaʔ, it must be co-referential with and bound by ʔiyaʔ, as illustrated below:

(23) Saisiyat

ʔiyaʔ, ʔiʔiʔi biʔaʔ [PRO_i s-iʔiʔial ka ʔalaw]
mother force PRO Acc self eat-AV Acc fish

On this analysis, the seemingly Patient-control will turn out to be Actor-control actually. Bound by its antecedent, the reflexive behaves just like an oblique argument which does not play an important role in the determination of controller. The sentence in (23) can be likened to be a promise-type control construction in much the same way as (14b) and
(18). The non-occurrence of the causativization of the embedded verb follows directly from the promise-persuade asymmetry.

Another thing deserving our attention is that in Paiwan the presence/absence of the embedded causative morpheme correlates with the use of different markers in control constructions. For example:

(24) Paiwan (Yeh 1997:99)
   a. /´madil ti kina tua alak a/*tu(a) pa-kan
      force-AV Nom mother Acc child Lin Cau-eat
      lit. ‘Mother forces her child such that she causes him/her to eat.’
   b. /´madil ti kina *a/tu(a) k-om-an a alak
      force-AV Nom mother Lin eat-AV Nom child
      lit. ‘Mother forces that the child eats.’

Yeh (1997) notes that in (24a), the linker a instead of tu(a) is used when the embedded verb is prefixed with the causative morpheme whereas in (24b), the opposite pattern is attested: the linker tu(a) instead of a is used when the causativization of the embedded verb does not occur. With the observation, we are curious why this is so and what is the grammatical status of the linker a and tu(a). Following Tang (1999), we propose that the a-introduced complement in (24a) should be analyzed as a nonfinite clause whereas the tu(a)-introduced complement in (24b) should be analyzed as a finite clause. This analysis naturally accounts for why alak is marked accusative case in (24a) but marked nominative case in (24b). In (24a), the control verb /´madil should be a three-place predicate such as mianqiang and expect in their object-control use (persuade-type), as shown in the following semantic structure:

(25) Paiwan
    /´madil (kina, alak, pa- (PRO,…)  
    force Actor Patient Cause

In that case, /´madil semantically select a Patient and an infinitival clause as its complement. Since /´madil is inflected for Actor voice, the Patient alak, which occurs as /´madil’s direct object, thus get accusatively marked. Furthermore, being an instance of persuade-type control, it is expected to occur with the embedded causative morpheme. By contrast, in (24b), /´madil appears as a two-place predicate, taking a finite clause as its complement such as English verb expect in its non-control use, as compared below:
(26) a. Mary expected that the child ate rice.
   b. ʔǝmadil (kina,  kan (alakj̈)...  
      force Actor eat Actor

In this case, alak occurs as the subject of the embedded finite clause and thus marked nominative case. And since no control operation is involved here, the causativization of the embedded verb is not expected to happen.

To summarize, the peculiar causativization of embedded verb can not be attributed to the lexical properties of matrix verbs on empirical and conceptual grounds. Rather, it should be due to a language-particular constraint, that is, the Actor-sensitivity constraint. In persuade-type control constructions, there are two potential controllers, that is, Actor and Patient. To conform to the Actor-sensitivity constraint, however, Patient should be excluded from being a controller. To accomplish this task, there thus arise the two restrictions: the obligatory causativization of embedded verbs, which singles out Actor as the controller and the requirement of embedded verbs being inflected for Actor voice, which exempts Patient from being a controller. By contrast, in promise-type control constructions, there is only one potential controller, that is, Actor. Unless there arises semantic conflict, the Actor-sensitivity constraint will not be violated. It is thus pointless to get embedded verbs causativized, while the requirement of embedded verbs being inflected for Actor voice should hold.

### 3.3 Actor-sensitivity in other syntactic operations

Actually, Actor-sensitivity is not limited to control operations. In Tsou, for example, Actor-sensitivity is also observed in verbal agreement, emphatic reflexivization, and perhaps topicalization. Let’s take up these syntactic operations one by one.

As noted by Y.-Y. Chang (1996) and Starosta (1998), verbal agreement is only accessible to Actor in Tsou, regardless of what grammatical relation the Actor has. For example:

(27) Tsou (Y.-Y. Chang 1996:9)
   a.  mi-tni,  bai to  oʔoko ʔe pasuya, 
      AV-3S.Nom see (AV) Obl children Nom Pasuya  
      ‘Pasuya saw children.’
   b.  i-tni,  ait-i ta pasuya, ʔe oʔoko 
      NAV-3S.Gen see-PV Obl Pasuya Nom children  
      ‘The children were seen by Pasuya.’
As in (27), the agreement suffix \( ta \) is invariably associated with the Actor \( pasuya \), which occurs as the subject in (27a) but as an oblique argument in (27b). In other words, verbal agreement is only accessible to the Actor, no matter what grammatical relation it has.

Likewise, Tsou emphatic reflexivization can only be associated with Actor.\(^{10}\) For example:

(28) Tsou
\[
\begin{align*}
\text{a. } & \text{mi-kō, }\text{iachi, eobako }ta\text{ mameoi}\text{ }^\text{11} \\
& \text{AV-2S.Nom self(AV) hit-AV Obl old.man} \\
& \text{‘You yourself hit an old man.’}
\end{align*}
\]

\[
\begin{align*}
\text{b. } & \text{i-ta, iachi-a, eobako }ta\text{ paici, }\text{e mameoi} \\
& \text{NAV-3S.Gen self-PV hit-PV Obl Paici Nom old.man} \\
& \text{‘The old man was hit by Paici herself.’}
\end{align*}
\]

In Tsou, the emphatic reflexive occurs preverbally and accords with the main verb in its voice inflection. In (28a), the emphatic reflexive \( \text{iachi} \) is inflected for Actor voice on a par with the main verb \( \text{eobako} \) and associated with the nominative Actor \( \text{ko} \) rather than the accusative Patient \( \text{mameoi} \); in (28b), the emphatic reflexive \( \text{iachia} \) is inflected for Patient voice on a par with the main verb \( \text{eobaka} \) and is associated with the genitive Actor \( \text{Paici} \) rather than the nominative Patient \( \text{mameoi} \). Obviously, in both cases, the emphatic reflexive is always associated with the Actor. In other words, the emphatic reflexivization is only accessible to the Actor just like control dependency and verbal agreement.

Similar effect seems to be also attested in Tsou topicalization. Y.-Y. Chang reports that subject-sensitivity is observed in Actor voice sentences but not in Non-Actor voice sentences. For example:

(29) Tsou (Y.-Y. Chang 1997:9)
\[
\begin{align*}
\text{a. } & \text{?e pasuya mi-ta eobako }ta\text{ mo?o} \\
& \text{Nom Pasuya AV-3S.Nom hit-AV Obl Mo?o} \\
& \text{‘Pasuya, he is hitting Mo?o.’}
\end{align*}
\]

\[
\begin{align*}
\text{b. } & \text{*?e mo?o mi-ta eobako }?e\text{ pasuya} \\
& \text{Nom Mo?o AV-3S.Nom hit-AV Nom Pasuya} \\
& \text{for ‘Mo?o, Pasuya is hitting him.’}
\end{align*}
\]

\(^{10}\) This is also observed in Weng (1998).
\(^{11}\) As noted by József Szakos (p.c.), \( \text{iachi} \) and \( \text{iachia} \) can also be interpreted as an adverbial ‘alone’. However, the Actor-sensitivity generalization always holds, regardless of what interpretation we take.
(30) a. ?e moʔo i-ta eobak-a ta pasuya
   Nom Moʔo NAV-3S.Gen hit-PV Obl Pasuya
   ‘Moʔo, he was hit by Pasuya.’

   b. ?e pasuya i-ta eobak-a ?e moʔo
   Nom Pasuya NAV-3S.Gen hit-PV Nom Moʔo
   ‘Pasuya, Moʔo was hit by him.’

As in the Actor voice sentences in (29a-b), only the argument which is associated with the subject can occur as the topic. By contrast, as in the Non-Actor voice sentences in (30a-b), both the Patient (moʔo in 30a) and the Actor (pasuya in 30b) can occur as the topic. There seems to observe Actor/Non-Actor voice asymmetry with regard to topicalization.

Why is this so? We suggest that the asymmetry can follow from Actor-sensitivity as well, while Actor-sensitivity only serves as a saving device in this case. As in other Formosan languages, topicalization observes subject-sensitivity to a certain degree in Tsou. However, given that Actor is syntactically prominent in Tsou as shown above, it could be the case that Actor can evade the subject-sensitivity. This can be the reason why the Actor pasuya can function as the topic in (30b), yielding the asymmetry.

3.4 Language that does not observe Actor-sensitivity

Not all Formosan languages observe Actor-sensitivity in control dependency. Take Seediq for example:

(31) Seediq (Chang 1997:199)
   a. heya s-um-ululwa yaku [PRO, m-imah sino]
      3S permit-AV 1S(Acc) AV-drink wine
      ‘He permits me to drink wine.’
   b. heya h-um-etun yaku [PRO, beebu isu]
      3S stop-AV 1S(Acc) beat 2S.Neu
      ‘He stops me from beating you.’

As in (31), Actor-sensitivity does not hold in Seediq control operations: the embedded verb does not undergo causativization and the Patient yaku can serve as the antecedent of the embedded missing subject.

Interestingly, the lack of Actor-sensitivity effect in control operations correlates the fact that not only Actor but also Patient can trigger verbal agreement in Seediq. For example:
(32) Seediq (Chang 1997:99)
   a. wada-ku-na, bube-un na pawan, ka yaku, Past-1S.Nom-3S.Gen beat-PV Gen Pawan Nom 1S ‘I was beaten by Pawan.’
   b. maha-ku-na, bube-un na pawan, ka yaku, Fut-1S.Nom-3S.Gen beat-PV Gen Pawan Nom 1S ‘I will be beaten by Pawan.’

In (32), the nominative Patient yaku as well as the genitively marked Actor pawan can trigger verbal agreement, as represented by the agreement affixes ku and na on the auxiliary verbs.

Another syntactic correlation is that as noted by Chang (1997), topicalization is strictly subject-sensitive in Seediq if the topic is associated with argument. For example:

(33) Seediq (Chang 1997:166)
   a. pawan ge m-ekan ido Pawan Top AV-eat rice ‘Pawan, (he) is eating rice.’
   b. *ido ge m-ekan ka pawan rice Top AV-eat Nom Pawan

(34) Seediq (Chang 1997:166)
   a. ido ge puq-un na pawan rice Top eat-PV Gen Pawan ‘The rice, it will be eaten by Pawan.’
   b. *pawan ge puq-un ka ido Pawan Top eat-PV Nom rice

Pay special attention to example (34b). Unlike the Tsou sentence in (30b), the Seediq sentence in (34b) is ruled out, where the Actor serves as the topic.

To summarize, unlike Kavalan and Tsou, Seediq does not observe Actor-sensitivity in control dependency. In addition, Seediq does not observe Actor-sensitivity or Actor-prominence in verbal agreement and topicalization. Thus, Actor-sensitivity constraint can differentiate Kavalan and Tsou from Seediq.
4. Typological and theoretical implications

4.1 Why can Actors be so prominent?

Why can Actors be so prominent in Kavalan and some other Formosan languages but not in Chinese and English? The answer to this question may lie in the voice morphology of Formosan languages. On the one hand, Actor voice affixes can be treated as antipassive morphemes, which triggers the demotion of direct objects to oblique arguments in Actor voice constructions.\(^{12}\) \(^{13}\) As noted by Williams (1980), oblique arguments cannot serve as obligatory controllers. Hence, Patients are exempted from being obligatory controllers. On the other hand, as noted by Chang (1997a, b), Non-Actor voice affixes function like a light verb and can prevent Actors from becoming oblique arguments in Non-Actor voice constructions. With these two forces, Actors are thus prominent all the time.

4.2 Obligatory Control is thematically determined

Since Rosenbaum (1970), it is generally claimed that the choice of controller is determined by a structural condition called \textbf{Minimal Distance Principle} (MDP), which states that the embedded missing subject takes the closest c-commanding NP as its antecedent (see Chomsky 1980, Larson 1991, Huang 1992, among many others). However, as shown above, in Kavalan and some other Formosan languages, the choice of controller is dominated by thematic relations rather than grammatical relations. For the sake of discussion, let us repeat the previous examples as below:

(37) Kavalan

\begin{itemize}
  \item a. pawRat a ti-abas\i\textsubscript{i} tu sunis\i\textsubscript{j} [PRO\textsubscript{i}/\textsubscript{j} pa-qayn\textsubscript{p}]
    force Nom Cl-Abas Acc child Cau-sleep
    lit. ‘Abas forces a child to cause him/her to sleep.’
  \item b. pawRat-an-na\textsubscript{i} ni abas\i\textsubscript{i} a sunis\i\textsubscript{j} [PRO\textsubscript{i}/\textsubscript{j} pa-qayn\textsubscript{p}]
    force-PV-3S.Gen Gen Abas Nom child Cau-sleep
    lit. ‘The child was forced by Abas for her to cause him/her to sleep.’
\end{itemize}

As shown in (37), the controller of the embedded missing subject PRO is invariably the

\(^{12}\) This accords with Starosta (1997), where verbs inflected for Actor voice are treated as intransitives.

\(^{13}\) However, this may not be the case in Seediq, as objects can serve as obligatory controllers in Seediq Actor voice constructions. For illustration, see (31); for details, see Chang (1997:186-216).
Actor *abas*, regardless of what grammatical relation it has. This is unexpected under the structural approach. As the Patient *sunis* occurs most close to the embedded missing subject, the MDP will expect it to be the controller. However, this is obviously not the case.

To summarize, the structural approach fails to predict the control dependency in Kavalan as well as in Tsou and some other Formosan languages. In these languages, control operations are thematically determined rather than grammatically determined.14

5. Conclusion

In the previous sections, we have seen that Actor-sensitivity is well attested in a number of syntactic operations; in particular, it is observed in control dependency in Kavalan and some other Formosan languages. It follows that verbs in control complements are required to undergo causativization. The reason why Actors are so prominent may in turn follow from the morphological properties of voice affixes attested in Kavalan and some other Formosan languages: Non-Actor voice affixes keep Actors syntactically prominent on the one hand and Actor voice affixes demote Patients to peripheral oblique argument on the other hand. In addition, Actor-sensitivity indicates that control dependency should be thematically determined rather than grammatically determined. This argues against the standard structural approach to control phenomena.

---

14 This is probably also the case in accusative languages such as English and Chinese. Take English for example:
(i) a. Mary asked Bill, [how PRO to behave herself/himself].
b. Mary asked Bill, [PRO to behave *herself/himself].

Though the sentences in (ia-b) are quite similar in their structures, the control operations involving in these two sentences are quite different: the sentence in (ia) involves Actor control on a par with *promise* whereas sentence in (1b) involves Patient control like *persuade*. This can not be predicted by the MDP but can be accounted for by the lexico-thematic approach, as discussed in Ladusaw and Dowty (1988), Nishigauchi (1984), among many others. This line of thought is also pursued by Xu (1986) for Chinese control constructions.
References

___ 1998. Ergativity, transitivity, and clitic coreference in four Western Austronesian languages. Case, Typology, and Grammar: In Honor of Barry J. Blake, ed. by A.
Siewierska and J. Jung Song. 277-306. Amsterdam: John Benjamins Co.,
Tang, Jane Chih-Chen. 1999. On clausal complements in Paiwan. Selected Papers from
the Eighth International Conference on Austronesian Linguistics, ed. by E.
Zeitoun and Paul J.-K. Li, 529-578. Taipei: Institute of Linguistics (Preparatory
Office), Academia Sinica.
Normal University MA thesis.
Tsao, Feng-fu, and Hsiou-chuan Chang. 1995. A syntactic comparison of the causee
between Paiwan and Tagalog. Papers from the First International Symposium on
Languages in Taiwan, ed. by F.-F. Tsao and M.-H. Tsai. Taipei: The Crane
Publishing Co.,
reflexives]. Manuscript.
5:345-76.
Yeh, Marie Mei-li. 1997. Pivotal constructions in some Formosan languages. Paper
presented at the Eighth International Conference on Austronesian Linguistics.
Taipei: Academia Sinica.

[Received 5 August 1998; accepted 31 July 2000]