# Obligatory Control and Event Structure in Kavalan

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**Abstract**

The embedded verb of so-called object-control verbs in Kavalan must be affixed with the causative marker *pa-*. It is argued that such control predicates in Kavalan like *pawRat* 'force' feature an internal Logophoric Center in its complement clause and this property of logophoricity is absent in other control predicates. Moreover, control predicates that do not take a causativized verb complement like *paska* 'try' and *tud* 'teach' are restructuring predicates and are thus devoid of a Fin head in their complement that can be linked to an internal Logophoric Center. In contrast, the TP and CP of the complement of *pawRat* 'force'-type predicates are still projected and active. The causativization of the embedded verb in a control sentence cannot be explained by a purely syntactic or semantic account of obligatory control. Instead, a comprehensive and satisfactory explanation for Kavalan obligatory control must take into account how event structure and Logophoric Center are encoded in Syntax.

## 1   Introduction

The present paper investigates the control structure of Kavalan, an Austronesian language in Taiwan. The structure of control sentences is one of the principal issues in the generative grammar approach to syntax. One central goal in the study of control sentences is to explain why a DP can semantically form two separate thematic relations with two different verbs. The standard account in the Government and Binding (GB) framework proposes a phonetically null nominal element, PRO, to explain this property of control sentences. For example, in both (1a) and (1b), it is the PRO that is assigned a theta role by the embedded verb. The co-reference between *Bill* and PRO in (1a) or between *Ryan* and PRO in (1b) results from the syntactic operation of binding.

(1)  a.   Bill$_i$ tried [PRO$_i$ to leave].
     b.   Michael persuaded Ryan$_i$ [PRO$_i$ to buy the car].

The postulation of PRO raises two important theoretical questions regarding the distribution of PRO and its interpretation. It has been suggested that PRO can only occur in the subject position of a non-finite clause. The GB account reduces this distributional constraint to the PRO Theorem, which states that a PRO can only occur in an ungoverned position. An alternative analysis argues that a PRO bears null Case and that it must occur in a position where its null Case can be checked (Chomsky and Lasnik 1993). As for the interpretation of a PRO, the Minimal Distance Principle (MDP) first postulated by Rosenbaum (1967) has been regarded as the underlying principle that determines the controller of a PRO. This principle states that a PRO is controlled by the closest c-commanding DP. Therefore, the PRO in (1b) must be controlled by *Ryan* instead of *Michael*.

In recent years, there have been attempts to eliminate the Control module from Universal Grammar and reduce the control mechanisms to movement operations (Hornstein 1999; Boeckx, Hornstein, and Nunes 2010). This line of research, i.e., the Movement Theory of Control (MTC), is motivated by the elimination of the D-Structure in the Minimalist Program. Without the D-Structure, the theoretical validity of the Theta-Criterion is cast in doubt and thus the theoretical motivation for PRO or the entire Control module is untenable.

Under the Movement Theory of Control, the co-reference between an argument of a control predicate and an argument in its complement clause is not mediated by a PRO and the Minimal Distance Principle. Instead, a control predicate is akin to a raising predicate in that they both involve movement of a DP in the embedded clause to the matrix clause. The crucial difference between them is that the target of movement in a control sentence is a $\Theta$-position, whereas the moved DP in a raising sentence targets a $\Theta'$-position. It is argued that this reductionist analysis can not only achieve theoretical parsimony but also allow for wider empirical coverage, e.g., backward control and copy control, as opposed to forward control (Polinsky and Potsdam 2006). Moreover, as any movement must obey the locality condition, this analysis can capture the same effects of the Minimal Distance Principle without any extra stipulations.

Another strand of syntactic analysis attributes obligatory control to the relationship between finiteness features and the ability to license a referentially (in)dependent person feature (+R or -R), e.g., Landau's (2004) R-assignment Rule in (2). On this analysis, the co-reference between a controller DP and a PRO is subject to Agree between the matrix F licensing the controller DP and the PRO or the embedded Agr head. Bianchi (2003) also argues that finiteness is the crucial conditioning factor for obligatory control. She links finiteness to logophoric anchoring, which can determine the licensing of [+R] or [-R] person feature. On her analysis, the Fin head in a complement clause can be linked to either an external LC, i.e., speech participants, or an internal LC, i.e., the participants of the matrix clause event. A [-finite] Fin head linked to an internal LC can only license a referentially dependent [-R] person feature.

(2) R-assignment Rule (Landau 2004: 842)
For $X^0_{[\alpha T, \beta Agr]} \in \{I^0, C^0 \dots \}$:
$\varnothing \rightarrow [+R]/X^0_{[\_\_]}$, if $\alpha = \beta = $ '+'
$\varnothing \rightarrow [-R]/$elsewhere

Still another primary analysis is to resort to semantic principles and lexical semantics of control predicates as a way of explanation (Jackendoff and Culicover 2003; Sag and Pollard 1991). The semantic analysis of control contends that a purely syntactic treatment of control sentences can never offer a satisfactory and comprehensive explanation for control configurations. On this analysis, the controller of the implicit argument in the embedded clause of a control predicate is determined by the semantics of the control predicate, e.g., its conceptual structure (Jackendoff and Culicover 2003).

According to Chang and Tsai (2001), the structure of control sentences in some Formosan languages is distinct from the English control structure in

that the verb in the subordinate clause of a control sentence must take a causative marker, as illustrated by the following Kavalan sentence.[1]

(3) pawRat-an-na   ni      buya$_i$   aiku$_k$      [pa-qibasi   __$_i$ __$_k$ tu
    force-PV-3ERG  ERG    Buya     1SG.ABS     CAUS-wash                OBL
    qudus]
    clothes
    'Buya forces me to wash clothes.' (lit. 'Buya forces me, causing (me) to wash clothes.)

Chang and Tsai (2001) attribute this control configuration to a semantic constraint called the Actor-Sensitivity Constraint, which states that control operations are sensitive to the agent argument of a control predicate. The present paper provides and discusses new data that cannot be explained by the Actor-Sensitivity Constraint. It is argued that the syntactic structures of Kavalan control sentences reflect their event structures regarding the perspective from which the event is reported.

The present paper will present new empirical evidence from Kavalan that suggests that the Actor-Sensitivity Constraint is empirically inadequate. It will be argued that the syntactic control configurations of Kavalan correspond to event structures of control predicates and that the event structure of control predicates is indirectly encoded in Syntax through the linking of embedded Fin(iteness) head to a Logophoric Center (LC). The article is organized as follows. Section 2 discusses the empirical patterns of obligatory control sentences in Kavalan. It will be shown that not all control sentences in Kavalan observe the Actor-Sensitivity Constraint. How to explain the control configurations in Kavalan is discussed in sections 3, 4, and 5. It will be argued that a purely syntactic or semantic analysis cannot explain the control constructions in Kavalan. A comprehensive and satisfactory explanation for Kavalan obligatory control must take into account how event structure and Logophoric Center are encoded in Syntax. Section 6 concludes the study.

## 2   Obligatory Control in Kavalan

### 2.1 Controller of PRO

The interpretation of the PRO in control sentences in Kavalan is not associated with a DP that takes a specific case marker. As illustrated in (4), in a *try*-type control sentence in Kavalan, the PRO is always co-referential with the agent of the matrix verb, i.e., the only DP argument in the matrix clause, regardless of its grammatical role or case marking.

(4) a.  m-paska    ya      sunis$_i$    [satzai  PRO$_i$]
        AV-try    ABS    child      sing
        'The child tries to sing.'

1 Glossing conventions in this paper follow the Leipzig Glossing Rules. Additional glossing conventions are as follows: AV – Agent voice; CONJ – Conjunction; LNK – Linker; NCM – Non-common noun marker; PV – Patient voice.

b.  paska-an    na      sunis$_i$      [satzai PRO$_i$]
    try-PV      ERG     child          sing
    'The child tries to sing.'

As discussed briefly in section 1, a *persuade*-type control sentence in Kavalan is typologically unique in that the embedded verb must take an overt causative prefix *pa-*. The causativization of the embedded verb in a *persuade*-type control sentence can also be observed in other Formosan languages, e.g., Budai Rukai, Puyuma, and Tsou (Chang and Tsai 2001). Chang and Tsai (2001) argue that this is because control verbs in these Formosan languages have to observe a constraint called Actor-Sensitivity, which stipulates that only an agent DP argument can control a PRO. The following Kavalan sentences are for illustration.

(5) a.  m-linana       aizipna$_i$    tu     sunis   [*(pa)-lusit PRO$_i$]
         AV-persuade    3SG.ABS        OBL    child   CAUS-leave
         'He persuades a child to leave.' (lit. 'He persuades a child, causing (him) to leave.')
    b.  pawRat-an-na   ni      buya$_i$   aiku       [*(pa)-qibasi   PRO$_i$
         force-PV-3ERG  ERG     Buya       1SG.ABS    CAUS-wash
         tu         qudus]
         OBL        clothes
         'Buya forces me to wash clothes.' (lit. 'Buya forces me, causing (me) to wash clothes.')

In both (5a) and (5b), the embedded verb has to be prefixed with the causative marker *pa-*. The PRO in the embedded clause does not correspond to the theme argument in the matrix clause, but is consistently co-referential with the agent DP, which functions semantically as the causer in the embedded clause. Grammatical roles and case marking do not determine the interpretation of PRO in a *persuade*-type control sentence. In (5a), it is the absolutive DP that controls the PRO; in (5b), it is the ergative DP that controls the PRO. In both cases, the controller is the agent argument of the matrix control verb.

The empirical facts that motivate Chang and Tsai's (2001) proposal of the Actor-Sensitivity Constraint, however, are not entirely correct. Not all control verbs in Kavalan obey the Actor-Sensitivity Constraint. Control verbs like *sulud* 'allow', *tabal* 'stop; prevent', *pangmu* 'help', and *tud* 'teach' do not require their embedded verbs to take the causative marker *pa-*.

(6) a.  sulud-an-na       ni      abas    ya      sunis   'nay$_i$
         allow-PV-3ERG     ERG     Abas    ABS     child   that
         [mawRat    PRO$_i$]
         AV.play
         'Abas allows that child to play.'
    b.  t<m>abal=iku      tu      sunis$_i$   [q<m>an      PRO$_i$
         <AV>stop=1SG.ABS  OBL     child       <AV>drink
         tu      Raq]
         OBL     alcohol
         'I stop a child from drinking.'

c. pangmu-an-na ni abas aiku<sub>i</sub> [m-kyala PRO<sub>i</sub>
help-PV-3ERG ERG Abas 1SG.ABS AV-pick.up
tu byabas]
OBL guava
'Abas helps me pick up guavas.'

d. tud-an-na=<u>iku<sub>i</sub></u> na tina-ku
teach-PV-3ERG=1SG.ABS ERG mother-1SG.GEN
[s<m>udad PRO<sub>i</sub>]
<AV>write
'My mother teaches me to write.'

In each sentence in (6), the PRO in the embedded clause is controlled by the theme DP argument in the matrix clause. The verb in the subordinate clause does not take the causative marker and no argument is co-referential with the matrix agent argument. If the embedded verb in this type of sentence takes the causative marker *pa-*, the matrix theme argument will still be construed as the controller, as illustrated below.

(7) sulud-an-ku <u>ya sunis-ku<sub>i</sub></u> [pa-qawRat PRO<sub>i</sub>]
allow-PV-1SG.ERG ABS child-1SG.GEN CAUS-play
'I allow my child to let (someone) play.'

In (7), the causative marker is attached to the embedded verb and the causer in the subordinate clause must be controlled by the matrix theme argument instead of the matrix agent argument.

What underlies the obligatory control pattern in Kavalan is thus not the Actor-Sensitivity Constraint. Not all *persuade*-type control verbs, or the so-called object-control verbs, in Kavalan, take a morphologically causativized verb phrase as a complement. Whether the agent or the theme argument can serve as the controller varies from a control verb to another. In order to provide a comprehensive and satisfactory account for the obligatory control pattern in Kavalan, it is thus imperative to identify the common feature(s) shared by the control verbs that require a morphologically causativized verb in their complement clause. The following examples illustrate other control verbs whose complement clause must contain a verb affixed with *pa-*.

(8) a. tezung-an-na ni utay ti-abas *(pa-)qibasi
instruct-PV-3ERG ERG Utay NCM-Abas CAUS-wash
tu qudus
OBL clothes
'Utay instructs Abas to do the laundry.'

b. tuluz-an-na ni buya aiku *(pa-)qapaR tu
send-PV-3ERG ERG Buya 1SG.ABS CAUS-catch OBL
mutun
mouse
'Buya sends me to catch a mouse.'

c. pupuk-an-ku ya sunis-ku *(pa-)taqsi
ask-PV-1SG.ERG ABS child-1SG.GEN CAUS-study
'I ask my child to study.'

    d.  qeRas-an-na         ni     imuy    aiku        \*(pa-)tenun
         require-PV-3ERG   ERG   Imuy   1SG.ABS   CAUS-weave
         'Imuy requires me to weave.'

The control verbs that require their embedded verbs to be affixed with the causative prefix all denote an event where the agent obligates the theme to perform some action. The attempt to compel someone to do something constitutes an indispensable part of the semantics of these verbs: *linana* 'persuade', *pawRat* 'force', *tezung* 'instruct', *tuluz* 'send', *pupuk* 'ask', and *qeRas* 'require'. They only differ in the degree of coercion and the way how the agent places the theme under an obligation to perform a task. Control verbs that do not take a causativized verb phrase as a complement do not encode an attempt to compel someone to do something. For example, *sulud* 'allow' denotes a scenario where the agent consents to the theme's action without obligating the theme to perform the action. The verb *tabal* 'stop; prevent' encodes the opposite meaning of *compel*, *force*, or *require*. Instead of placing the theme under an obligation to execute an action, the agent of *tabal* intends for the theme to not assume the obligation.

To summarize, contrary to what Chang and Tsai (2001) claim, the theme argument of some control verbs in Kavalan can control the PRO in the subordinate clause. The Actor-Sensitivity Constraint cannot account for the interpretation of PRO in Kavalan. Whether a PRO is controlled by the agent or the theme argument of the matrix control verb is contingent on the semantics of the control verb. Only verbs that encode an attempt to obligate someone to do something are required to take a *pa*-marked subordinate verb.

## 2.2 The Causative Marker *Pa-*

As the affixation of the causative marker *pa-* to the embedded verb of certain control predicates is obligatory, an investigation of the grammatical properties of *pa-* is essential to the structural analysis of obligatory control constructions in Kavalan.

The causative marker *pa-* in Kavalan is fully productive, being able to attach to almost any verb and thereby transform it into a causative verb. It can occur either in an agent voice construction (9b) or a patient voice construction (8d).

(9)  a.  qibasi  tu      qudus  ya     ti-imuy
        wash   OBL    clothes  ABS    NCM-Imuy
        'Imuy does the laundry.'
    b.  pa-qibasi  tu      qudus  ya     ti-abas     ti-imuy-an
        CAUS-wash  OBL    clothes  ABS    NCM-Abas  NCM-Imuy-OBL
        'Abas makes Imuy do the laundry.'
    c.  qaway-an-na  ni     utay    ya     beRas
        carry-PV-3ERG  ERG    Utay   ABS    rice
        'Utay carries rice.'
    d.  pa-qaway-an-na       ni     ipay   ya     ti-utay    tu
        CAUS-carry-PV-3ERG  ERG    Ipay   ABS    NCM-Utay  OBL
        beRas
        rice
        'Ipay makes Utay carry rice.'

The affixation of the causative marker introduces an additional causer argument. In an agent voice construction, the causer argument takes the absolute case marker, e.g., *ya ti-abas* in (9b), while the causee takes the oblique case marker, e.g., *ti-imuy-an* in (9b). In a patient voice construction, the ergative DP is interpreted as the causer, e.g., *ni ipay* in (9d), while the absolutive DP is interpreted as the causee, e.g., *ya ti-utay* in (9d).

The causer argument introduced by *pa-* does not need to be an agentive DP. This is illustrated by the following example.

(10)  pa-Rubatang        ya      iyu        tu      tazungan
      CAUS-be.beautiful  ABS     medicine   OBL     woman
      'The medicine makes women (become) beautiful.'

This suggests that the causative marker *pa-* thematically introduces a generic causer, not an agent argument.

Assuming a syntactic approach to causative affixes (Baker 1988; Harley 2008), I analyze *pa-* in Kavalan as the lexical realization of v$_{CAUSE}$, which assigns a generic causer role to the DP in its specifier position. Its complement is another vP with an independent argument structure. The complement vP of v$_{CAUSE}$, or *pa-*, serves as the event argument of the causative marker, i.e., the event that the causer brings about. The structure is represented below.

(11) [$_{vPcause}$ CAUSER [$_{v'cause}$ v$_{CAUSE}$ *pa-* [$_{vP}$ DP [$_{v'}$ v [$_{VP}$ V DP ]]]]]

## 3 Against Syntactic Treatments of Kavalan Obligatory Control

The causativization of the embedded verb in Kavalan control sentences presents a problem for analyses that attribute the distribution and interpretation of the phonetically null argument in a control complement to purely syntactic principles and operations, e.g., the standard PRO theory of obligatory control and the Movement Theory of Control (MTC) (Hornstein 1999). A purely syntactic analysis cannot explain why some "object-control" verbs take a causativized verbal complement but others don't. On the standard PRO analysis, the embedded verb in a Kavalan *persuade*-type sentence is causativized and thus there should be a causer PRO and a causee PRO in accordance with the Theta-Criterion. The fact that there are two PROs that need to be bound by two different DPs creates a problem for the Minimal Distance Principle (Rosenbaum 1967). The structurally closest DP that c-commands the two PROs is the theme DP in the matrix clause, but only the causee PRO is actually controlled by it.

Neither can the MTC provide a satisfactory account for the control patterns in Kavalan. On the MTC analysis, the unexpressed arguments in (3), (5), and (8) would be analyzed as the traces or copies of the two DPs in the matrix clause. To move both the causer DP and the causee DP to the matrix clause would incur a violation of the Minimal Link Condition regardless of the order of their movement. As the movement of both DPs is motivated by theta-feature checking on this analysis, the higher causer DP will always block the movement of the lower causee DP. Note that the MTC allows a DP

to acquire more than one theta role, so there is no limit on the number of theta roles the causer DP can receive.

## 4  Semantic Analysis

### 4.1 Types of Control Verbs and Their Conceptual Structures

Jackendoff and Culicover (2003) argue that the interpretation of the covert argument in the embedded clause of a control predicate is not determined by any syntactic principles or conditions like the Minimal Distance Principle or the locality condition on movement. The following sentences show that the syntactic position of the DP that is co-referential with the covert argument in a control sentence is irrelevant to its interpretation.

(12)　Jackendoff and Culicover (2003: 520)
    a.　$John_i$ persuaded $Sarah_j$ to $_{j/*i}$dance.
    b.　$John_i$ promised $Sarah_j$ to $_{i/*j}$dance.
    c.　$John_i$ talked about $_{i/gen}$dancing with Jeff.
    d.　$John_i$ refrained from $_{i/*gen}$dancing with Jeff.
    e.　Bill ordered $Fred_i$ to $_i$leave immediately.
    f.　$Fred_i$'s order from Bill to $_i$leave immediately.
    g.　the order from Bill to $Fred_i$ to $_i$leave immediately.
    h.　$Fred_i$ received Bill's order to $_i$leave immediately.

The so-called control relationship between an overt DP and a covert DP is contingent on the meaning/semantics of the control predicate.

Jackendoff and Culicover (2003) thus argue that only a semantic analysis can fully account for obligatory control. On their semantic analysis, the obligatory control relation should be encoded in the conceptual structure (CS) of a verb instead of its syntactic structure. Within their framework, the conceptual structure is the level that structurally represents thematic roles and their relationships. For example, *intend* and *decide* exhibit the conceptual structure in (13). The DP argument that refers to the intender is always the controller of the actional complement. A verb that inherently denotes an obligation on the part of the theme argument is assigned either of the two conceptual structures in (14).

(13)　Jackendoff and Culicover (2003: 537)
    $X^\alpha$ INTEND *[α ACT]*

(14)　Jackendoff and Culicover (2003: 537)
    a.　$X^\alpha$ OBLIGATED *[α ACT]* TO Y
    b.　$X^\alpha$ OBLIGATED *[α ACT]$^\beta$*
       β BENEF Y

In the two conceptual structures in (14), X bears an obligation to execute a certain action, as indicated by the α notation. English verbs that exhibit this type of conceptual structure include *order*, *instruct*, and *promise*. An obligation is imposed on the theme argument of both *order* and *instruct* and thus the one that receives the order or instruction ($X^\alpha$) is always interpreted as

the controller of the implicit argument in the embedded clausal complement ([α ACT]), regardless of its syntactic position, as illustrated in (12e) – (12h). As for *promise*, it is the person making a promise that undertakes an obligation to execute some action and thus it is always the person making a promise that is interpreted as the controller. The syntactic position of the controller DP and the syntactic distance between the controller DP and the controlled implicit DP are irrelevant to obligatory control.

Another class of control predicates discussed by Jackendoff and Culicover (2003) involves force dynamics and includes verbs like *cause*, *force*, *prevent*, *enable*, and *help*. They all describe a scenario where one character attempts to influence another character's execution of an action and exhibit the following generic conceptual structure.

(15)    Jackendoff and Culicover (2003: 538)
        X CS Y$^α$ *[α ACT]*

The character that is influenced is represented as Y$^α$ and its action is represented as [α ACT]. The α notation signals the control relationship between the two. The verbs differ in the types of influence that is exerted, e.g., causing, forcing, preventing, helping, and enabling.

## 4.2 Syntax and Event Structure of Control Verbs in Kavalan

The semantic analysis based on Jackendoff and Culicover (2003) makes a wrong prediction about the control configuration of *order*-type or *force*-type control verbs in Kavalan. According to the conceptual structure in (14), the control relationship holds between the DP argument that bears an obligation and the actional complement, not between the DP argument that imposes such an obligation and the actional complement. However, a Kavalan control sentence headed by *tezung* 'instruct' manifests both control relationships.

Even if the conceptual structure in (14) can be modified so as to reflect the control relationship between the agent argument of the control predicate and the causer argument in the actional complement, the semantic analysis still fails to explain the different control configurations among the predicates that are identified as force dynamic predicates by Jackendoff and Culicover (2003). Verbs like *force*, *prevent*, *help*, and *permit* all exhibit the conceptual structure in (15) on Jackendoff and Culicover's (2003) analysis. It is thus expected that they should all manifest the same control configurations in Kavalan, contrary to fact. As discussed in section 2.1, *pawRat* 'force' in Kavalan requires its embedded verb to take the causative marker, whereas *sulud* 'allow', *tabal* 'prevent', and *pangmu* 'help' do not. The control configuration of *sulud* 'allow', *tabal* 'prevent', and *pangmu* 'help' follows from the conceptual structure in (15) in that the theme argument is identified as the controller. The control configuration of *pawRat* 'force' is not entirely compatible with this conceptual structure as the agent theta role of this predicate is also identified as a controller in syntax.

Owing to these problems, I argue that the syntactic control configurations of different Kavalan control predicates constitute the grammatical encoding of different control event structures.[2] The analysis lends support to theories

2 Rooryck's (2008) analysis of obligatory control resorts to the event structure of

that incorporate lexical semantics and event structure into the construction of syntactic structure (Rosen 2003; Travis 2000).

I concur with Jackendoff and Culicover (2003) and Rooryck (2008) in their contention that the semantics and event structure of control predicates plays a significant role in determining the control configurations. Their specific proposals, however, need to be modified in order to account for the Kavalan facts of obligatory control. As exemplified in section 2.1, Kavalan control verbs that exhibit the Actor-Sensitivity phenomenon all depict a scenario where the agent attempts to bring about an event by imposing an obligation on someone else to execute the action or simply by forcing someone else to carry out the action. The event described by such control verbs actually consists of two sub-events. The first sub-event involves the agent's act and the second sub-event is the execution of an action by someone else. Moreover, the two sub-events are connected by a cause-result relation, or a CAUSE/BRING ABOUT operator. The event structure of such control verbs in Kavalan is represented below.

(16)    $[X^\alpha$ ACT (ON $Y^\beta)]$ $^\alpha$BRING ABOUT $[Y^\beta$ ACT]

This event structure is mapped to the syntactic structure of *pawRat* 'force', *tezung* 'instruct', and other verbs that involve the same event structure. The cause-result relation between the two sub-events is mediated in Syntax by the specific v head, $v_{CAUSE}$, or *pa-*, which is the syntactic realization of the semantic CAUSE/BRING ABOUT operator.[3]

The addition of the causative marker in Kavalan *persuade*-type control sentences is thus tied to the event structure in (16) only. Control predicates that do not exhibit the event structure in (16) will not take $vP_{CAUSE}$ as the complement and their embedded verb will not undergo morphological causativization. However, on this semantic analysis of Kavalan control predicates, it is not clear how the event structure of a control predicate is mapped to its syntactic structure. In other words, how is the event structure of a control predicate linked to Syntax? To complement the semantic analysis, section 5 will argue that the event structure of control predicates is encoded in Syntax through the linking of embedded Fin(iteness) head to a Logophoric Center (LC).

## 5    Control Predicates and Logophoricity

According to Bianchi (2003), the Fin head in a complement clause can be linked to either an external LC, i.e., speech participants, or an internal LC, i.e., the participants of the matrix clause event. She proposes that a Fin head linked to an internal LC can only license a referentially dependent [-R]

control predicates, but it cannot extend to Kavalan. The subevent structure he proposes for *force* cannot explain why the embedded verb of *pawRat* 'force' must be affixed with the causative marker *pa-*.

3 One problem of the event structure in (16) is that it seems to assume that the actional complement is always realized. Whether this is true in Kavalan requires more research.

person feature and argues that obligatory control is a concomitant consequence of this structural licensing.

(17)     … V   [$_{CP}$ [$_{FinP}$ -Fin    [$_{TP}$ DP$_{-R}$    [$_T$ -T] … ]]]
         |          |
         E$_i$        Int LC$_i$

## 5.1 *PawRat* 'force'-type Control Predicates and Logophoricity

Adopting Bianchi's (2003) conception of logophoricity, the present paper argues that a *pawRat* ('force')-type control predicate in Kavalan features an internal LC in its complement clause and this property of logophoricity is absent in other control predicates.

Firstly, when the complement of *pawRat* 'force' is negated, the imperative negator *naRin*, instead of the indicative negator *mai*, is used, as illustrated in (18). By contrast, the complement clause of *paska* 'try' and *tud* 'teach' cannot be negated by either negator, as shown in (19).

(18)  a.  pawRat-an-na=iku          ni      utay    naRin
          force-PV-3ERG=1SG.ABS     ERG     Utay    NEG.IMP
          m-qila      tu       sunis
          AV-scold    OBL      child
          'Utay forces me to not scold children.'
      b.  *pawRat-an-an=iku          ni      utay    mai     m-qila
          force-PV-3ERG=1SG.ABS     ERG     Utay    NEG     AV-scold
          tu       sunis
          OBL      child

(19)  a.  *paska=pa=iku       mai/naRin       m-qila       tu        sunis
          try=FUT=1SG.ABS     NEG/NEG.IMP     AV-scold     OBL       child
      b.  *tud-an-na        ni      utay    ya      sunis-na
          teach-PV-3ERG     ERG     Utay    ABS     child-3GEN
          mai/naRin        m-tebu      tu       qudus
          NEG/NEG.IMP      AV-patch    OBL      clohes

Secondly, the complement of *pawRat* 'force' can be a direct quotation of imperative, as illustrated in (20). Other control predicates cannot take an imperative clause as their complement (21). This suggests that *pawRat* 'force'-type control predicates denote a speech event, a potential internal LC. Predicates denoting speech, thought, knowledge, and direct perception are common predicates that can license a logophoric clause (Culy 1994). The controller of *pawRat* 'force'-type control predicates is always the internal Speaker of the internal LC.

(20)  pawRat-an-na ni      utay    ti-imuy,     qibasi-ka    tu
      force-PV-3ERG ERG     Utay    NCM-Imuy    wash-IMP    OBL
      qudus
      clothes
      'Utay forced Imuy, "Do the laundry!"'

(21) a. *pangmu-an-na        ni      utay    ti-imuy,   qibasi-ka   tu
         help-PV-3ERG        ERG     Utay    NCM-Imuy   wash-IMP    OBL
         qudus
         clothes
     b. *tud-an-na       ni      utay    ti-imuy,   satzai-ka
         teach-PV-3ERG   ERG     Utay    NCM-Imuy   sing-IMP

Thirdly, the interpretation of a deictic in the complement of *pawRat* 'force' is ambiguous. The deictic center can be either the external LC or the internal LC. In (22), *tazian* 'here' can refer to a place near the speaker (the external LC) or near Utay (the internal LC). The shift of deictic center does not occur in other types of control sentences, e.g., (23).

(22)  pawRat-an-na     ni      utay    ti-imuy     pa-qawtu     tazian
      force-PV-3ERG    ERG     Utay    NCM-Imuy    CAUS-come    here
      sasakay
      play
      'Utay forces Imuy to come here to play.' ('come here': near speaker
      or near Utay)

(23)  t<m>abal      ti-buya     tu      sunis    mawtu       tazian  sasaqay
      <AV>stop      NCM-Buya    OBL     child    AV.come     here    play
      'Buya stops children from coming here to play.'

As the Fin head of the complement clause of a *pawRat* ('force')-type control predicate is linked to an internal LC, specifically the initiator whose point of view is reported, the [-R] person feature it licenses must be identified with the [+R] person feature of this initiator. This perspective shift from an external LC to an internal LC is the underlying reason why the complement o f *pawRat* 'force' and other similar control predicates must be morphologically causativized.

The analysis that attributes the causativization of the embedded verb to the internal LC on Fin can also explain why *pa-* affixation is absent when the embedded verb is a collective predicate, as illustrated in (24). (24) is an example of partial control where both the agent and the theme are the arguments of the embedded verb. The [-R] person feature in the complement can be partially identified with the [+R] person feature of the internal Logophoric Center and thus no causativization is necessary. Likewise, when the embedded verb is reciprocal, causativization is not necessary, as illustrated in (25a). Note that when the internal LC brings about a reciprocal event but is not a participant of the event, the embedded verb still needs to take the causative marker, as shown in (25b).

(24)  pawRat-an-na     ni      utay    ti-imuy     masulun        matiw
      force-PV-3ERG    ERG     Utay    NCM-Imuy    AV.together    AV.go
      sa   taypak
      to   Taipei
      'Utay forces Imuy to go to Taipei together (with him, Utay).'

(25)  a.  pawRat-an-na    ni      utay    ti-imuy     sim-qa-qila
          force-PV-3ERG   ERG     Utay    NCM-Imuy    RECP-QA-scold
          'Utay forces Imuy to scold each other. (Utay and Imuy scold
          each other.)'
      b.  pawRat-an-na    ni      utay    ti-imuy
          force-PV-3ERG   ERG     Utay    NCM-Imuy
          pa-sim-qa-qila              ti-buya-an
          CAUS-RECP-QA-scold         NCM-Buya-LOC
          'Utay forces Imuy to have a dispute with Buya. (Imuy and Buya
          scold each other.)'

   In a scenario where the agent and the theme of a control predicate are the
same, i.e., a reflexive event, the analysis presented here predicts that the
embedded verb should not take the causative prefix, as there is only one
participant in the matrix clause, i.e., the internal LC or the internal Speaker.
There is no need for the occurrence of *pa-* to signal which participant the [-R]
person feature should be identified with. The prediction is borne out (26).

(26)  a.  pawRat-an-na    ni      utay    ya      izip-na      q<m>an
          force-PV-3ERG   ERG     Utay    ABS     body-3GEN    <AV>eat
          tu          mutun
          OBLmouse
          'Utay forced himself to eat a mouse.'
      b.  *pawRat-an-na   ni      utay    ya      izip-na
          force-PV-3ERG   ERG     Utay    ABS     body-3GEN
          pa-qan      tu      mutun
          CAUS-eat    OBL     mouse

## 5.2 Functional Projections of Control Complements

To corroborate the proposed analysis, this section will show that control
predicates that do not take a causativized verb complement like *paska* 'try'
and *tud* 'teach' are restructuring predicates and are thus devoid of a Fin head
in their complement that can be linked to an internal LC. A *pawRat* ('force')-
type control predicate, on the other hand, does not involve restructuring in
that the functional heads of its non-finite complement clause are still
projected and active.

### 5.2.1   Finiteness

The complement clause of a control verb in Kavalan is not introduced by any
overt complementizer, coordinating conjunction, or linker. This is true of both
*try*-type control verbs and *persuade*-type control verbs, as illustrated in (27).
The fact that the coordinating conjunction cannot introduce the causativized
verb phrase in (27b) suggests that this type of control structure cannot be
analyzed as coordination between a control verb and a causativized verb. This
fact also indicates that the lack of an overt DP argument in the causativized
verb phrase cannot be attributed to discourse-induced pro-drop.

(27) a. *m-paska ya sunis [tu/sRi/a satzai]
　　　AV-try ABS child COMP/CONJ/LNK sing
　　b. *pawRat-an-na ni buya aiku [tu/sRi/a
　　　force-PV-3ERG ERG Buya 1SG.ABS COMP/CONJ/LNK
　　　pa-qibasi tu qudus]
　　　CAUS-wash OBL clothes

Moreover, tense and aspect markers, if any, must be attached to the matrix control predicate. Whether the embedded verb takes the causative marker or not, it is unable to host its own tense or aspect marker. The following sentences in (28) are for illustration.

(28) a. paska=pa=iku s<m>alaw tu babuy na
　　　try=FUT=1SG.ABS <AV>hunt OBL pig GEN
　　　na'ung
　　　mountain
　　　'I will try to hunt boars.'
　　b. *paska=iku salaw=pa tu babuy na na'ung
　　　try=1SG.ABS hunt=FUT OBL pig GEN mountain
　　c. tezung-an-na=ti ni utay ti-abas pa-qibasi
　　　instruct-PV-3ERG=PFV ERG Utay NCM-Abas CAUS-wash
　　　tu qudus
　　　OBL clothes
　　　'Utai instructed Abas to do the laundry.'
　　d. *tezung-an-na ni utay ti-abas
　　　instruct-PV-3ERG ERG Utay NCM-Abas
　　　pa-qibasi=ti tu qudus
　　　CAUS-wash=PFV OBL clothes

Another grammatical property that is indicative of the nonfinite feature of the embedded verb in a control sentence is that it does not show voice alternation. Whether the embedded verb in a control sentence is affixed with the causative marker or not, it is not allowed to take the patient voice suffix, but must occur in the agent voice form. This voice restriction is exemplified below in (29).

(29) a. *paska=pa=iku salaw-an tu/ya babuy na
　　　try=FUT=1SG.ABS hunt-PV OBL/ABS pig GEN
　　　na'ung
　　　mountain
　　b. *tezung-an-na ni utay ti-abas pa-qibasi-an
　　　instruct-PV-3ERG ERG Utay NCM-Abas CAUS-wash-PV
　　　tu/ya qudus
　　　OBL/ABS clothes

The restriction of a verbal form to the agent voice form is a unique morphosyntactic property of a verb in a non-finite subordinate clause in Kavalan. Therefore, the causativized verb phrase in a *persuade*-type control sentence in Kavalan cannot be identified as a conjunct of the matrix predicate and neither can it be analyzed as a separate independent clause with pro-drop. If it were an independent clause with pro-drop, it would be able to host its

own tense and aspect markers and occur in the patient voice form, contrary to fact.

### 5.2.2 Structural Differences Between *Paska* 'try'-type Control and *PawRat* 'require'-type Control

Although the complements of both *paska* 'try'-type and *pawRat* 'force'-type control predicates are non-finite, they still differ in the structural complexity of functional projections. While the complement of *paska* 'try' and *tud* 'teach' is fully reduced and shows properties of restructuring (Wurmbrand 2001). The TP and CP of the complement of *pawRat* 'force'-type predicates are still projected and active.

First of all, no temporal adverbs can occur in the complement clause of *paska* 'try' and *tud* 'teach', as illustrated by the ungrammaticality of (30). This suggests that their complement clause is untensed or the tense of their complement clause is anaphoric. By contrast, (31) shows that the complement of *qeRas* 'require' can take a temporal adverb distinct from the matrix temporal adverb. There is a tense operator in the complement clause of *qeRas* 'require' that is distinct from, but constrained by, the matrix tense operator.

(30)  a.  *siRab      paska=ti=iku          [temawaR   q<m>apaR
          yesterday    try=PFV=1SG.ABS       tomorrow    <AV>catch
          tu        mutun]
          OBL       mouse
      b.  *siRab      tud-an-na=iku                    na
          yesterday    teach-PV-3ERG=1SG.ABS           ERG
          tina-ku                  [temawaR   m-tebu     tu        qudus]
          mother-1SG.GEN           tomorrow   AV-patch   OBL       clothes

(31)  siRab       qeRas-an-na=iku                  ni        utay     [temawaR
      yesterday    require-PV-3ERG=1SG.ABS         ERG       Utay     tomorrow
      pa-qibasi          tu        qudus]
      CAUS-wash         OBL       clothes
      'Yesterday, Utay required me to do the laundry tomorrow/today.'

Secondly, the question particle *ni* can occur in the complement clause of *paska* 'try' and *tud* 'teach' with matrix clause interpretation, as illustrated by (32c) and (33c). This is suggestive of a mono-clausal structure without embedded CP. The addition of *ni* to the complement clause of *qeRas* 'require', however, induces ungrammaticality (34c). This is because CP is projected in the complement of *qeRas* 'require' and thus the question particle is unable to receive matrix clause interpretation.

(32)  a.  paska   [q<m>apaR     tu       mutun] ti-buya      ni?
          try      <AV>catch     OBL      mouse  NCM-Buya  Q
      b.  = paska ni [q<m>apaR tu mutun] ti-buya?
      c.  = paska [q<m>apaR ni tu mutun] ti-buya?
          'Does Buya try to catch mice?'

(33)   a.   tud-an-na=isu           na      tina-su
                 teach-PV-3ERG=2SG.ABS    ERG     mother-2SG.GEN
                 [m-tebu    tu      qudus]    ni?
                 AV-patch    OBL    clothes    Q

        b.   = tud-an-na=isu na tina-su ni [m-tebu tu qudus]?

        c.   = tud-an-na=isu na tina-su [m-tebu ni tu qudus]?
             'Does your mother teach you to patch clothes?'

(34)   a.   pawRat-an-na=isu         na      tina-su
                 force-PV-3ERG=2SG.ABS    ERG     mother-2SG.GEN
                 [pa-qibasi     tu      qudus]  ni?
                 CAUS-wash    OBL    clothes Q

        b.   = pawRat-an-na=isu na tina-su ni [pa-qibasi tu qudus]?

        c.   *pawRat-an-na=isu na tina-su [pa-qibasi ni tu qudus]?
             'Does your mother force you to do the laundry?'

Finally, as discussed in section 5.1, the complement clause of *paska* 'try' and *tud* 'teach' cannot be negated, whereas the complement clause *qeRas* 'require' can take the imperative negator *naRin*.

Table 1 summarizes the structural properties of different types of control predicates in Kavalan. Control predicates that do not take a causativized verb complement like *paska* 'try' and *tud* 'teach' are restructuring predicates and are thus devoid of a Fin head in their complement that can be linked to an internal LC. By contrast, the functional heads of the complement clause of *pawRat* 'force' and *qeRas* 'require' (extended projections of IP and CP) are still projected and active.

**Table 1. Structural properties of different control predicates**

| | *paska* 'try' | *tud* 'teach' | *pawRat* 'force' |
|---|---|---|---|
| **subordinator** | x | x | x |
| **tense/aspect affix on the embedded verb** | x | x | x |
| **AV-restriction on the embedded verb** | √ | √ | √ |
| **temporal adverb in the embedded clause** | x | x | √ |
| ***ni* in embedded clause, with matrix interpretation** | √ | √ | x |
| **negation in the embedded clause** | x | x | √ |
| **imperative/direct quote as complement** | x | x | √ |
| **shift of deictic center** | x | x | √ (optional) |

## 6 Conclusion

The research findings on Kavalan obligatory control make significant contributions to the study of control both empirically and theoretically. It is shown that some control predicates like *pawRat* 'force' in Kavalan utilize a distinct grammatical structure in which the embedded verb must take the causative marker *pa-*. The control verbs that require their embedded verbs to be affixed with the causative prefix all denote an event where the agent obligates the theme to execute some action. It is argued that the causativization of the embedded verb in a control sentence cannot be explained by a purely syntactic or semantic account of obligatory control. Instead, a comprehensive and satisfactory explanation for Kavalan obligatory control must take into account how event structure and Logophoric Center are encoded in Syntax.

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