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**INTERROGATIVE VERB SEQUENCING
CONSTRUCTIONS IN AMIS**

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The Proceedings of AFLA 18

PREFACE

The 18th annual meeting of the Austronesian Formal Linguistics Association (AFLA 18) was held March 4-6, 2011, at Harvard University. A total of 30 presentations representing the work of 43 researchers were given, including three plenary talks by Robert Blust, Marc Brunelle, and Manfred Krifka. In addition to work on the syntax of Austronesian languages, the original focus of AFLA, researchers presented analyses of phenomena from a variety of core linguistics subfields including phonetics, phonology, and semantics, as well as their interfaces. In order to personalize the meeting and highlight the strong historical component of Harvard's Department of Linguistics, we also encouraged the presentation of work dealing with diachronic analyses of language phenomena. The culmination of these efforts appears here in these Conference Proceedings, which include twelve papers presented during the conference.

Throughout this process we have received generous support from a variety of sources within the Harvard Community. Financial support came from the Office of the Dean of the Faculty of Arts and Sciences, the Office of the Provost, Linguistics Circle: A Workshop of Linguistic Interfaces, the GSAS Research Workshop in Indo-European and Historical Linguistics, the GSAS Research Workshop in Language Universals and Linguistic Fieldwork, and the Harvard GSAS Graduate Student Council. Student participants in the volunteer effort include Michael Erlewine, Ruthe Foushee, Laura Grestenberger, Christopher Hopper, Julie Li Jiang, Caitlin Keenan, Louis Liu, Andreea Nicolae, Hazel Pearson, and Cheng-Yu Edwin Tsai. We also gratefully acknowledge the encouragement, endorsement, and assistance of the Harvard Department of Linguistics.

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To the groups and individuals who made this conference possible, and to the many researchers who made the event as enriching and stimulating as it was, we offer our sincerest thanks.

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INTERROGATIVE VERB SEQUENCING CONSTRUCTIONS IN AMIS*

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This study investigates the syntactic structure of interrogative verb sequencing constructions (IVSC) in Amis. An IVSC consists of an interrogative main verb and a lexical subordinate verb. The interrogative verb must precede the lexical verb and TAM markers, if any, must be attached to the interrogative verb. Moreover, the voice marker on the interrogative verb determines the case-marking pattern of the construction, whereas the lexical verb must observe AV-restriction. These properties indicate that the lexical verb is subordinate to the interrogative verb. Amis IVSCs can be further classified into two structures based on their subordination types. This first type is headed by *maan* ('do how'), which takes a lexical verb phrase as its complement. The theme DP in a *maan*-IVSC can move from the embedded clause to the matrix interrogative clause for Case checking. The second type is headed by *icuwa* ('where') or *pina* ('how many'), which takes a theme DP as its complement and an optional lexical verb phrase as its adjunct. Theme argument sharing between *icuwa* or *pina* and the lexical verb is due to the presence of a PRO in the adjoined verb phrase that is controlled by the absolutive DP in the matrix clause.

1. Introduction

Despite the large number of studies on interrogative words and sentences, the possibility that interrogative words can be used as verbs, or interrogative verbs, is still not well-known to most linguists. Hagège (2008:3) defines an interrogative verb as "a kind of word which both functions as predicates and questions the semantic content of this predicate". His typological study has revealed the morphological, syntactic, and semantic properties that interrogative verbs share cross-linguistically.

According to Lin (2010, 2011a), interrogative verbs also exist in Amis and Kavalan, both of which are Austronesian languages in Taiwan, in that some interrogative words have the same morphosyntactic distribution as verbs. Like other verbs, interrogative verbs in Amis and Kavalan occur in the sentence-initial position, take tense/aspect markers, attract pronominal clitics, and are affixed with voice markers.¹ The following Amis sentences are for illustration.²

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¹ The so-called voice system in Austronesian languages in Taiwan roughly refers to the concord between a verb and an absolutive-marked noun phrase in terms of the thematic role that this noun phrase plays.

² Glossing conventions are as follows: ABS–Absolutive; AV–Agent voice; Ca–Ca reduplication; ERG–Ergative; GEN–Genitive; LNK–Linker; NCM–Non-common noun marker; NOM–Nominative; OBL–Oblique; PFV–Perfective; PN–Proper noun; PST–Past; PV–Patient voice; REA–Realis; SG–Singular.

- (1) a. mi-maan ci-panay
 AV-do.what NCM-PN
 ‘What is Panay doing?’
 b. na maan-en isu kura wacu
 PST do.what-PV 2SG.ERG that.ABS dog
 ‘What did you do to that dog?’
 c. icuwa-en isu ku paysu
 where-PV 2SG.ERG ABS money
 ‘Where do you put the money?’

The interrogative words in (1) all take a voice marker, which functions to derive verbs in Amis (Wu 2006), and thus should be morphosyntactically identified as verbs.

One of the major findings in Lin (2010) is that interrogative verbs not only can be used as the sole verb in a sentence but can also be followed by a lexical verb in a verb sequencing construction. Lin (2011b) elaborates on the syntactic structure of this interrogative verb sequencing construction in Kavalan and concludes that it can be classified as a Serial Verb Construction with an interrogative verb as the main verb. Amis interrogative verbs based on the notions of ‘how’, ‘where’, and ‘how many’ can also be followed by a lexical verb, and they together form an Interrogative Verb Sequencing Construction (IVSC).

- (2) a. maan-en ni panay (a) mi-padang kuya wawa
 do.how-PV ERG PN LNK AV-help that.ABS child
 ‘How does Panay help that child?’
 b. icuwa-en isu (a) mi-simed ku paysu
 where-PV 2SG.ERG LNK AV-hide ABS money
 ‘Where do you hide the money?’
 c. pina-en ni ofad (a) mi-ala ku paysu
 how.many-PV ERG PN LNK AV-take ABS money
 ‘How much money does Ofad take?’

All the examples in (2) contain an interrogative verb that is affixed with a voice marker, occupies the sentence-initial position, and is followed by a lexical verb.

The goal of this paper is to explore the syntactic structure of an IVSC in Amis. It will be demonstrated that unlike Kavalan, an Amis IVSC should not be identified as a Serial Verb Construction. Other issues that will be addressed include the syntactic relationship between the interrogative and lexical verbs in an Amis IVSC and the syntactic operations that are involved in deriving this construction. Empirical facts will be presented to show that the interrogative verb is the main verb of an IVSC, whereas the lexical verb is morphosyntactically defective and occurs in a non-finite reduced clause. It will also be argued that Amis IVSCs can be classified into two types. The first type is headed by *maan* (‘do how’) and features complementation of the lexical verb and raising of the theme DP from the embedded clause to the matrix interrogative clause. The second type is headed by *icuwa* (‘where’) or *pina* (‘how many’) and is characterized by adjunction of the lexical verb and obligatory control of the theme DP.

2. Subordination in an Amis IVSC

This section argues that an Amis IVSC is distinct from a Serial Verb Construction (SVC) and that the two verbs do not form a coordinate structure. Instead, an Amis IVSC exhibits properties of subordination.

2.1. Amis IVSC as a Distinct Structure from SVC and VP-coordination

Due to the structural parallelism between a Kavalan IVSC and an SVC, Lin (2011b) categorizes a Kavalan IVSC as a particular type of SVC. This analysis cannot be extended to Amis as there is a critical difference between an Amis IVSC and a Kavalan IVSC. While the insertion of a linker, coordinator, or subordinator between the interrogative verb and the lexical verb in a Kavalan IVSC leads to ungrammaticality (Lin 2011b), the linker, *a*, can optionally intervene between the interrogative verb and the lexical verb in an Amis IVSC, as already illustrated in (2). The presence of the optional linker in an Amis IVSC indicates that an Amis IVSC should not be analyzed as an SVC, where the two verbs are not separated by any overt linker, coordinator, or subordinator. An Amis IVSC and a Kavalan IVSC should thus be identified as two distinct verb sequencing constructions. True verb serialization is only observed in a Kavalan IVSC. Excluding the structural possibility of an SVC, the ensuing discussion will focus on the issue regarding the syntactic relationship between the interrogative verb and the lexical verb in an Amis IVSC.

According to Tsai and Chang (2003), the interrogative word *ainenu* ('how') in Tsou, which is also an Austronesian language in Taiwan, is also syntactically realized as a verb. Moreover, this interrogative verb co-occurs with a lexical verb in a coordinate sentence. This is illustrated below.

- (3) m-i-ta m-ainenu ho m-i-ta eobak-o (Tsou)
 AV-REA-3SG AV-how and AV-REA-3SG hit-AV
 ta-Mo'o 'e-Pasuya
 OBL-Mo'o NOM-Pasuya
 'How did Pasuya hit Mo'o?' (Tsai and Chang 2003: 237)

As shown in (3), there is a coordinator, *ho* ('and'), between the interrogative verb phrase and the lexical verb phrase. In other words, the interrogative verb and the lexical verb in a Tsou IVSC syntactically form a coordination structure.

Tsai and Chang (2003) argue that the syntactic behavior of *mainenu* ('how') in Tsou is empirical evidence for the neo-Davidsonian analysis of manner adverbial expressions (Parsons 1990). On this approach, a manner adverbial can be analyzed as a predicate of the event that it modifies. The Tsou sentence in (3) can be represented semantically and syntactically in the following way.

- (4) The syntactic and semantic representations of (3) (Tsai and Chang 2003: 224)
 a. Semantics:
 ?x $\exists e$ (hitting(*e*) & Agent (*e*, Pasuya) & Theme (*e*, Mo'o) & Method (*e*, *x*))

b. Syntax:

[_{ConjP} [_{IP} m-i-ta m-ainenu] [_{Conj} ho [_{IP} m-i-ta eobak-o ta-Mo'o 'e-Pasuya]]]

In (4a), *mainenu* ('how') is analyzed as a predicate of an event and the method of achieving this event is inquired about, as represented by ?x at the beginning of this representation. Moreover, this predicate about method is conjoined with other properties of the event in this semantic representation. That is, the so-called adverbial modification is semantically represented as a type of semantic conjunction. There is no syntax-semantics discrepancy between syntactic conjunction and semantic modification in Tsou. Instead, the semantic structure of conjunction is mapped directly onto the syntactic structure of conjunction, where an interrogative phrase is coordinated with a verb phrase by the coordinator *ho*.

Given the empirical facts in Tsou and the neo-Davidsonian analysis of manner adverbial expressions, it is likely that an Amis IVSC also involves the coordination of an interrogative verb and a lexical verb. However, the empirical facts in Amis suggest otherwise.

The coordination analysis is incompatible with the grammatical properties of an Amis IVSC. One of the functions of the linker, *a*, is to conjoin two noun phrases, as illustrated in (5).

- (5) ma-talaw kaku tu takula' a tu oner
 AV-afraid 1SG.ABS OBL frog LNK OBL snake
 'I am afraid of frogs and snakes.'

The linker, however, cannot appear in a VP or IP coordinate structure. The following sentence, where two VPs are conjoined, becomes ungrammatical when the linker is present.

- (6) mi-nanum (*a) k<um>a'en kaku
 AV-water LNK <AV>eat 1SG.ABS
 'I am drinking (water) and eating.'

When *a* intervenes between two verb phrases, it functions to introduce a non-finite subordinate clause or a complement clause with an irrealis tense specification (Chen 2008; Liu 2003). For example, control complements, whose TAM information is not specified, can be introduced by the linker *a*, as illustrated below.

- (7) mi-lalang kaku ci-panay-an (a) [mi-palu ci-ofad-an]
 AV-dissuade 1SG.ABS NCM-PN-OBL LNK AV-hit NCM-PN-OBL
 'I dissuade Panay from hitting Ofad.'

Therefore, the fact that *a* can intervene between the interrogative verb and the lexical verb in an Amis IVSC shows that their syntactic relationship is not coordination, but some form of subordination.

Moreover, the interrogative verb in an Amis IVSC must precede the lexical verb. If their linear order is reversed, the sentence becomes ungrammatical. The strict linear order between the two verbs is illustrated below with an *icuwa*-IVSC.

- (8) a.

icuwa-en	isu	(a)	mi-simed	ku	paysu
where-PV	2SG.ERG	LNK	AV-hide	ABS	money

‘Where do you hide the money?’
- b.

*mi-simed	isu	(a)	icuwa-en	ku	paysu
AV-hide	2SG.ERG	LNK	where-PV	ABS	money

‘Where do you hide the money?’

This is in stark contrast to VP-coordination, where the change in the linear order of the coordinated verbs does not influence grammaticality.

2.2. The Interrogative Verb as the Main Verb in an Amis IVSC

The linear order pattern in an Amis IVSC is reminiscent of other syntactic constructions involving subordination. As shown in (9), the control main predicate must precede the secondary verb. A reversal of their linear order results in ungrammaticality.

- (9) a.

mi-tanam	kaku	mi-adup	tu	fafuy	nu	lutuk
AV-try	1SG.ABS	AV-hunt	OBL	pig	GEN	mountain

‘I try to hunt boars.’
- b.

*mi-adup	kaku	mi-tanam	tu	fafuy	nu	lutuk
AV-hunt	1SG.ABS	AV-try	OBL	pig	GEN	mountain

‘I try to hunt boars.’

The strict linear order between the interrogative verb and the lexical verb in an IVSC thus suggests that the two verbs do not enjoy equal syntactic status. The lexical verb is subordinate to the interrogative verb.

How the tense and aspect information of the lexical verb in an Amis IVSC is interpreted is another piece of evidence for the subordination analysis. The tense and aspect interpretation of the lexical verb in this construction is dependent on the interrogative verb. They must be interpreted with the same tense value; tense, aspect, and mood (TAM) markers, if any, must be attached to the interrogative verb. The lexical verb cannot host its own TAM markers. Please see the following sentences for illustration.

- (10)a.

na	icuwa-en	isu	(a)	mi-simed	ku	paysu
PST	where-PV	2SG.ERG	LNK	AV-hide	ABS	money

‘Where did you hide the money?’
- b.

*icuwa-en	isu	(a)	na	mi-simed	ku	paysu
where-PV	2SG.ERG	LNK	PST	AV-hide	ABS	money

‘Where did you hide the money?’

The contrast between (10a) and (10b) suggests that the past tense marker must immediately precede the interrogative verb and that it cannot occur immediately before the lexical verb. The distribution of TAM markers indicates that the lexical verb is structurally subordinate to the

interrogative verb and that the lexical verb must be non-finite. The subordinate clause headed by the lexical verb in an Amis IVSC either lacks any projections associated with TAM or contains defective TAM projections.

The case-marking pattern of the nominal arguments in an Amis IVSC further corroborates this subordination analysis. The case-marking pattern of the nominal arguments in this construction is determined by the voice marker on the interrogative verb. In (11a), the agent DP receives ergative case and the theme DP absolutive case. This distribution of case corresponds to a patient voice construction. If the case-marking pattern were determined by the agent voice marker on the lexical verb as in (11b), the agent DP would receive absolutive case and the theme DP oblique case, contrary to fact.

- (11)a. maan-en ni panay (a) mi-padang kuya wawa
do.how-PV ERG PN LNK AV-help that.ABS child
'How does Panay help that child?'
- b. *maan-en (a) mi-padang ci-panay tu wawa
do.how-PV LNK AV-help NCM-PN OBL child
'How does Panay help children?'

The same grammatical phenomenon about case-marking can also be observed in a *try*-type control sentence. In a sentence with a control main verb and its verbal complement like (12a), it is the voice marker on the matrix control predicate that determines the case-marking of the nominal arguments.

- (12)a. tanam-en aku mi-adup ku fafuy nu lutuk
try-PV 1SG.ERG AV-hunt ABS pig GEN mountain
'I try to hunt boars.'
- b. *tanam-en mi-adup kaku tu fafuy nu lutuk
try-PV AV-hunt 1SG.ABS OBL pig GEN mountain
'I try to hunt boars.'

The sentence in (12a), where the control main predicate is affixed with the patient voice marker, exhibits the case-marking pattern of a patient voice sentence. That is, the ergative DP corresponds to the agent argument and the absolutive DP is interpreted as the theme. The ungrammaticality of (12b) results from the mis-alignment between the theta-roles of the DPs and their case. The agent voice marker on the subordinate verb in a control sentence does not determine how case is assigned. The parallelism between a control sentence and an IVSC regarding their case-marking pattern thus lends further support to the analysis of the interrogative verb as the main verb.

Finally, the lexical verb in an Amis IVSC can only take the agent voice marker. It cannot be affixed with the patient voice marker, as illustrated by the following *icuwa*-IVSC (cf. 10a).

- (13) *icuwa-en isu (a) simed-en ku paysu
 where-PV 2SG.ERG LNK hide-PV ABS money
 ‘Where do you hide the money?’

This AV-restriction on the second verb in a verb sequencing construction is typical of verb sequencing constructions that are derived via the subordination of a verb phrase to another verb phrase (Chen 2008; Liu 2003; Wu 2000). The grammaticality contrast between (14a) and (14b) suggests that the embedded verb in a control sentence is not allowed to take the patient voice marker.

- (14)a. ma-tanam=tu ni ofad (a) mi-padang ku wawa
 PV-try=PFV ERG PN LNK AV-help ABS child
 ‘Ofad tried to help the child.’
 b. *ma-tanam=tu ni ofad (a) padang-en ku wawa
 PV-try=PFV ERG PN LNK help-PV ABS child
 ‘Ofad tried to help the child.’

The AV-restriction is thus an indication of a non-finite reduced subordinate clause. The fact that the lexical verb in an Amis IVSC must conform to the AV-restriction provides another piece of empirical evidence for the subordination analysis, which argues that the lexical verb is not a full-fledged main verb and that it occurs in a non-finite reduced subordinate clause.

To summarize, the following grammatical properties of an Amis IVSC all point to the conclusion that the interrogative verb in this construction should be analyzed as the main verb, whereas the lexical verb is structurally subordinate to the interrogative verb.

- (15) Grammatical properties of an Amis IVSC
- There is an optional linker, *a*, between the interrogative verb and the lexical verb.
 - The word order of the interrogative verb and the lexical verb cannot be reversed. The interrogative verb must precede the lexical verb.
 - The tense/aspect interpretation of the lexical verb is contingent on the interrogative verb. TAM markers, if any, must be attached to the interrogative verb.
 - The case-marking pattern of the nominal arguments is determined by the voice marker on the interrogative verb.
 - The lexical verb observes the AV-restriction.

These grammatical properties, especially (15d) and (15e), further reveal that the agent voice marker on the lexical verb is distinct in nature from the agent voice marker affixed to verbs in a simple clause or a matrix clause. Each allomorph of the Amis agent voice marker in a simple clause or a matrix clause is associated with its unique theta-features or semantic features (e.g., BECOME and CAUSE) and is able to control the alignment between case and arguments (Lin 2011a; Wu 2006). The agent voice marker on the lexical verb in an IVSC is devoid of such features and thus should not be identified with the agent voice marker in a simple or matrix clause. Instead, it should be construed as the default marker for *v* that does not possess any theta-

features or semantic features and occurs in a non-finite clause that lacks projections of tense and aspect. The AV-restriction can be ascribed to this elsewhere insertion rule that regulates the relationship between verb-defining heads and voice markers.

3. Complementation or Adjunction

Having argued that the interrogative verb in an Amis IVSC should be identified as the main verb to which the lexical verb is subordinate, I will explore what type of subordination characterizes the syntactic relationship between the two verbs in this section. The following two lists summarize the properties of complements and adjuncts respectively on the basis of Bierwisch's (2003) and Dowty's (2003) discussion. The properties mainly consist in the syntactic and semantic relationship between a head and its complement/adjunct. They will serve as the diagnostics for the distinction between complementation and adjunction in the following discussion.

- (16) Properties of a complement Y in relation to its head X:
 - a. A head X without its complement Y is not well-formed or X is different from [XY] in terms of category or meaning.
 - b. Without Y, the meaning of X is incomplete or incoherent or Y can still be inferred from the linguistic or situational context.
 - c. Y saturates an argument position of X. In other words, X discharges an argument position to Y.
- (17) Properties of an adjunct Y in relation to its head X:
 - a. A head X without its adjunct Y is well-formed and X is the same as [XY] in terms of category or meaning.
 - b. Y merely restricts the meaning or denotation of X.
 - c. Y discharges an argument position to X without determining the morphosyntactic properties of [XY].

(16a), (16b), (17a), and (17b) basically capture our informal intuition about complements and adjuncts. That is, a complement can be obligatory, but an adjunct is always optional. This is motivated by the semantic aspects of a complement and an adjunct in that a complement functions to complete the meaning of its head, whereas an adjunct serves to modify the meaning of its head.

The criteria in (16c) and (17c) deserve a more detailed discussion. (16c) states that a head discharges an argument position to its complement. Couched in traditional syntactic terms, a head assigns a Θ -role to its complement or the complement receives a Θ -role from the head. (17c) is mainly motivated by the semantic analysis of adjuncts. The Neo-Davidsonian analysis of adverbial modifiers advocated by Parsons (1990) treats adverbial modifiers as predicates of underlying events. An adjunct like an adverbial modifier is viewed as a type of semantic predicate that also has argument positions to discharge. For example, the adverb *slowly* in *John runs slowly* takes the verb phrase as its argument. While a head discharges an argument position

to its complement, it saturates an argument position of its adjunct. Although both a head and an adjunct can discharge an argument position, an adjunct does not determine the morphosyntactic properties and category of the resultant phrase.

The interrogative verb *maan* ('do how') in an Amis IVSC can be conceived of as a semantic predicate that takes an action as its argument. In other words, it can discharge an argument position to the lexical verb phrase; the lexical verb phrase can saturate an argument position of the interrogative verb. As the interrogative verb, *maan*, determines the morphosyntactic properties of the resultant phrase such as the alignment between case and arguments, this argument saturation property should result from the head-complement configuration instead of the head-adjunct configuration. The interrogative verb is the head, while the lexical verb phrase is the complement. Although an adjunct can also discharge an argument position, it does not determine the morphosyntactic properties of the resultant phrase.

The obligatory presence of the lexical verb further confirms its complement status. The deletion of the lexical verb in a *maan*-IVSC will result in a sentence that has a different interpretation, e.g., (18).

- (18) *maan-en* *ni* *panay kuya* *wawa*
do.what-PV ERG PN that.ABS child
'What does Panay do to that child?'

In order for *maan* to be interpreted as 'do how', there must be a lexical verb following it, or otherwise, it will be interpreted as 'do what'. Without the lexical verb, the meaning of *maan* as 'do how' is incomplete. The three properties of complementation listed in (16) are all observed in a *maan*-IVSC and thus the lexical verb in this construction should be analyzed as the complement to the interrogative verb.

The syntactic behavior of the lexical verb phrase lends further support to this complementation analysis. The lexical verb phrase can be syntactically realized as the absolutive argument, as illustrated in (19).

- (19) *maan-en* *ni* *panay* [*ku* *pi-padang* *tuya* *wawa*]
do.how-PV ERG PN ABS PI-help that.OBL child
'How does Panay help that child?' (How is helping that child done by Panay?)

In this sentence, the lexical verb does not take any voice markers, but appears in the form of a nominal root. When a verb in Amis appears in its nominal root form, it always co-occurs with the verb classification prefix, *pi-* or *ka-*. The entire lexical verb phrase is syntactically treated as a core DP argument that can take a case marker, e.g., the absolutive case marker *ku*. Note the parallelism between (19) and a patient voice sentence regarding the case-marking of core arguments. When a verb takes the patient voice marker, the agent argument receives ergative case and the theme argument receives absolutive case. The fact that the lexical verb phrase in its nominal root form can take the absolutive case marker in (19) indicates that it is conceived of as one of the core arguments of the main verb, *maan*. The clausal complement of other complement-taking verbs can also be syntactically realized as a DP argument (Lin and Wu

2008). The syntactic behavior of the lexical verb phrase in a *maan*-IVSC as in (19) thus corroborates my analysis that the lexical verb phrase is an argument of *maan*.

By contrast, *icuwa* ('where') in (20a) and *pina* ('how many') in (20b) do not semantically select for an action or event.

- (20)a. *icuwa-en* *ni* *ofad* (a) *mi-simed* *ku* *paysu*
 where-PV ERG PN LNK AV-hide ABS money
 'Where does Ofad hide the money?'
 b. *pina-en* *isu* *mi-pacuk* *ku* *fafuy*
 how.many-PV 2SG.ERG AV-kill ABS pig
 'How many pigs do you kill?'

When *icuwa* ('where') is used as a verb, the question does not concern where the event takes place but where the theme argument is. Likewise, a question where *pina* ('how many') takes the patient voice marker does not inquire about the frequency of the event but about the quantity of the theme argument. In other words, both interrogative verbs discharge an argument position to the absolutive DP, not to the lexical VP. It is the theme argument of the verb sequencing construction that serves as the complement to the interrogative verbs.

The agreement between *pina* and the theme DP in terms of the feature [\pm human] also suggests that the theme DP is an argument of the interrogative verb and that they must occur in a local configuration for agreement to take place. As illustrated in (21), *pina* has to undergo Ca-reduplication when the theme argument is human (cf. 20b).

- (21) *pa-pina-en* *isu* *mi-palu'* *ku* *tamdaw*
 Ca-how.many-PV 2SG.ERG AV-hit ABS person
 'How many people will you hit?'

Moreover, the lexical verb in an *icuwa*-IVSC or a *pina*-IVSC is optional. Its deletion does not alter the basic meaning of the interrogative verb but only changes the question to a less specific one as in (22).

- (22)a. *icuwa-en* *ni* *ofad* *ku* *paysu*
 where-PV ERG PN ABS money
 'Where does Ofad put the money?'
 b. *pina-en* *isu* *ku* *paysu*
 how.many-PV 2SG.ERG ABS money
 'How much money do you want/take?'

Without the lexical verb, *icuwa* ('where') and *pina* ('how many') still remain unchanged in terms of their category and logical meaning. The former still inquires about the location of the theme argument in a ditransitive event and the latter still questions the quantity of the theme argument. This is different from *maan* ('do what; do how'), which must co-occur with a lexical VP in a verb sequencing construction to be interpreted as 'do how'. The optionality of the lexical verb in

an *icuwa*-IVSC and a *pina*-IVSC shows that it functions like a modifier and merely specifies the action involved in the (ditransitive) event. This property conforms to (17b), which states that an adjunct merely restricts the meaning or denotation of a head.

The adjunction analysis of an *icuwa*-IVSC can further help resolve the conundrum of how the location argument of the ditransitive verb in this construction can be saturated. Lin (2011a) has demonstrated that *icuwa* ('where') can be used as a verb only when the question inquires about the location of the theme argument in a ditransitive event. Verbal *icuwa* cannot question the location where an event takes place. Therefore, *icuwa* in (20a) discharges an argument position to the absolutive DP, not to the lexical VP. Instead, it is the main verb, *icuwa*, that saturates an argument position of the ditransitive lexical verb, which requires a location argument. The criterion in (17c) states that an adjunct is able to discharge an argument position to the head. If the ditransitive VP in (20a) is analyzed as an adjunct to *icuwa* ('where'), this can resolve the issue of how the location argument of the ditransitive verb is saturated. The ditransitive verb discharges an argument position to the head, *icuwa*, without determining the morphosyntactic properties of the resultant phrase. This way of discharging and saturating argument positions corresponds to the head-adjunct configuration. Note that *icuwa* cannot be a complement to the lexical verb. If it were, it could not bypass the lexical verb and move to *v* due to the Head Movement Constraint and thus it could not be syntactically realized as the main verb of the construction, contrary to fact. The lexical verb would intervene between the interrogative verb and *v* and the movement of the interrogative verb to *v* would induce a violation of the Head Movement Constraint.

To summarize, Amis IVSCs do not form a homogeneous class in terms of the structural relationship between the interrogative verb and the lexical verb. The interrogative verb *maan* ('do how') takes a verb phrase as its complement, whereas *icuwa* ('where') and *pina* ('how many') take a theme noun phrase as its complement and a verb phrase as its adjunct.³ The following section will present one more piece of evidence for the differentiation between these two types of IVSCs and will argue that they are derived via distinct syntactic operations.

4. Raising or Control

Another critical difference between a *maan*-IVSC and an *icuwa*-IVSC or a *pina*-IVSC is that *maan* does not share the theme argument with its following lexical verb, but *icuwa* and *pina* do. The absolutive argument in a *maan*-IVSC is interpreted as the theme argument of the embedded lexical verb, not of the matrix interrogative verb. This thematic feature suggests that the theme argument is base-generated as the complement of the lexical verb, but it must move to the matrix clause for Case checking because absolutive Case in Amis is checked by a finite T (23).

(23) [maan-en ERG=agent [_{complement} AV-lexical verb t_i] ABS=theme_i]

The raising analysis can explain why the theme argument can occur in the matrix clause even

³ Please refer to Lin (2011a) for a discussion on how interrogative verbs in Amis are derived and how they should be analyzed syntactically.

though it is not an argument of the matrix interrogative verb. Moreover, the raising analysis is compatible with my treatment of the lexical VP as a complement because extraction out of a complement is legitimate.

The case alternation of the theme argument confirms the raising analysis. As shown in (24), the theme argument can receive either absolutive or oblique case.

- (24) *maan-en* *ni* *panay* (a) *mi-padang* *ku/tu* *wawa*
 do.how-PV ERG PN LNK AV-help ABS/OBL child
 ‘How does Panay help the/a child?’

The following two bracketed structures represent the two structural configurations where the theme argument can occur.

- (25) a. [_{matrix} *maan-en* ERG=agent [_{complement} AV-Lexical.Verb OBL=Theme]]
 b. [_{matrix} *maan-en* ERG=agent [_{complement} AV-Lexical.Verb] ABS=Theme]

In (25a), when the theme DP is case-marked oblique, it should be analyzed as the object of the embedded verb, which takes the agent voice marker. When it receives absolutive case, it should be syntactically treated as an argument of the matrix verb, which takes the patient voice marker. Regardless of its syntactic position, the absolutive/oblique DP is interpreted as the theme argument of the lexical verb and it does not belong to the argument structure of *maan*. It is worth noting that the theme argument in other verb sequencing constructions exhibits the same alternation between absolutive case and oblique case.

- (26) *kalamkam-en* *aku* *k<um>a'en* *ku/tu* *hemay*
 fast-PV 1SG.ERG <AV>eat ABS/OBL rice
 ‘I will eat the rice/meal fast.’ (Wu 2006: 288)

In (26), which is an adverbial verb sequencing construction, the absolutive/oblique DP is interpreted as the theme argument of the lexical verb, not the adverbial verb, regardless of its syntactic position.

I assume that the theme DP in a *maan*-IVSC can enter the derivation without any Case features or with an absolutive Case feature. In the former situation, it remains in the embedded clause as the complement of the lexical verb and is assigned the default inherent oblique Case in the embedded non-finite clause. This leads to the derivation of (25a). Note that it is not imperative that a patient voice sentence should have an absolutive DP, as illustrated in (27a).

- (27)a. *tireng-en* *ni* *panay*
 stand-PV ERG PN
 ‘Panay will stand up.’
 b. *ma-orad* *anini*
 AV-rain now
 ‘It is raining now.’

Amis does not have an expletive either, as shown in (27b). When the theme DP in a *maan*-IVSC enters the derivation with an absolutive Case feature, it must move to the matrix clause to check Case. This is because a non-finite clause cannot license absolutive Case in Amis. Only finite T can check absolutive Case. As shown in section 2.2, the lexical verb in an IVSC is defective and is not allowed to take any tense or aspect markers. This suggests that the embedded clause in an IVSC is not TP or is not headed by finite T. In either case, there is no absolutive Case feature in the embedded clause. The theme argument thus has to move to the matrix clause to check absolutive Case against the finite T.

In contrast to a *maan*-IVSC, the absolutive DP in an *icuwa*-IVSC or a *pina*-IVSC is interpreted as the theme argument of both the interrogative verb and the lexical verb. This indicates that there is a PRO in the adjoined lexical VP and that it is controlled by the absolutive DP in the matrix clause (28).

- (28)a. [icuwa-en ERG=agent [_{adjunct}AV-lexical verb PRO_i] ABS=theme_i]
 b. [pina-en ERG=agent [_{adjunct}AV-lexical verb PRO_i] ABS=theme_i]

This PRO analysis is corroborated by the morphosyntactic behavior of the theme DP regarding its case. Unlike the theme DP in a *maan*-IVSC, the theme DP in an *icuwa*-IVSC or a *pina*-IVSC must take the absolutive case marker. It cannot be case-marked oblique.

- (29)a. icuwa-en ni ofad mi-simed ku/*tu paysu
 where-PV ERG PN AV-hide ABS/OBL money
 ‘Where does Ofad hide the money?’
 b. pina-en isu mi-pacuk ku/*tu fafuy
 how.many-PV 2SG.ERG AV-kill ABS/OBL pig
 ‘How many pigs do you kill?’

The fact that the theme DP must receive absolutive case indicates that it must be syntactically realized as the argument of the matrix interrogative verb.

On standard analysis, as the theme argument in an *icuwa*-IVSC or a *pina*-IVSC is base-generated in the matrix clause as an argument of the matrix interrogative verb, theme-argument-sharing between the interrogative verb and the lexical verb must be attributed to a PRO in the lexical VP that is controlled by the matrix absolutive DP. In other words, an *icuwa*-IVSC and a *pina*-IVSC exhibit adjunct control, i.e., control into an adjunct clause. The postulation of a PRO in the two constructions can account for their semantic property of theme-argument-sharing and also the syntactic distribution of the theme argument.⁴

⁴ The PRO analysis of an *icuwa*-IVSC or a *pina*-IVSC is faced with a theoretical problem regarding the syntactic position where PRO can occur. On standard analysis, PRO can only occur in the subject position of a non-finite clause. Although the PRO in an *icuwa*-IVSC or a *pina*-IVSC is in a non-finite clause, it does not occupy the subject position, but the object position. My analysis, however, does not constitute a problem for Movement Theory of Control as adjunct control can be treated as an instance of sideward movement (Hornstein 2003). The discussion on this theoretical issue is beyond the scope of the present paper.

5. Concluding Remarks

This paper has argued that an Amis IVSC exhibits a syntactic structure that is distinct from an SVC and VP-coordination. The following empirical facts suggest that the interrogative verb in this construction should be analyzed as the main verb and that the lexical verb is subordinate to the interrogative verb and occurs in a reduced non-finite clause. The interrogative verb precedes the lexical verb, hosts TAM markers, and determines the case-marking pattern of the sentence. By contrast, the tense and aspect information of the lexical verb is contingent on the interrogative verb and the lexical verb must obey the AV-restriction.

The analysis has also revealed that Amis IVSCs can be classified into two types: *maan*-IVSC and *icuwa*- or *pina*-IVSC. The lexical verb phrase in a *maan*-IVSC is a complement to the interrogative verb, and the theme DP can undergo movement to the matrix clause for Case checking. By contrast, the lexical verb phrase in an *icuwa*- or *pina*-IVSC displays properties of an adjoined structure, and the absolutive theme argument in the matrix interrogative clause controls the PRO in the adjoined lexical verb phrase. The findings are summarized in the following table.

Table 1. Two IVSCs in Amis

	<i>icuwa/pina</i> -IVSC	<i>maan</i> -IVSC
Type of verb sequencing	Subordination	Subordination
Main verb	Interrogative verb	Interrogative verb
Argument sharing	Theme	Agent
The syntactic status of the lexical VP	Adjunct	Complement
Derivation	Adjunct Control	Raising

This study has both empirical and theoretical implications. Empirically, I have demonstrated that not only can interrogative words be used as verbs but they can also function as the main verb in a verb sequencing structure (cf. Hagège 2008). It is thus worthwhile to investigate whether interrogative words can also be used as the main verb in a verb sequencing structure in other languages, or whether this syntactic phenomenon is unique to Amis or other Austronesian languages in Taiwan.

The analysis on the structure of IVSCs has significant implications to the theory of argument structure and the syntactic representations of heads, complements, and adjuncts. The syntactic structure of a *maan*-IVSC is a transparent realization of its semantic structure as per Parsons (1990) in that a modifier is a head and a modifiee is a complement both syntactically and semantically in this particular construction. However, none of the current proposals on the structure of ditransitive sentences can account for the syntactic structure of an *icuwa*-IVSC where a location argument is syntactically realized as a verbal head with a ditransitive verb as an adjunct modifier. This suggests that there is no perfect one-to-one correspondence between the syntax and semantics of argument structure. A full discussion on how the current theories of argument structure and syntactic headedness can be modified to accommodate the Amis data

presented here, especially IVSCs headed by *icuwa*, is beyond the scope of the present study, but this research direction is definitely worth pursuing.

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