Verb Initial Order as Predicate Fronting in Isbukun Bunun[*]

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This paper aims to investigate the nature of VSO word order in Isbukun Bunun. It is argued that the basic VSO order is not base-generated but instead is derived as a result of phrasal predicate fronting to the specifier of IP. This view provides a unified characterization for the subject-object asymmetry properties and the syntactic distribution of verbs and grammatical particles. Notably, the maximal projection predicate fronting analysis offers a principled account for the placement of VP-internal material, the existence of non-verbal predicates and, finally, the scope interpretations between indefinite non-specific subjects and sentential operators.

Key words: verb-initial, VSO, word order, predicate fronting, Isbukun Bunun

1. Introduction

Starting with the works by Emonds (1980) and Sproat (1983, 1985), a number of studies have been proposed to derive the verb-initial word order from an underlying SVO structure. The question of whether V-initial orders, VOS and VSO, are base-generated or derived is particularly important in light of the recent restrictive view of phrase structure proposed by Kayne (1994), who argues that specifier-head-complement order is the universal order. Under this conception, two[1] major different approaches have been taken to derive the V-initial word order attested in languages: either V (or X head) or VP (or XP maximal projection) undergoes fronting operation and brings about

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[1] The early *flat structure* account, which assumes that there is no VP phrase structure, runs into many immediate problems cross-linguistically (cf. Anderson & Chung 1977, Speas 1990), including in Isbukun Bunun. Crucially, this account predicts that subject and object NPs should not be distinguishable and should behave identically to various syntactic processes. However, this prediction is proven to be false. The evidence from Isbukun Bunun will be discussed in §2.

the surface V-initial order. According to the V-raising analysis, the verb undergoes head movement from within the VP around the subject to a higher functional head such as the complementizer C or some Infl head (Emonds 1980, Ouhalla 1994, Guilfoyle 1993, McCloskey 1996a, 1996b, Carnie 1995 among others). Thus, the derivation of the surface VSO order can be represented as (1a) or (1b)[2] under this view.

(1) a. $[_{CP}$ C $[_{IP}$ V_i+Infl $[_{VP}$ Subj t_i Obj $]]]$
     b. $[_{CP}$ V_i+C $[_{IP}$ t_i $[_{VP}$ Subj t_i Obj $]]]$

On the other hand, the VP-raising account, based on the data and analyses from widely diverse languages, states that it is the whole verb phrase or predicate phrase that undergoes remnant movement to some higher specifier position after the object raises out of the VP it is base-generated within in an object shift movement fashion (Massam 2000, Lee 2000, Rackowski & Travis 2000). In other words, the VSO order can be represented as in (2):

(2) $[V\ t_{obj}]_{VP}$ Subj Obj t_{VP}

Previous studies have shown that both options are in principle available to languages. For example, Irish (McCloskey 1991), and Hebrew (Carnie, Harley & Pyatt 2000) point to the V-raising analysis while Niuean (Massam 2000), Quiavíni Zapotec (Lee 2000), and Maori (Herd 2003) support the VP-raising account. In this paper I shall explore the nature of VSO order in the Formosan language Isbukun Bunun and argue that the V-initial word order of Isbukun Bunun is not base-generated, but is derived via phrasal fronting of the verb phrase (more precisely, remnant verb phrase). I suggest that this proposal both provides a natural explanation for the facts discussed below, and explains certain commonalities found between Isbukun Bunun and other phrasal predicate fronting languages.

This paper is organized as follows. Section 2 gives Isbukun Bunun basics and motivates the need for analyzing the VSO order as being derived from an underlying SVO order. Section 3 outlines my proposal and provides support for predicate fronting to [Spec, IP] in Isbukun Bunun. Section 4 concludes the paper.

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[2] In the representations in (1) we leave the subject in the specifier of the VP and it should be noted that the difference between positioning the subject in [Spec, VP] or in some other specifier position in the higher functional head is not crucial to the representation here. That is, even if one assumes the subject is externally or internally merged at the specifier of a higher functional head, the main point here still holds.

2. The data

In this section I first provide some background on the grammar of Isbukun Bunun to facilitate the understanding of our following discussion; subsequently I describe the word-order facts in this language.

Bunun is one of the Formosan Austronesian languages spoken in Taiwan. It can be divided into five dialects: Takituduh, Takbanuaz, Takibakha, Takivatan, and Isbukun.[3] The current study is based on the Isbukun dialect spoken in Taitung County.[4] Isbukun Bunun has two NP case markers.[5] As illustrated in (3), the nominative marker is *a* and the accusative/oblique one *mas*; they are placed immediately preceding the associated NPs. Meanwhile, both of them can often be omitted in colloquial speech as shown in (4).

(3) maun   a   Tahai   mas   bunbun.
    AV.eat   Nom   Tahai   Obl   banana
    'Tahai ate a banana/bananas.'

(4) huud   saikin   davus.
    AV.drink 1sg.Nom   wine
    'I drank wine.'

Moreover, just like many other Formosan and Western Austronesian languages, Isbukun Bunun permits a range of arguments to serve as the syntactically most prominent NP, marked by the *a* nominative case marker, of the clause. Such an *a*-marked phrase has been known by a number of names in the Austronesian literature, including "subject," "topic," and "pivot" — here I shall refer to it as the *subject* for ease of presentation, though this term should be regarded with caution.[6] Importantly, all the verbs in Bunun

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[3] A comparative study on Bunun dialects can be found in Li (1988), where phonological and lexical differences among the five dialects are discussed in detail.

[4] Unless otherwise noted, the data cited in this paper come from the author's own fieldwork notes collected during 2008-2010. Abbreviations used in this paper that are not found in the Leipzig Glossing Rules are AV, actor voice; PV, patient voice; LV, locational voice; BV, beneficiary voice; Nom, nominative case marker; Acc, accusative case marker; Obl, oblique case marker; perf, perfective marker; P, preposition; Top, topic marker; Fut, future marker; Q, question marker.

[5] In addition to the two markers, Isbukun apparently has a genitive case marker *tu* as well. However, due to its complicated multiple functions (that is, it is used to link various kinds of modification relations), I gloss it in the following discussion simply as Mod(ification), without committing myself to any particularly analysis.

[6] Thus in our discussion of VSO order, S, the Subject, is defined as the constituent marked with nominative case and O, the object, as the constituent marked with accusative case. For more

must be inflected with their associated morphology marker; that is, the semantic role or grammatical function of the surface subject has to be encoded on the verb.[7] (5) provides examples illustrating the verbal marking system in Isbukun Bunun, where the subject is underlined and the agreement morphology is in bold.

(5) a. *Actor: ma-, m-, Ø*[8]

m-aun	<u>a Tahai</u>	mas	acipul-tan	laupaku.
AV-eat	Nom Tahai	Obl	corn-this.Obl	now

'Tahai is eating corn now.'

     b. *Patient: -un*

kaun-**un**-in	<u>a acipul-a</u>	mas	Tahai.
eat-**PV**-PFV	Nom corn-that.Nom	Obl	Tahai

'That corn has been eaten by Tahai.'

     c. *Locational phrase: -an*

na-sabah-**an**	<u>adi lumah</u>	mas	Tahai	aip.
fut-sleep-**LV**	this room	Obl	Tahai	today

'This room will be slept in by Tahai today.'

     d. *Benefactive phrase: is-*

is-baliv	<u>a Tahai</u>	mas	ahil-tan.
BV-buy	<u>Nom Tahai</u>	Obl	book-this.Obl

'This book is bought for Tahai.'

As the examples show, the subject can bear any of a number of different argument relations to the verb. Furthermore, we follow the structural approach (Rackowski & Richards 2005, Aldridge 2004) in assuming that subjects are DPs that have entered into

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discussion of the syntactic properties associated with the 'subject' in Austronesian languages, see Schachter (1976, 1994), Kroeger (1993), Richards (2000), Aldridge (2002), Rackowski (2002) and references cited therein.

[7] In the literature the marking is often termed as either voice marking or case morphology and there has been a major ongoing debate on the relevant issues. See Guilfoyle, Hung & Travis (1992), Chang (1997), Rackowski & Richards (2005), Pearson (2005), Aldridge (2004) among many others. In the following discussion, I assume the structural approach whereas I adopt the 'voice' terminology simply because it permits a reasonably simple presentation of my arguments in a manner consistent with other current works.

[8] An analysis of verbal morphology, in particular the environment triggering different allomorphs, is provided in Nojima (2006). Thanks to the editor for bringing my attention to this work.

an Agree relation with *v*, allowing them to raise into the edge of the phase and triggering agreement morphology on the verb.[9]

Furthermore, as clearly shown in (6) and the preceding examples, Isbukun Bunun generally exhibits a V-S-O-IO-Obl sequence in terms of default/neutral word order.[10] Note in particular that the VSO word order is rigidly unalterable, both in AV and non-AV contexts, when case markers are absent as exemplified in (7).

(6) a. masuhis   saikin   sui   sia   Alang.
         AV.return   1sg.Nom   money   P   Alang
         'I give the money back to Alang.'

     b. idadaza   adaiza   ahil   sia   pankaka-cia.
         AV.top   that   book   P   table-that.Obl
         'That book is on top of the table.'

     c. ludah-un   a   adi   asu   mas   Tahai.
         hit-PV   Nom   this   dog   Obl   Tahai
         'This dog is hit by Tahai.'

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[9] This approach assumes the phase-based theory of syntax (Chomsky 2000, 2001). In order for some element to be extracted out of a phase, it must be located at the edge of that phase, either by merging into that position or moving there. Movement to the edge of the phase is accomplished by an EPP feature that forces some argument within the domain of the phase head to move to check it.

[10] Based on the Taitung dialect of Isbukun I work on, the speakers' spontaneous utterances (of informationally-neutral declarative sentences) are always of VSO order, regardless of AV or non-AV voice. In particular, when the speakers are further inquired of the possibility of VOS order, it is only exclusively in non-AV environments that the informants would indicate that "it is not impossible" or "it is understandable", though not preferred, to have the oblique-marked external argument to precede the nominative-marked internal argument (such as (i)). This fact, combined with the fact in (7), seems to suggest that the VOS order in the non-AV sentences is more of a scrambling-like flavor owing to its optional nature. Moreover, this word order pattern (i.e. the nominative internal argument is preferred to precede the external argument in non-AV contexts) appears to be different from other Isbukun variants (e.g. Kaohsiung and Tumpu dialects of Isbukun) as noted in the previous studies (He at al. 1986, Li 1997, Huang 1997, Jeng 1999, Zeitoun 2000, Shi 2009). Therefore there seems to be some dialectal variation at play here, which calls for further investigation.
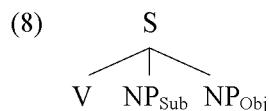
   (i) kazima-un Dahu-tia   a   cina.
        like-PV   Dahu-that.Obl   Nom   mother
        '(Dahu's) mother is liked by Dahu.'

(7) a. maun   Tahai   bunbun.
      AV.eat   Tahai   banana
      'Tahai eats a banana/bananas.'

    b. *maun   bunbun   Tahai.
      Intended: 'Tahai eats a banana/bananas.'

    c. ludah-un adi   asu   Tahai.
      hit-PV   this   dog   Tahai
      'This dog is hit by Tahai.'

    d. *ludah-un Tahai   adi   asu.
      hit-PV   Tahai   this   dog
      Intended: 'This dog is hit by Tahai.'

Such ordering, particularly in the AV-inflected clauses as (3), (4), (5a), and (6), poses an immediate problem since, following common theoretical assumptions, V and O should be merged as one single VP constituent. However, the fact that the verb is separated from the object and other complements by the subject in Isbukun Bunun shows that a contiguous constituent of the verb and its complement seems to be impossible, at least on the surface. To account for this kind of apparent anomaly in VSO languages, a great body of literature has argued that the VSO order is derived from an underlying structure that has a VP constituent (McCloskey 1983, Sproat 1985 among others). In other words, the surface VSO order does not necessarily mean that there is a flat structure, lacking a VP constituent, in this language, with the subject and object being sisters to each other, but instead it can be taken to mean that the surface word order is derived and certain movement operation is involved which leads to the apparent dissociation of the verb and the object. Such a view is, as a matter of fact, not only theoretically motivated but empirically supported as shown in the following.

If we assume Isbukun Bunun to be a non-configurational language with no VP constituent as represented in (8), we would expect that subject and object NPs behave identically in syntactic processes such as binding. However, these predictions are not borne out by the data.

(8)   S

     V NP_{Sub} NP_{Obj}

The fact that there is structure dependent subject-object asymmetry can be observed from the binding facts. Consider the examples in (9). (9) shows that the reflexive *anakanak* has to stay at the object position while a subject reflexive cannot be construed
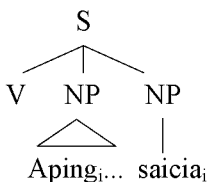
with a non-subject antecedent. This pattern would not be expected if one assumes an underlying flat structure like (8), where subject and object NPs are sisters to one another, then there would be no reason for (9a) and (9b) to differ in their grammaticality. However, if the Isbukun clause has a VP containing its verb and object and the surface string is derived from an underlying SVO structure, then the difference is accounted for: in (9b), but not in (9a), the reflexive is not c-commanded by the NP antecedent, violating Binding Principle A.

(9) a. sadu   a   Tahai$_i$ anakanak$_i$ sia   cidanuman.
       AV.see   Nom   Tahai   (him)self   P   mirror
       'Tahai sees himself in the mirror.'

    b. *sadu   anakanak$_i$ mas   Tahai$_i$ sia   cidanuman.
        AV.see   (him)self   Obl   Tahai   P   mirror
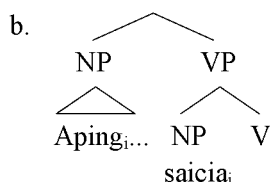
Likewise, the existence of VP is crucial for capturing the subject-object asymmetry in (10).

(10) a. madaidaz   a   Aping$_i$ tu   bananaz   saicia$_i$.
        AV.love   Nom   Aping   Mod   husband   3sg.Acc
        'Aping$_i$'s husband loves her$_i$.'

     b. *madaidaz   saia$_i$ mas   Aping$_i$ tu   bananaz.
         AV.love   3sg.Nom   Obl   Aping   Mod   husband
         '*She$_i$ loves Aping$_i$'s husband.'

In particular, if Isbukun Bunun lacks VP at the relevant level of representation, then (10a) should have the structure in (11a) at this level and thus this example should be ruled out by Binding Principle C with *saicia* 'her' c-commanding *Aping*. On the other hand, if we admit the existence of VP in this language, then (10a) has the structure in (11b), by which we correctly predict that (10a) is grammatical since *saicia* 'her' does not c-command *Aping* in (11b).

(11) a.

b.

Moreover, just like in many Austronesian languages (Chung 1990, Chang 1997, Richards 2000, Rackowski 2002, Aldridge 2004, Pearson 2005), Ā-dependencies in Isbukun Bunun, including *wh*-question formation and relativization, display remarkable subject-object asymmetries in that only the subject is prone to such syntactic operations. The extraction restriction is illustrated in the paradigm of (12).

(12) a. ma-baliv   a   Dahu   mas   tulkuk.
       AV-buy   Nom   Dahu   Obl   chicken
       'Dahu bought the chicken.'

     b. [ma-baliv   mas   tulkuk]   tu   bunun
       AV-buy   Obl   chicken Mod   person
       'person who bought the chicken'

     c. *[ma-baliv a   Dahu]   tu   tulkuk
       AV-buy   Nom   Dahu   Mod   chicken
       Intended: 'chicken which Dahu bought'

     d. [baliv-un   mas   Dahu]   tu   tulkuk
       buy.PV   Obl   Dahu   Mod   chicken
       'chicken which was bought by Dahu' = 'chicken which Dahu bought'

(12c) is ungrammatical since it involves extraction of a non-subject, namely the patient/theme object; however, note that, as shown in (12d), once this object is promoted to be the surface subject, as reflected by the verbal morphology, Ā-extraction in question becomes legitimate again. In other words, only the subject can relativize but not the object. Therefore, the subject apparently enjoys a more prominent status than the object, which phenomenon seems mysterious if the subject and object are structurally equal as regulated in a VSO flat structure.[11]

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[11] Here I assume a structural approach to the Austronesian extraction restriction, as argued for in works such as Rackowski & Travis (2000), Aldridge (2002, 2004), Rackowski & Richards (2005), and Chung (2006). For instance, in Rackowski & Richards (2005) it is proposed that only DPs at the edge of the phase become subjects. Since movement/extraction can only occur from the edge based on Phase Impenetrability Condition (Chomsky 2001), the phenomenon of subject-sensitive Ā-extraction is thus captured.

Taking stock of our discussion, I suggest that the VSO order is derived and that it starts from an underlying SVO order,[12] which view not only conforms to common theoretical views, especially Kayne's influential antisymmetry theory, which reduces the possible order to specifier-head-complement sequence, but also captures the empirical fact that in Isbukun Bunun the verb and object, excluding the subject, form a constituent at the level of thematic representation in the underlying structure. Now, given that the surface word order is derived, the next important question we want to ask is how the head initial structure is generated.

3. The analysis

In this section I shall argue that in Isbukun Bunun it is always the VP or XP

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[12] Given that V-O forms a closer bond in the base-generated structure, there is one more possible analysis here: VOS underlying with the object undergoing rightward movement. This possibility is discussed in Chung (1998), where she provides strong evidence on applying this analysis to Maori and shows that this option is generally available for languages. However, the critical characteristics observed in such language type as noted in Chung's work, including free word order variation (VSO and VOS alternation) and free positioning of the subject (i.e. the subject can surface between the predicate's complements), do not apply to Isbukun Bunun. But instead, the features that are argued to hold for the VSO languages of the verb raising type in Chung's term are observed in Isbukun Bunun, such as the possibility of VP ellipsis in Isbukun Bunun, as shown in (i).

(i) A: ma-baliv   naia   lumah   sia   Taihuku.
       AV-buy   3pl.Nom   house   P   Taipei
       'They bought a house in Taipei.'
    B: adu   ma-baliv-in?
       Q   AV-buy-PFV
       'Did they?'
    A: hai'iap-un-ku   tu   ma-baliv-in.
       know-PV-1sg.Obl   Mod   AV-buy-PFV
       'I know that (they) bought (it).'

Just as McCloskey (1991) argues for Irish, VP ellipsis in Isbukun Bunun provides evidence in favor of the verbal movement approach to VSO order. In particular, Isbukun Bunun has a process of VP ellipsis, in which the verb is the one element not being elided. Given the widely-accepted view that the elided material in VP ellipsis forms a syntactic constituent, the ellipsis facts show that the verb has raised outside of the elliptical site whereas the subject and the object remain as the deleted constituent. In other words, the facts of VP ellipsis in Isbukun Bunun confirm that the verb surfaces in a syntactic position higher than its arguments. Granted this fact as well as the established fact that there is VP in this language (and also the arguments to be presented in §3), in this paper I assume Isbukun starts with SVO order and undergoes further transformational processes.
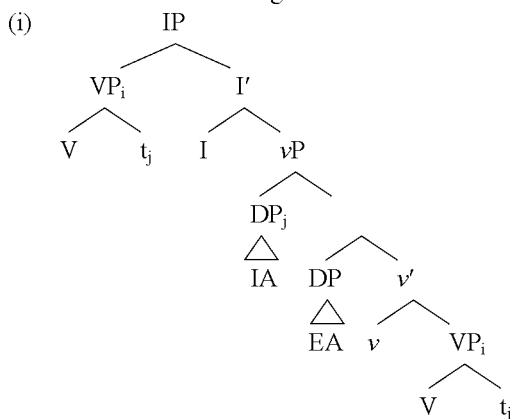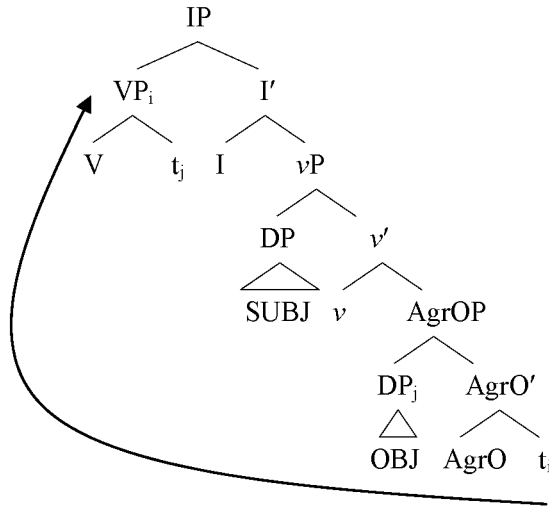
predicate phrase, rather than the verb head alone, that undergoes leftward movement to a higher c-commanding specifier position, which results in the surface VSO order. More precisely, I suggest that the predicate that surfaces at the left edge of the clause is actually a remnant VP/XP that has raised to the specifier of IP, coupled with the object undergoing fronting[13] to an intermediate functional projection, ArgOP, to check its Case features.[14] The analysis is represented in (13):[15]

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[13] A similar operation has been posited to occur in Austronesian languages such as Niuean (Massam 2000, 2001) and Malagasy (Rackowski & Travis 2000). In Niuean, for instance, movement of the object appears to be triggered not by semantic requirement such as definiteness, but by the presence of overt functional material in the DP.

[14] In the previous studies on verb initiality, the motivation to force this sort of object shift is mostly attributed to Case checking and scope considerations, though clarifications are needed when one looks into the implementary details. For instance in Massam (2000, 2001) it is proposed that DP complements raise out of VP so as to check their Case features in the specifier of a licensing phrase, i.e. absolutive phrase. However, PP complements in Niuean, which presumably need not check their Case, do not remain in situ but must also exit the VP (see details in Massam 2001). On the other hand, PP complements in Isbukun Bunun do not behave like those in Niuean and generally appear to remain in situ (see details in §3.2); therefore, in the discussion here I assume the object shift operation in Isbukun Bunun is driven by Case considerations, though I leave open other (concurrent) triggering possibilities.

[15] For non-AV contexts, we shall crucially assume that there is no tucking-in below a thematic specifier (see McGinnis 1998, Chomsky 2001, Rackowski 2002 for discussion); as a result, the raised internal argument (IA), which serves as the subject in the non-AV-inflected clause and thus must raise to the edge of vP, according to phase-based syntax, lands in a specifier above the thematic specifier occupied by the external argument (EA). The process is diagrammed in (i), where the raised internal argument becomes the subject of the non-AV-inflected sentence.

    (i)

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                        IP
                      /    \
                  VP_i       I'
                 /  \       /  \
                V    t_j   I    vP
                              /   \
                          DP_j
                          /\     /  \
                        IA   DP    v'
                            /\    /  \
                          EA  v   VP_i
                                  /  \
                                 V    t_j
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(13) *VSO in Isbukun Bunun*

Now, before we look at arguments in favor of the VP raising account, we have to first determine the exact functional projection the fronted constituent is landed at. In the study of VSO languages, the debate usually centers on C and T (or more broadly Infl). For instance, McCloskey (1996b) convincingly shows that V-movement in Modern Irish does not leave TP/IP[16] whereas, on the other hand, a V-raising to C approach is argued to be the derivation for VSO in Modern Welsh (Clack 1994). In the following I discuss this issue with the two categories and suggest that the phrasal predicate fronting movement in Isbukun Bunun, which results in its VSO order, does not leave the Infl component.

To begin with, we investigate the interaction of main verbs with the inventory of C-elements. Consider first the word order facts in embedded clauses with complementizers. If Isbukun Bunun were analyzed as having predicate raising to the C periphery, we would expect the embedded clause to display VCSO ordering, with the verb raising past the overt C head *tu*.[17] However this prediction is not borne out: we only see C-VSO

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[16] In this important work, McCloskey gives evidence in support of the posited landing site of movement based on word-ordering facts in embedded clauses with complementizers and from the relative positioning of IP-adjoined adverbs and the verbs. In this paper we do not use the latter classic adverb test involving (structurally higher) IP-adjoined adverbs since most, if not all, IP-adjoined adverbs in Isbukun Bunun behave like main predicates themselves (e.g. they can inflect as verbs do) as argued for in many Formosan languages (Chang 2010, Holmer 2010), and thus we need to find evidence elsewhere in this language.

[17] Following Stowell (1981), Koopman & Szabolcsi (2000), I assume that clausal complements, like nominal arguments, raise out of VP into the matrix clause before VP itself raises to IP.

order and the verb always stays lower than C in embedding environment, as shown below.[18]

(14) a. haiap   saikin   **[tu**   mingsuma   Alang].
         AV.know   1sg.Nom   C   AV.come   Alang
         'I know that Alang will come.'

     b. *haiap   saikin   [mingsuma   **tu**   Alang].
         Intended: 'I know that Alang will come.'

Moreover, one notable apparent deviation from the common VSO order — sentences with the presence of the topic marker *hai* — also suggests that the main predicate should be lower than C. As illustrated in (15) and (16), the *hai*-marked topic phrase obligatorily appears in sentence-initial position while the main verb must be preceded by it. Assuming that topic phrases are located at C (Cinque 1990), it is reasonable to assume that the verb stays within IP.

(15) a. [alang   *hai*]   madas   madia   tu   sui.
         Alang   Top   AV.bring   AV.much   Mod   money
         'Alang brings a lot of money.'

     b. [saitia   tu   uvaz   *hai*]   kazima-un   zaku.
         3sg.Gen   Mod   child   Top   like-PV   1sg.Acc
         'His child is liked by me.'

     c. [adaiza   lukis   *hai*]   aizan   tasa   tu   kukuav.
         that   tree   Top   exist.LV   one   Mod   eagle
         'There is an eagle on that tree.'

(16) a. *madas   [Alang   *hai*]   madia   tu   sui.
          AV.bring   Alang   Top   AV.much   Mod   money

     b. *madas   madia   tu   sui   [Alang   *hai*].
          AV.bring   AV.much   Mod   money   Alang   TOP

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[18] Note that our point still holds even if we adopt the view of the left periphery advanced by Rizzi (1997), where C is decomposed into four separate projections, namely [Force [Topic [Focus [Finite . . .]]]]. As argued in Henry (1995) and Baltin (2010), complementizers that introduce finite and nonfinite complements occupy the Finite position in Rizzi's system. Thus, we assume that Isbukun *tu* in cases like (14) occupy Finite position, the lowest of the C component. In other words, the fact that we do not find VCSO order shows that the verb stays lower than C in general.

Another piece of evidence supporting the view that main verbs in Isbukun Bunun do not leave IP comes from polar interrogative constructions. In polar interrogative constructions, the verb is always found to be preceded by the question marker *adu* in a direct/indirect question clause, as in (17); assuming that such a clause-typing particle is located at the C domain, as has been widely argued for in the literature (Cheng 1991), we can conclude that the raising movement in question does not proceed as high as to the C periphery.
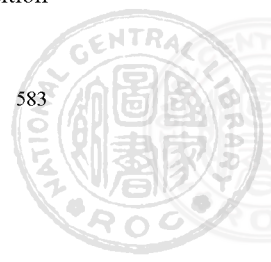
(17) adu   na   mahtu   kutun   Tahai   minsuma?
     Q   Fut   AV.able   tomorrow   Tahai   AV.come
     'Will Tahai be able to come tomorrow?'

Next we look at the placement of tense/aspect and negation particles in relation to verbs in this language. (18) shows that the particle *na*, which signals that the event takes place in the future, must precede the verb both in matrix and embedded clauses; note especially that *na* is not an affix but rather an independent stem since a full phrase like the time adverbial *aip* 'today' can intervene between the future particle and the verb as in (18b). In other words, the entire [*na*-V] sequence is *not* a verbal complex and does not move as one constituent. Furthermore, (19) illustrates that the negative morpheme *nitu* has to follow the future particle and precede the verb.

(18) a. **na**   ma-baliv   saikin   ima   tu   bunbun.
        Fut   AV-buy   1sg.Nom   five   Mod   banana.
        'I am going to buy five bananas.'

     b. dahu   hai   miliskin   [tu   **na**   aip   ma-baliv   lumah-cia].
        Dahu   Top   AV.plan   C   Fut   today   AV-buy   house-that.Acc
        'Dahu plans to buy that house today.'

(19) miliskin   a   Dahu   [tu   na   **nitu**   maun   bunbun-cin].
     AV.plan   Nom   Dahu   C   Fut   Neg   AV.eat   banana-this.Obl
     'Dahu plans not to eat bananas.'

Assuming that tense/aspect and negation elements are generated in some position lower than C and, broadly speaking, belong to the Infl component, we conclude that verbs in Isbukun Bunun do not leave Infl component.[19] Note that, despite the lower position of

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[19] Our view that VP-raising stays within IP still holds if one takes split-INFL view into consideration (Pollock 1989, Cinque 1999). In particular, following Cinque's cartographic view of clausal functional projections, where T/A can be further differentiated into fine-grained T-projections and Asp-projections, the facts in (18) suggest that VP raises to some position

V(P), there is evidence (in addition to the previous arguments given in §2 that the predicate is in a derived position) showing that the predicate does undergo raising operation to some extent. This is shown in (20):

(20)   a.   sadu   in   saikin   patasan.
            AV.See   perf   1sg.Nom   book
            'I read the book.'

       b.   adu   kitngab   in   kasu   maun   haising?
            Q   AV.start   perf   2sg.Nom AV.eat   rice
            'Have you started to eat rice?'

The perfective marker *in* always appears to the right of the verb, which fact can be taken to mean that there is indeed certain predicate movement involved, with the V(P) moving higher than the (perfective) aspect rather than staying at its base-generated position.[20]

To recapitulate, the range of facts given above show that predicate raising, which brings about the VSO order in Isbukun Bunun, does not leave IP. Thus we can adopt the (partial) structure in (21) for the Isbukun Bunun clause and Isbukun Bunun VSO is thus considered to arise from fronting of the predicate to the specifier of IP, with the

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belonging to the INFL component since it is below the future *na* (i.e. T(future) head in Cinque's theory) in this case. In other words, we can maintain that the VP fronts but does not leave Infl component, which claim is still compatible with the tree diagram in (13). Thanks to the reviewers for reminding me of this possibility and urging me to clarify this point.

[20] Bunun also displays infixation in terms of verb morphology, including the T/A infixes <in> and <i> (see the detailed discussion on their allomorphic distribution in Zeng 1986). From the view of syntax and under the current verbal movement analysis, there are at least two perceivable ways for the verb to obtain the morphology. First is to assume with Broselow & McCarthy (1983) and McCarthy (1986) that infixation is just a special kind of prefixation or suffixation. As they argue for the infix <um> in Tagalog, *um* should be analyzed as a prefix and the apparent infixing is actually a result of the interaction of various phonological constraints such as edge and syllable structure constraints. In this view, phonological constraints in a language can sometimes determine the linear order of morphemes (or morpheme parts) and the apparent infixation. Given this view, therefore, it is not impossible that the T/A infixes <in> and <i> in Isbukun arise from phonological considerations; in this way, the syntax, in particular VP fronting, can proceed as we propose and the verb combines with the affix *-in/-i*, generating its output as suggested by Broselow & McCarthy (1983), and McCarthy (1986). Another possible way to derive the infix morphology is to assume that infixation is a consequence of morphological merger or PF-merger (cf. Bobaljik 1994, Embick & Noyer 2001). Specifically, the verb obtains and combines with its infix when later sent to the PF. In other words, the verb undergoes the necessary syntactic operations and later the morphology will take care of its final output.

understanding that Infl does not contain tense features in this language.

(21)   [$_{CP}$ C [$_{TP}$ T [$_{NEGP}$ NEG [$_{IP}$ [V t$_{obj}$]$_{VP}$ Infl [$_{VP}$ Subj Obj t$_{VP}$]]]]]

Next, I present arguments in support of the hypothesis that the VSO order in Isbukun Bunun is derived by (remnant) VP-, or more generally XP-, raising (to the specifier of Infl): VP-internal material placement, non-verbal predicates, and scope interaction facts.

3.1 Placement of VP-internal material: VP adverbs and resultatives

First of all, the proposal laid out in this paper has one clear prediction: since the VP undergoes remnant movement after the object has exited, a predicate-raising analysis predicts that VP-internal material, except for the shifted object, should be raised along with the remnant VP. The examples in (22) and (23) show that this prediction is indeed borne out. In (22) we find that VP adverbs like *laupang* 'just', *maka* 'a little', and *kadadauk* 'often'[21] have to occur sentence-initially together with the accompanying verbs, whereas they may not appear 'stranded' behind, shown by the ungrammaticality in (22d)-(22f).

(22)   *VP adverb*s

a. | laupang | mudan | in | a | inak | tu | kaviaz. |
    |---|---|---|---|---|---|---|
    | just | AV.walk | perf | Nom | 1sg.Gen | Mod | friend |

   'My friend just left.'

b. | maka | masial | in | a | isaitia | tu | dahpa. |
    |---|---|---|---|---|---|---|
    | a little | AV.good | perf | Nom | 3sg.Gen | Mod | disease |

   'He is getting much better (from the disease).'

c. | kadadauk | kusia | a | Abus | Tahai | tu | lumah. |
    |---|---|---|---|---|---|---|
    | often | AV.go | Nom | Abus | Tahai | Mod | house |

   'Abus often goes to Tahai's house.'

d.??| mudan	in	a	inak	tu	kaviaz	laupang.
AV.walk	perf	Nom	1sg.Gen	Mod	friend	just

e. *| masial	in	a	isaitia	tu	dahpa	maka.
AV.good	perf	Nom	3sg.Gen	Mod	disease	a little

f. *| kusia	a	Abus	kadadauk	Tahai	tu	lumah.
AV.go	Nom	Abus	often	Tahai	Mod	house

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[21] The VP adverbs under discussion cannot inflect like verbs do and, as far as I am aware, there are very few of them. Cf. fn.16.

Assuming these adverbs are located within VPs, either by adjunction (Iatridou 1990, Johnson 1991) or by merging as a specifier (Alexiadou 1994, Cinque 1999[22]), the pattern in (22) is exactly as we would expect under a phrasal predicate raising analysis: the VP containing the verb and adverb must raise together to the specifier of IP. On the other hand, the V-raising analysis would fail to capture the distributional properties of VP adverbs in Isbukun Bunun; under this account, it is unclear why the VP adverbs must always be pied-piped with verbs.

Moreover, similar effects can be observed with resultative phrases as exemplified in (23). In (23a), for instance, *tama* 'father' ended up in the valley as a result of his falling, where the PP gives the telos, or endpoint, of the event. With this telic reading of directed motion, the resultative PP phrase *sia ʔukʔuk* 'into the valley' must precede the nominative subject, namely being moved along with the verb; on the other hand, if the telicity-denoting PP phrase is stranded behind, the sentence in question cannot generate the intended resultative interpretation. The same applies to the contrast of (23c) and (23d).
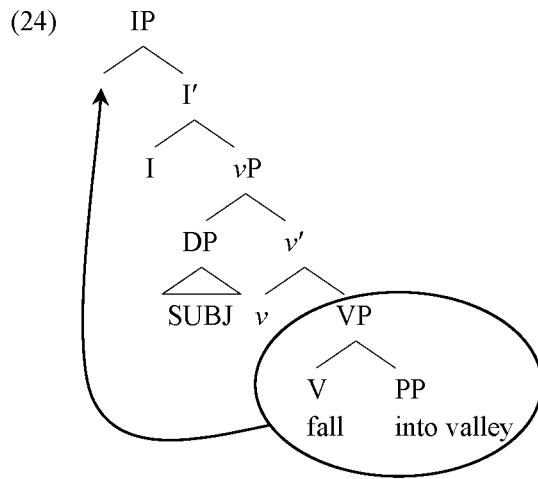
(23) *Resultative phrases*

    a. [lanangadah sia ʔukʔuk] a   tama.
         AV.fall   P   valley   Nom   father
         'Father fell into the valley.'

    b. #lanangadah a   tama   sia   ʔukʔuk.
         AV.fall   Nom   father P   valley
         (bad with the intended resultative meaning)[23]

    c. [musuhis   sia lumah] a   cina.
         AV.return   P   house   Nom   mother
         'Mother returned to home.'

    d. #musuhis   a   cina   sia lumah.
         AV.return   Nom   mother   P   house
         (bad with the intended resultative meaning)

Since Larson (1988), these resultative phrases have usually been analyzed as being the complements of the verb, with the NP argument generated higher, as the inner specifier of some sort of VP shell, as represented in (24) (Baker 2011).

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[22] Under Cinque's cartographic approach, the VP adverbs witnessed here are located quite low in the structure.

[23] This sentence is possible only with the locational reading that "Father's falling takes place in the valley."

(24)

Assuming that resultatives are the immediate complement of V, the VP raising account correctly predicts the pattern in (23): since the verb and the resultative phrase are both within the VP, they are fronted together and nothing may intervene between the two, resulting in the observed order of (23a) and (23c). In particular, note that only resultative PPs behave as described in (23); ordinary locational PPs need not immediately follow the verbs as shown in (25).

(25) maun a   Tahai mas   acipul   sia   huma.
     AV.eat Nom Tahai Obl   corn   P   farm
     'Tahai is eating corn in the farm.'

In (25), the eating event takes place in the farm (rather than ends up in the farm), in which case the locational PP *sia huma* modifies and spatially locates the event; crucially, given this atelic reading of located motion, the PP stays low in the structure. Again, the pattern of (25) and its discrepancy from (23) is well expected under the current account: assuming that different types of PPs are merged in distinct structural positions, with resultative PPs merged low within the VP and locative PPs appearing higher up, presumably as *v*P adjuncts (Nilsen 1998, Koopman 2000), our phrasal predicate fronting approach predicts that the former has to be pie-piped and raised along with the main predicate while the latter need not. In contrast, the V-raising analysis would need to postulate additional constraints in order to force the 'tag-along' behavior of VP-internal material as well as to account for the grammaticality patterns witnessed here.

3.2 Non-verbal predicates

One central fact of word order in Isbukun Bunun is that, in many instances, we can find that not only a verbal element is able to appear in sentence-initial position, but that it can also be a nominal element or an adpositional phrase that occupies this position. This is shown in (26) and (27):

(26) a. pasnanava   a   Tahai.
       student   Nom   Tahai
       'Tahai is a student.'

     b. [masial   tu   bunun]   a   Abus.
         AV.good   Mod   person   Nom   Abus
         'Abus is a good person.'

     c. [uvaz   tu   is-Biung]   a   Tahai.
         child   Mod   P.at-Biung Nom   Tahai
         'Tahai is Biung's child.'

(27) a. isia   ludun-cia   a   Tahai.
       P.at   mountain-that.Obl   Nom   Tahai.
       'Tahai is in that mountain.'

     b. kausia   libus-cia   a   Dahu.
         P.to   forest.that.Obl   Nom   Dahu
         'Dahu is (going) to that forest.'

These examples show that clauses with non-verbal predicate phrases — NP or PP — have a word order in which the entire predicate XP precedes the subject; in other words, the usual V slot could be filled with an unequivocal maximal projection. Importantly, the X- raising analysis cannot capture this ordering fact for the following reasons. Given the standard assumptions in the phrase structure theory, wherein only a non-phrasal X^0 element can fill in or be adjoined to head positions, the cases of (26) and (27) show that the fronted elements must be raising to a specifier (or an adjoined) position, instead of to a head position. On top of that, examples in (28) and (29) show that the fronted nominal predicate is in the same position as the fronted verb phrase, since it follows the question marker (cf. (17)), negation marker (cf. (19)), future marker (cf. (18)), while it precedes the perfective marker (cf. (20)), in a perfectly parallel fashion to the fronted verbal predicate.

(28) Q: <u>adu</u>   pasnanava   kasu?
       Q   student   2sg.Nom
       'Are you a student?'

     A: nii,   <u>nitu</u>   pasnanava   saikin.
       no   Neg   student   1sg.Nom
       'No, I am not a student.'

(29) <u>na</u> kutun   <u>in</u>   a   minpinan.
      Fut tomorrow perf Nom   Sowing-Ceremony
      'The Sowing Ceremony is tomorrow.'

Thus, we deduce that the VP-initial (or predicate-initial) order in Isbukun Bunun always involves raising of a maximal projection. Note that, under the V-raising account, even if one postulates the existence of a covert copula in this language and somehow it is this covert verb that gets fronted, the word order facts we witness here are nevertheless mysterious; that is, it still fails to explain why the NP or PP can and must be pied-piped along with this covert copula.[24]

    To summarize, the theoretical significance of the observation made here — that non-verbal predicate fronting is possible in Isbukun Bunun — is that it demonstrates V-initial order has to be derived by maximal projection fronting.

3.3 Scope interpretations

    The next argument comes from the interaction between indefinite, non-specific subjects and sentential operators, such as negation, in Isbukun Bunun.[25]

    In Miyagawa's (2001) important work on the EPP and scrambling in Japanese, he shows that when the subject of a Japanese clause is a universal quantifier, it must have wide scope with respect to sentential negation; however, if an object has undergone a prior scrambling operation to the left edge of the clause, such a universally quantified subject would turn out to bear narrow scope relative to sentential negation. The reason for such scope interpretations, according to his account, is that maximal projections, in addition to the subject, can raise to satisfy the EPP feature of T and consequently, in such cases, the subject, having been deprived of movement motivation, must remain in

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[24] Also note that Carnie's X^0-movment analysis (1995) cannot account for the data of Isbukun Bunun here, especially cases such as (27). Along the lines of Carnie (1995), the predicate NP is argued to be treated as an N^0 and not a phrase; however, it is difficult to extend his analysis of nominal predicate to prepositional predicate.

[25] This interesting connection and diagnostic is suggested in Chung (2006).

situ (i.e. within vP), where it gets narrow scope with respect to sentential negation since it is c-commanded by the functional head Neg at that position. Crucially, one broad implication following from Miyagawa's account is that the oft-seen scope and specificity effects characteristically associated with subject DPs is not inherent but comes from the structure; in other words, these semantic properties should derive from the syntactic position, namely [Spec, IP], in which these DPs typically appear. Given this assumption and given our analysis that VSO order in Isbukun Bunun is a result of VP fronting to [Spec, IP], an immediate prediction emerges: since the EPP property of T/Infl could be checked off by the preposed phrasal predicate, the subject can remain at a lower position and thus its typical semantic association should possibly be suspended. As such, the subject in Isbukun Bunun is predicted not to necessarily take wide scope or to be specific. The prediction is indeed borne out, as laid out in the following.

As shown in (30), the surface subject in common declarative clauses of Isbukun Bunun need not have wide scope or be specific. Putting it differently, there is no definiteness or specificity restriction of any kind that imposes on the occurrence of surface subject in this language, which phenomenon is different from many other Austronesian languages such as Malagasy (Keenan 1976, Paul 2000):

(30) a. tatangis   a   uvaz.   (Isbukun Bunun)
          AV.cry   Nom   child
          'A child/children is/are crying.'

      b. tatangis   a   uvaz-a.
          AV.cry   Nom   child-that.Nom
          'That child is crying.'

(31) a. *mihira   zaza.   (Malagasy, from Paul 2000)
          sing   child
          'A child is singing.'

      b. mihira   ny   zaza.
          sing   the   child
          'The children are singing.'

More importantly, a non-specific subject in Isbukun Bunun generally has narrow scope with respect to sentential operators:[26]

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[26] Isbukun Bunun does not have stand-alone negative DPs like *nobody* in English that is capable of appearing without any sentential negation.

(32) a. nitu   tatangis   a   uvaz.   (Isbukun Bunun)
          Neg   AV.cry   Nom   child
          'No children are crying.'

      b. nitu   mazima   a   maluspingaz   mas   Tahai.
          Neg   AV.like   Nom   woman   Obl   Tahai
          'No woman likes Tahai.'

      c. nitu   tanghaiiu   Tahai   mas   bunbun.
          Neg   AV.steal   Tahai   Obl   banana
          'Tahai didn't steal any banana.'

Note that the same scope interpretation possibilities carry over to non-AV sentences as well:

(33) nitu   kazima-un   a   maluspingaz   mas   Tahai.
      Neg   like-PV   Nom   woman   Obl   Tahai
      'No woman is liked by Tahai.' = 'Tahai does not like any woman.'

These specificity and scope construal patterns conform to expectations once we assume that Isbukun Bunun basic clauses are derived by raising of VP and that VP raising satisfies the EPP of I, following the EPP proposal advocated in Miyagawa (2001): the subject remains in situ, being within the domain of existential closure (Diesing 1992), and it is c-commanded by the sentential operator Neg, thus giving rise to the observed lack of specificity and wide scope construal with the subject in this language.

　　To recapitulate, in this section I argued that phrasal movement of VP to [Spec, IP], coupled with object shift, gives us the correct results of basic VSO sentences. I showed that the remnant VP targets and appears at the inflectional complex, as revealed by the ordering of preverbal (and postverbal) particles. Also, the maximal projection predicate analysis receives empirical support from VP-internal material placement, non-verbal predicates and scope interpretations.[27]

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[27] "Pseudo Noun Incorporation" (PNI) (see Massam 2000 on Niuean and Otsuka 2005 on Tongan), has been regarded as one of the most salient types of evidence for the VP raising account; however this diagnostic cannot apply in Isbukun Bunun for the following reason. Although it is not impossible for Isbukun Bunun to generate sentences that, on the surface, resemble PNI sentences (though pay careful attention to fn.10), as shown in (i), it nevertheless displays stark differences from the typical PNI structure, which fact leaves some doubt about generalizing the PNI analysis forthrightly to Isbukun Bunun. In particular, as illustrated in (ii), in an unambiguous PNI language such as Niuean, it has been argued that a simple or complex nominal, having been incorporated onto the verb, can get fronted along with the verb by

4. Conclusion

This paper has attempted to examine the nature of Isbukun Bunun VSO, arguing that this order is not base-generated and that it is derived by XP predicate fronting to clause initial position. I have provided a description of the general properties exhibited in the verb-initial basic clauses of Isbukun Bunun and presented a possible characterization of how these properties are captured in a restrictive view of phrase structure. In particular, our conclusion is supported by the obligatory 'pied-piping' movement of VP-internal material with the verb, the possible occurrence of non-verbal XP predicates at the left

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predicate phrase fronting and thereby occupy the sentence-initial position, though all other Niuean run-of-the-mill declarative clauses have fixed VSO order.

(i) *Isbukun Bunun*
    huud   danum   a   Tahai.
    AV.drink   water   Nom   Tahai
    'Tahai drinks water.'

(ii) *Niuean* (taken from Massam 1998)
    a.   *Ordinary Transitive Sentence*
        ne   inu   e   Sione   e   kofe.
        Past   drank   Erg   Sione   Abs   coffee
        'Sione drank the coffee.'
    b.   *Sentence with incorporation of simple nominal*
        ne   [inu   kofe]   a   Sione.
        Past   drank   coffee   Abs   Sione
        'Sione drank coffee.'
    c.   *Sentence with incorporation of complex nominal*
        ne   [kai [sipi mo   e   ika   mitaki]]   a   Sione.
        Past   eat   chip   Com   Abs   fish   good   Abs   Sione
        'Sione ate good fish and chips.'

Crucially there are two widely-assumed fundamental properties associated with the PNI structure in the literature. First, the incorporated nominal may not be preceded by any case, number or determiner particles, which are generally taken to appear preceding a DP constituent. Second, the external argument is marked by the absolutive case in the PNI constructions. This contrasts with the external argument in (iia), which is marked by the ergative case. However, in spite of the surface resemblance, Isbukun Bunun diverges from Niuean in that even in the apparently feasible VO sequence as given in (i), it is usually possible to insert a demonstrative or a case marker in front of the surface object, as exemplified in (iii).

(iii) huud   mas   danum-tan   a   Tahai.
     AV.drink   Obl   water-this.Obl   Nom   Tahai

In other words, the important features that characterize the typical PNI structure are not observed in Isbukun. As a consequence, it seems safe for us to conclude that the PNI analysis cannot be readily extended to Isbukun Bunun, though deeper inquiry into the relevant issue is desired.

edge of clauses, and, finally, the suspension of specificity and scope effects typically held to be associated with the subject.

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論郡社布農語之動詞居首語序現象

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　　本文探討郡社布農語中動詞–主語–賓語 (VSO) 語序之本質。我們主張此語言之動詞居首語序並非為基底衍生而來，而是由謂語詞組前移所導致產生的。此種看法可以正確捕捉並合理解釋郡社布農語裡的主、賓語不對稱性以及動詞和語法助詞之句法分布現象。進一步來說，本文所提出的最大投射謂語前移分析至少對下列現象能提出一套系統性的解釋並得到實證支持：動詞組內部如副詞、補語等的分布情形，非動詞性謂語之存在，以及非殊指無定主語和句運符間的範域語意詮釋。

關鍵詞：動詞居首，語序，謂語前移，郡社布農語