The structure of the verb complex in Niuean

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This paper examines the problem of structurally accounting for the verb complex in Niuean. The verb in initial position may be preceded by a particle indicating tense or aspect, and a negative marker and/or an auxiliary verb, and may be followed by a manner adverb, a directional marker, and 'clitics'. The term clitic was used by Seiter (1980) as a term grouping several different types of elements together, including what he has classified as sentence adverbs, emphatic particles, applicative markers, and question markers. The minimal expansion of the verb complex consists of the main verb only. The relative surface order of elements is summarized as below;

(1) Tense + Neg + Aux + VERB + Manner + Directional + Clitics
    Aspect                adverb    marker

The relative order of clitics is;
(2) Applicative + Quantifier + Discourse + Adverb + Emphatic + Question
    marker               connector   marker   marker

A problem posed by this ordering of elements in the verb complex is one of discontinuous elements, where closely related verbal elements are separated in surface order (e.g. applicative marker is separated from main verb by adverbs). Assuming a VP and VP-internal subject, there is also a problem accounting for movement of the verb and verb complex to initial position of the sentence in surface word order. In addition, when movement is assumed, there is a problem of accounting for why some verbal particles precede the verb and others follow. This seemingly unprincipled ordering of verbal clitics goes against the Mirror Principle (Baker 1985) which is an attempt to restrict morpheme order.

The goal of this paper is to provide a formal structural account of the Niuean verb complex and verb movement within the GB framework. This will be done by examining principles and parameters of syntactic structure and the word order and properties of the Niuean verb complex. The organization of this paper follows as closely as possible, in sections two through ten, the linear order of the elements in (1) and (2). It will be shown that there are three types of verbal particles; (1) particles which are adjoined to V^o within the VP, (2) particles which are adjoined to V^o through head movement and (3) those particles which dominate VP but are not targets for V^o head movement.

This paper was completed in spring 1992. It appears here virtually unchanged to facilitate its availability.
1. **Background and Assumptions**

Niuean is a strict VSO language with an ergative case marking system. Subjects of intransitive verbs and objects of transitive verbs are case marked absolutive while subjects of transitive verbs are case marked ergative;

(3) Ne kai he pusi ia e moa  
Pst.eat Erg.cat that.Abs.chicken
'The cat ate the chicken'

In this paper I assume the basic tenets of GB theory (Chomsky, 1981; 1986a). The VP-internal subjects as proposed by Koopman and Sportiche (1990) are also assumed.

2. **Tense and Aspect Particles**

The first possible element of the verb complex is a tense or aspect particle. There are several of these particles in Niuean and they may or may not be present in a sentence. Some simple sentences bear no tense/aspect marker and others may be introduced by one of the following: past ne or na, present ko e, future to, and progressive ha ne, or perfect kua. In addition to these particles, Seiter claims that there is a post-verbal perfect marker tua. This particle will be briefly discussed in section 2.2. Exhortative sentences are introduced by a subjective particle kia.

2.1 **Tense markers**

Sentences expressing an event or state in the actual present are usually not marked with a tense/aspect particle.

(4) Nofo a Maka he laulau  
sit.Abs Maka on.table
'Make's sitting on the table'

(5) Kona e tagata na  
drunk.Abs man that
'That man is drunk'

Sentences expressing an inherent or characteristic situation are also usually not marked for tense/aspect;

(6) Iloilo lahi a ia he vagahau Niue  
clever.very Abs she at.language Niuean
'She is very good at Niuean'

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\(^2\) A list of abbreviations used is given in Appendix A
Assuming VP-internal subjects, the verb must then be assumed to undergo head movement to initial position in the clause. There must, therefore, be a maximal category dominating the VP into which the verb undergoes head movement. It will be shown that the verb does not undergo head movement into a Tense phrase and an XP category will be temporarily assumed. The functional category of this maximal projection will be determined later in this paper. The structure assumed at this point is:

(7)

```
   XP
   /\
  X  VP
 /    \
NP_{subj}  V'
        /\    \
       V   NP_{obj}
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The verb undergoes head movement from its underlying position within the VP to the head of the higher maximal category, XP and therefore, into initial position in sentences such as (4-6).

The past tense is indicated by the particle ne. It may convey a simple past or past progressive meaning:

(8) Ne nofo a au i Makefu
    Pst live Abs I in Makefu
    'I lived/was living in Makefu (village)'

The actual present may be overly indicated by the particles ko e.

(9) Ko e tohitohi a au mogonei aki e pene fou
    Pres write Abs I now with Abs pen new
    'I am writing at the moment with a new pen'

Present ko e is not explicitly progressive, since it may introduce stative verbs;

(10) Ko e fakatuai e uasi haau
    Pres slow Abs watch your
    'Your watch is slow'

Unlike sentences which bear no tense/aspect marker, sentences with ko e cannot express a habitual or characteristic situation.

The particle to marks the future tense.

(11) To ō a tautolu mo ia
    Fut go,Pl Abs we,Pl,Inc with him
    'We will go with him'
2.2 Aspect markers

The use of no tense marker, past ne, or present ko e does not exclude progressive meaning, as shown in (4), (8) and (9). However for verbs describing active processes, progressive aspect may be indicated overtly by the aspect marker há ne.

(12) Há ne kai a mautolu he tau ika mo e talo
     Prog eat Abs we,Pl,Inc at Pl fish with Abs taro
     'We are eating fish and taro'

The particle kua indicates perfect aspect.

(13) Kua fanagonogo a au ke he tau hūhū oti haau
     Perf listen Abs I to Pl questions all your
     'I've already listened to all of your questions'

Seiter also claims that the perfective is also marked by a post-verbal particle tuai. It may occur alone or more commonly with the particle kua in a sentence, as shown in the sentences given;

(14) Hau tuai e tehina haau
     come Perf Abs brother your
     'Your little brother has come'

(15) Kua ligi tuai e au e kapiniu ti ma-au
     Perf pour Perf Erg I Abs cup tea for-you
     'I've poured a cup of tea for you'

This paper will not try to determine the nature of this particle, tuai; if it is a perfective marker, it is remarkable in that it is the only post-verbal aspectual particle found in the language and if it is not, then it is still to be determined what its exact function is.

Finally, there is the subjunctive mood particle kia. In simple sentences it introduces exhortative expressions;

(16) Kia tō lahi e uha
     Exhrt fall greatly Abs rain
     'May it rain heavily!'

Two other subjunctive marker ke and ā kua occur more frequently that kia, but are limited to complement clauses.

The perfective particle kua co-occurs only with the rare past tense marker na, giving an explicit part perfect reading;
(17) Na kua eke fenoga lä nakai a ia he tali mai
Pst Perf do journey yet Ques Abs he at wait Dir1
'Had he ever travelled before?'

Given the rarity of this past tense particle and the fact that kua only co-occurs with this particle, it could be argued that these particles are one lexical unit and therefore can be considered as one word in the language. Assuming that na kua is one word in the language, there are no examples given in the language of both a tense and an aspect marker being present in a sentence. Therefore it will be assumed that they are both part of the same functional category, Tense, in the language.

From the structure given above in (7), it appears possible to assume that the maximal category immediately above VP is the Tense phrase and verbs undergo head movement into the head of TP with right adjunction to the target. It will be shown in the following sections that the ordering of the verbal elements eliminates this possibility, therefore, the structure will be assumed to be as shown below:

(18)
```
TP
   /\  
  T   XP
     /\   
    X   VP
       /\   
      NP subj  V   NP obj
        / \ 
       V   
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3. Negative

Sentences are negated by the verbs nākai or ai. Generally, nākai follows the past marker ne, future to, or perfect kua.

(19) Ne nākai fanoanogo a Pule ki a koe
Fut not listen Abs Pule to Pers you
'Pule won't listen to you'

Following Pollock (1989) and Chomsky (1991), it will be assumed that the Negative marker projects its own functional category. It could alternately be assumed that the Negative particle is an adjunct and is adjoined to the Spec of another category. This variance does not affect this paper and therefore will not be discussed. Negatives verbs will be assumed to be maximal projections and to
take the VP as its complement. Negative particles occur after the matrix tense/aspect marker but before the main verb of the clause. Therefore, the structure is assumed as given below;

(20)

\[
\text{TP} \rightarrow \text{T} \rightarrow \text{NegP} \rightarrow \text{Neg} \rightarrow \text{XP} \rightarrow \text{X} \rightarrow \text{VP} \rightarrow \text{NP}^{\text{subj}} \rightarrow \text{V'} \rightarrow \text{V} \rightarrow \text{NP}_{\text{obj}}
\]

Since the tense/aspect marker precedes the negative verb, it is not possible that the verb moves directly into the head of the Tense phrase. This would not account for surface word order. NegP would also be a barrier to this movement. If the verb moved into the head of NegP and then TP, assuming head movement adjoined to the left the target, then the wrong surface word order would result, Verb-Neg-Tense instead of Tense-Neg-Verb. If right adjunction to the target is assumed then this would require two different stipulations for head adjunction be made for functional categories because left adjunction will be shown to be required for head movement in other parts of the clause structure. The lowering of the Negative and tense/aspect particles to the head of VP is also not possible as this would violate the "least effort" condition proposed by Chomsky (1991). Therefore, it will be assumed that TP and NegP are not targets for verb head movement in this language. The head movement of the verb to XP gives the correct word order.

There are no functional categories proposed between the tense/aspect phrase, negative phrase and the complement VP (XP) in structure (20) and therefore it is predicted that verbal adverbs and particles, such as question markers, will occur on the main verb of the clause. This is shown in the data given below.

(21) Kua nākai manako lahi a mautolu ke kai
    Perf not desire greatly Abs we,Pl,Inc Sbj eat
    'We don't really want to eat'
In sentence (21), the adverb lahi 'greatly' occurs after the main verb. There seems to be a morphological restriction on the form of the negative verb in Niuean. As stated above, nakai occurs with the past, future, and perfect marker but does not occur with the present particle ko e or the progressive ha ne, and only occasionally appears with no tense/aspect marker. Seiter does not state how this tenses are negated but presumably these sentences can be negated. In contrast, the negative verb ai generally negates sentences with no tense/aspect particles;

(22) Ai manako lahi a mautolu ke kai
not desire greatly Abs we,Pl,Inc Sbj eat
'We don’t really want to eat' (cf. (21))

(23) Ai moua e au e ika
not get Erg I Abs fish
'I didn’t get a fish'

Note that in sentence (22), the adverb lahi 'greatly' is still following the main verb of the clause.

4. Auxiliary verbs

Niuean has two auxiliary verbs, desiderative and habitual, which occur after the main tense/aspect marker and can also be assumed to take VP (XP) as its complement. The Vaux follows tense/aspect markers and precedes the main verb. The structure assumed is shown below;

(24) 

Again, Vaux will be assumed to not be a target for verb head movement for the same reasons as given for NegP and TP. This structure again predicts that adverbs and other post-verbal particles will occur with the main verb of the clause and this is shown in the data.
The auxiliary fia has a desiderative meaning;

(25) Fia fano lahi a au ki Niuē
want go greatly Abs I to Niue
'I really want to go to Niue'

(26) Ne fia taute e ia e motokā haaku
Pst want fix Erg he Abs car my
'He was willing to fix my car'

(27) Fia hau nakai a koe mo au?
want come Ques Abs you with me
'Would you like to come with me?'

As predicted, the verbal adverb, lahi 'greatly' occurs after the main verb in (25)
and in (27), the question particle is following the main verb hau 'come' not the
auxiliary verb fia.

The other auxiliary verb is fā, which has a habitual sense. Frequently, fā
occurs with the inherently habitual verb mahani 'typical, customary';

(28) Fā mahani ke tō e uha i Niu Silani
Hab typical Sbj fall Abs rain in New Zealand
'It's typically raining in New Zealand'

There are several other verbs which Seiter categorizes as auxiliary verbs but
can be argued to be main verbs.

The nouns mata 'eye' and lea 'voice, sound' are related to the verbs meaning
'look like' and 'sound like' in the following sentences;

(29) Mata ita tuai a Sefa ke he taha mena
look angry Perf Abs Sefa to Indef thing
'Sefa looks angry about something'

(30) Leo gagao a koe he aho nei
sound sick Abs you on day this
'You sound sick today'

In these sentences, it can be considered that the main verbs mata 'look like' and
lea 'sound like' are taking clausal arguments which are small clauses. It is
predicted that if the verb mata 'look' is a main verb then it may be preceded by an
auxiliary verb. This is shown in the sentence given below;

(31) Fā matamata kele a tagata ia
Hab look bad Abs man that
'Vex that man generally looks bad'
The verb *matamata* 'look' is assumed to have the small clause *kele a tagata ia* 'that man bad' as its argument. If *matamata* was considered an auxiliary verb and *kele* 'bad' as the main predicate of the clause, then there would be a problem accounting for two auxiliary verbs in the sentence. Since there are no sentences given in the data showing two clear auxiliaries such as *fia* and *fā* occurring in the same sentence, it will be assumed that two auxiliary verbs cannot co-occur in the same clause.

Another verb which Seiter classifies as an auxiliary verb is *liga* 'likely';

(32) Liga kua holoholo tuai e tau kapiniu
likely Perf wash Perf Abs Pl dish
'The dishes have probably been washed already'

(33) Ne liga kua veli hīfo e tama ke he pelapela
Pst likely Perf fall down Abs child to mud
'The boy must have fallen in the mud'

The significant difference between *liga* and the auxiliary verbs is that the clausal complements of *liga* usually have an overt tense/aspect marker as shown in sentences (32) and (33). This suggests that the verb *liga* 'likely' is not an auxiliary verb taking XP as its complement but rather is a main verb taking a clause as its argument, similar to 'seem' in English. If *liga* was an auxiliary verb, then there would be a problem accounting for the tense/aspect marker following the auxiliary verb. If it is assumed that *liga* is taking an entire clause as its argument then it would be predicted that a tense/aspect marker would follow because it would be in TP of the embedded clause. It would then also be predicted that the argument clause could have an auxiliary verb and/or negative marker and this is shown in the sentence given below;

(34) Liga ai fia taua a patu kō
likely not want fight Abs guy that
'That guy probably doesn't feel like fighting'

If *liga* was assumed to be *V_{aux}* in sentence (34), then there would be a problem accounting for the *V_{aux}*-Neg-*V_{aux}* sequence. If *liga* is the main verb of sentence (34), then the word order of Neg-*V_{aux}*-*V* in the complement clause is fully accounted for by the structure in (24). It would also be predicted that all the verbal modifiers, adverbs and particles, could occur with the main verb of the embedded clause when it is an argument of *liga* 'likely' but there is no data available to show this.

The verb *kamata* 'begin' is a verb in Niuean which Seiter claims occurs as an auxiliary and a surface main verb with the same meaning.

(35a) Ne kamata lolo lo e tau tagata
Pst begin sing Abs Pl person
'The people began singing.'
It can be argued that these are transitive and intransitive instances of the same verb. When the verb kamata 'begin' is intransitive as in (35a) it takes a small clause as its clausal argument and when the verb is transitive, as in (35b), it has an ergative marked subject noun phrase and an absolutive marked object noun phrase. In its intransitive form, kamata 'nearly' looks very similar to the verbs mata 'look' and leu 'sound' in (29) and (30).

There is, however, at least one verb in Niuean which occurs as a main verb and an auxiliary verb with the same meaning. In the sentences given below, the verb teitei 'nearly' is acting as an auxiliary verb in (36a), preceding the main verb fakapouli 'darken'. In (36b), teitei is assumed to be the main verb because it is immediately followed by the post-verbal Emphatic marker ni.

(36a) Kua teitei fakapouli tuai e mahina
Perf nearly darken Perf Abs moon
'The moon has nearly darkened.....'

(36b) Ne teitei ni ke mate a ia
Pst nearly just Sbj die Abs she
'She just about died'

The main verb teitei in (36b) seems to be taking an infinitival clause as its argument. The particle ke usually marks the subjunctive or infinitival form of the verb.

As shown in the following sentence, auxiliary and negative verbs can freely co-occur in a single clause;

(37) Ai fia kai a Patrick he talo po ke ha noa!
not want eat Abs Patrick at taro or Sbj what Emph
'Patrick doesn't like taro at all!'
The verb undergoes head movement to X and the Tense/aspect marker, Negative particle and/or $V_{aux}$ precede the main verb. Adopting the minimalist approach, it will be assumed that if there is no overt particle present, then the functional category will not be projected in the structure following the Principle of Full Interpretation (Chomsky, 1986b). Therefore if a tense/aspect particle, Neg marker or Auxiliary verb is not present in a sentence, then a TP, NegP, or $V_{aux}$ is not projected in the structure. It will, however, be assumed that the XP will always be present because it is needed as a target for verb movement.

In sections 2 to 4, this paper has examined those particles which precede VP and have been assumed not to be targets for $V^0$ head movement; TP, NegP and $V_{aux}$. In the following sections 5 through 7, the particles which will be assumed to be head adjoined to $V^0$ within VP will be examined and in sections 8 to 10, I will discuss functional categories which will be assumed to be targets of verb head movement.

5. Manner and directional adverbs

Following Travis (1988), it will be assumed that adverbs are not maximal projections and therefore may be head adjoined to the verb as shown in (39)

It will be assumed that the manner and directional adverbs in Niuean are base-generated head adjoined to $V^0$. This makes sense semantically since manner and
especially directional adverbs seem closely linked to the meaning of the verb. This structure predicts several things. If incorporation is assumed to adjoin to the right of the head, then it is predicted that all incorporated material will occur after the manner and/or direction adverbs. If head movement of $V^o$ is assumed to adjoin to the left of target, then it is predicted that all adjoined particles will follow the verb and its manner and directional adverbs. There is no indication in structure (39) as to whether a directional adverb or a manner adverb would be closer to the verb and it is then expected that they may occur in either order. As the following data will show, these predictions are all shown to be true in Niuean.

5.1 Manner adverbs

As indicated in structure (39), manner adverbs are head adjoined to $V^o$ and therefore immediately follows the verb in the verb complex, as shown with lahi 'greatly' in the sentence given below;

(40) Mafiti lahi a Sefa
    fast greatly Abs Sefa
    'Sefa is very fast'

Seiter states that most manner adverbs are formed with the semi-productive prefix maka-, often with a fully reduplicated root. Mitaki 'good' and ene 'insert' may be formed into fakamitaki 'well' and fakaeneene 'carefully';

(41) Vagahau fakanitaki a koe
    speak well Abs you
    'You speak well'

(42) Ne tunu fakaeneene e au e tau talo
    Pst cook carefully Abs I Abs Pl taro
    'I carefully cooked the taros'

5.2 Directional adverbs

"Verbs of motion, speaking, gesture, emotion, perception, and sensation may be followed by one of five adverbial particles which express a directional orientation" (Seiter, 1980: 17). Three of these, mai, atu, and age, relate an action to the location of the speaker and hearer. The other two adverbs, hake 'upwards' and hifo 'downwards' are not necessarily related to the location of speaker or hearer.

Mai indicates motion, gesture, emotion etc. toward the speaker;

(43) Hau mai lá!
    come Dir1 just
    'Come here!'
(44) Mumui mai mī a lautolu he motokā ha lautolu follow,Pl Dir1 just Abs they in car of them 'They'll just follow (us) in their car now'

(45) Ole mai e au e toki he kapitiga haaku beg Dir1 Erg I Abs axe from friend my 'I borrowed an axe from my friend'

In what Seiter considers its basic use, atu indicates motion or gesture toward the hearer;

(46) To fakamaana atu e au ki a koe Fut explain Dir2 Erg I to Pers you 'I will explain (it) to you'

(47) Fakaalofa lahi atu ki a matolu! love greatly Dir2 to Pers you,Pl 'Greetings!'

Atu can also frequently indicate direction toward a third person, in situations which involve neither the speaker or the hearer;

(48) Homo atu e pene ē he tau pene oti excel Dir2 Abs pen this at Pl pen all 'This pen is superior to all the other pens'

Age indicates that the action of the verb is away from both speaker and hearer, i.e. towards a third person, but is almost exclusively used with verbs of speaking or giving;

(49) Tala age ki a ia c tala haau tell Dir3 to Pers his Abs story your 'Tell him your story'

(50) Fā tomatoma age tūmau a au Hab warn Dir3 always Abs I ke he tama haaku ke fakaako to child my Sbj study 'I always warned my child to study'

Given the meanings of the directional adverbs (i.e direction of action), it would be predicted that only one directional adverb may occur with a verb. Logically an action can only be either towards or away from a speaker or a hearer, therefore, we would not expect these adverbs to co-occur and this is shown in the data.
Seiter also states that the other two directional adverbs, hake 'upwards' and hifo 'downwards', may not co-occur with the other three adverbs;

(51) Ne onono hake a ia ke he mahina
     Pst look up Abs he at moon
     'He was looking up at the moon'

(52) Ne veli hifo e tama ke he pelapela
     Pst fall down Abs child to mud
     'The child fell in the mud'

(53) Liu hifo a a koe ki tahi
     return down Emph Abs you to sea
     'go back down to the sea'

As predicted by the structure of adverbs in (39), the ordering of the adjoined adverbs is not inherent. In clauses which contain both a manner adverb and a directional adverb Seiter states that "both relative orderings are attested. Generally, a mono-morphemic manner adverb immediately follows the main verb, preceding the directional adverb" (Seiter, 1980; 20). This is shown in sentence (47) and the sentence given below;

(54) Fanogonogo mitaki mai ma kapitiga
     listen well Dir1 Voc friend
     'Listen carefully, friend!' 

In contrast, a manner adverb formed with faka- tends to follow the directional adverbs in a verb complex;

(55) Vagahau mai fakategiteki ki a au
     speak Dir1 slowly to Pers me
     'Speak slowly to me!'

As stated previously, the structure in (39) predicts that if head movement of $V^o$ is assumed to adjoin to the left of the target, then all adjoined particles will follow the verb and its manner and/or direction adverbs as shown with the emphatic marker in sentences (43), (44) and (53) and the sentential adverb in sentence (50). In sentences such as (52), when $V^o$ undergoes head movement, the manner and/or direction adverb also moves and the underlying structure of this sentence is;
The verb undergoes head movement to the head of XP. The surface structure is;

6. Applicative marker

Baker (1988) shows that through head-movement certain X’s may incorporate into other Y’s. This is illustrated in Niuean in the following sentence in which the head of the object NP niu 'coconut' has incorporated into the verb volu 'grate';
(58) Volu niu nakai e tau fanau
grate coconut Ques Abs Pl children
'Are the children grating coconut?'

This head incorporation can also occur in Niuean for the head of instrumental preposition phrases. The following two sentences show incorporation of the preposition aki 'with' into the verb;

(59a) Kua hele tuai e Sione e falaoa ki e titipi haana
Perf cut Perf Erg Sione Abs bread with Abs knife his
'Sione has cut the bread with his knife'

(59b) Kua hele aki tuai e Sione e titipi haana e falaoa
Perf cut with Perf Erg Sione Abs knife his Abs bread
'Sione has cut the bread with his knife'

In (59a), the preposition is the head of the prepositional phrase with e titipi haana as its object NP. In (59b) the preposition aki is now adjoined to the verb and there is some word order change in the sentence. The instrumental NP e titipi haana 'his knife' is now immediately following the subject NP instead of the direct object NP. This word order change will not be discussed in this paper.

There are two cases in which preposition incorporation applies. In transitive clauses, aki can optionally adjoin to the verb, in which case the instrument NP occurs between the subject NP and the direct object NP in the surface order as shown in (59b) above. Secondly, if an instrument is not lexically overt in a sentence, in the case of null pronominalization or movement, aki must be adjoined to the verb. This obligatory incorporation of aki may be attributed to a general constraint against stranded propositions in Niuean.

The structure proposed for the verb phrase of sentence (59a) is;
The instrumental noun phrase is in a prepositional phrase which is the sister of $V'$. When preposition incorporation applies, it is predicted that the incorporated preposition will adjoin to the right of the head and therefore will follow any manner or direction adverbs, which are base-generated adjuncts to the head verb. The sentence given below shows that this is the case;

(61) Ne mai e ia ki a au e tau hui pato,  
Pst give Erg he to Pers me Abs Pl foot duck  
ti uku hifo aki he ke toka  
then dive down with to bottom  
'He gave me some flippers, and I dove down to the bottom with them'

Aki, the applicative marker, follows the directional marker, hifo 'down', in the sentence. The head verb with its adjoined manner and/or direction adverbs and applicative marker will undergo head movement to the head of XP.

7. Quantifiers

Through the rule of Quantifier Float in Niuean, the quantifier oti 'all' is optionally moved from an NP to adjoin to the verb of the same clause. This rule may apply to the quantifier modifying subjects NPs or direct object NPs but not indirect or oblique NPs;

(62a) Kua iloa tuai e lautolu oti a au  
Perf know Perf Erg they all Abs me  
'They all know me'
(62b) Kua iloa oti tuai e lautolu a au
Perf know all Perf Erg they Abs me
'They all know me'

(63a) Moua e maua mo Sione e tau mata afi oti
get Erg we,Du,Ex with Sione Abs Pl match all
'Sione and I have already won all the matches'

(63b) Moua oti e maua mo Sione e tau mata afi
get all Erg we,Du,Ex with Sione Abs Pl match
'Sione and I have already won all the matches'

(64a) Ne tutala a au ke he tau momotua oti
Pst talk Abs I to Pl elders all
'I talked to all the elders'

(64b) *Ne tutala oti a au ke he tau momotua
Pst talk all Abs I to Pl elders
'I talked to all the elders'

Assuming the structures proposed so far, the structure of the VP of (64a) would be;

(65)

Following Marantz (1984) and Chomsky (1986a), it will be assumed that the Prepositional phrase is not directly θ-marked by the verb because it has its own inherent θ-role. Therefore the Prepositional phrase is not L-marked and it is a
barrier to movement. This barrierhood of PP accounts for why the quantifier oti can not move from the oblique NPs to the verb. The subject and object NPs are θ-marked directly by the verb and therefore are not barriers to the movement of oti to the verb.

If it is not assumed that directional and manner adverbs are base-generated as head adjunctions of V°, then the data cannot be as well accounted for. If these adverbs are not head adjoined to V°, they could be considered to be head adjoined to the head of another phrase but if they were assumed to be adjoined to TP, NegP or Vaux then the word order would not be accounted for since the manner and direction adverbs would then precede instead of follow the main verb. If the adverbs were assumed to be head adjoined to X, then it would be incorrectly predicted that the applicative markers and quantifiers would be immediately adjacent to the main verb and that the manner and direction adverbs would follow. If the manner and directional adverbs were considered to project their own maximal projection, the structure could be assumed as shown below;

(66)

```
       TP
          T
         NegP
             Neg
                 VauxP
                     Vaux
                         AdvP
                             Advmanner
                                 AdvP
                                     Advdir
                                         VP
                                             NP
                                 V
                                     V°
```

The verb would then be assumed to undergo head movement to each AdvP with left adjunction to the target. This structure would incorrectly predict that the applicative marker and quantifier would be closer to the verb than the manner and direction adverbs. It has therefore been shown that the manner and directional adverbs must be assumed to be base-generated adjuncts to V° in order to fully account for the data.
7.1 Discourse connector

A function as an anaphoric discourse connector and can refer to location, time, or cause. As shown in (2), it follows the manner and directional adverbs in a verb complex. This connector is inter-clausal since it can refer to an element in a previous clause as shown below. This verbal element will not be discussed in this paper and is left as a yet unsolved mystery of the Niuean verb complex;

(67) Ne atu e au e tagal
Pst give Erg I Abs bag
'I gave you a bag'

Tuku aI nakai e koe e uga?
put in=it, Ques Erg you Abs crab
'Did you put the crab in it?'

In summary, the preceding sections 5 to 7 have examined those particles which are assumed to be head adjoined to V within VP; manner and direction adverbs, applicative markers, and quantifiers. In the following sections, 8 through 10, I will examine the particles which are in functional categories that will be assumed to be targets for head movement of V. Assuming that head movement adjoined to the left of target, these adjoined particles are predicted to always follow the particles that are head adjoined to V within VP. The data will demonstrate that this is shown to be the case.

8. Aspectual adverbs

In Niuean, there are a few adverbs which Sester classifies as sentential adverbs; tūmāu ‘always, constantly’, hololoa ‘frequently’, agai ‘still’, and agataha ‘immediately’. These adverbs follow the manner and direction adverbs at surface order but the scopes of these adverbs are different.

(68) Mafiti lahi agaia c fuakau kō
fast greatly still Abs old = man that
'That old man is still very fast'

(69) Ti tala age agataha e mutolu
Then say Dir3 at = once Erg you, Pl
'Then at once you say ....'

(70) ti nakai talia aI agai
then not consent therefore still
'....so she still didn’t consent.'

The manner and direction adverbs, discussed in §§5.1 and 5.2, are semantically linked to the verb and only have scope over the verb itself and are assumed to be adjuncts of the verb head as shown in (39). The aspectual adverbs have scope
over the entire clause and therefore will not be assumed to be part of the verb head but positioned higher in the structure and dominate the entire VP. In previous sections the structure of the verb phrase was proposed. The auxiliary and negative verbs have a tense/aspect phrase and take VP as their complement. It could then be proposed from this that the complement VP in these constructions may have a tense/aspect phrase as well. If this is assumed, then these aspectual adverbs fit into this category. This would be a functional category which is part of the complement VP, and would follow the negative marker and/or auxiliary verb at surface order. The structure is shown below;

(71)  
(TP)  
   /   \  
  T    (NegP)  
     /   \   \  
    Neg  (VP_{aux})  
        /   \   \   \  
       V_{aux}  XP  (TP^2)  
          /   \  
         X    (TP^2)  
            /   \  
           T^2  VP  
               /   \  
              NP  V^1  
                   /   \  
                  V    NP

The verb head would then undergo head-movement to the head of TP^2 and then to XP. The verb must be assumed to move from T^2 to X, otherwise TP^2 would be a barrier and the word order would not be accounted for. Assuming the head movement adjoins to the left of the target, this accounts for the surface word order given in (1) and (2), the aspectual adverbs follow the main verb and any adjunctive manner and direction adverbs, applicative marker or quantifier as shown in sentence (69) given above.

Proposing this structure for the verb complex has several advantages. There is now a symmetry between the tense/aspect phrase dominating VP_{aux} and a tense/aspect phrase dominating VP. The manner and direction adverbs are subcategorized for the verb and therefore are adjoined to the verb head and have scope over the verb only. The aspectual sentential adverbs have scope over the
entire verb phrase and are correctly predicted to be higher in the structure. The parentheses in (71) mark those functional categories which are optional in the structure.

9. **Emphatic markers**

The most common emphatic particles in Niuean are nī 'just' and lā ia 'yet, just';

(72) Kata tūmau nī a ia
    laugh always just Abs he
    'He is just always laughing'

(73) kae mui tua atu ia nī a ia
    but follow back Dir2 him just Abs he
    '... but he just followed him.'

In sentence (73), ia 'him' is the discourse connector referring to a previously mentioned NP. Seiter states that the emphatic marker often co-occurs with noa 'just, only' but he does not specify what category he considers this word to be;

(74) Pia manaka noa nī a au ke mohe
    want desire only Abs I Sbj sleep
    'I only want to sleep'

As shown in sentence (72), the emphatic markers follow the aspectual adverbs but precede the subject NP. This sentence also shows that Emphatic markers and Aspectual adverbs cannot be in the same functional category since they co-occur together. Because the functional category of these particles is not clearly defined, it could be proposed that these particles are heads of an illocutionary phrase or mood phrase stipulating the mood of the sentence (MP), and if XP is assumed to be this illocutionary functional category, then the word order and movement of the verb head is accounted for in this language. The verb must obligatorily move to the head of MP which may be overtly filled by an emphatic particle. It could then be assumed that an empty MP indicates a declarative sentence. This structure accounts for the surface word order of sentences such as (72) when head movement has occurred;
The obligatory nature of MP is also accounted for since it may be assumed that the illocutionary force of a clause must always be stated, whether declarative (ə) or emphatic (nī, lā), and this also accounts for the presence of MP as the target of verb head movement.

10. Question markers

There are two question markers in Niuean, which follow all other elements in the verb complex. Nakai is used in neutral Y/N questions, but it never appears in information (WH-) questions.

(76) Foaki age nakai e koe e fakainiologa ki a taha
give Dir3 Ques Erg you Abs prize to Pers Indef
'Did you give the prize to someone?'

(77) Momouia gaiai nakai e tau mamatua haau
live still Ques Abs Pl parent your
'Are your parents still living?'

The Emphatic markers and question markers do not co-occur in Niuean and question markers indicate a question rather than a declarative or emphatic statement. Therefore, it can be proposed that either a Y/N question marker or an Emphatic particle may be present in the head of MP. The verb would again be assumed to undergo head-to-head movement to the head of MP. The structure of sentence (77) would be;
Y/N questions may also be marked with kia which may also follow all other elements of the verb complex. However, kia differs from nakai in that it is an adjunct which may adjoin to other categories giving a focusing effect. In the following sentence, kia occurs at the end of the entire clause;

(79) Fano a koe kia
go Abs you Ques
'Are you going?'

The structure proposed for this would be;

(80)

Kia may also cliticize to the questioned constituent in an information question;

(81) Kohai kia e tagata i kō
who Ques Abs man at there
'Who is that man there?'
The adjoined part of the structure would then be:

(82) \[ \text{NP}_{\text{WH}} \]
    \[ \text{NP}_{\text{WH}} \quad \text{NP} \]
    \[ \text{kohai} \quad \text{tagata} \]
    \[ \text{Ques} \quad \text{kia} \]

The question particle kia follows the WH-question word but precedes the rest of the clause.

Finally, kia may also mark a negative question by following the negative verb instead of the main verb. Seiter states that this question type conveys a non-neutral expectation like that of its English counterpart;

(83) \[ \text{Ai} \quad \text{kia} \quad \text{kitia} \quad \text{e} \quad \text{koe} \quad \text{e} \quad \text{lā} \quad \text{kua} \quad \text{tokoluga} \]
    \[ \text{not} \quad \text{Ques} \quad \text{see} \quad \text{Erg} \quad \text{you} \quad \text{Abs} \quad \text{sun} \quad \text{Perf} \quad \text{high} \]
    \[ \text{Didn't you see the sun high up?} \]

The adjoined part of the structure would be:

(84) \[ \text{NegP} \]
    \[ \text{NegP} \quad \text{MP} \]
    \[ \text{Neg} \quad \text{Ques} \quad \text{M} \quad \text{VP} \]
    \[ \text{ai} \quad \text{kia} \quad \text{kitia} \]

The verb will undergo head movement into the head of MP and the Negative particle and the Question marker will precede the verb at surface order.

In summary, it has been shown that the lower tense/aspect phrase and the mood phrase are the only functional categories that are targets of verb head movement. The full structure of the clause is assumed to be as shown in (71), repeated below;
The verb undergoes head to head movement from V to TP² to MP only. TP, NegP and VP_{aux} are not targets of verb movement. As already stated, it cannot be assumed that Tense, Neg and V_{aux} lower to the verb since this would violate the "least effort" condition proposed by Chomsky (1991). If it was proposed that the verb underwent head movement all the way to TP at the top of the structure, this would require that some particles are stipulated to adjoin to the left of the head and others to the right of the head in order to account for the correct word order. It has therefore been argued that the verb moves only as far as the head of MP.

11. Embedded complement clauses

Seiter states that "none of the matrix tense/aspect particles (section 3) ever introduce clauses which are functioning as subject complements". (Seiter, 1980; 125). They are, however, used to introduce object complements of verbs of cognition, observation, speaking, etc;

(85) Pehe mai a lautolu ne kaihā e koe e moa
    say Dir1 Abs they Pst steal Erg you Abs chicken
    'They say that you stole the chicken'
In these sentences, we can see that the structure of the embedded clauses is similar to matrix clauses. There are still auxiliary verbs, directional adverbs and aspectual adverbs. This suggests that the full verb complex structure is present in embedded clauses. The sentences with the verb liga 'likely', sentences (32), (33), and (34) in § 4, are very similar to these sentences and will be assumed to have the same structure. The structure of sentence (88) is shown below;
The main verbs pehe 'say' and mate 'die' undergo head movement to the head of MP.

Seiter states that he is also used as a complementizer to introduce full sentential causal complements of stative verbs. These stative verbs differ from the cognitive, observation, or speaking verbs given in (85-89), therefore it is not unexpected that the embedded clauses will be marked differently. In sentences (85-89), the embedded clauses seem to be required arguments of the verb. In the following sentences, the embedded clauses seem to be adjuncts to the intransitive verbs. This 'complementizer' he is never followed by a tense/aspect particle and therefore it could be argued that it is a type of tense/aspect marker. Again the negative verb and aspectual adverbs, and directional adverbs are present in the embedded verb complex;

(91)
Gagao foki ni a au he hifo a Maka kitahi
sick also Emph Abs I Comp go=down Abs Maka tosea
'T'm also sick of Maka going down to the sea'
There is, however, another causal complementizer hā which must be immediately followed by the perfect marker kua;

Again the argument could be made that since this complementizer only occurs with one tense/aspect particle, it may be one lexical unit. This causal complementizer also obligatorily occurs with the predicate marker ko. Since the scope of this paper does not include predication, this problem with complementizers and predicate markers is left for another paper.

**12. Noun Incorporation**

Following Baker (1988), it is proposed that through head movement certain X’s may incorporate into V°. In Niuean, this may apply to non-subject nouns. An incorporated noun never bears a case particle or pre-nominal articles, but may be modified by an adjective. Because Noun Incorporation adjoins N° to V°, it is predicted that all post verbal elements will follow the incorporated noun in the verb complex. This is shown in the following sentences:

(95a) Takafaga tūmau nī e ia e tau ika
e hunt always  Emph Erg he Abs Pl fish
‘He’s always fishing’

(95b) Takafaga ika tūmau nī a ia
hunt fish always  Emph Erg he
‘He’s always fishing’
The following set of sentences, however, pose a slight problem for the theory developed so far for the Niuean verb complex;

(97a)
Ne ō hifo mai a maua mo Maka he pasokalaafi
Pst go=down,Pl Dir1 Abs we,Du,Ex with Maka on bicyclefire
'I came down with Maka on the motorbike'

(97b) Ne ō hifo pasikala afi mai a maua mo Maka
Pst go=down,Pl bicycle fire Dir1 Abs we,Du,Ex with Maka
'I came down by motorbike with Maka'

In sentence (97b), the incorporated noun is closer to the V° then the base generated directional marker adjunct mai. If the directional adverb is assumed to be a base-generated adjunct of V°, then it would be predicted that any process of adjunction to V° would adjoin outside the V+Adv unit, but this is not the case in (97b). It therefore appears that it must be stipulated that incorporated nouns must adjoin directly to V° and not to V°+Adv. However, there is only one sentence given and perhaps more data would reveal different results.

13. Conclusion
This paper has provided a formal structural account of the Niuean verb complex and verb movement within the GB framework. It has shown that previous categorizations of the verbal particles, such as 'clitic', have failed to capture the nature and function of these particles in the verb complex. It has also been shown that there are three types of verbal particles in Niuean. Particles such as manner and directional adverbs, applicative markers and quantifiers have been shown to be adjoined to V° within VP. Particles such as aspectual adverbs and mood particles, Question and Emphatic markers have been shown to be adjoined to V° through head movement. And finally, particles such as Tense/aspect, Negative marker and Vaux have been shown to dominate VP but are not targets for V° head movement. A nice result of the structure proposed for the Niuean clause is that all processes involving argument structure of the verb are done within VP and all other processes are done outside of VP by head movement. The differing scopes of the two adverbs types, manner and directional vs. sentential, has also been accounted for by their relative place in the clause structure.
References


### Appendix A

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>Abs</td>
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<td>Comp</td>
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