

T→C MOVEMENT IN POLYNESIAN: A CASE STUDY OF TOKELAUAN*

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This paper argues that the T→C movement that has been proposed for Polynesian languages like Tongan and Samoan (Otsuka 2005, Collins 2017) is in fact TAM→Fin movement in Tokelauan. We come to this conclusion as certain Tokelauan complementisers can never co-occur with TAM particles while other complementisers can. Adopting the analysis of Custis (2004) and Collins (2017) that TAM particles do not co-occur with complementisers because they compete for the same syntactic slot, we propose a finer left periphery for Tokelauan (à la Rizzi 1997) where complementisers like *pe/kāfai*, which can co-occur with complementisers, occupy the Force-head and do not compete with the TAM particle. Complementisers like *keloi*, which cannot co-occur with complementisers, are generated in the Fin-head, a position that the TAM competes for as well.

1. Introduction¹

A verb moving from the its base position to T (V→T movement), and in some environments moving further up to C (T→C movement), is quite well known in the syntax literature (e.g Pollock 1989 for French, Pesetsky and Torrego 2001, among others). For example, it is argued that in languages like English auxiliary verbs (but not main verbs) undergo V→T movement, and can undergo further movement T→C in questions. The V→T movement in English is illustrated in (1) and T→C movement is illustrated in (2) and (3).

- (1) [CP [TP Susanne has [VP often ~~has~~ [VP aced the exams]]]].
- (2) [CP Has [TP Susanne ~~has~~ [VP often ~~has~~ [VP aced the exams]]]] ?
- (3) [CP How has [TP Susanne ~~has~~ [VP ~~how~~ ~~has~~ [VP aced the exams]]]] ?

That is, in languages like English, T→C movement is triggered in the syntactic environment of interrogatives. Similar claims have been made in Romance languages: for example, it has been argued that in French, all verbs must undergo V→T movement in declaratives, and in questions, the verbs undergo further movement in the form of T→C. A different implementation of T→C movement is found in Polynesian languages. Most Polynesian languages are verb-initial, where the portmanteau Tense-Aspect-Modality particle (TAM henceforth) consistently appears in the

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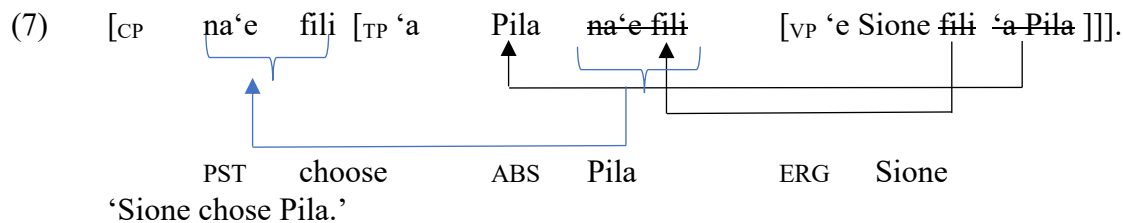
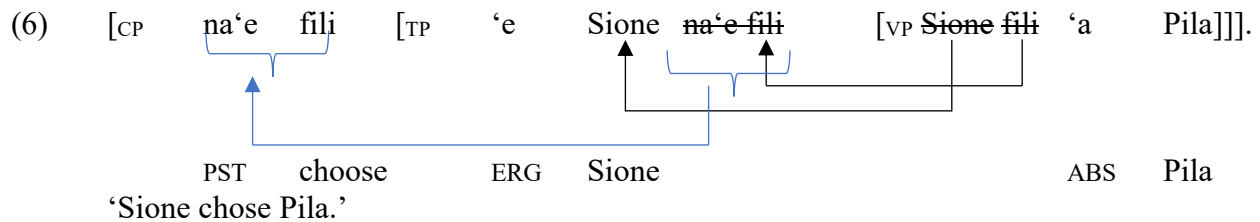
¹ Part of this paper overlaps with Middleton (2021), where the focus of the author was to show that it is necessary to revisit the existing idea of T→C movement in Polynesian languages. This current paper extends that proposal and provides detailed mechanics to account for the different word order alternations found in Tokelauan.

beginning of the clause. To derive the TAM-initial order of these languages, it is argued that some form of $T \rightarrow C$ movement, or to be more precise, $TAM \rightarrow C$ movement takes place in declarative sentences. Two case studies where such $TAM \rightarrow C$ movement is argued are Tongan (Otsuka 2005) and Samoan (Collins 2017), and the main arguments are discussed below.

The TAM-initial order of Tongan declarative sentences is shown in (4) and (5), where (4) illustrates a TAM-V-S-O word order while (5) illustrates a TAM-V-O-S order. The TAM particle is generated in T. Otsuka (2005) argues that there is $V \rightarrow T$ movement in Tongan, and that by virtue of this $V \rightarrow T$, the subject and the object become equidistant from T, which allows scrambling of either the subject or the object to SpecTP to satisfy the EPP feature on T (following Chomsky 1993). Regardless of which argument moves to SpecTP, the subsequent observation is that the TAM-V always appears to the left of the subject/object, which should not be the case if the TAM particle remains in the T position. To account for that, Otsuka argues that the TAM-V must undergo further movement to C. This gives the surface order TAM-V-S-O, as in (4), when the subject DP moves to SpecTP. The other surface order TAM-V-O-S, as in (5), is derived when the object DP moves to SpecTP. The derivations for (4) and (5) are illustrated in (6) and (7) respectively.²

- (4) na'e fili 'e Sione 'a Pila.
 PST choose ERG Sione ABS Pila
 'Sione chose Pila.' *Tongan* (Otsuka 2005:73)

- (5) na'e fili 'a Pila 'e Sione.
 PST choose ABS Pila ERG Sione
 'Sione chose Pila.' *Tongan* (Otsuka 2005:73)



Note that Otsuka (2005)'s analysis does not follow the orders predicted by the Mirror Principle (Baker 1985), an issue that we discuss in section 3.3. The crucial point is that $TAM \rightarrow C$ movement is necessary in Otsuka's analysis to derive the TAM-initial order of Tongan.

Similar arguments have been given for $T \rightarrow C$ movement in Samoan (Collins 2017), in order to account for the distribution of preverbal subject pronouns. TAM particles are generated in T,

² Abbreviations used in the examples follow the Leipzig Glossing Rules.

and similar to Tongan as discussed above, morphosyntactic features on T require the movement of a DP pronominal to SpecTP. The subject pronoun, generated in Spec,vP, thus undergoes movement to SpecTP. However, on the surface the TAM particle always precedes the subject pronoun, leading Collins to argue that TAM must undergo movement to C. The surface order of the subject pronoun with respect to the TAM particle is shown in (8), and the derivation is sketched in (9).³

- (8) 'ole'ā 'ou lē alu.
 FUT 1SG NEG go
 'I will not go.' *Samoan* (Collins 2017: 32)

- (9) [_{CP} 'ole'ā [_{TP} 'ou [_{VP} 'ole'ā lē [_{VP} 'ou alu]]]].
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One strong empirical piece of evidence that has been used to support TAM→C movement in both Tongan and Samoan is the complementary distribution of TAM particles and complementisers in both the languages. Custis (2004) argues that the reason for this complementary distribution in Tongan is the TAM particle and complementizer competing for the same position, i.e. C. This is illustrated in (10), where there is a complementizer 'o that introduces the embedded clause, and this embedded clause does not have a TAM particle because the complementizer is occupying the C slot.

- (10) na'e ha'u 'a Mele 'o nej kaiha'asi 'a e siaine.
 PST come ABS Mele COMP 3SG steal ABS DET banana
 'Mele came and stole the banana.' *Tongan* (Custis 2004: 120)

Collins (2017) illustrates the same thing in Samoan: the complementiser *ona* is in complementary distribution with TAM particles, as illustrated in (11).

- (11) 'ua siliga ona (*sā/e/'ā) taunu'u mai le tama.
 PRF too.late COMP (PST/PRS/FUT) arrive DIR DET man
 'The man was overdue coming back.' (lit. it was too late that the man came back)
Samoan (Collins 2017: 30)

This paper investigates if TAM→C movement occurs in Tokelauan, another Polynesian language which is closely related to Tongan and Samoan. We will argue that the Tokelauan data presented in this paper shows that a simple TAM→C movement analysis is not able to account for the facts, and we propose that one needs to adopt a finer structure of the left periphery in Polynesian, quite similar to the structure proposed in Rizzi (1997) for Romance. We discuss the Tokelauan patterns and how it posits a problem for a simple TAM→C movement in section 2, and then our proposal and its application are discussed in Section 3. Section 4 concludes the paper with discussion of open issues.

³ Note that movement of the predicate (as argued by Collins 2017) is not included in this schema. For more details of Collins' proposal, see Collins 2017.

2. Tokelauan TAM particles and complementisers

Similar to Tongan and Samoan, Tokelauan is also a TAM-initial language. The two basic word orders that are found in Tokelauan are TAM-VSO and TAM-VOS. The TAM-VSO is the unmarked order, illustrated in (12). The TAM-VOS order is illustrated in (13).

(12) na tuki e John ia Rangi
 PST hit ERG John ABS Rangi
 ‘John hit Rangi.’

(13) na tunu ika ia John.
 PST cook fish ABS John
 ‘John cooked fish.’

Given that the complementary distribution of TAM particles and complementisers is the most crucial argument in support of TAM→C movement in Tongan and Samoan, it is expected that TAM particles and complementisers cannot co-occur if there is TAM→C movement in Tokelauan. This is partly true, as we observe that the complementisers *ke* and *oi* cannot co-occur with TAM, as illustrated in (14) and (15). These examples thus lend support for TAM→C movement in Tokelauan as well, explaining why the TAM particle and the complementisers cannot co-occur, as they are both competing for the same syntactic slot, namely C.

(14) na taumafai ia John ke (*na) hao te vaka mai te afā.
 PST try ABS John COMP PST escape DEF boat from DEF hurricane
 ‘John tried to escape the ship from the hurricane.’

(15) e mahani oi (*e) velo e John ni ika.
 PRS usual COMP PRS spear ERG John INDF.PL fish
 ‘It is usual that John spears the fish.’

On the other hand, there are complementisers like *pe* and *kāfai* that can co-occur with TAM particles, as illustrated in (16) and (17). These examples pose a problem to the idea of TAM→C movement in Tokelauan, and seem to suggest that there is no TAM→C movement in the language.

(16) ko John na fehili mai pe na tunu e ai te ika.
 TOP John PST ask DIR COMP PST cook ERG who DEF fish
 ‘John asked who cooked the fish.’

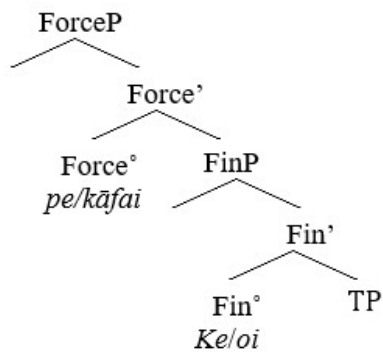
(17) kāfai foki e i luga ni ika i tō vaka
 COMP too PRS LOC above DEF fish LOC 2SG.POSS canoe
 ‘If there are fish on your canoe.’ (Hooper 1993:166)

How can one account for these patterns, that some complementisers can co-occur with TAM particles while other complementisers cannot? We take this up in the next section, and provide an analysis for the Tokelauan facts.

3. Analysis

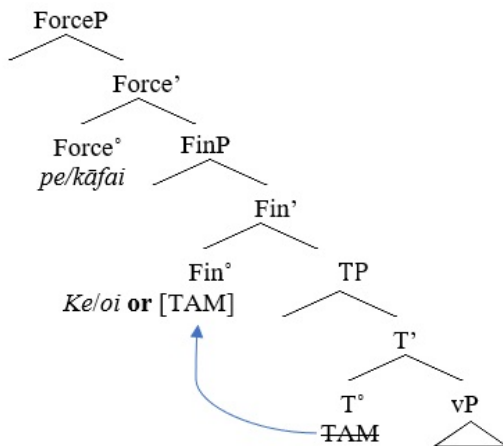
We propose that we need to invoke a finer structure for the Polynesian left-periphery (ala Rizzi 1997), and that a simple structure where CP is the only projection in the left-periphery will not be able to account for the Tokelauan data. This follows similar proposals for Māori (Pearce 1999; 2021) and Niuean (Massam 2020). Specifically, we propose that the reason why some complementisers can co-occur with TAM particles while other complementisers cannot is because there are two types of complementisers and they occupy different syntactic positions. We adopt Rizzi (1997)'s left-periphery which consists of several projections, and argue that complementisers like *ke* and *oi*, which can never co-occur with TAM particles in Tokelauan, are generated in FinP, the lowermost position in the left-periphery. Complementisers like *pe* and *kāfai*, on the other hand are generated in ForceP, the highest position in the left-periphery. A simplified structure is given in (18) to illustrate our proposal.

(18)



We further propose that the TAM→C movement that has been proposed in Tongan and Samoan is actually TAM→Fin movement in Tokelauan. The complementisers *ke/oi* cannot co-occur with TAM particles because they are both competing for the same Fin° slot. On the other hand, *pe/kāfai* can co-occur with TAM particles because they occupy a different syntactic position, namely Force°. This is illustrated in (19) below.

(19)



3.1 Further evidence

We argue that further evidence in support of our proposal that the two types of complementisers occupy two different syntactic positions comes from a syntactic paradigm, known as *ko-topicalization*. The phenomenon of *ko-topicalization* is essentially topicalization of a DP, where the DP is fronted and gets marked with *ko*. The fronted position of this *ko*-marked DP is higher than the TAM particle, as illustrated in (20) and (21).

- (20) e tuki e John ia Viliamu (before *ko-topicalization*)
 PRS hit ERG John ABS Viliamu
 ‘John hit Viliamu.’
- (21) ko Viliamu na tuki e John (after *ko-topicalization*)
 TOP Viliamu PST hit ERG John
 ‘John hit Viliamu.’

We adopt Rizzi (1997)’s finer structure of the left periphery, where the designated position for topicalization is TopP, which comes between ForceP and FinP, as shown in (22).

- (22) ForceP > TopP > FinP

If *ko*-topicalization of a DP targets SpecTopP, then our proposal predicts that the *ko*-marked DP will necessarily follow the complementisers *pelkāfai* as *pelkāfai* occupy the Force-head, which is higher than SpecTopP. It will also predict that the *ko*-marked DP will necessarily precede the complementisers *ke/oi* as these complementisers are generated in a lower position, the Fin-head. These predictions are borne out, as illustrated in (23) and (24) below. In (23), the *ko*-marked nominal follows *pe*, while in (24), the *ko*-marked nominal precedes *ke*.

- (23) ko John na lea mai pe ko te ika na tunu e Rangī.
 TOP John PST say DIR COMP TOP DEF fish PST cook ERG Rangī
 ‘John said if/whether Rangī had cooked the fish.’
- (24) ko John nae fofou ko Jess ke ia tukia ia Rangī.
 TOP John PRS want TOP Jess COMP 3SG hit ABS Rangī
 ‘John wants Jess to hit Rangī.’

It merits mention that Tongan and Samoan also have certain complementisers co-occurring with TAM particles, and we think that our proposal of a finer left-periphery in Tokelauan can be extended to Tongan and Samoan as well. We will not push for an analysis of Tongan and Samoan in this paper, but to illustrate our empirical point, we provide examples (25) and (26) below from Tongan and Samoan respectively, showing that certain complementisers can cooccur with TAM particles.

- (25) ‘oku ‘ikai te u ‘ilo pe ‘oku lelei pe kovi.
 PRS NEG FUT 1SG know COMP PRS good or bad
 ‘I do not know whether it is good or bad.’ *Tongan* (Churchward 1953:50)
- (26) sa faanoanoa lava Tavita ina ‘ole‘ā alu ese
 PST be.sad EMPH Tavita COMP FUT go away
 ‘Tavita was very sad that he had to go away.’⁴ *Samoa* (Mosel & Hovdhaugen 1992:623)

3.2 Deriving the TAM-initial orders in Tokelauan

Now that we have sketched our proposal, we will discuss in this section how we can apply this proposal to derive the basic word orders in Tokelauan. Recall from examples (12) and (13) that the two basic orders found in Tokelauan are (i) TAM-V-S-O and (ii) TAM-V-O-S. How are these two orders derived in the language? First, we follow Anderson and Chung (1977) that even in verb-initial (or TAM-initial) languages, the verb and the object form a constituent. Anderson and Chung (1977) argues that this means Polynesian languages are underlyingly SVO, and the orders attested on the surface are derived in the syntax. We adopt this view, and suggest that the underlying base order of elements in Tokelauan is as given in (27). The TAM-particle is generated in T (following Massam 2000, Otsuka 2005, Collins 2017), while the subject is in SpecvP (following VP-internal subject hypothesis, Koopman & Sportiche 1991). The verb and the object form a constituent in the lower VP.

- (27) [_{TP} TAM [_{VP} S [_{VP} V O]]]

To derive the two orders, we adopt a VP-fronting analysis similar to Massam (2000, 2001) for Niuean. There is EPP feature on T, and like Massam (2000, 2001) and Aldridge (2002), we suggest that this EPP feature is [+PRED] in Tokelauan, which will force movement of a predicate (VP) to the SpecTP position. This is in contrast with languages where the EPP feature in T is [+D], which forces a DP (subject/object) to move to SpecTP to satisfy the feature. That is, from the underlying order in (27), the VP moves to SpecTP to satisfy the EPP/[+PRED] feature on T. This is illustrated in (28).

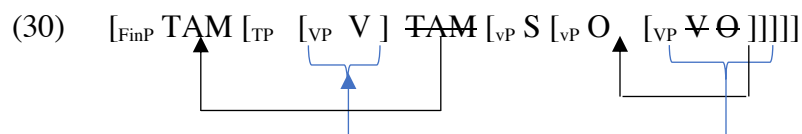
- (28) [_{TP} [_{VP} V O] TAM [_{VP} S [_{VP} V O]]]
-

The word order that we get on the surface after the VP-fronting in (28) is V-O-TAM-S. Now as per our proposal, TAM→Fin movement takes place, as illustrated in (29).

- (29) [_{FinP} TAM [_{TP} [_{VP} V O] TAM [_{VP} S [_{VP} V O]]]]
-

⁴ Note that the translation has been changed from the original, which was an erroneous one.

The TAM→Fin movement in combination with VP-fronting gives us the order TAM-V-O-S, one of the orders attested in Tokelauan.⁵ The other order, TAM-V-S-O, is derived in the following way. From the underlying order in (27), the VP needs to move to SpecTP to satisfy the [+PRED] feature, but before the VP undergoes movement, the object moves out of the VP to Spec,vP. This Spec,vP is lower than the Spec,vP which hosts the subject (following Collins 2017).⁶ Once the object has moved out of the VP, this VP (which now only contains V) moves to SpecTP. The TAM-particle then undergoes TAM→Fin movement, eventually deriving the TAM-V-S-O order. All the movements for this derivation are illustrated in (30).



That is, the important difference between (29) and (30) is that in (30), the object-DP moves out of the VP before VP-fronting, while in (29) the object remains inside the VP. But, crucially, for both the orders there is VP-fronting.

There is evidence to support a VP-fronting analysis in Tokelauan. One piece of such evidence comes from coordinated verbs, as in (31). As coordinated verbs are understood to be an XP (Rackowski & Travis 2000; Aldridge 2002; Collins 2017), VP to be more precise, (31) clearly shows that the coordinated VP has undergone movement, as both verbs are found the fronted position. In other words, the fact that the coordinated verbs move together as a constituent provides evidence that the movement in question is VP-movement, and not just V-movement.

- (31) na kiki ma tuki e John ia Rangi
 PST kick and hit ERG John ABS Rangi
 ‘John kicked and hit Rangi.’

3.3 Against an alternative derivation

We have provided an analysis in terms of VP-fronting to account for the word-order alternations in Tokelauan. One can possibly put forward an alternative analysis implementing verb-movement (Guilfoyle 1993; McCloskey 1996; Pearce 2002; Otsuka 2005; Clemens 2014). We have argued that examples like (31) provide some support for VP-movement, and against V-movement, and there are other issues that arise if a V-movement analysis is considered. Before we discuss these issues, let us briefly outline how a V-movement analysis can be potentially implemented to derive the different surface orders in Tokelauan. First, recall the underlying order of elements in Tokelauan, before any movement takes place, is TAM-S-V-O, given in (27), repeated here as (32).

- (32) $[_{TP} TAM [_{vP} S [_{VP} V O]]]]$

A V-movement analysis for Tokelauan will essentially need to implement the mechanics of Otsuka (2005) for deriving the TAM-V-S-O and TAM-V-O-S orders in Tongan. Otsuka’s analysis for

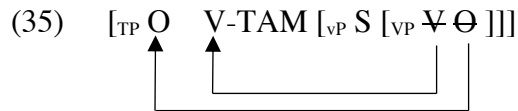
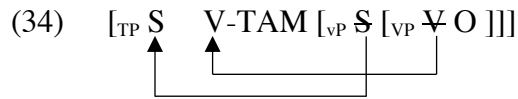
⁵ This word order is a pseudo-noun incorporation pattern, also seen in Niuean (Massam 2001) and Samoan (Collins 2017).

⁶ See Massam (2000, 2001) for discussion on an alternative landing site for the object when it moves out of the VP.

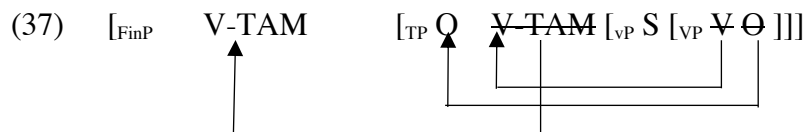
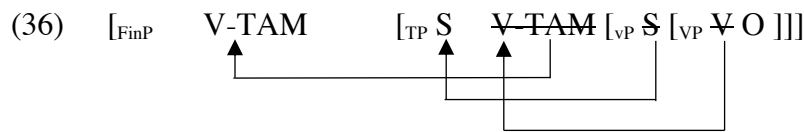
Tongan, illustrated in (6) and (7), is that the verb moves to T ($V \rightarrow T$ movement), and then to C ($T \rightarrow C$) movement. The subject or object then undergoes movement to SpecTP to satisfy the EPP feature on T. Either the subject or the object can satisfy the EPP feature on T as the $V \rightarrow T$ movement renders both the subject and the object equidistant from T. In this paper, we have already argued that a simple $T \rightarrow C$ movement cannot be maintained in Tokelauan, and we need to refine it to TAM \rightarrow Fin movement. The two orders, TAM-V-S-O and TAM-V-O-S, can be derived in the following way: first, from the base order in (32), the verb undergoes V-T movement. This is shown in (33).



Once the verb has adjoined to TAM in T through head-movement, both the subject and the object become equidistant from T, and thus movement of either to SpecTP will satisfy the EPP feature on T. When the subject moves to SpecTP, we get (34). When the object moves to SpecTP, we get (35). Note that the adjoined order of the verb and the TAM particle should be V-TAM, following any standard analysis of head-movement in a head-initial language, respecting the cross-linguistically robust Mirror Principle (Baker 1985).



Once the subject or object has moved to SpecTP, the adjoined head of V and TAM needs to move further to Fin, to get the TAM to precede the subject/object on the surface, as illustrated in (36) and (37). Note that the surface orders produced by such movement will be V-TAM-S-O (see 36) and V-TAM-O-S (see 37). These are not the orders that are attested in Tokelauan. If one implements a V-movement analysis, then one also needs additional machinery/stipulations to explain why on the surface we get TAM-V but not V-TAM orders.



Given that (i) a V-movement analysis runs into problem with the Mirror Principle and will need additional mechanisms to get a TAM-V ordering and (ii) that there are data like (31) showing that the VP moves as a constituent to SpecTP, we adopt a VP-fronting analysis (like Lee 2000; Massam 2000, 2001, 2020; Rackowski and Travis 2000; Aldridge 2004; Collins 2017) and not a V-fronting analysis (like McCloskey 1996; Pearce 2002; Custis 2004; Otsuka 2005; Clemens

2014) in order to derive the TAM-V-S-O and TAM-V-O-S orders in Tokelauan. Our core proposal that there is TAM→Fin movement in Tokelauan remains intact. That is, we have adopted a VP-fronting analysis, but even if one were to implement a V-raising analysis, the core proposal of this paper, namely TAM→Fin movement, will still be necessary.

4. Conclusion and open questions

In this paper, we have argued that the T→C movement that has been proposed for Polynesian languages like Tongan and Samoan is in fact TAM→Fin movement in Tokelauan. We came to this conclusion as certain Tokelauan complementisers can never co-occur with TAM particles while other complementisers can. Adopting the argument from Custis (2004) and Collins (2017) that TAM particles do not co-occur with complementisers because they compete for the same syntactic slot, we have proposed that it is necessary to have a finer left periphery where complementisers like *pe/kāfai*, which can occur with complementisers, occupy the Force-head and do not compete with the TAM particle. Complementisers like *ke/oi*, which cannot occur with complementisers, are generated in Fin-head, a position that the TAM competes for as well by virtue of TAM→Fin movement. In addition, we have also provided data that show that some complementisers in Tongan and Samoan can co-occur with TAM particles as well – in the light of such data, it is very possible that the left-periphery of clause structure in Tongan and Samoan should also receive a finer analysis, and that the T→C movement proposed for Tongan and Samoan might have to be replaced with a TAM→Fin movement, similar to Tokelauan.

We conclude this paper with a discussion of an open question. As we have noted, the fact that some complementisers can never co-occur with TAM particles has been attributed to both of them vying for the same syntactic position (C in previous works, Fin in this paper). One question remains: if a complementiser like *ke/oi* (when present) is blocking the TAM→Fin movement, why do we never get a grammatical sequence where *ke/oi* remains in Fin, and TAM is just left in T? Our answer to this question is that TAM→Fin movement is obligatory in Tokelauan, and since this movement is blocked when *ke/oi* occupies the Fin slot, any derivation where TAM particles as well as *ke/oi* are present will be ruled out as ungrammatical.

Another possibility is that complementisers like *ke/oi* are selected only by restructuring predicates (Wurmbrand 2001), and thus *ke/oi* can only take a smaller or a defective clause (a clause without a TAM particle), leading to *ke/oi* and TAM particles being in complementary distribution. We do not think that these are restructuring predicates, as restructuring predicates are understood to have a monoclausal structure, while predicates with *ke/oi* are biclausal. This biclausal nature of these predicates becomes clear from examples like (38), where we see two instances of *ko-topicalization*. As there can be only one *ko-topicalization* per clause in Tokelauan, the example in (38) does not seem to be monoclausal, which in turn suggests that *ke/oi* are not selected by only restructuring predicates.

- (38) ko John nae fofou ko Jess ke ia tukia ia Rangī.
 TOP John PRS want TOP Jess COMP 3SG hit ABS Rangī
 ‘John wants Jess to hit Rangī.’

Furthermore, Tokelauan does have a series of restructuring predicates, similar to Niuean (Massam 2020), which directly precede a main verb, and do not take a complementiser (39). When *ko-topicalization* occurs in such predicates, the ko-marked argument raises beyond both

the main verb and the restructuring predicate. This is illustrated in (40), which contrasts with the example in (38), suggesting that the predicate with *ke* in (38) is not a restructuring predicate.

(39) e fia tuki e John ia Rangī
 TAM want hit ERG John ABS Rangī
 ‘John wants to hit Rangī.’

(40) ko John na fia tuki kia Rangī
 TOP John TAM want hit to.ABS Rangī
 ‘John wants to hit Rangī.’

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