Syntactic ergativity and word order in Polynesian*
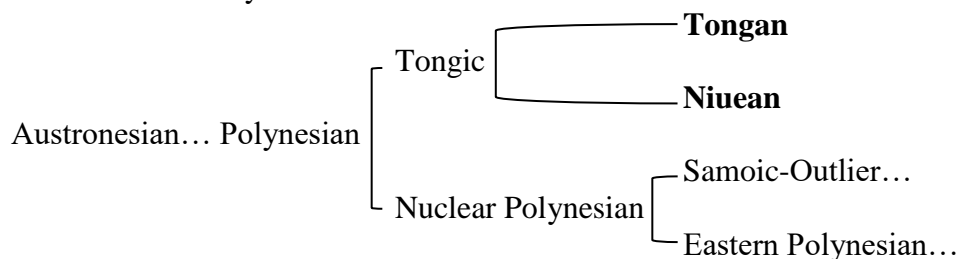
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1. Introduction

- Niuean and Tongan are closely related members of the Tongic branch of Polynesian (Austronesian > Malayo-Polynesian), spoken primarily in the South Pacific Islands of Niue, Tonga and New Zealand.

(1)   Abbreviated family tree

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                                                    Tongan
                                   Tongic
                                                    Niuean
        Austronesian… Polynesian
                                                    Samoic-Outlier…
                                   Nuclear Polynesian
                                                    Eastern Polynesian…
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- Both are verb-initial (V1), with an ergative-absolutive case pattern.

(2) TRANSITIVE CLAUSES IN TONGAN (a) AND NIUEAN (b)
    a. Na'e kai 'e Sione 'a e mango.
       PST eat ERG Sione ABS DEF mango
       'Sione ate the mango.'   (Otsuka 2000: 50)

    b. Ne kai he pusi ia e moa.
       PST eat ERG dog DEM ABS chicken
       'The cat ate the chicken.'   (Seiter 1980: 29)

- In this talk, we discuss two ways in which these languages vary: (in)ability of the ergative argument to undergo A-bar movement ('syntactic ergativity'), and postverbal word order.

(3) DIFFERENCES BETWEEN NIUEAN AND TONGAN

	Syntactic ergativity	Transitive word order
Tongan	Yes	VSO/VOS
Niuean	No	VSO/*VOS

- We argue that these differences both result from the locus of absolute case assignment.
  - We adopt an absolute inversion approach to case assignment (Campana 1992; Bittner & Hale 1996; Aldridge 2004; Coon et al. 2014; a.o), where ABS is assigned *low* in Niuean, but *high* in Tongan.

- Finally, we show how the lack of parallel movement asymmetries in nominative-accusative languages may be accounted for by this approach to syntactic ergativity.

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2. Morphological and Syntactic Ergativity

- Morphologically ergativity: transitive subjects are marked distinctly from intransitive subjects/transitive objects: both Niuean and Tongan are morphologically ergative.

- Beginning with **Tongan**, the subject of intransitive clauses and the object of transitive clauses is marked *'a*, while the subject of transitive clauses is marked *'e*.

(4) TONGAN INTRANSITIVE (a) AND TRANSITIVE (b) CLAUSES
   a. Na'e   'alu   'a   Sione.
      PST   go   ABS   Sione
      'Sione went.'
   b. Na'e   kai 'e   Sione 'a   e   mango.
      PST   eat ERG Sione ABS   DEF   mango
      'Sione ate the mango.'   (Otsuka 2000: 50)

- Turning to **Niuean**, the subject of intransitive clauses and the object of transitive clauses is marked *e* (common nouns) or *a* (proper nouns, pronouns), while the subject of transitive clauses is marked *he* (common nouns) and *e* (proper nouns, pronouns).

(5) NIUEAN INTRANSITIVE (a) AND TRANSITIVE (b) CLAUSES
   a. Ne fano e   tehina   haaku.
      PST go ABS brother   POSS
      'My little brother went.'
   b. Ne kai   he   pusi ia   e   moa.
      PST eat ERG   dog   DEM   ABS   chicken
      'The cat ate the chicken.'   (Seiter 1980: 28-29)

- Syntactic ergativity: in a subset of morphologically ergative languages, ergative subjects are unable to undergo A-bar movement (e.g. relativization, *wh* questions, focus). While Tongan is syntactically ergative, Niuean is not.

- Beginning with **Tongan**, only absolute arguments relativize with a gap; ergative arguments require a resumptive pronoun (e.g. Otsuka 2000); (6). Furthermore, ergative arguments are unable to undergo raising (7a); while absolute arguments face no such restrictions (7b).

(6) TONGAN ABSOLUTIVE (a) AND ERGATIVE (b) RELATIVIZATION

    a. e   fefine$_i$ ['oku   'ofa'i 'e   Sione __$_i$].
        DEF   woman   PRS   love ERG Sione
        'The woman whom Sione loves.'

    b. e   fefine$_i$ ['oku   'ofa'i | *(ne$_i$) | 'a   Sione].
        DEF   woman   PRS   love   RP   ABS Sione
        'The woman who loves Sione.'   (Otsuka 2000: 116)

(7) TONGAN RAISING

    a. *'Oku totonu   **'a e   faiako$_i$** [ke   taa'i __$_i$ 'a e   tamaiki   pau'u].
        PRS   advisable ABS   teacher   COMP hit   ABS   children   naughty
        Intended: 'It is advisable that the teacher hit the naughty children.'

    b. 'Oku totonu   **'a e tamaiki pau'u$_i$**   [ke   taa'i 'e he faiako __$_i$].
        PRS advisable   ABS children naughty COMP hit   ERG teacher
        'It is advisable that the teacher hit the naughty children.'   (Otsuka, 2000)

- Turning to **Niuean**, both ergative and absolutive arguments relativize with a gap (e.g. Seiter 1980, Longenbaugh and Polinsky *to appear*); (8). Furthermore, unlike in Tongan, ergative arguments are able to raise (9).[1]

(8) NIUEAN ABSOLUTIVE (a) AND ERGATIVE (b) RELATIVIZATION

    a. e   tagata$_i$ [ne   moto e   koe   __$_i$].
        ABS   person   NFT   punch ERG   2SG
        'The person who you punched'

    b. e   tagata$_i$ [ka   kai   __$_i$ e   talo].
        ABS   person   FUT   eat   ABS   taro
        'The person who will eat the taro.'   (approx. Seiter 1980: 94)

(9) NIUEAN ERGATIVE RAISING

    a. To   nākai toka e   au **e pusi$_i$** [ke   kai __$_i$ e   ika].   → *compare (7a)*
        FUT   not   let ERG 1SG ABS cat   COMP eat   ABS fish
        'I won't let the cat eat the fish.'

    b. To   nākai toka e   au   **e   ika$_i$** [ke   kai he   pusi __$_i$].
        FUT   not   let   ERG 1SG ABS   fish   COMP eat ERG cat
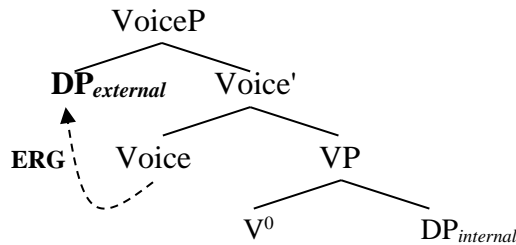   'I won't let the cat eat the fish.'   (Seiter, 1980; Massam, 1985)

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[1] Absolutive arguments are able to raise in both Tongan and Niuean.

3. Accounting for Syntactic Ergativity

- We assume ergative to be an inherent case (Woolford, 1997; et seq.), assigned by Voice^0 to the external argument.[2]

(10) INHERENT ERGATIVE

- We adopt an 'Absolutive Inversion' approach to ABS case assignment for Tongan (Campana 1992; Bittner & Hale 1996; Aldridge 2004, a.o.).
  - ABS is assigned by T^0 (i.e., ABS = NOM) (see 13 below).
  - The object must move into a local configuration with T^0 (the vP phase edge) – past the intervening ERG subject (see 13 below).
  - The movement of the ABS argument traps the ERG argument (see §6 for details).

- Coon et al. (2014) use this approach to account for the covariance of syntactic ergativity and the 'high' absolutive marker in Mayan languages.

- In Mayan languages like Q'anjob'al, ABS is assigned 'high' by T^0; the ABS agreement marker *precedes* the ERG agreement marker (11a).
  - Movement of the absolutive argument traps the ERG argument; on their account, the phase has only one escape hatch (the ABS argument can freely extract). Thus, the language is syntactically ergative (11b).

(11) Q'ANJOB'AL: HIGH ABSOLUTIVE = SYNTACTIC ERGATIVITY (cf. Tada, 1993; Coon et al., 2014)
   a. Max-**ach**   y-il-a'.
      ASP-2ABS   3ERG-see-TV
      'She saw you.'
   b. **Maktxel***$_i$* max-**∅**   y-il[-a']   __*$_i$*   ix   ix?
      who   ASP-3ABS   3ERG-see-TV   CLF   woman
      Intended: 'Who saw the woman?'   (Coon et al., 2014)

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[2] See also Assmann et al. (2015) for a similar analysis, in which ergative is assigned under a specifier-head relationship (10), but is not associated with any particular theta role (i.e., as a structural case, via Spec-head Agree). Unergative subjects are always marked absolutive in both Niuean and Tongan; we follow Massam (2012), who argues that unergative subjects are base-generated lower than transitive subjects (e.g. in a lower VoiceP).

- In Mayan languages like Ch'ol, ABS is assigned 'low' by Voice[0] (Legate, 2002; Aldridge, 2004); the ABS marker *follows* the ERG marker (12a).
  - The ergative argument is available for extraction (as is the absolutive) and thus the language does not display syntactic ergativity.

(12) CH'OL: LOW ABSOLUTIVE = NO SYNTACTIC ERGATIVITY (cf. Tada, 1993; Coon et al., 2014)
    a. Tyi y-il-ä-**yety.**
       ASP 3ERG-see-TV-2ABS
       'She saw you.'
    b. **Maxki***i* tyi   y-il-ä-**yety**   __*i*?   → *compare (11b)*
       who   ASP   3ERG-see-TV-2ABS
       'Who saw you?'   (Coon et al., 2014)

- Applying this analysis to Tongic, we claim that the locus of ABS in **Tongan** is high (T^0).
  - Movement of the ABS argument into a case licensing position (the *v*P phase edge) traps the ergative argument in its base position (again see §6 for details).

(13) TONGAN HIGH ABS (cf. Q'anjob'al)
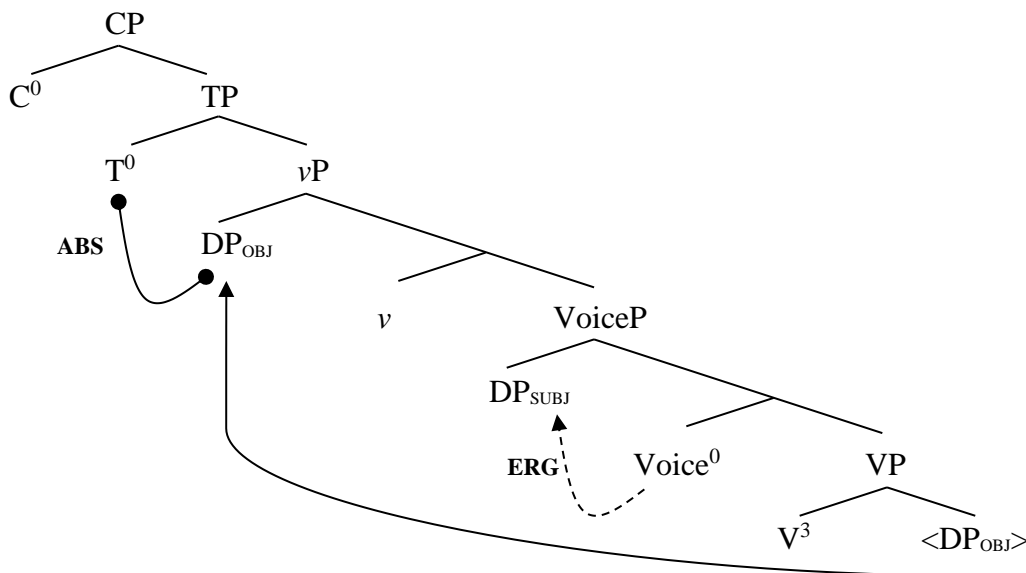
- In contrast, absolutive case is assigned low in **Niuean**, by Voice[0] (cf. Massam 2006).[4]
  - The ABS argument does not move; both core arguments freely extract.

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[3] We do not discuss the verb's clause-initial position. See Otsuka (2005) for V^0-raising account of Tongan.

[4] Coon et al. propose that Ch'ol ABS is a morphological default for two structural cases (Legate, 2002; Aldridge, 2004): nominative (assigned by T^0 to intransitive subjects), and accusative (assigned by Voice[0] to objects). We remain agonistic as to whether Niuean also has two sources for ABS.

(14) NIUEAN LOW ABS (cf. Ch'ol)

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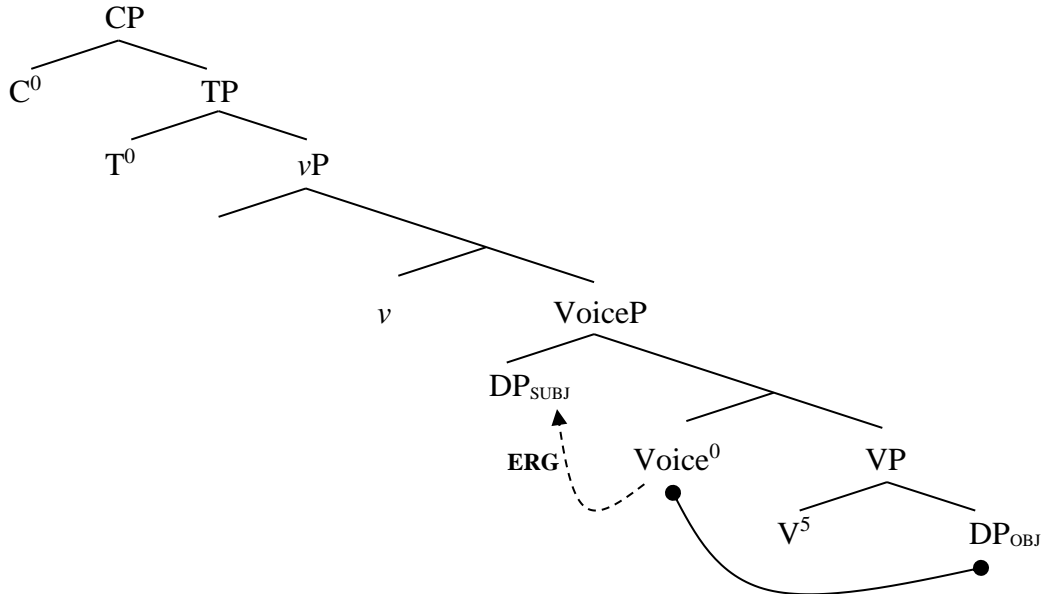
4. Word Order Variation

- Our primary reason to adopt the approach to case assignment and syntactic ergativity outlined above comes from **word order differences** in these two closely related languages.

- Beginning with **Tongan**, in transitive clauses with two DP arguments, both VSO (15a) and VOS (15b) order is allowed.

(15) TONGAN WORD ORDER IN TRANSITIVE CLAUSES
   a. Na'e 'ave   'e   Sione 'a   Mele.   **(VSO)**
      PST   take   ERG   Sione ABS   Mele
      'Sione took Mele.'
   b. Na'e 'ave   'a   Mele   'e   Sione.   **(VOS)**
      PST   take   ABS   Mele   ERG   Sione
      'Sione took Mele.'   (Otsuka, 2000)

- Turning to **Niuean**, the word order of transitive clauses with two DP arguments is strictly VSO (compare 16a to 16b).

(16) NIUEAN WORD ORDER IN TRANSITIVE CLAUSES
   a. Kua   kai he   tama   e   niu.   **(VSO)**
      PFV   eat ERG child ABS   coconut
      'The child ate the coconut.'

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[5] We do not discuss the verb's clause-initial position. For Niuean, see Massam (2001) for VP-(remnant)-raising account Clemens (2014) for V^0-raising account.

b. *Kua kai e niu he tama. **(*VOS)** → *compare (15b)*
   PFV eat ABS coconut ERG child
   Intended: 'The child ate the coconut.'   (Authors' notes)

- Otsuka (2005) proposes that Tongan VOS is *A-scrambling*: VOS constructions show properties associated with A-movement, as opposed to A-bar movement: No Weak Crossover Effects arise (17), and binding relations are altered – the subject cannot bind the object in the VOS order (18).

(17) Na'e fili 'a e **taha kotoa**$_i$ 'e **he'ene**$_i$ tamai ___$_i$
     PST choose ABS DEF one every ERG his father
     'His$_i$ father chose everyone$_i$.'

(18) Na'e fili 'a **ia**$_i$ pē 'e Sione$_{*i/j}$ ___$_i$
     PST choose ABS 3SG only ERG Sione
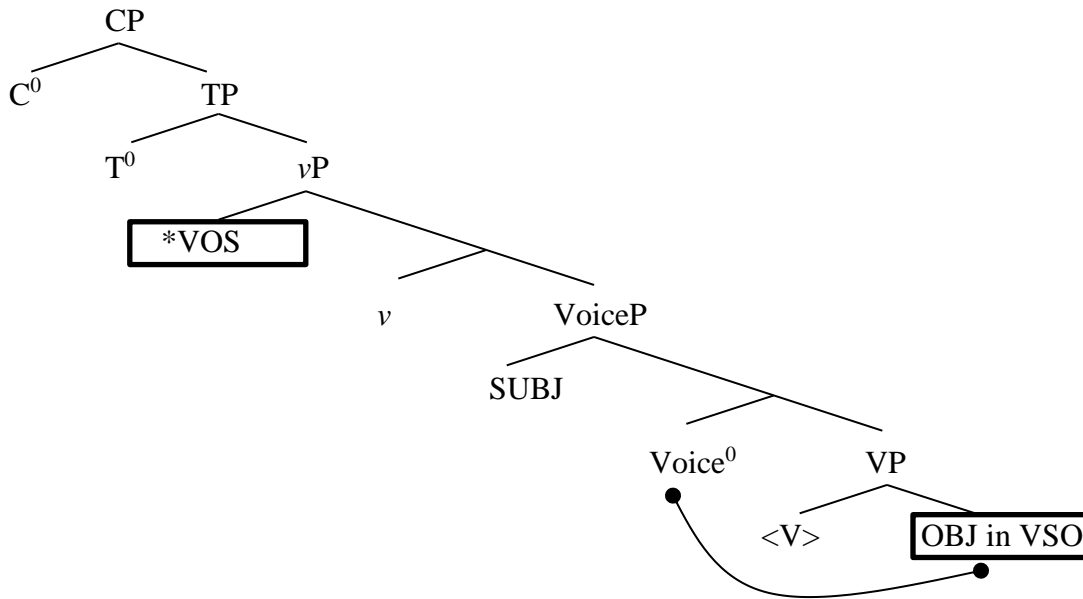   'Sione chose him/*himself.'   (Otsuka, 2005)

- We propose that object A-movement in Tongan VOS is a reflex of ABS case assignment: the *base* position of the Tongan object follows the subject, while the *case* position precedes it.
   o As in (19), The object can be pronounced in either syntactic position and the choice is governed by pragmatic factors (i.e. movement is covert in VSO clauses).[6]
   o In Niuean (20), the ABS object *only* has the low option; VSO is therefore obligatory.

(19) TONGAN HIGH ABS; VSO AND VOS

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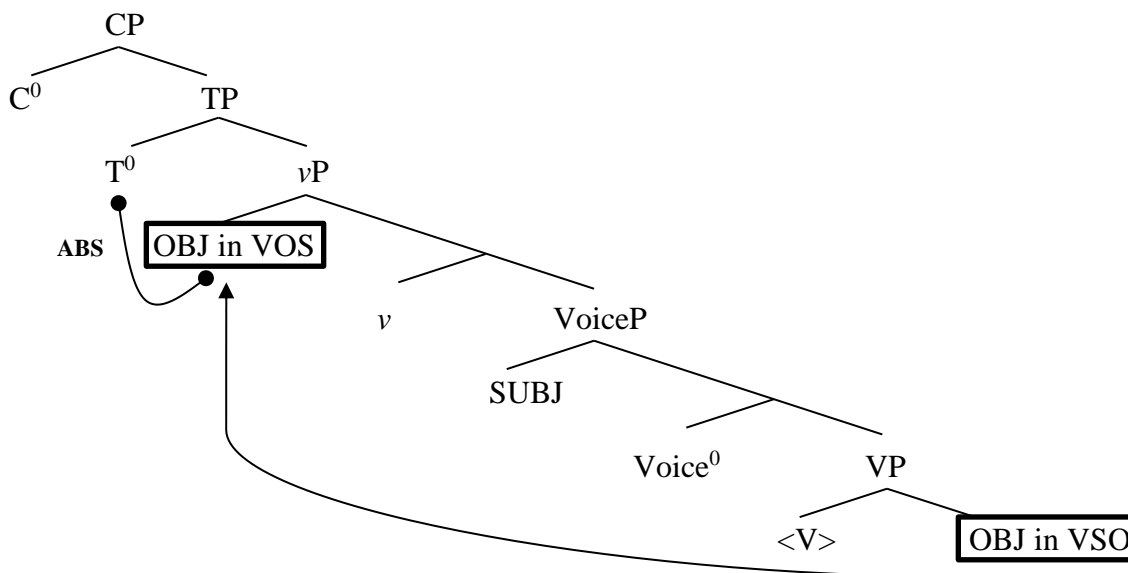
[6] This predicts that Tongan should show *no* WCO effects in object *wh* questions. As pointed out by a NELS 47 reviewer, WCO *is* observed (Otsuka 2005); this is a fact which we are currently working to explain.

(20) NIUEAN LOW ABS; VSO BUT *VOS

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              CP
            /    \
          C⁰      TP
                 /   \
               T⁰     vP
              ┌─────┐/  \
              │*VOS │    \
              └─────┘ v   VoiceP
                         /    \
                      SUBJ     \
                             /      \
                         Voice⁰      VP
                           ●        /   \
                                 <V>   ┌──────────┐
                                       │OBJ in VSO│
                                       └──────────┘
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5. Tongan Coordination

- Tongan has two types of coordination: *pea* and *mo* (Otsuka, 2000 & 2010).

- Starting with ***mo,*** we find an accusative coordination pattern. When all participants are *not* overtly expressed…
  - The overt subject of the first conjunct (either an intransitive ABS subject or a transitive ERG subject) and the unexpressed participant in the second conjunct must be the same.
  - Furthermore, the unexpressed participant in the second conjunct can only be the subject of its clause (intransitive ABS or transitive ERG).

(21) TONGAN *mo*-COORDINATION
   a. Na'e   tangi   **'a**   **Hina$_i$**   mo   taa'i   (__$_i$)   'a/*'e   Mele.
      PST   cry   ABS   Hina   and   hit   ABS/*ERG   Mele
      'Hina cried and (she) hit Mele.'
      Not: '…..and Mele hit (her).'
   b. Na'e   taa'i   **'e**   **Hina$_i$**   'a   Mele   mo   (__$_i$)   kata.
      PST   hit   ERG   Hina   ABS   Mele   and   laugh
      'Hina hit Mele and (Hina/*Mele) laughed.'   (Otsuka, 2000)

- Turning to ***pea***, we find a syntactically ergative coordination pattern (cf. Dixon, 1994 for Dyirbal). When all participants are *not* overtly expressed…

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- o If an argument in the second conjunct contains an unexpressed participant, the unexpressed participant must correspond to an overt participant in the first conjunct marked with a matching case.
- o An overt ergative argument in the first conjunct can be coindexed with an unexpressed ergative argument in the second conjunct.
- o An overt absolutive argument (either intransitive subject or transitive object) in the first conjunct can be coindexed with an unexpressed absolutive argument (either intransitive subject or transitive object) in the second conjunct.

(22) TONGAN *pea*-COORDINATION

   a. Na'e   tangi **'a Hina**$_i$ pea taa'i   'e/*'a   Mele (__$_i$).   → *compare (21a)*
      PST   cry ABS Hina and hit   ERG/*ABS Mele
      'Hina cried and Mele hit (her).'
      Not: '…..and (she) hit Mele.'

   b. Na'e taa'i 'e   Hina **'a Mele** pea (__$_i$)   tangi.   → *compare (21b)*
      PST hit   ERG Hina ABS Mele and   cry
      'Hina hit Mele and (*Hina/Mele) cried.'   (Otsuka, 2000)

- In addition to demonstrating the accusative pattern of *mo* and the ergative pattern of *pea,* Otsuka (2010) argues that *pea* and *mo* coordinate XPs of different sizes.
  - o *Pea* may be followed by a tense marker or a clausal conjunction. *Mo*, however, cannot (see 23a-b below).
  - o This suggests that *pea* coordinates XPs at least as big as TP, while *mo* coordinates smaller XPs (e.g. *v*P, VoiceP, AdjP, DP).

(23) *Pea* VS *mo* COORDINATION

   a. [Na'e kai lahi 'a   Sione] **pea/*mo** [**na'e**   inu lahi 'a   Pita.]
      PST   eat much ABS Sione and   **PST**   drink much ABS Pita
      'Sione ate a lot and Pita drank a lot'   (Otsuka, 2000)

   b. **Pea/*mo** [**kapau** kuo 'osi   'a   e   ngaué.]
      and   **if**   PERF finished ABS   DEF   work
      'and if the work has been done…..'   (Churchward, 1953, via Otsuka, 2010: 323)

- In sum: an ergative pattern arises when TP/CPs are coordinated with *pea*, but not when smaller XPs are coordinated with *mo*.

> Note that the presence of T^0 triggers a syntactically ergative coordination pattern, which is expected under an analysis that ties syntactic ergativity to a high-ABS assigning T^0.[7]

- According to Otsuka (2010), the distribution and interpretation of unexpressed arguments in clauses coordinated by *pea* is determined by case matching; in those coordinated by *mo* it is determined by structural position (for Otsuka the specifier of *v*P).

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[7] We have yet to fully explore coordination possibilities in Niuean; however, based on our observations thus far, it appears that coordination in Niuean is less complex as compared with Tongan. Niuean does not have a *pea*-equivalent. Niuean *mo* is also used in coordination contexts; however its behaviour is less restricted.
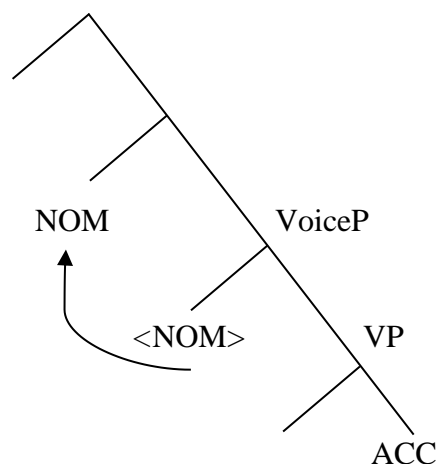
- A concern for Otsuka (2010) is that 'scrambled' objects (VOS) like *in situ* objects (VSO) cannot be unexpressed (or coindexed with an unexpressed argument) under *mo*-coordination even though they are ostensibly higher than the subject in the specifier of *v*P.
  - However, if movement of the object to the specifier of *v*P is triggered by merging T^0 (as opposed to an EPP feature on v^0), this fact is no longer problematic.
  - *Mo* coordinates XPs which do not contain T^0, so at the point of coordination, ABS movement has not taken place. Even objects that will be realized as VOS objects are lower than the subject at the point in the derivation where *mo*-coordination takes place.
  - In *mo*-coordination we propose that Case is eventually assigned to the ABS arguments in both conjuncts via multidominance, whereby both conjuncts are equidistant to T^0 (Williams, 1978).

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6. Blocking ERG movement

- A crucial question: *why* does movement of the ABS argument to the *v*P phase edge block movement of the ERG argument?
  - Superiority (e.g., Aldridge, 2004)?
  - Single *v*P escape hatch (e.g., Coon et al., 2014)?

- Appealing to superiority or a ban on multiple *v*P specifiers predicts that accusative objects in NOM-ACC languages should be *at least* equally as impervious to A-bar movement as ergative subjects in ERG-ABS languages (see discussion in Assmann et al., 2015 a.o.).
  - Just as high ABS blocks ERG movement, so should (high) NOM block ACC movement.[8]

(24) ERGATIVE VERSUS ACCUSATIVE
    a. Nominative-accusative   b. Ergative-absolutive

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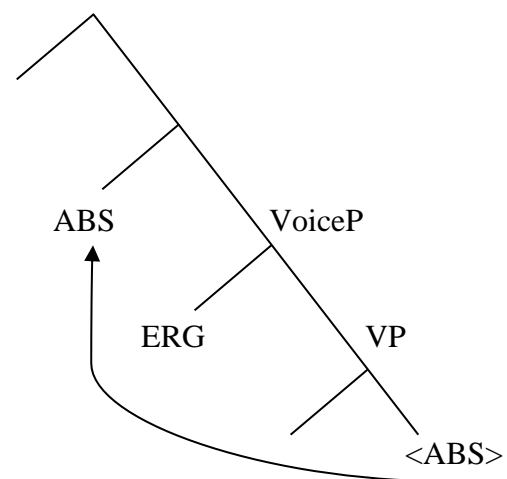
[8] Tollan (2016) observes that syntactic ergativity is indeed far more prevalent than syntactic accusativity, (which is extremely rare) based upon typological data from 32 ergative languages surveyed by Polinsky (2015), and 44 accusative languages surveyed by Keenan and Comrie (1977).

- Assmann et al. (2015) seize upon this issue to argue against absolutive inversion as a means of explaining syntactic ergativity.
  - Following Tollan (2016), we suggest that the culprit in cases of syntactic ergativity – at least, in Tongic Polynesian (and possibly Mayan) – is the trajectory of movement.

- **Constraint on Crossing Dependencies "CCD"** (Kuno & Robinson, 1972; Steedman, 1984): movement which results in nested dependencies (25a) is preferred to movement which results in crossed dependencies (25b).
  - Steedman (1984) – no language has *only* crossing dependencies.

(25) a. The violin$_j$ that I wonder which sonatas$_i$ to play __$_i$ on __$_j$

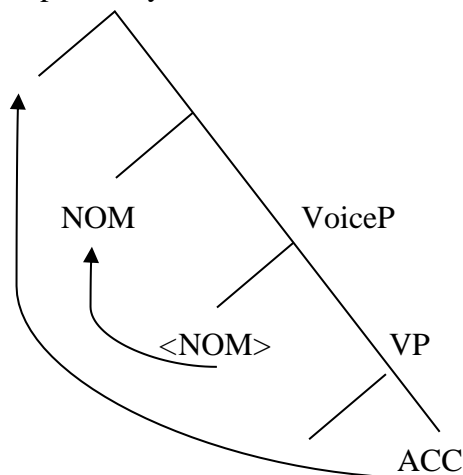   b. *The sonatas$_j$ that I wonder which violin$_i$ to play __$_j$ on __$_i$ (Steedman, 1984)
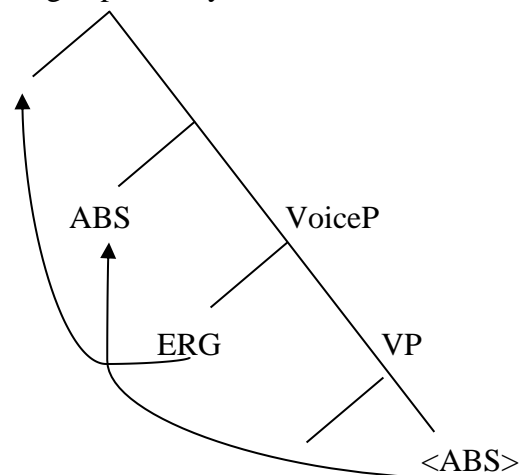
- Returning to an absolutive inversion account of syntactic ergativity, the asymmetries between the attested restrictions on ergative extraction as compared to the unattested restrictions on accusative extraction can be captured by the CCD.
  - Syntactic ergativity manifests as ban on A-bar movement of the ergative argument across the absolutive arguments A-movement path.

(26) NESTED VS. CROSSING DEPENDENCIES
    a. *Movement of ACC*   b. **Movement of ERG*
      Nested dependency   Crossing dependency

NOM   VoiceP   ABS   VoiceP

        <NOM>   VP   ERG   VP

                   ACC   <ABS>

- This type of explanation makes a number of predictions, including…
  - In nominative-accusative languages, the nominative argument may move to the specifier of TP and the object should still be able to undergo A-bar movement.
  - Goal arguments (generated below direct objects) should A-bar move in high ABS languages, because they would not cross the path of the absolutive (cf. Assman et al.'s concern about the phase-based and superiority accounts' ability to deal with the fact that absolutives *and* goal arguments can undergo A-bar movement in Kaqchikel).

6. Conclusion

- Our goal in this talk was to connect variation in syntactic ergativity in Tongic Polynesian languages (i.e. Niuean and Tongan) to differences in post-verbal word order.
  - Niuean = VSO/*VOS; ERG argument freely displaced
  - Tongan = VSO/VOS; ERG displacement restricted.

- To explain these differences, we adopt the position that syntactic ergativity is the result of Absolutive Inversion (i.e. A-movement of the ABS argument past the ERG argument for case-licensing), much in the spirit of Coon et al. (2014) who account for covariance of syntactic ergativity and the position of the ABS marker in Mayan.
  - Tongan = high ABS assigned by T^0
  - Niuean = low ABS assigned by $Voice^0$

- We tie the locus of ABS into Otsuka's (2010) account of *mo* and *pea* coordination in Tongan.
  - If syntactic ergativity is connected to T^0 assigning ABS, syntactically ergative patterns should only arise in constructions involving T^0 (e.g. *pea-* but not *mo*-coordination).
  - An account of *mo*-coordination based on structural height is more viable if the object does not move to the specifier of *v*P until T^0 enters the derivation.

- Finally, we evaluate the Absolutive Inversion approach in view of the typological rarity of syntactic accusativity, suggesting that the ban on ERG movement is tied to the prior movement of the ABS around the ERG argument, rather than superiority or a phase-based movement *per se*.

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