ORIGINAL PAPER

# Austronesian verb-initial languages and *wh*-question strategies

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**Abstract** This paper presents a research agenda for investigating possible implicational universals connecting the syntactic strategy that a verb-initial language uses to derive verb-initial word order (verb raising, VP raising, verb lowering, right hand subjects, etc.) and its strategy for forming *wh*-questions (*wh*-in-situ, clefting, *wh*-fronting, etc.). The Austronesian language family, with its over 1000 members, is taken as a starting point for the investigation because of its abundance of verb-initial languages. The existing analyses of Austronesian languages support one potential universal in this domain: Languages that derive verb-initial word order by VP raising do not have *wh*-movement. Possible theoretical explanations for this pattern are evaluated. The paper then considers Fijian, a potential counterexample. Further analysis suggests that Fijian is unlikely to be a problem, however, it highlights a main claim of the paper: Careful, in-depth analyses are required to yield robust results in such a typological study.

Keywords Verb initial · Wh-questions · Typology · Austronesian · Fijian

# 1 Introduction

One of the first, and best known, claims about the relationship between verb-initial word order and *wh*-question formation is the first half of Greenberg's (1963) Universal 12:

Greenberg's Universal 12 (Greenberg 1963)
 If a language has dominant order VSO in declarative sentences, it always puts interrogative words or phrases first in interrogative word questions

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Keenan (1978: 292) subsequently proposed nearly the same generalization for VOS languages, differing only in recognizing that interrogative-first word order could be optional. Many languages of both the VSO and VOS types allow the interrogative phrase to appear first but do not require it; they also allow *wh*-in-situ.<sup>1</sup> In a refinement of both claims, Hawkins (1983) argues that whether the subject precedes the object or vice versa is not relevant. Only the position of the verb is typologically significant. I formulate these findings as Universal 12':<sup>2</sup>

(2) Universal 12'

If a language has dominant verb-initial (V1) word order in declarative sentences, it can put interrogative phrases first (Wh1) in interrogative questions

Typological work on word order typically yields results of this sort. The syntactic generalizations are about linear order and adjacency relations. Such parameters have the advantage that they are relatively easy to determine from a surface inspection of a language and can be gleaned from descriptive grammars. Large-scale surveys of languages and their typological characteristics are, thus, possible, for example the extensive database in Haspelmath et al. (2008). Such studies contrast with generative work on these topics. In such research, highly articulated hierarchical structures underlie most analyses of word order and surface similarities often do not translate into structural parallels. For example, it is now widely accepted within the generative literature that there is no analytically cohesive class of verb-initial languages. Not all languages that are described as verb-initial have the same structure and derivation (Chung 1998, 2006; papers in Carnie and Guilfoyle 2000; papers in Carnie et al. 2005; and others). Such generative work is difficult to perform on a large crosslinguistic scale, however, as structural analyses typically require sophisticated understanding of a language's grammar and cannot be deduced by inspection. Generativists assume that Universal Grammar (UG) makes available much finer grained parameters than are typically assumed by typologists.<sup>3</sup>

I, thus, start from the position that implicational word order universals like (2) might very well be valid generalizations about the world's languages but they are not part of Universal Grammar (UG). They are not part of the set of principles that guide children in their acquisition of language (Coopmans 1984; Newmeyer 2004). One reason is that, as it stands, 12' is a surface-oriented claim, referring only to linear order. Neither V1 nor Wh1 constitutes a structural claim about a language and there are numerous derivational histories that can yield both of these surface word orders. The hypothesis under investigation is that a theoretically-oriented investigation of

<sup>&</sup>lt;sup>1</sup>Austronesian examples include Tuvaluan (Besnier 2000), Toba Batak (Cole and Hermon 2008), Malagasy (Keenan 1978), Fijian (Dixon 1988), Tongan, and Palauan.

<sup>&</sup>lt;sup>2</sup>Dryer (1991) cites 13 languages that he claims are exceptions to Greenberg's Universal 12. Of these, 10 are Austronesian: Bikol, Fijian, Hawaiian, Kiribatese, Niuean, Samoan, Tahitian, Toba Batak, Tongan, Rukai. My investigations show that Fijian, Kiribatese, Niuean, Samoan, Tahitian, Toba Batak, and Tongan allow *wh*-in-situ but do not require it. Thus, they are not exceptions to Universal 12'. I do not have information on the other languages.

<sup>&</sup>lt;sup>3</sup>I cannot do justice to discussions on the similarities and differences between typological and formal approaches to language. They sometimes differ in their research questions, methodology, data, and goals. The relevant literature includes Newmeyer (2005), Plank (2007), Polinsky (2009), and references therein.

the structural underpinnings of V1 and Wh1 will lead us to refined generalizations that might reasonably be direct consequences of UG. The paper is a programmatic investigation of this hypothesis. I will not be primarily concerned with proposing and defending particular universal claims; rather, I will suggest possible correlations and indicate the kind of research that is necessary to develop and test such claims. It will become evident that quite subtle and sophisticated analysis is often required to evaluate such linguistic proposals.

The paper will focus on Austronesian languages (AN) as a test case for this hypothesis because of their propensity for being V1. A significant minority of the world's languages, about 19%, are V1 (van Everbroeck 2003) and my suspicion is that most of these are Austronesian.<sup>4</sup> Given the diversity within AN, it provides a rich testing ground for typological claims about V1 languages. Thus, the paper lays out a program for investigating certain theoretical claims within a comparative Austronesian perspective.

The organization of the paper is as follows. Section 2 lays out the theoretical issues behind V1 and Wh1. The central claim is that neither one is a natural class from a structural perspective and, thus, it would not be surprising if principles of UG did not actually refer to these parameters. In Sect. 3, I lay out a research agenda for investigating potential universals involving V1 and Wh1. I outline the kinds of correlations one might expect to see. Section 4 begins to assemble the results from the literature that are necessary to test such potential universals. The remainder of the section turns to an in-depth consideration of one particular hypothesis from Oda (2002, 2005):

(3) Oda's Generalization (Oda 2002, 2005) If a language uses VP fronting to derive V1 word order then it will have available a cleft to form wh-questions

Section 4 develops Oda's (2005) account of this claim and provides critical discussion. Section 5 turns to the empirical side of the claim and I consider a potential counterexample to (3), in Fijian. The section concludes that Fijian is probably not a counterexample but the partial analysis serves to illustrate the complexities involved in evaluating such claims even for single languages. Section 6 concludes with a summary of the research program and its prospects.

# 2 V1 and Wh1 within principles and parameters

The goal of this section is to demonstrate that within a Principles and Parameters syntax, there are numerous derivational routes to V1 and Wh1 word order. As a result, V1 and Wh1 do not form natural classes from a structural perspective. The implication for linguistic universals is that, from a syntactic perspective, one does not necessarily expect all V1 and Wh1 languages to pattern alike and Universal 12' is rather surprising. Language universals may in fact be better stated over a subset of V1 and/or Wh1 languages that are a natural class based on their underlying syntax.

<sup>&</sup>lt;sup>4</sup>For example, Dryer (1989) indicates that 71% of VSO languages are Austronesian.

Section 2.1 discusses derivations for V1 and Sect. 2.2 discusses Wh1. The proposals to follow are widely known. In general, I cite only references that specifically relate the analyses to Austronesian languages. I make no attempt to systematically credit the original sources, which are largely outside of Austronesian.

# 2.1 Deriving V1

There is considerable consensus that V1 languages do not all share the same derivational history and that there are numerous routes to a surface V1 word order (Chung 1998, 2006; papers in Carnie and Guilfoyle 2000; papers in Carnie et al. 2005; and others). This section surveys four possible derivations for V1 word order:<sup>5</sup>

- (4) *deri* 
  - derivational paths to V1
  - a. right specifier (RIGHT SPEC)
  - b. verb raising (V RAISING)
  - c. predicate fronting (VP RAISING)
  - d. subject lowering (S LOWERING)

In what follows, I will keep to basic assumptions about clause structure. More articulated structures could be adopted, but at this stage I do not believe that they contribute significantly to the discussion. I assume that the object is a right complement of V since V1 languages are overwhelmingly head-initial (Greenberg 1963 and others). Further, I will make use of only one subject position, specIP. I ignore for present purposes a predicate-internal subject position and the accompanying projection PredP/vP above VP (Chomsky 1995; Bowers 1993). In summary, I start out with the clausal architecture in (5).

 $(5) \qquad [_{CP} [_{C'} C^{\circ} [_{IP} SU [_{I'} I^{\circ} [_{VP} V OBJ ]]]]]$ 

At this point I will also not be concerned with whether the V1 order is VSO or VOS. The trees will typically show VOS, however, VSO can be derived with independent mechanisms if needed for particular languages.<sup>6</sup> I will also only be concerned with getting the verb initial with respect to the subject and object. Adjuncts and TMA particles are not considered.

# 2.1.1 Right subject position

The most straightforward way to achieve verb-initial word order is to place the subject on the right. Such an option is allowed under the traditional conception of X' Theory as a pair of phrase structure rules that can be parameterized across languages for the order of the daughters (commas indicate unordered constituents).

<sup>&</sup>lt;sup>5</sup>There are at least two other analyses of V1. A flat structure is found in the lexicalist literature (Kroeger 1993; Sells 2000; Ball 2001) in which the initial verb and its arguments are all sisters. The pronominal argument hypothesis (PAH) (Jelinek 1984; Baker 1996) can also create V1: The core clause consists of a verb and null pronominal arguments with overt noun phrases coindexed with the subject and object right-adjoined to the clause. See Alderete (1998) and Aranovich (2008) for such an analysis of Fijian.

<sup>&</sup>lt;sup>6</sup>One could make use of a predicate-internal subject position, object shift, and/or rightward extraposition to obtain VSO. See Chung (1998, 2005a, 2006) and references therein for discussion.

- (6) X' Theory
  - a.  $XP \rightarrow X'$ , spec

b.  $X' \rightarrow X$ , complements

English is achieved by specifying the rule  $XP \rightarrow \text{spec } X'$ . A verb-initial language could be instantiated using  $XP \rightarrow X'$  spec, yielding the structure in (7). I will call this the RIGHT SPEC analysis.



Guilfoyle et al. (1992) use (a variant of) this structure as part of their explanation for V1 in a number of Austronesian languages. It is also the structure for VOS in Paul's (2000) analysis of Malagasy and Chung's (1998) analysis of Chamorro.

The right hand specifier analysis has been criticized from a universalist perspective that wishes to eliminate X'-related ordering parameters. Kayne (1994) and subsequent work, for example, propose a fixed underlying spec > head > complement word order that allows no parameterization or right specifiers. RIGHT SPEC would be excluded in such a system.

## 2.1.2 Verb raising

The verb raising approach (V RAISING) to V1 uses head movement to place the verb in a left-peripheral position in the clause. From a base structure as in (5), the verb must move to a head position above the subject:

(8) *verb raising analysis of V1* 



The exact position of the verb depends upon the position of the subject and the head positions available in the clause. This head position could be  $I^{\circ}$ ,  $C^{\circ}$ , or some articulated Infl projection between the two. V RAISING is the dominant approach to V1

in the literature. It is best known for its application in Irish (McCloskey 1996, 1991). Variants have been proposed and defended in Austronesian for Tongan (Otsuka 2000, 2005) and Tagalog (Aldridge 2004), among others.

#### 2.1.3 VP raising

An alternative to fronting the verb to achieve V1 order is to front the entire VP. Since the VP is verb-initial, such VP RAISING will also result in V1 word order. VP RAISING would take the structure in (5) and transform it into (9), in which the VP moves to the specifier of a projection above  $IP.^{7}$ 



A number of researchers have generalized this approach to fronting of constituents larger than the VP, such as *v*P/PredP or even TP (Aldridge 2004; Pearson 2001, 2005; Potsdam 2007). I will continue to call the analysis VP raising, bearing in mind that it represents a larger family of analyses that derive V1 by fronting some phrasal constituent. It has proven quite popular for AN languages in recent work: Niuean (Massam and Smallwood 1997; Massam 2000, 2001; Oda 2005), Malagasy (Pearson 2001, 2005, 2006; Rackowski and Travis 2000; Travis 2005; Potsdam 2007), Tagalog (Rackowski 1998), Seediq (Aldridge 2002, 2004; Holmer 2005), Toba Batak (Cole and Hermon 2008), and Javanese (Cole et al. 2002).

#### 2.1.4 Subject lowering

The previous two analyses derive V1 by raising some constituent to the left past the subject. An alternative is to lower the subject rightward, past the verb. Following Chung (1998), S LOWERING is an operation that lowers the subject from specIP to a position right-adjoined to any projection of the verb (V°, V', or VP). A resulting structure is shown in (10).

<sup>&</sup>lt;sup>7</sup>Without further assumptions, VP RAISING only derives VOS word order, as the predicate moves as a unit. See Massam (2000, 2001) for discussions of predicate fronting derivations for VSO languages.



The most articulated presentation and defense of this analysis for V1 is Chung's (1998) analysis of Chamorro. In that analysis, the trace of the subject in specIP is then covered up with a null expletive which forms an expletive-argument chain with the lowered subject. Since the subject is coindexed with an element in specIP, it behaves, by and large, as though it were still in this position. Although Chung (1998) uses S LOWERING to derive VSO order, it seems that it would also be capable of deriving VOS order if the subject were adjoined within the VP projection above the object.

# 2.2 Deriving Wh1

Just as with V1, there is more than one syntactic route to Wh1 word order. I survey three options here.<sup>8</sup>

- (11) *derivational paths to Wh1* 
  - a. *wh*-movement (WH MVT)
  - b. focus fronting (FOCUS MVT)
  - c. cleft or pseudocleft structure (CLEFT)

## 2.2.1 Wh-movement

By far the most well-known way to achieve Wh1 word order is via *wh*-movement (WH MVT). This is traditionally analyzed as movement of a *wh*-phrase to specCP:

 $<sup>^{8}</sup>$ I am concerned only with Wh1 in root *wh*-questions. It is often claimed that different A'-movements target distinct structural positions (Culicover 1991; Müller and Sternefeld 1993; Rizzi 1997; and others) and that even within the realm of *wh*-movement, the landing site of *wh*-phrases may be different between root and embedded clauses (Culicover 1991; den Dikken and Giannakidou 2002). I start with the null hypothesis that root and embedded *wh*-questions have the same structure, thereby excluding embedded questions from independent consideration. Detailed investigations of individual languages, more detailed than is possible here or is currently available in the literature, may prove this assumption to be incorrect.

Relative clauses may very well have a syntax distinct from that of *wh*-questions and *wh*-operators in relative clauses could reach a relative clause-initial position using a different strategy. Relative clauses are, thus, potentially relevant to the generalizations being explored here. Within Austronesian, however, relative operators are typically null. Consequently, they will generally be unrevealing as it will be difficult to make headway on issues surrounding their syntactic position. I exclude them from consideration as well.



True *wh*-movement specifically targets *wh*-phrases and is driven by a [wh] feature on the moving phrase. Given that *wh*-movement is universally to the left (Baker 1970; Bresnan 1970; Bach 1971; Petronio and Lillo-Martin 1997; Hawkins 1999; and references therein), a language that has *wh*-movement will yield Wh1 word order. Chung (1998) proposes WH MVT in Chamorro.

#### 2.2.2 Focus fronting

There are other operations besides *wh*-movement that can move a phrase to the beginning of a clause. Such movements, often called scrambling, focus fronting, or focus movement (FOCUS MVT), mimic *wh*-movement in some ways, particularly in targeting a clause-initial position, but are syntactically distinct in others. Such operations usually target all varieties of focused phrases, of which *wh*-phrases are a subset because of their use in requesting new information.<sup>9</sup> In English, for example, focus fronting and *wh*-movement both target a left-peripheral position but the two can be distinguished in that, of the two, only *wh*-movement routinely triggers subjectauxiliary inversion in root clauses. They are also not mutually exclusive (Culicover 1996). In other cases, focus movement may be optional while *wh*-movement is obligatory. FOCUS MVT may also target a different structural position from *wh*-movement, which can be diagnosed using complementizers, question particles, topics, or other left periphery elements.<sup>10</sup>

## 2.2.3 (Pseudo)cleft structure

The final means of achieving Wh1 is via cleft formation (CLEFT). By cleft, I mean a biclausal construction resembling an *it*-cleft as in (13a) or a pseudocleft as in (13b).

- (13) a. It was who that you saw?
  - b. Who you saw was who?

Consider what a (pseudo)cleft might look like in languages different from English. Many V1 languages have no copula and the basic word order of non-verbal clauses is

<sup>&</sup>lt;sup>9</sup>I will assume that this movement is not related to topicalization on the assumption that *wh*-phrases cannot be topicalized (Bresnan and Mchombo 1987).

<sup>&</sup>lt;sup>10</sup>Hungarian is a language widely known for moving *wh*-phrases and focused phrases to the same structural position (Kenesei 1986; Kiss 1987; Brody 1990; Puskás 1992; Lipták 2001; and many others). In this sense, Hungarian does not have *wh*-movement, only the more general focus movement.

Within Austronesian, Adams (2009) argues that fronting of *wh*-PPs in Javanese is due to focus movement, not *wh*-movement. The fronting is optional and clause-bound, and speakers indicate that it is used for emphasis. Such an analysis might be available for the Toba Batak data discussed in Hermon (2009).

predicate-initial. If the non-verbal predicate is a *wh*-phrase, it will end up being first, yielding the desired Wh1 word order. This is the case even if the *wh*-phrase predicate does not undergo *wh*-movement.

An illustration from Palauan will help to clarify. Palauan has basic VOS word order (Georgopoulos 1984, 1991). *Wh*-phrases appear clause-initially, (14), or in-situ (not shown).<sup>11</sup>

(14)	a.	ng-te'a	а	kileld-ii	a	sub
		3sg-who	NMLZ	heat.REALIS.PERF-3SG.OBJ	NMLZ	soup
		'Who he	ated up	the soup?'		
	b.	ng-ngera	a	le-silseb-ii		а
		3sG-wha	t NML2	z burn.3sg.irrealis.perf-3	SG.OB	J NMLZ
		se'el-ii				
		friend-38	G			
		'What di	d his fr	iend burn?'		

Georgopoulos (1991) argues that the structure of such clauses is as in (15). The *wh*-phrase is the predicate and the remaining material is a free relative. The nominal status of the subject material is signaled by the nominal element *a* (glossed NMLZ), which Georgopoulos (1991: 32) indicates is a marker of full NPs.<sup>12</sup>



Pseudocleft structures for *wh*-questions have been proposed for a wide range of Austronesian languages, including Palauan (Georgopoulos 1991), Malay (Aman et al. 2009), Indonesian (Cole et al. 2005), Tsou (Chang 2000), Tagalog (Richards 1998; Aldridge 2002, 2004), Seediq (Aldridge 2002, 2004), Malagasy (Paul 2000, 2001; Potsdam 2006a, 2006b), Maori (Bauer 1991, 1993), Niuean (Seiter 1980), Tuvaluan (Besnier 2000), and Tongan (Otsuka 2000; Custis 2004).

(i) a demak a sensei NMLZ father.1SG NMLZ teacher 'My father is a teacher.'

<sup>&</sup>lt;sup>11</sup>I use the following abbreviations in glossing: 1/2/3, number; ASP, aspect; ASSOC, associative; DIR, directional; DU, dual; HAB, habitual; MOD, modifier; NMLZ, nominalization; OBJ, object; PERF, perfective; PREP, preposition, POSS, possessor; RP, resumptive pronoun; SG/PL, number; SU, subject; TRANS, transitive.

 $<sup>^{12}</sup>$ A potential complication here is that Palauan does not appear to be predicate-initial when it comes to non-verbal predicates. The word order in equational sentences of the form NP, NP is subject + predicate (Josephs 1975: 377):

Josephs (1975) does not indicate if predicate + subject order is possible.

# 2.2.4 Multiple analyses

Given that there are multiple paths to Wh1 cross-linguistically, it would not be impossible for a single language to use more than one strategy. Such a situation might arise in at least two ways. First, a given *wh*-question might be structurally ambiguous. This is not an optimal situation from an analytical standpoint but it is a potential reality. Second, a language might use different strategies for different kinds of *wh*-questions. To illustrate, some languages seem to use distinct structures for argument *vs*. adjunct questions. Aldridge (2002, 2004) indicates that the Austronesian language Seediq use clefts or *wh*-in-situ for argument *wh*-questions; however, adjunct *wh*-questions are exclusively *wh*-in-situ. A similar picture exists in Tagalog, where argument questions are clefts (Richards 1998; Aldridge 2002, 2004) but adjunct questions use fronting (Gerassimova and Sells 2008) (see Hermon's (2009) discussion of Toba Batak). A similar alternative is that a language might use distinct strategies for questioning DPs *vs*. non-DPs. Detailed analyses of individual languages need to be cognizant of such options. I will put these potential complications largely aside in the more programmatic discussions that follow.

# 3 A research agenda: V1/Wh1 language universals and UG

Given that there are numerous syntactic paths to both V1 and Wh1, from a theoretical perspective it would be surprising (at least to me) if all V1 strategies somehow converged on simply allowing one or more of the Wh1 strategies, as Universal 12' predicts.

(16) Universal 12'

If a language has dominant verb-initial (V1) word order in declarative sentences, it can put interrogative phrases first (Wh1) in interrogative questions

Rather, I would like to propose the following research question:

(17) Are there any correlations between the derivational strategy that a language employs to obtain V1 (V RAISING, VP RAISING, RIGHT SPEC, or S LOW-ERING) and its strategy for forming Wh1 *wh*-questions (WH MVT, FOCUS MVT, CLEFT)?

In other words, are there universals of the form in (18), which I will call V1/Wh1 implicational universals:

(18) V1/Wh1 implicational universals
 If a language uses {V RAISING, VP RAISING, RIGHT SPEC, S LOWERING}
 (pick one) to derive V1 word order then it {WILL, WILL NOT} have available
 {WH MVT, FOCUS MVT, CLEFT} (pick one) to form wh-questions<sup>13</sup>

 $<sup>^{13}</sup>$ I do not formulate the statements in such a way that a language with a particular V1 strategy must use a particular Wh1 strategy. The reason for this is that *wh*-in-situ seems overwhelmingly available, at least in V1 Austronesian languages, and should not be excluded as an alternative strategy. It may turn out that *wh*-in-situ has a special discourse use in these languages but insufficient descriptions exist to determine the status of *wh*-in-situ in most of the languages under investigation.

My interest in establishing answers to the above questions lies in what such universals could tell us about UG. I assume that like 12', such universals would also *not* be directly encoded in UG. Rather, they should be derivable from deeper principles of grammar.

An example of the desired chain of logic from language universal to UG is Emonds' (1980) account of Greenberg's Universal 12. It is illustrative of how a V1/Wh1 universal could inform linguistic theory. Emonds assumes the correctness of the following V1/Wh1 implicational universal: If a language uses V raising to derive V1 word order, then it will have available WH MVT to form *wh*-questions. The explanation runs as follows: Assume that VSO word order is derived by movement of the verb to a sentence-initial COMP. Assume also that the existence of COMP in a language entails a *wh*-movement transformation to COMP (Baker 1970; Bresnan 1970; den Besten 1977). Given that the verb is in COMP in VSO languages, we know that COMP is activated and there will therefore be *wh*-movement to that domain. We obtain the result that VSO languages will necessarily have *wh*-movement, Greenberg's Universal 12. Universal 12 is not part of UG; instead, it is deduced from the syntactic assumptions in (19).

- (19) a. VSO word order involves movement to COMP
  - b. COMP in a language entails *wh*-movement
  - c. *wh*-movement targets the COMP domain

Emonds' account would not succeed today; (19a, b) are not widely accepted. It nonetheless illustrates how principles of UG, which (19) were at the time, can derive word order universals that are not themselves part of UG.

The biggest challenge in the research program is the groundwork necessary to establish the existence of V1/Wh1 implicational universals. In contrast to surfaceoriented typological work, paging through grammatical sketches of languages is unlikely to yield a confident answer to the questions of how V1 and Wh1 are derived in a given language. This determination is rarely straightforward and it typically requires sophisticated analysis. This is the primary reason why I can only raise questions and offer a research agenda at this stage. Analyzing enough V1 languages to identify potential patterns will require a more sustained effort.

Two brief illustrations might be useful to appreciate the complexities involved. The first concerns Chamorro. Chung (1998) convincingly argues that VSO order in that language results from S LOWERING and not V RAISING. The argumentation is complex and subtle, however, supported by decades of experience with the language. Such a result could probably not have been achieved by paging through even the best descriptive grammars. The second illustration comes from the VOS language Malagasy. There is much excellent work on the syntax of Malagasy, beginning with Ed Keenan's groundbreaking work in the 1970's (Keenan 1972, 1976) in which *wh*-questions were first described in a generative context. Some Malagasy *wh*-questions are formed by preposing the *wh*-phrase and following it with the focus particle *no*:

(20)	a.	iza no nanasa lamba?
		who FOCUS washed clothes
		'Who washed the clothes?'
	b.	taiza no nividy vary Rasoa?
		where FOCUS bought rice Rasoa
		'Where did Rasoa buy rice?'

Examination of such examples, particularly in light of what was known about *wh*-movement at the time suggests that the examples are also derived by WH MVT with the focus particle in C°. This made complete sense and was the accepted view until very recently. Starting with Paul (2000) (citing Dahl 1986 and Pearson 1996), it began to be recognized that such sentences are actually CLEFTS. To my mind, this change from WH MVT to CLEFT is correct and is strongly supported by empirical evidence (Paul 2001; Law 2005, 2007; Potsdam 2006a, 2006b); yet it took numerous researchers and years to establish and the details are still being worked out.

In the next sections, I begin the necessary groundwork for this research program with an incomplete survey of the literature on these topics and an investigation of Fijian.

## 4 Particular universals

Logically, the establishment of V1/Wh1 implicational universals would precede their theoretical explanations. In practice, the analysis and theorizing take place in parallel. Universals are proposed in the absence of unequivocal support when such potential universals have the capacity to inform linguistic theory. In this section, I begin the work of summarizing some of the available analyses that bear on the establishment of V1/Wh1 implicational universals. I then focus on a most promising universal and discuss theoretical proposals in Oda (2005) to account for it.

#### 4.1 Language data summary

Table 1 summarizes the status of V1 and Wh1 in several Austronesian languages for which specific analyses are available. Here and in what follows, I restrict my attention to argument (ARG) questions (subject and object). It is sometimes the case that languages use different strategies for questioning arguments versus adjuncts, so I exclude the latter complexity here (see Hermon 2009 and the discussion above). Finally, the table should not be taken as an endorsement of the particular analyses. I cite them without critical evaluation.

It should be clear at this point that the database is not large enough to draw clear conclusions. Most of the languages that I have included use CLEFT for Wh1; however, it is a small, unrepresentative sampling of Austronesian languages. A clear goal of the proposed research is to fill in the table with the necessary analyses.

There is one promising correlation in the table that I will pursue in the remainder of the paper. The VP RAISING languages are always *wh*-in-situ, either *wh*-argument in-situ or CLEFT (*wh*-predicate in-situ). I will formulate this observation as a negative implication and call it Universal 12-VP.

LANGUAGE	WORD ORDER	V1 STRATEGY	Wh1 STRATEGY	Wh-ARGS IN-SITU POSSIBLE?	SOURCES
Malagasy	VOS	VP raising	Cleft	yes	Pearson 2006, Potsdam 2006a, 2006b
Maori	VSO	VP raising	Cleft	yes	Herd 2003; Bauer 1993
Niuean	VSO	VP raising	Cleft	yes	Massam 2000, 2001, Seiter 1980
Seediq	VOS	VP raising	Cleft	yes	Aldridge 2002, 2004, Holmer 2005
Toba Batak	VOS	VP raising		yes	Cole and Hermon 2008
Tagalog	VSO, VOS	V raising	Cleft	yes	Aldridge 2002, 2004
Tongan	VSO, VOS	V raising	Fronting, Cleft <sup>a</sup>	yes	Otsuka 2000; Custis 2004
Tuvaluan	VSO, VOS		Cleft	yes	Besnier 2000
Chamorro	VSO, VOS	S lower- ing, Right spec	Wh mvt	no	Chung 1998, 2005b
Palauan	VOS	Right spec	Cleft	yes	Georgopoulos 1991

#### Table 1 The status of V1 and Wh1 in several Austronesian languages

<sup>a</sup>Custis (2004) argues that the structure of Tongan wh-questions is ambiguous between a fronting construction and a cleft

(21) Universal 12-VP (VP Raising-Wh-in-Situ Implicational Universal) If a language uses VP RAISING to derive V1 word order, then it will not have wh-movement to form wh-questions

Part of this observation, namely, the relationship between VP RAISING and CLEFT, has already been postulated in Oda (2002, 2005):

(22) Oda's Generalization (Oda 2002, 2005) If a language uses VP RAISING to derive V1 word order then it will have available CLEFT to form wh-questions

The difference between Universal 12-VP and Oda's Generalization is that the former only requires that VP RAISING languages not have *wh*-movement. Lack of *wh*movement does not entail a cleft, however. It only entails *wh*-in-situ. *Wh*-in-situ has two instantiations: A *wh*-predicate in-situ cleft or simple *wh*-in-situ without a cleft structure. The latter is, thus, a stronger claim. In the next section, I explore Oda's analysis of (22).

#### 4.2 Oda (2005)

Oda (2002, 2005) contain explicit theoretical proposals to account for the proposed generalization in (22) and I lay out the analysis here.<sup>14</sup> Oda (2005) starts from the

<sup>&</sup>lt;sup>14</sup>Aldridge (2004: 329–332) also contains an explanation for why VP RAISING languages cannot use *wh*-movement. Using the clause structure that she argues for, a *wh*-moved DP would have to be interpreted

claim that there are just two ways to derive V1 order: V RAISING and VP RAISING (see also Otsuka 2005). Of these, VP RAISING languages show a correlation with *wh*-question strategies, namely, CLEFT.<sup>15</sup>

The various theoretical pieces of Oda's (2005) analysis are given in (23) and developed below.

- (23) a. Parameterized EPP ( $\varphi$ -feature or Pred-feature satisfaction)
  - b. Generalized EPP (for CP and TP at least)
  - c. Uniformity of EPP satisfaction (both EPPs satisfied by same type of feature)
  - d. Clausal Typing Hypothesis (a *wh*-question must be typed by *wh*-movement to specCP or a question particle in  $C^{\circ}$  but not both)

Oda proposes that the two types of V1 languages result from a parameterization of the Extended Projection Principle (EPP)—the requirement that specTP be filled. Some languages check the EPP via a  $\varphi$ -feature; others check the EPP via a Pred(icate)-feature.<sup>16</sup> If a language is of the  $\varphi$ -feature-checking type, either a DP with  $\varphi$ -features can move to specTP or a verb with  $\varphi$ -features (agreement morphology) can undergo head movement to T°.<sup>17</sup> An example of the latter kind of EPP satisfaction is Greek as analyzed in Alexiadou and Anagnostopoulou (1998, 1999). For EPP satisfaction in a Pred-feature-checking type of language, a predicate phrase must move to specTP. An example is Niuean as analyzed in Massam (2000, 2001).<sup>18</sup>

Oda connects the two types of EPP languages and *wh*-question strategies by bringing in Chomsky's (2000, 2001) Generalized EPP and Cheng's (1997) Clause Typing Hypothesis. Chomsky (2000, 2001) proposes a Generalized EPP as an extension of the traditional EPP. In addition to TP, projections such as CP also have an EPP re-

as a topic. Assuming that this is an anomalous interpretation, the structure is illicit. A cleft structure or *wh*-in-situ avoids this semantic problem. In the interest of space, I do not consider that account here as it relies on two less familiar Minimalist principles.

 $<sup>^{15}</sup>$ V RAISING languages, Oda points out, do not show any such correlations. The Austronesian V1 languages above make use of CLEFT but non-Austronesian languages such as Romanian, Catalan, and dialects of Arabic use WH MVT. There does not seem to be an implicational universal relating V RAISING and any *wh*-question strategy.

<sup>&</sup>lt;sup>16</sup>Chung (2006: 704–707) raises theory-internal issues concerning the exact identity of the feature that drives such EPP checking. She concludes that "while VP raising might well be motivated by the need to check an EPP-feature, the precise identity of that feature remains unclear" (Chung 2006: 706). I agree with the assessment but will put this problem aside. The analysis of VP RAISING in Aldridge (2004) is not subject to this criticism as the fronting operation is not driven by feature checking.

<sup>&</sup>lt;sup>17</sup>See Davies and Dubinsky (2001) for similar ideas.

<sup>&</sup>lt;sup>18</sup>EPP satisfaction via a  $\varphi$ -feature can occur in two ways: Either DP phrasal movement to specTP or V° head movement to T°. One might expect these two methods to also be available for EPP satisfaction with a Pred-feature: A VP phrasal predicate could move to specTP or the V° predicate head could move to T°. The latter option is not mentioned in Oda's work, however, and it may be the case that such an option needs to be excluded. If the verb alone could check a Pred-feature on T°, we would lose the derivational distinction between V1 languages that satisfy the TP-EPP with  $\varphi$ -feature-checking and those that satisfy it with Pred-feature-checking. Both could be satisfied by V° movement to T°. If Oda's system is to be maintained, further scrutiny of this option is required. It might be excluded if the verb alone does not have the right properties to be a predicate, i.e. it is insufficiently verbal (Massam 2005), and/or a predicate must be phrasal (Déchaine 1993; Massam and Smallwood 1997; Massam 2001: 166).

quirement (see Rizzi's 1996 *Wh*-Criterion). Like the TP-EPP, the CP-EPP should be able to be satisfied in two ways: It can be checked by a DP with  $\varphi$ -features moving to specCP or by a predicate with a Pred-feature moving to specCP. The latter is an option that is not discussed by Oda, but that will be relevant below. Further, the settings of the TP-EPP and the CP-EPP are not independent. Oda follows Chomsky in assuming that the two are linked by Uniformity of EPP Satisfaction. Because the C-T domain constitutes a single system, the EPP for the two heads must be parameterized the same. Both must be satisfied by a  $\varphi$ -feature or a Pred-feature.<sup>19</sup>

The final ingredient of Oda's analysis is Cheng's (1997) Clausal Typing Hypothesis (CTH): Clauses must be typed. *Wh*-questions can be typed by either a *wh*-question particle in  $C^{\circ}$  (Chinese, Japanese) or movement of a *wh*-phrase to specCP (English, Icelandic) but not both. There are to be no optional *wh*-movement languages in her theory. A language is allowed only one strategy.

The EPP principles interact with the CTH in the following way to predict the relationship between V1 and *wh*-in-situ. Oda's analysis of VP RAISING languages is that the VP moves to specTP (following Massam and Smallwood 1997; Massam 2000, 2001). This indicates that the TP-EPP is checked by a Pred-feature. Uniformity requires that the CP-EPP be satisfied in the same way. The flip side of this is that the CP-EPP is *not* satisfied by DP movement to check a  $\varphi$ -feature. VP RAISING languages thus cannot have *wh*-movement. The CTH requires that the CP-EPP can be satisfied by *wh*-movement to specCP or a question particle in C°. Since the former is ruled out, VP RAISING languages must resort to a question particle and *wh*-in-situ. Despite Oda's claims, the system actually derives Universal 12-VP rather than Oda's Generalization.

Oda (2005: 118–119) goes beyond the V1/Wh1 implicational universal however and concludes that this system predicts a number of additional differences between V RAISING and VP RAISING languages:

(24)			V RAISING	VP RAISING
	a.	rich and uniform subject-verb agreement	required	disallowed
	b.	nominal predicate fronting	disallowed	required
	c.	SV/VS alternation	possible	disallowed
	d.	wh-in-situ	possible	required
	e.	wh-movement	possible	disallowed
	f.	questioning of VP-internal elements	possible	disallowed

(24a) indicates that only V RAISING languages can have rich verbal agreement. This is a consequence of their satisfying the EPP via  $\varphi$ -features on the verb that moves to T°. Bobaljik (2002) asserts that rich verbal inflection entails verb raising. If a VP RAISING language were to have rich inflection, the verb embedded within the VP in specTP would not be in a structural position from which it could raise to T° and check  $\varphi$ -features. Therefore, VP RAISING languages cannot have rich agreement.

<sup>&</sup>lt;sup>19</sup>Uniformity of EPP Satisfaction requires only that the EPP be uniformly satisfied by a  $\varphi$ -feature or a Pred-feature. It does not require that the EPP always be checked by the same kind of element. The TP-EPP could be satisfied by head movement to T° while the CP-EPP could be satisfied by phrasal movement to specCP—as in Greek—as long as each movement provides a  $\varphi$ -feature.

(24b) indicates that nominal predicate fronting is required in VP RAISING languages because it is a particular instance of the more general pattern of predicate raising to specTP to satisfy the EPP with a Pred-feature. The word order in such languages will be Nom + S, where Nom is a nominal predicate. V RAISING languages, on the other hand, cannot have nominal predicate fronting because the phrasal nominal cannot move to the head position T° in the way that verbs do. Instead, a copula or some verbal head will move to T° to satisfy the EPP. In those languages, we should thus see the order (COPULA) + S + Nom.

According to (24c), only V RAISING languages will show a VS/SV alternation, which arises if the subject optionally raises to specTP, preceding the verb in T°. VP RAISING languages, in contrast, cannot have SV word order because specTP is already filled by the fronted VP. Further, there can be no appropriate specifier landing site above the VP in specTP for the subject because such positions would also not be suitable landing sites for a DP with  $\varphi$ -features. The EPP feature of that projection would not be checked by  $\varphi$ -features, in accordance with Uniformity of EPP Satisfaction. As Massam (2003) puts it, D-elements are banned from the left periphery in VP RAISING languages.

Finally, (24d, e) indicate that VP RAISING languages must be *wh*-in-situ and cannot avail themselves of *wh*-movement, as discussed above. V RAISING languages are not so restricted and are predicted to show either *wh*-movement or *wh*-in-situ.<sup>20</sup>

To this list one can add Chung's (2005a) and Aldridge's (2004) claim that VP RAISING languages should disallow A'-movement of VP-internal constituents. Only questioning of VP-external elements, subjects and some adjuncts, should be possible. This follows in Oda's system because the VP has been moved to a specifier. Moved phrases are islands to extraction (Huang's (1982) Condition on Extraction Domain or Culicover and Wexler's (1977) Freezing Principle). Hence, questioning of such elements if the strategy requires A'-movement will be excluded. To summarize, Oda's theory provides an interesting typology of V1 languages and seems to provide a foundation for the claim in Universal 12-VP that VP RAISING languages must be *wh*-in-situ.

To this picture I would like to add a couple of observations of my own. The first concerns the status of the CTH. There is a sense in which the CTH is largely redundant with Chomsky's Generalized EPP. If C° contains a feature in questions that must be checked, the Generalized EPP already asserts that it can be checked by movement to specCP or by insertion of some head into C°. The difference is that the Generalized EPP does not rule out both options existing within a single language, which is not possible with Cheng's CTH. Empirical observations seem to support the weaker picture. There are counterexamples to the claim that a language cannot have optional *wh*-movement, including the Athapaskan languages Babine Witsuwit'en, Western Apache, and Slave (Denham 2000) and Ancash Quechua (Cole 1983). Bruening (2007) provides further cross-linguistic evidence against the CTH, showing that there are numerous languages that have both *wh*-movement and question particles. The theory would thus be stronger to the extent that it did not rely on

 $<sup>^{20}</sup>$ Such predictions force Oda to analyze Irish as a VP RAISING language, contra much earlier work on Celtic.

the CTH and I will assume that it is not part of UG. Eliminating the CTH from the picture does not change any of Oda's results.

Second, the discussion of (24d, e) indicates why a VP RAISING language cannot have *wh*-movement. As discussed above, it thus derives Universal 12-VP but not Oda's Generalization, which requires that they specifically have the CLEFT strategy. If Oda's Generalization is the correct one, there is no entirely satisfactory explanation for why all VP RAISING languages have CLEFT as one of their nonmovement strategies. Genuine argument or adjunct *wh*-in-situ should be sufficient. Cross-linguistically, other *wh*-in-situ languages do not typically use the cleft as a neutral way to formulate a *wh*-question.

Nevertheless, further consideration of the proposal beyond Oda's theorizing can in fact capture the more restrictive claim. An explanation for CLEFT presents itself if we consider the Generalized EPP more carefully. If the C-T domain really is one system with identical parameterization of the EPP, CP and TP should behave exactly the same as far as (required) movement into the two domains is concerned. By hypothesis, specTP requires an XP that can check T°'s Pred-feature. Question CPs should, thus, also have a Pred-feature that must be checked by an XP. This suggests an explanation for why VP RAISING languages use clefts specifically in *wh*-questions: specCP in questions must be filled by an XP that can check both the Pred-feature and the *wh*-question feature. The only XP that could do both is a *wh*-predicate. Under this scenario, a *wh*-question in a VP RAISING language would have a derivation in which the *wh*-predicate first raises to specTP and then moves further to specCP:<sup>21</sup>

 $<sup>^{21}</sup>$ If the EPP can be satisfied by head movement of a Pred-feature (see footnote 18), there is an interesting prediction of this analysis pointed out by an anonymous reviewer: one would expect to find a situation in which the Pred-features of T° and C° (the TP-EPP and the CP-EPP) and the *wh*-feature of C° are checked by head movement rather than XP movement. This head would be an "interrogative verb" and would have a *wh*-specification. Such verbs exist; Hagège (2003) calls them "rogoverbs" and they are briefly discussed by Cysouw (2004). (i) gives potential examples from Tahitian (Académie tahitienne 1986: 134–135). Note that the word 'what' takes aspectual particles in (ia) and a passive suffix in (ib). It is found in other Polynesian languages as well (Potsdam and Polinsky 2007). (ii) gives a verbal use of 'what' from Malagasy (Rahajarizafy 1960: 112).

(i)	a.	tē aha ra 'oia?
		ASP what ASP 3SG
		'What is he doing?'

<sup>b. i aha-hia tō mata i 'ara'ara ai?
PAST what-PASS 2SG.POSS eye PAST seeing it lit.
"What-was-ed to your eyes so that they got to see?"
'How were thine eyes opened?'</sup> 

a. man-inona izy? pres.ACTIVE-what 3SG.NOM What is he doing?'

It remains to be determined whether such sentences actually represented the desired syntax.



This explanation suffers from the reverse problem of Oda's however, in that it seems to force CLEFT as the only strategy. All languages in the present survey however also allow simple *wh*-in-situ as an alternative.<sup>22</sup> We can claim that such *wh*-in-situ questions do not project a question CP; CP<sub>q</sub> is only optionally projected. This proposal is similar in spirit to claims that CP is projected only when necessary (Grimshaw 1997; Bošković 2000; Doherty 2000). In order to assimilate the optionality of CP<sub>q</sub> to the economy claim, one would need to locate a difference between the cleft and *wh*-in-situ constructions such that CP<sub>q</sub> is required for the cleft.<sup>23</sup>

To summarize, at this point, we have a small data set and two possible universals on the table, repeated below. Oda's original analysis derives (26) but it can be supplemented to derive (27).

- (26) Universal 12-VP (VP Raising-Wh-in-Situ Implicational Universal) If a language uses VP RAISING to derive V1 word order then it cannot have wh-movement
- (27) Oda's Generalization (Oda 2002, 2005)
   If a language uses VP RAISING to derive V1 word order then it will have available CLEFT to form wh-questions

Additional in-depth analyses of clause structure and questions in Austronesian languages is crucial to the proposals developed here. In particular, only empirical investigations can provide support or counterexamples. A counterexample to both claims would be a language with VP RAISING and WH MVT. In the next section I provide an initial analysis of an under-analyzed Austronesian language, Fijian, and consider whether it might be such a language.

# 5 Fijian

In order for typological work of the kind discussed above to take off, more languages and the researchers who specialize in them have to be brought into play. The goal

 $<sup>^{22}</sup>$ The question particle hypothesized as part of the CTH would be insufficient here. It could check the *wh*-feature of C° but it is unlikely that it could check the Pred-feature.

 $<sup>^{23}</sup>$ Null operators are clearly relevant to this system. If they are DPs (contra Massam 2003), then VP RAIS-ING languages cannot have null operator movement.

of this section is to contribute a preliminary Principles and Parameters analysis of Standard (Eastern) Fijian. Fijian consists of two languages, Eastern and Western Fijian, within the Central Pacific language family (Gordon 2005), (28). Standard Fijian (henceforth Fijian) is a dialect of Eastern Fijian.

(28)		Remote O	ceanic		
	Central	Pacific	Micronesian	New Caledonian	
	E. Fijian-Polynesian	W. Fijian-R	lotuman		

The section starts with a general introduction to the language and then explores the structure of wh-questions, particularly within the context of Universal 12-VP.

5.1 Basic patterns

The dialects of Fijian are often described as VOS languages, (29). This makes them highly relevant to Universal 12-VP. VOS languages in particular are amenable to a VP-RAISING analysis and are of central interest to the proposed research agenda.

(29)	a.	era qoli na gone
		3PL.SU fish D child
		'The children are fishing.'

- b. e a wili-ka na ivola na cauravou 3SG.SU PAST read-TRANS D book D youth 'The youth read the book.'
- c. au a kaba-ta na vuniniu o yau 1SG.SU PAST climb-TRANS D coconut.tree D 1SG 'I climbed the coconut tree.'

While VOS is the usual order in elicited contexts, VSO is also possible:

(30)	a.	e gunu-va na wai o Pita
		3SG.SU drink-TRANS D water D Peter
	b.	e gunu-va o Pita na wai
		3SG.SU drink-TRANS D Peter D water
		'Peter is drinking the water.'

In all examples, there is a pronominal element preceding the predicate head which agrees with the subject, *era* '3PL.SUBJ' in (29a), *e* '3SG.SUBJ' in (29b) and (30), and *au* '1SG.SUBJ' in (29c). I take these elements to be subject agreement clitics (building on Churchward 1941; Milner 1972; Dixon 1988; Kikusawa 2001; Alderete 1998; contra Schütz 1985). Such subject clitics are obligatory.<sup>24</sup>

 $<sup>^{24}</sup>$ In a number of instances they phonologically merge with a previous element such as a complementizer. They may be dropped in imperatives.

Fijian has two articles illustrated above. *O* occurs with proper nouns: Personal names, place names, and pronouns. *Na* occurs with common nouns. Fijian is well-known for its transitive suffix, which alternates between -Ca and -Ci. -Ci is used when the following object is a proper noun (name or pronoun), although the determiner *o* is dropped, (31). -Ca is used elsewhere and the common determiner *na* is retained, (32).<sup>25</sup>

- (31) a. au na rai-ci/\*ca koya 1SG.SU FUT see-TRANS 3SG 'I will see him.'
  - b. \*au na rai-ci o koya 1SG.SU FUT see-TRANS D 3SG ('I will see him.')
  - c. \*au na rai-ci 1SG.SU FUT see-TRANS
- (32) a. au na rai-ca/\*ci na gone 1SG.SU FUT see-TRANS D child 'I will see the child.'
  - c. \*au na rai-ca gone 1SG.SU FUT see-TRANS child ('I will see the/a child.')
  - b. au na rai-ca 1SG.SU FUT see-TRANS 'I will see him.'

Although the normal state of affairs based on texts, grammars, and native speakers' intuitions is for V1, with the arguments following the verb, NPs may also be fronted before the verb (see for example Dixon 1988: 41–42, 245–251):

(33)	a.	[na pusi] e	:	a	vaka-mate-a	a na	tamata
		D cat 3 'The cat ki	SG.SU lled the	PAST e perso	CAUS-die-T on.'	RANS D	person
	b.	[na uvi] er	a d	au te	e-a	na neima	ımi qase
		D yam 3F 'Our ances	PL.SU H stors we	IAB plould p	lant-TRANS lant cultivat	D our ed yam.'	ancestor
	d.	na polo au	a	c	aqe-ta		
		D ball 1s 'I kicked th	G.SU PA ne ball.'	AST k	ick-TRANS		

c. o Jone e kani-a na dalo D John 3sg.su eat-TRANS D taro 'John ate the taro.'

 $<sup>^{25}</sup>$ Schütz (1985) indicates that it is generally agreed that the transitive suffix is *-Ci* and the suffix *-Ca* results from incorporation of a third person object pronoun with the transitive suffix. See also Arms (1974), Pawley (1986), Dixon ((1988): 34), and Aranovich (2008).

Subjects seem more easily frontable than objects and no clear discourse function was associated with fronting. Both (Dixon 1988) and (Schütz 1985) suggest that it has a topicalizing function. A focus interpretation is clearly also possible on the fronted phrase however, (34).

(34)a. o Jone ga rai-ca au а D John only 1SG.SU PAST see-TRANS 'I saw only John.' na dalo e o Jone b. kani-a D taro 3SG.SU eat-TRANS D John

'It was taro that John ate.'

The syntax of this fronting is not apparent. It is unclear whether the fronted element reaches this position via movement or base-generation. Initial indications are that the construction has the same syntax as wh-questions, however, and I will tentatively assume this in what follows. Thus, the ultimate conclusion that wh-questions involve a cleft structure containing a movement-derived A'-dependency applies to this construction as well.

*Wh*-questions in Fijian can employ *wh*-in-situ:<sup>26</sup>

(35)	a.	?e	sab	i-ci	iko o	ceií	?				
		3sg.	su slap	p-TRANS	2sg D	) who	5				
	'Who slapped you?'										
	b.	0	а	rai-ci	с	ei?					
		2sg.	SU PAS	ST see-TR	RANS W	vho					
		ʻWh	o did y	ou see?'							
	c.	0	a	rai-ca	n	a ca	va?				
		ʻWh	at did y	ou see?'							
	d.	0	a	soli-a		vei	cei	na nomu	isele		
		2sg.	SU PAS	ST give-T	RANS	PREI	e who	D 2SG.PO	ss knife		
		'Wh	o did y	ou give y	our kn	ife to	o?'				
			•								

Note that *o cei* 'who' is a proper noun while *na cava* 'what' is a common noun. As expected, the transitive suffix -Ci is used with 'who' as an in-situ object and -Ca is used with 'what'.

Fronting of the *wh*-phrase is also possible, (36). If the fronted *wh*-phrase is an object, the transitive suffix -Ca is used regardless of the form of the fronted whphrase, (36b, c). This is in keeping with -*Ci* only being used when the following object is a proper noun and -Ca being used elsewhere.

- (36)a. o cei e sabi-ci iko? D who 3SG hit-TRANS 2SG 'Who slapped you?'
  - o cei o rai-ca? b. а D who 2SG.SU PAST see-TRANS 'Who did you see?'

isele?

<sup>&</sup>lt;sup>26</sup>Subject *wh*-in-situ is dispreferred but not impossible. It may be that it has an echo question interpretation.

- c. **na cava** o a rai-ca? D who 2SG.SU PAST see-TRANS 'What did you see?'
- d. **o cei** o a soli-a **kina** na nomu isele? D who 2SG.SU PAST give-TRANS RP D 2SG.POSS knife 'Who did you give your knife to?'

Given the rather robust verb-initial word order and the preference for VOS, Fijian is a strong candidate for being a VP RAISING language. Wh-questions also superficially look as though they are derived by WH MVT. The wh-phrase appears at the front of the clause and nothing can appear before it.<sup>27</sup> No other changes to the clause take place except in the case of questioning of non-core arguments and adjuncts, in which case a resumptive pronoun (glossed RP above) is left behind, as in (36d). On the surface then, Fijian could be a counterexample to Universal 12-VP in (26). Careful investigation of wh-questions, and perhaps clause structure as well, is necessary to evaluate this claim. Based on my own field work with a native speaker, the next section demonstrates that, despite all appearances, wh-questions in Fijian do not in fact involve wh-movement; they are clefts. The discussion shows that the kinds of data necessary to evaluate claims like Universal 12-VP are subtle and unlikely to be found in grammars. The immediately consequence is that Fijian will not in fact be a problem for the proposed universal. It is not a counterexample to the above generalizations, regardless of how the verb-initial word order is derived. In-depth analysis is nevertheless needed to evaluate other cases and further support this one.

# 5.2 Wh-questions

The *wh*-questions introduced above look superficially similar to their English counterparts in showing an alternation between in-situ and fronting with no further changes in the sentence. Their derivations could thus plausibly involve *wh*-movement. Before rejecting this hypothesis, I first show that Fijian *wh*-questions do involve a movement-derived A'-dependency, Sect. 5.2.1. This is an important result to establish as it shows that we are at least considering the right range of analyses. As we saw in Sect. 2.2 however, movement does not necessarily implicate *wh*-movement to specCP. Other structures are possible. In Sects. 5.2.2 and 5.2.3 I will introduce evidence that suggests that Fijian *wh*-questions are clefts. The cleft analysis is still compatible with there being a movement-based A'-dependency.

# 5.2.1 Evidence for an A'-dependency

Three traditional diagnostics of movement-derived A'-dependencies are unboundedness, sensitivity to islands, and strong crossover. (37) and (38) demonstrate unboundedness. The fronted *wh*-phrase—subjects and objects are illustrated—can be associated with a gap across multiple clause boundaries.

 $<sup>^{27}</sup>$ In embedded questions, the complementizer *se* appears before the *wh*-phrase, (41a).

(37)	a.	au	a	rogoca	ni	ra	qaqa	na ca	uravoi	ı ya
		1sg.su	PAST	hear	СОМР	3PL.SU	win	D yo	uth	DEM
		'I heard	that t	hose yo	uths ha	ad won.'				
	b.	o cei	[0	а	rogoc	a [ni	ra	qa	aqa	.]]
		D who	2sg.s	U PAST	hear	COM	P 3pl	.SU w	in	
		'Who al	ll did y	you hea	r had v	von?'				
(38)	a.	au	nanur	na ni	0	kila	ni	ra	u	butakoca
		1sg.su	think	COM	ip 2sg	.SU knov	w CO	mp 3e	U.SU	steal
		'I think	that y	ou knov	w that t	they two	stole	it.'		
	b.	na cava	[0	nan	uma [r	ni'u		kila	[ni	rau
		D what	28G	SU thir	ık (	COMP'18	G.SU	know	CON	ap 3du.su
		butakoc	a ]	]]?						
		steal								
		'What c	lo you	think t	hat I kı	now that	they	two st	tole?'	

Island sensitivity is shown by the data in (39) through (41) for an adjunct island, a relative clause island, and a *wh*-island, respectively. The (a) example in each case is the baseline. The (b) example is the ungrammatical island-violating question. The (c) example demonstrates that *wh*-in-situ inside the island is grammatical.

(39)	a.	keimami na solevu [ke e na lako mai na bete] 1PL.EXCL.SU FUT feast if 3SG.SU FUT come DIR D priest
		'We will have a feast if the priest comes.'
	b.	*o cei keimami na solevu [ke e na lako mai _]? D who 1PL.EXCL.SU FUT feast if 3SG.SU FUT come DIR ('Who will we have a feast if (he) comes?')
	c.	keimami na solevu [ke e na lako mai o cei]? 1PL.EXCL.SU FUT feast if 3SG.SU FUT come DIR D who 'We will have a feast if who comes?'
(40)	a.	au a raica na gone [sa vakamatea na gata] 1SG.SU PAST see D child ASP kill D snake 'I see the child who killed the snake.'
	b.	*na cava o a raica na gone [sa vakamatea _ ] D what 2SG.SU PAST see D child ASP kill ('What do you see the child who killed?')
	c.	o a raica na gone [sa vakamatea na cava]? 2SG.SU PAST see D child ASP kill D what 'You see the child who killed what?'
(41)	a.	au sa kila [se o cei a cakava ya] 1SG.SU ASP know COMP D who PAST do DEM 'I know who did that.'
	b.	*na cava o sa kila [se o cei a cakava ]? D what 2SG.SU ASP know COMP D who PAST do ('What do you know who did?')

c. au sa kila [se o cei a cakava na cava] 1SG.SU ASP know COMP D who PAST do D what 'I know who did what?'

*Wh*-questions in Fijian also evidence strong crossover. As in the English translation of (42c) below, a fronted *wh*-phrase may not "cross over" a c-commanding pronoun with which it is coindexed. (42c) cannot have the coindexed meaning available in (42b), although it is grammatical on the non-coindexed reading.

- (42) a. e niutaka o Meri ni o domoni koya 3SG.SU hope D Mary COMP 2SG.SU like 3SG
   'Mary<sub>i</sub> hopes that you like her<sub>i.k</sub>.'
  - b. o cei e niutaka ni o domoni koya? D who 3SG.SU hope COMP 2SG.SU like 3SG 'Who<sub>i</sub> hopes that you like her<sub>i,k</sub>?'
  - c. o cei e niutaka ni o domona? D who 3SG.SU hope COMP 2SG.SU like 'Who<sub>i</sub> does she $*_{i,k}$  hope that you like?'

Adger and Ramchand (2005) argue that the above diagnostics are characteristic of A'-dependencies but that they do not necessarily signal movement. Adger and Ramchand argue that crucial evidence for movement comes from identity effects. Movement constructions show syntactic and semantic connectivity between the moved element and the origin site. The Fijian construction also shows such reconstruction effects, which I illustrate using Condition C of the Binding Theory. As in English, an R-expression must be free; it cannot be c-commanded by a coindexed pronoun. (43a, b) have only disjoint interpretations. Fronting the R-expression in such examples as part of a wh-phrase does not render the example grammatical with coreference, (44), again as in the English translation.

(43)	a.	e a boroya na vale nei Pita						
		3SG.SU PAST paint D house POSS Peter						
		'He <sub>i,*k</sub> painted Peter <sub>k</sub> 's house.'						
	b.	e a tukuna na italanoa kei Meri						
		3SG.SU PAST tell D story POSS Mary 'She <sub>i,*k</sub> told the story about $Mary_k$ .'						
(44)		na italanoa cava kei Meri e a tukuna? D story what POSS Mary 3SG.SU PAST tell 'Which story about Mary <sub>k</sub> did she <sub>i,*k</sub> did she tell?'						

The account of (44) relies on reconstruction and the presence of an identical copy of the *wh*-phrase in the base position: Condition C is evaluated with the *wh*-phrase "reconstructed" into its base position. This reconstructed representation looks essentially the same as (43b) and there is still a Condition C violation. We can reasonably conclude then that *wh*-questions in Fijian involve an A'-dependency and that movement is involved in forming this dependency. This conclusion is compatible with all of the derivations for Wh1 introduced above. In the next two sections, I narrow the analysis to a cleft structure.

# 5.2.2 Predicate structure

Despite the compatibility with a *wh*-movement structure, I claim that questions in Fijian are actually a kind of reduced cleft. There are a number of ways to distinguish clefts from *wh*-movement (Potsdam and Polinsky 2009). I will make use of one specific diagnostic that relies on the fact that a cleft structure is bi-clausal while a *wh*-movement structure is not. As reference to the structures in Sect. 2.2 indicates, *wh*-fronting and focus movement structures are mono-clausal, with the *wh*-phrase in the left periphery of the matrix clause. (Pseudo)clefts, in contrast, are bi-clausal, containing a relative-clause-like constituent subordinated to the matrix clause. I will use predicate-related particles to show that *wh*-questions in Fijian are bi-clausal, supporting a cleft analysis.

Fijian is more accurately described as predicate-initial and predicates can be of a variety of categories. They may be verbal, as seen above, adjectival, or nominal. In (45a, b), the predicates' heads are *vinaka* 'good' and *ca* 'bad', respectively. In (45c, d, e), they are *iliuliu* 'leader', *marama* 'lady', and *iotioti* 'last'.

- (45) a. e vinaka na kawai 3SG.SU good D yam 'The yam is good.'
  - b. e rui ca na draki 3SG.SU MOD bad the weather 'The weather is unusually bad.'
  - c. e na i-liuliu o Maria 3SG.SU FUT NMLZ-leader D Maria 'Maria will be the leader.'
  - d. sa marama yalovinaka sara o Taina ASP lady kind-hearted MOD D Taina 'Taina is a kind-hearted lady.'
  - e. me sa i-otioti ni nomu kana tamata oqo SHOULD ASP NMLZ-last ASSOC 2SG.POSS eat person this 'This should be the last (instance) of your eating people (a priest is entreating a Fijian to give up cannibalism).'

Following Dixon's (1988) description, the predicate head is preceded and followed by various elements:

(46) Fijian predicate structure (simplified from Dixon 1988: 63)
 prefatory material + pre-head modifiers + head<sup>28</sup> + adverbs + post-head modifiers

Prefatory material includes the subject clitics discussed above, tense-aspect-mood markers, and discourse particles (Dixon 1988: 68–75). The subject clitics are generally obligatory except in the case of the third person clitic *e* '3SG.SU', which can be omitted and often is, especially when there is a predicate-external subject noun

 $<sup>^{28}</sup>$ Dixon uses the term 'head' in an extended sense to mean the lexical head of the predicate plus any prefixes, the transitive suffix, and a proper noun object if present.

phrase. *E* often does not occur with predicate nominals, (45d, e). Tense and aspect markers are also not obligatory and are often marked once and then dropped in subsequent clauses. They do, however, occur with non-verbal predicates, (45c, d, e). The pre- and post-head modifiers include a semantically wide range of elements, some of which are discussed below (see Churchward 1941; Milner 1972; Schütz 1985; Dixon 1988 for discussion).

The relevance of these elements to our goals is that, if we can show that they are exclusively associated with predicates, as Dixon suggests, then they can be used to identify a clausal domain and thus determine whether *wh*-questions are monoclausal or bi-clausal. In the next section I focus on the post-head modifiers, leaving the investigation of prefatory material and pre-head modifiers in *wh*-questions for future work.<sup>29</sup>

#### 5.2.3 Modifiers in wh-questions

In this section I show that with respect to post-head modifiers, *wh*-phrases act like predicate heads. On the assumption that predicates define a clause, the observations form an argument for the cleft structure of *wh*-questions in Fijian and against a *wh*-movement analysis. Much additional work obviously needs to be done with regard to the co-occurrence of both pre- and post-head modifiers with *wh*-phrases, but I take the following facts to provide initial support for the claim that *wh*-phrases constitute a clause distinct from the predicate from which they appear to be extracted.

The post-head modifiers vary widely in their semantic contributions yet all that I tested can appear following fronted *wh*-phrases.<sup>30</sup> To illustrate, consider the intensifying modifier *dina* 'indeed, truly, really'. It appears only following the predicate head in declarative clauses:

- (47) a. e a reguca na koli o Pita 3SG.SU PAST kiss D dog D Peter 'Peter kissed the dog.'
  - b. e a reguca **dina** na koli o Pita 3SG.SU PAST kiss MOD D dog D Peter 'Peter indeed/truly kissed the dog.'
  - c. \*dina e a reguca na koli o Pita MOD 3SG.SU PAST kiss D dog D Peter
  - d. \*e a reguca na koli (**dina**) o Pita (**dina**) 3SG.SU PAST kiss D dog MOD D Peter MOD

I take (47d) to show that *dina* does not modify and form a constituent with a noun phrase. If it did, the example would be grammatical with the nominal constituents

 $<sup>^{29}</sup>$ That prefatory material and pre-head modifiers are at least possible with *wh*-phrases is shown by (i), adapted from Schütz (1985: 349).

 <sup>(</sup>i) sa bau cava mada e tuku-na vei iko?
 ASP MOD what MOD 3SG.SU tell-TRANS PREP 2SG
 'Just what did he tell you?'

<sup>&</sup>lt;sup>30</sup>The exception was *vata* 'together'. I have no explanation for this fact.

[*no koli dina*] or [*o Pita dina*]. The same pattern obtains if the object is an in-situ *wh*-phrase, (48). The particle must immediately follow the predicate head, (48a), and cannot follow the in-situ *wh*-phrase object, (48b). This further confirms that *dina* does not form a constituent with a noun-phrase.

(48)	a.	e	a	reguca	dina	na	cava	0	Pita
		3sg.su	PAST	kiss	MOD	D	what	D	Peter
	'What indeed did Peter kiss?'								
	b.	*e	a	reguca	na ca	va	dina	0	Pita?
		3sg.su	PAST	kiss	D w	hat	MOD	D	Peter

In *wh*-questions with a fronted *wh*-phrase, this modifier can appear after the verb, (49b), as above, but it can also occur immediately after the *wh*-phrase, (49c):

(49)	a.	o cei e a reguca na koli?
		D who 3SG.SU PAST kiss D dog
		'Who kissed the dog?'
	b.	o cei e a reguca dina na koli?
		D who 3SG.SU PAST kiss MOD D dog
	c.	o cei <b>dina</b> e a reguca na koli?
		D who MOD 3SG.SU PAST kiss D dog
		'Who indeed/truly kissed the dog?'

Since *dina* cannot form a constituent with *o cei*, the example suggests that *dina* is in a position that is a post-predicate head position and *o cei* is a predicate. The construction is thus bi-clausal, with two predicate heads *o cei* 'who' and *reguca* 'kiss'.

The paradigm is replicated with adjunct questions, (50) and (51), and oblique argument questions, (52), indicating that these *wh*-phrases are also predicates in *wh*-questions with fronting and have a cleft structure.

(50)	a.	e na gauna cava era cakacaka kina? PREP D time what 3PL.SU work RP 'When do they work?'
	b.	e na gauna cava era cakacaka <b>dina</b> kina? PREP D time what 3PL.SU work MOD RP
	c.	e na gauna cava <b>dina</b> era cakacaka kina? PREP D time what MOD 3PL.SU work RP 'When do they indeed/truly work?'
(51)	a.	na cava na vuna o a tukuna kina? D what D cause 2SG.SU PAST say RP 'Why did you say that?'
	b.	na cava na vuna o a tukuna <b>dina</b> kina? D what D cause 2SG.SU PAST say MOD RP
	c.	na cava na vuna <b>dina</b> o a tukuna kina? D what D cause MOD 2SG.SU PAST say RP 'Why did you indeed say that?'

(52)	a.	o cei oni via vosa kina?				
		D who 2PL.SU want speak RP				
		'Who did you all want to speak to?'				
	b.	o cei oni via vosa <b>dina</b> kina?				
		D who 2PL.SU want speak MOD RP				
	c.	o cei <b>dina</b> oni via vosa kina?				
	D who MOD 2PL.SU want speak RP					
'Who all did you indeed/truly talk t						

Consider how these facts would be accounted for under a *wh*-movement analysis. One would have to hypothesize that the post-head modifiers could appear before the predicate just in case they were not clause-initial. (47) makes it clear that they do not occur clause-initially otherwise or form a constituent with the fronted element. Such an analysis might be possible to implement formally but it lacks descriptive generality. Under the cleft analysis of *wh*-questions, such modifiers are as described in the literature: Post-head modifiers.<sup>31</sup>

The same paradigm is replicated with the post-head modifiers *beka* 'perhaps', *mada* 'POLITENESS.MARKER', *tu* 'for a long time', *tiko* 'CONTINUOUS', *duadua* 'alone', and *tale* 'again'. These latter two are particularly revealing as their varying position yields meaning differences.

Consider the particle *duadua* 'alone'. In the declarative clause, *duadua* must appear in the post-head position and cannot form a constituent with the subject, (53a, b). In the grammatical position, it means that the subject performs the action alone, (53a). In this same position in a subject *wh*-question, (53c), it asks who performed this action alone. When it follows the fronted *wh*-phrase however, (53d), the meaning is akin to who alone performed the action.

- (53) a. e a lako **duadua** o Pita 3SG.SU PAST go alone D Peter 'Peter went alone.'
  - b. \*e a lako o Pita **duadua** 3SG.SU PAST go D Peter alone ('Peter alone went.')
  - c. o cei e a lako **duadua**? D who 3SG.SU PAST go alone 'Who went alone?'
  - d. o cei duadua e a lako?
     D who alone 3SG.SU PAST go 'Only who went?'

- (i) a. o Pita e a reguca **dina** na koli D Peter 3SG.SU PAST kiss MOD D dog
  - b. o Pita **dina** e a reguca na koli D Peter MOD 3SG.SU PAST kiss D dog 'Peter indeed/truly kissed the dog.'

 $<sup>^{31}</sup>$ (i) shows that the post-head modifiers can also follow fronted non-*wh*-phrases that were discussed surrounding (33). This is not surprising as I maintain that such sentences are also clefts.

(54)	a.	e na	lagasere o Pita				
		3SG.SU FUT	sing D Peter				
		'Peter will s	sing.'				
	b.	e na	lagasere tale o Pita				
		3SG.SU FUT	sing again D Peter				
		'Peter will s	sing again.'				
	c.	*e na	lagasere o Pita tale				
		3sg.su fut	sing D Peter again				
	d.	o cei e	na lagasere tale				
		D who 3sG	SU FUT sing again				
	'Who will sing again?'						
	e.	o cei tale	e na lagasere?				
		D who again	n 3sg.su Fut sing				
		'Who else v	vill sing?'				

(i)

In both cases, the distinction can be captured by noting that in a cleft analysis there are two clauses and the modifier can independently modify each clause.

I conclude that *wh*-questions in Fijian are clefts, despite surface appearances. Given this, they do not constitute a counterexample to Universal 12-VP.<sup>32</sup>

 $<sup>^{32}</sup>$ A separate way to show that Fijian is not a counterexample to Universal 12-VP would be to show that it does not derive V1 via VP RAISING. Arguments in the literature for VP RAISING are less empirically grounded however and I will not try to explore the issue for Fijian. Nevertheless, a comparison of Fijian against Oda's putative characteristics of V RAISING and VP RAISING languages from (24) in Sect. 4 is suggestive. (i) repeats these properties with a final column for Fijian added.

		V RAISING	VP RAISING	Fijian
a.	subject-verb agreement	required	disallowed	required
b.	nominal predicate fronting	disallowed	required	??
c.	SV/VS alternation	possible	disallowed	??
d.	wh-in-situ	possible	required	possible
e.	wh-movement	possible	disallowed	possible
f.	questioning of VP-internal	possible	disallowed	possible
	elements	-		-

Taking the initial pronominal clitics to be agreement indicates that Fijian does in fact have obligatory, rich and uniform subject-verb agreement, (ia). Regarding predicate fronting, (ib), Fijian does show predicate initial order Nom+S in nominal clauses, (45c, d, e). At the same time, Dixon (1988: 240) discusses 'equational clauses' in which the alternative order S + Nom seems to be unmarked. A similarly unclear situation exists concerning possible SV/VS alternations, (ic). VS seems to be the default order, as the examples above show, (29), but SV order is possible. It is unclear whether it results in a change of information structure and counts as an SV/VS alternation. Regarding (id, e, f), we have already seen that Fijian allows *wh*-in-situ, (35), does not have *wh*-movement, and allows questioning of VP-internal elements.

Despite a basic VOS word order, then, Fijian patterns most closely with V RAISING languages with regard to these characteristics. The substantial literature on Celtic languages, which have also traditionally been taken to be V RAISING languages, and Chung's (1998) thorough argumentation that Chamorro is not a V RAISING language would provide the next step in supporting this claim. If this conclusion withstands further scrutiny, we can conclude, on different grounds, that Fijian does not counter-exemplify Universal 12-VP.

# 6 Conclusions

The goal of this paper has been to set up a research agenda for investigating and accounting for possible implicational universals concerning the syntactic strategy used to derive verb-initial word order and the strategy(s) used to form *wh*-questions. Austronesian is a fertile testing ground for this agenda because of the diversity in the language family and the plethora of V1 languages.

I have offered two specific potential universals in this domain, building on Oda (2005):

- (55) Universal 12-VP If a language uses VP RAISING to derive V1 word order then it cannot have wh-movement
- (56) Oda's Generalization (Oda 2002, 2005)
   If a language uses VP RAISING to derive V1 word order then it will have available CLEFT to form *wh*-questions

These claims are supported by the very limited number of languages surveyed. An important part of the research agenda will be to expand the analytical database that can be used to evaluate such proposals.<sup>33</sup>

The paper concluded with an investigation of Fijian as a potential counterexample to Universal 12-VP and a token contribution to the analytical database. It proves unlikely to be a counterexample but, in showing this, it became evident that more, substantive work is necessary.

In closing, I restate the two main questions that have been raised.

- (57) a. What, if any, are the implicational relationships between the syntactic strategy a verb-initial language uses to derive V1 and its *wh*-question strategy?
  - b. Are all VP RAISING languages *wh*-in-situ and, if so, what particular *wh*-in-situ strategies do they use (CLEFT and/or argument *wh*-in-situ)?

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In a different vein, Alderete (1998) proposes an analysis of Fijian clause structure using the Pronominal Argument Hypothesis (Jelinek 1984; Baker 1996). The main challenge to this approach, which Alderete addresses, is that Fijian is not genuinely a free constituent order language. V1 order dominates.

<sup>&</sup>lt;sup>33</sup>In an interesting turn, Universal 12-VP is reminiscent of the second half of Greenberg's Universal 12 (not given above):

Second Half of Greenberg's Universal 12 (Greenberg 1963)
 If a language has dominant order SOV in declarative sentences, there is never a *wh*-movement rule

If Universal 12-VP turns out to be correct, VP RAISING languages pattern with verb-final languages in lacking *wh*-movement. Analyses that derive SOV via (remnant) VP fronting (Hinterhölzl 1999; Pearson 1999; Haegeman 2000; Koopman and Szabolcsi 2000) might be in a position to account for this parallel.

#### References

Académie tahitienne. 1986. Grammaire de la langue tahitienne. Punaauia: G. Ferrand.

- Adams, Perng Wang. 2009. Sluicing in Javanese: constrained by its syntax. In *Sluicing: Cross-linguistic perspectives*, ed. Jason Merchant. Amsterdam: John Benjamins (to appear).
- Adger, David, and Gillian Ramchand. 2005. Merge and move: wh-dependencies revisited. Linguistic Inquiry 36: 161–193.
- Alderete, John. 1998. Canonical types and noun phase configuration in Fijian. In UCLA occasional papers in linguistics 21: recent papers in Austronesian linguistics, ed. Matt Pearson, 19–44. Los Angeles: University of California, Los Angeles Department of Linguistics.
- Aldridge, Edith. 2002. Nominalization and wh-movement in Seediq and Tagalog. Language and Linguistics 3: 393–427.
- Aldridge, Edith. 2004. Ergativity and word order in Austronesian languages. Dissertation, Cornell University.
- Alexiadou, Artemis, and Elena Anagnostopoulou. 1998. Parameterizing AGR: Word order, V-movement, and EPP-checking. *Natural Language & Linguistic Theory* 16: 491–539.
- Alexiadou, Artemis, and Elena Anagnostopoulou. 1999. EPP without spec, IP. In *Specifiers: minimalist approaches*, eds. David Adger, Susan Pintzuk, Bernadette Plunkett, and George Tsoulas, 93–109. New York: Oxford University Press.
- Aman, Norhaida, Peter Cole, and Gabriella Hermon. 2009. Clefted questions in Malay. In Malay/Indonesian linguistics, eds. David Gil and James Collins. London: Curzon Press.
- Aranovich, Raul. 2008. Incorporation, pronominal arguments, and configurationality in Fijian. Manuscript, University of California. Davis.
- Arms, David G. 1974. Transitivity in standard Fijian. Dissertation, University of Michigan, Ann Arbor.
- Bach, Emmon. 1971. Questions. Linguistic Inquiry 2: 153-166.
- Baker, C.L. 1970. Notes on the description of English questions: the role of an abstract question morpheme. *Foundations of Language* 6: 197–219.
- Baker, Mark. 1996. The polysynthesis parameter. Oxford: Oxford University Press.
- Ball, Douglas. 2001. Clause structure and argument realization in Tongan. Dissertation, Stanford University.
- Bauer, Winifred. 1991. Maori ko again. Te Reo 24: 31-36.
- Bauer, Winifred. 1993. Maori. London: Routledge.
- Besnier, Niko. 2000. Tuvaluan. London: Routledge.
- Bobaljik, Jonathan D. 2002. Realizing Germanic inflection: why morphology does not drive syntax. *Journal of Comparative Germanic Linguistics* 6: 129–167.
- Bošković, Zeljko. 2000. Sometimes in [Spec,CP], sometimes in situ. In Step by step: essays on minimalist syntax in honor of Howard Lasnik, eds. Martin Roger, David Michaels, and Juan Uriagereka, 53–87. Cambridge: MIT Press.
- Bowers, John. 1993. The syntax of predication. Linguistic Inquiry 24: 591-656.
- Bresnan, Joan. 1970. On complementizers: toward a syntactic theory of complement types. *Foundation of Language* 6: 297–360.
- Bresnan, Joan, and Sam A. Mchombo. 1987. Topic, pronoun and agreement in Chichewa. Language 63: 741–782.
- Brody, Michael. 1990. Some remarks on the focus field in Hungarian. UCL Working Papers in Linguistics 2: 201–225.
- Bruening, Benjamin. 2007. Wh-in-situ does not correlate with wh-indefinites or question particles. Linguistic Inquiry 38: 139–166.
- Andrew, Carnie, and Eithne Guilfoyle, eds. 2000. *The syntax of verb initial languages*. Oxford: Oxford University Press.
- Carnie, Andrew, Heidi Harley, and Sheila Ann Dooley, eds. 2005. Verb first: on the syntax of verb-initial languages. Amsterdam: John Benjamins.
- Chang, Melody Y. 2000. On Tsou wh-questions: movement or in situ? Language and Linguistics 1: 1-18.

Cheng, Lisa. 1997. On the typology of wh-questions. New York: Garland.

Chomsky, Noam. 1995. The minimalist program. Cambridge: MIT Press.

- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In *Step by step: essays on minimalist syntax in honour of Howard Lasnik*, eds. Martin Roger, David Michaels, and Juan Uriagereka, 89–115. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: a life in language*, ed. Michael Kenstowicz, 1–52. Cambridge: MIT Press.

- Chung, Sandra. 1998. *The design of agreement: evidence from Chamorro*. Chicago: University of Chicago Press.
- Chung, Sandra. 2005a. What fronts? On the VP-raising account of verb-initial order. In *Verb first: on the syntax of verb-initial languages*, eds. Andrew Carnie, Heidi Harley, and Sheila Ann Dooley, 9–30. Amsterdam: John Benjamins.
- Chung, Sandra. 2005b. Six arguments for *wh*-movement in Chamorro. Manuscript, University of California, Santa Cruz.
- Chung, Sandra. 2006. Properties of VOS languages. In *The Blackwell companion to syntax*, eds. Martin Everaert and Henk van Riemsdijk, 685–720. Malden: Blackwell.
- Churchward, Maxwell C. 1941. A new Fijian grammar. Sydney: Australasian Medical Publishing Company.
- Cole, Peter. 1983. Subjacency and successive cyclicity: evidence from Ancash Quechua. Journal of Linguistic Research 2: 35–58.
- Cole, Peter, and Gabriella Hermon. 2008. VP raising in a VOS language. Syntax 11: 144-197.
- Cole, Peter, Gabriella Hermon, Kozue Inoha, and Yassir Tjung. 2002. A constraint on WH in situ in Javanese. In MIT working papers in linguistics 44, the proceedings of the eighth Austronesian Formal Linguistics Association, eds. Andrea Rackowski and Norvin Richards, 91–106. Cambridge: MITWPL.
- Cole, Peter, Gabriella Hermon, and Yassir Tjung. 2005. How irregular is WH in situ in Indonesian? *Studies in Language* 29: 553–581.
- Coopmans, Peter. 1984. Surface word-order typology and Universal Grammar. Language 60: 55-69.
- Culicover, Peter. 1991. Topicalization, inversion, and complementizers in English. In *Going Romance and beyond*, eds. Denis Delfitto, Martin Everaert, Arnold Evers, and Frits Stuurman, 48–62. Utrecht: University of Utrecht. OTS Working Papers.
- Culicover, Peter. 1996. On distinguishing A'-movements. Linguistic Inquiry 27: 445-463.
- Culicover, Peter, and Kenneth Wexler. 1977. Some syntactic implications of a theory of language learnability. In *Formal syntax*, eds. Peter Culicover, Thomas Wasow, and Adrian Akmajian, 7–60. New York: Academic Press.
- Custis, Tonya. 2004. Word order variation in Tongan: a syntactic analysis. Dissertation, University of Minnesota.
- Cysouw, Michael. 2004. Interrogative words: an exercise in lexical typology. http://email.eva.mpg.de/ ~cysouw/pdf/cysouwQUESTION.pdf. Accessed 20 June 2009.
- Dahl, Otto Christian. 1986. Focus in Malagasy and Proto-Austronesian. In FOCAL 1: papers from the fourth international conference on Austronesian linguistics. Pacific linguistics series C No. 93, eds. Paul Geraghty, Lois Carrington, and Steven Wurm, 21–45. Canberra: Department of Linguistics Research School of Pacific Studies, The Australian National University.
- Davies, William, and Stanley Dubinsky. 2001. Functional architecture and the distribution of subject properties. In Objects and other subjects: grammatical functions, functional categories, and configurationality, eds. William Davies and Stanley Dubinsky, 247–279. Dordrecht: Kluwer.
- Déchaine, Rose-Marie. 1993. Predicates across categories: towards a category-neutral syntax. Dissertation, University of Massachusetts at Amherst.
- Denham, Kristin. 2000. Optional wh-movement in Babine-Witsuwit'en. Natural Language & Linguistic Theory 18: 199–251.
- den Besten, Hans. 1977. On the interaction of root transformations and lexical deletive verbs. Manuscript, University of Amsterdam.
- den Dikken, Marcel, and Anastasia Giannakidou. 2002. From *hell* to polarity: "Aggressively non-D-linked" wh-phrases as polarity items. *Linguistic Inquiry* 33: 31–61.
- Dixon, R.M.W. 1988. A grammar of Boumaa Fijian. Chicago: The University of Chicago Press.
- Doherty, Cathal. 2000. Clauses without that: the case for bare sentential complementation in English. New York: Garland.
- Dryer, Matthew S. 1989. Large linguistic areas and language sampling. Studies in Language 13: 257–292.
- Dryer, Matthew S. 1991. SVO languages and the OV: VO typology. Journal of Linguistics 27: 443–482.
- Emonds, Joseph. 1980. Word order in generative grammar. Journal of Linguistic Research 1: 33-54.
- Georgopoulos, Carol. 1984. Palauan as a VOS language. In FOCAL 1: papers from the fourth international conference on Austronesian linguistics. Pacific linguistics series C No. 93, eds. Paul Geraghty, Lois Carrington, and Stephen Wurm, 187–198. Canberra: Department of Linguistics Research School of Pacific Studies, The Australian National University.
- Georgopoulos, Carol. 1991. Syntactic variables: resumptive pronouns and A' binding in Palauan. Dordrecht: Kluwer.

- Gerassimova, Veronica, and Peter Sells. 2008. Long-distance dependencies in Tagalog: the case for raising. In *Proceedings of the 26th west coast conference on formal linguistics*, eds. Charles B. Chang and Hannah J. Haynie, 190–198. Somerville: Cascadilla Proceedings Project.
- Gordon, Raymond G., Jr., ed. 2005. Ethnologue: languages of the world, 15th edn. Dallas: SIL International. Retrieved from http://www.ethnologue.com. Accessed 20 June 2009.
- Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In *Universals of language*, ed. Joseph H. Greenberg, 73–113. London: MIT Press.
- Grimshaw, Jane. 1997. Projection, heads, and optimality. Linguistic Inquiry 28: 373-422.
- Guilfoyle, Eithne, Henrietta Hung, and Lisa Travis. 1992. Spec of IP and Spec of VP: two subjects in Austronesian languages. *Natural Language & Linguistic Theory* 10: 375–414.
- Haegeman, Liliane. 2000. Remnant movement and OV order. In *The derivation of VO and OV*, ed. Peter Svenonius, 69–96. Amsterdam: John Benjamins.
- Hagège, Claude. 2003. A paradox in linguistic typology: rogoverbs, or WHATed we to interrogative verbs? Paper presented at The Association of Linguistic Typology V, in Cagliari, Italy.
- Haspelmath, Martin, Matthew Dryer, David Gil, and Bernard Comrie, eds. 2008. The world atlas of linguistic structures online. Munich: Max Planck Digital Library. http://wals.info. Accessed 20 June 2009.
- Hawkins, John A. 1983. Word order universals. New York: Academic Press.
- Hawkins, John A. 1999. Processing complexity and filler-gap dependencies. Language 75: 244-285.
- Herd, Jonathon. 2003. Predicate-fronting in Maori. Paper presented at the Austronesian Formal Linguistics Association X Meeting, University of Hawaii, in Manoa.
- Hermon, Gabriella. 2009. Language typology and Universal Grammar: a commentary on Potsdam. *Natural Language & Linguistic Theory* (this volume).
- Hinterhölzl, Roland. 1999. Restructuring infinitives and the theory of complementation. Dissertation, University of Southern California.
- Holmer, Arthur. 2005. Seediq: antisymmetry and final particles in a Formosan VOS language. In Verb first: on the syntax of verb-initial languages, eds. Andrew Carnie, Heidi Harley, and Sheila Ann Dooley, 175–202. Amsterdam: John Benjamins.
- Huang, C.-T. James. 1982. Logical relations in Chinese and the theory of grammar. Dissertation, MIT.
- Jelinek, Eloise. 1984. Empty categories, Case, and configurationality. Natural Language & Linguistic Theory 2: 39–76.
- Josephs, Lewis. 1975. Palauan reference grammar. Honolulu: University of Hawaii Press.
- Kayne, Richard S. 1994. The antisymmetry of syntax. Cambridge: MIT Press.
- Keenan, Edward L. 1972. Relative clause formation in Malagasy. In *The Chicago which hunt: papers from the relative clause festival*, eds. Paul M. Peranteau, Judith Levi, and Gloria Phares, 169–189. Chicago: Chicago Linguistic Society.
- Keenan, Edward L. 1976. Remarkable subjects in Malagasy. In Subject and topic, ed. Charles N. Li, 247– 301. New York: Academic Press.
- Keenan, Edward L. 1978. The syntax of subject-final languages. In Syntactic typology: studies in the phenomenology of language, ed. Winifred P. Lehmann, 267–328. Austin: University of Texas Press.
- Kenesei, István. 1986. On the logic of word order in Hungarian. In *Topic, focus, and configurationality*, eds. Werner Abraham and Sjaak de Meij, 143–159. Amsterdam: John Benjamins.
- Kikusawa, Ritsuko. 2001. Rotuman and Fijian case-marking strategies and their historical development. Oceanic Linguistics 40: 86–111.
- É. Kiss, Kataline. 1987. Configurationality in Hungarian. Budapest: Akadémiai Kiadó.
- Koopman, Hilda, and Anna Szabolcsi. 2000. Verbal complexes. Cambridge: MIT Press.
- Kroeger, Paul. 1993. Phrase structure and grammatical relations in Tagalog. Stanford: Center for the Study of Language and Information.
- Law, Paul. 2005. Questions and clefts in Malagasy. In UCLA working papers in linguistics 12: The proceedings of the Austronesian Formal Linguistics Association XII, eds. Jeffrey Heinz and Dimitris Ntelitheos, 195–209. Los Angeles: UCLA Linguistics Department.
- Law, Paul. 2007. The syntactic structure of the cleft construction in Malagasy. Natural Language & Linguistic Theory 25: 765–823.
- Lipták, Anikó. 2001. On the syntax of wh-items in Hungarian. Utrecht: LOT.
- Massam, Diane. 2000. VSO and VOS: Aspects of Niuean word order. In *The syntax of verb initial languages*, eds. Andrew Carnie and Eithne Guilfoyle, 97–117. Oxford: Oxford University Press.
- Massam, Diane. 2001. Pseudo noun incorporation in Niuean. Natural Language & Linguistic Theory 19: 153–197.

- Massam, Diane. 2003. Questions and the left periphery in Niuean. Cornell Working Papers in Linguistics 19: 94–106.
- Massam, Diane. 2005. Lexical categories, lack of inflection, and predicate fronting in Niuean. In *Verb first:* on the syntax of verb-initial languages, eds. Andrew Carnie, Heidi Harley, and Sheila Ann Dooley, 227–242. Amsterdam: Benjamins.
- Massam, Diane, and Carolyn Smallwood. 1997. Essential features of predication in English and Niuean. In *Proceedings of the 27th North East Linguistic Society*, ed. Kiyomi Kusumoto, 263–272. Amherst: GLSA Publications.

McCloskey, James. 1991. Clause structure, ellipsis, and Proper Government in Irish. Lingua 85: 259–302.

- McCloskey, James. 1996. Subjects and subject positions. In *The syntax of the Celtic languages*, eds. Robert Borsley and Ian Roberts, 241–283. Cambridge: Cambridge University Press.
- Milner, George B. 1972. Fijian grammar, 3rd edn. Suva: Government Press.
- Müller, Gereon, and Wolfgang Sternefeld. 1993. Improper movement and unambiguous binding. *Linguistic Inquiry* 24: 461–507.
- Newmeyer, Frederick J. 2004. Typological evidence and Universal Grammar. *Studies in Language* 28: 527–548.
- Newmeyer, Frederick J. 2005. *Possible and probable languages: a generative perspective on linguistic typology*. Oxford: Oxford University Press.
- Oda, Kenji. 2002. Wh-questions in V-initial languages. MA thesis, University of Toronto.
- Oda, Kenji. 2005. V1 and *wh*-questions: a typology. In *Verb first: on the syntax of verb-initial languages*, eds. Andrew Carnie, Heidi Harley, and Sheila Ann Dooley, 107–134. Amsterdam: John Benjamins.
- Otsuka, Yuko. 2000. Ergativity in Tongan. Dissertation, University of Oxford.
- Otsuka, Yuko. 2005. Two derivations of VSO: a comparative study of Niuean and Tongan. In *Verb first: on the syntax of verb-initial languages*, eds. Andrew Carnie, Heidi Harley, and Sheila Ann Dooley, 65–90. Amsterdam: John Benjamins.
- Paul, Ileana. 2000. Malagasy clause structure. Dissertation, McGill University.
- Paul, Ileana. 2001. Concealed pseudo-clefts. Lingua 111: 707-727.
- Pawley, Andrew. 1986. A reanalysis of Fijian transitive constructions. Te Reo 29: 81-112.
- Pearson, Matthew. 1996. Raising and reconstruction in Malagasy existentials. MA thesis, University of California, Los Angeles.
- Pearson, Matthew. 1999. Feature inheritance and remnant movement: deriving SOV order under the LCA. In Syntax at Sunset 2, ed. Gianluca Storto, 133–173. Los Angeles: UCLA Department of Linguistics.
- Pearson, Matthew. 2001. The clause structure of Malagasy: a minimalist approach. Dissertation, University of California, Los Angeles.
- Pearson, Matthew. 2005. The Malagasy subject/topic as an A' element. Natural Language & Linguistic Theory 23: 381–457.
- Pearson, Matthew. 2006. Predicate fronting and constituent order in Malagasy. Manuscript, Reed College.
- Petronio, Karen, and Diane Lillo-Martin. 1997. *Wh*-movement and the position of spec-CP: evidence from American Sign Language. *Language* 73: 18–57.
- Plank, Frans, ed. 2007. Special edition of Linguistic Typology 11.
- Polinsky, Maria. 2009. Linguistic typology and formal grammar. In *The Oxford handbook of linguistic typology*, ed. Jae Jung Song. Oxford: Oxford University Press (to appear).
- Potsdam, Eric. 2006a. The cleft structure of Malagasy *wh*-questions. In *Clause structure and adjuncts in Austronesian languages*, eds. Hans-Martin Gärtner, Paul Law, and Joachim Sabel, 195–232. Berlin: Mouton de Gruyter.
- Potsdam, Eric. 2006b. More concealed pseudoclefts and the Clausal Typing Hypothesis. *Lingua* 116: 2154–2182.
- Potsdam, Eric. 2007. Malagasy sluicing and its consequences for the identity requirement on ellipsis. Natural Language & Linguistic Theory 25: 577–613.
- Potsdam, Eric, and Maria Polinsky. 2007. Questions and word order in Polynesian. Paper presented at the seventh international conference on Oceanic linguistics, in Noumea, New Caledonia.
- Potsdam, Eric, and Maria Polinsky. 2009. Questions and word order in Polynesian. In *Morphosyntactic aspects of Oceanic languages*, eds. Claire Moyse-Faurie and Joachim Sabel. Berlin: Mouton de Gruyter (to appear).
- Puskás, Genoveva. 1992. The Wh-criterion in Hungarian. Rivista di Grammatica Generativa 17: 141-186.
- Rackowski, Andrea. 1998. Malagasy adverbs. In UCLA occasional papers in linguistics 20: the structure of Malagasy II, ed. Ileana Paul, 21–33. Los Angeles: University of California, Los Angeles Department of Linguistics.

- Rackowski, Andrea, and Lisa Travis. 2000. V-initial languages: X or XP movement and adverbial placement. In *The syntax of verb initial languages*, eds. Andrew Carnie and Eithne Guilfoyle, 117–141. Oxford: Oxford University Press.
- Rahajarizafy, Antoine. 1960. Essai sur la grammaire malgache. Antananarivo: Imprimerie Catholique.
- Richards, Norvin. 1998. Syntax versus semantics in Tagalog wh-extraction. In UCLA occasional papers in linguistics 21: recent papers in Austronesian linguistics, ed. Matthew Pearson, 259–275. Los Angeles: University of California, Los Angeles Department of Linguistics.
- Rizzi, Luigi. 1996. Residual verb second and the Wh-Criterion. In Parameters and functional heads: essays in comparative syntax, eds. Adriana Belletti and Luigi Rizzi, 63–90. Oxford: Oxford University Press.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar: handbook in generative syntax*, ed. Liliane Haegeman, 281–338. Dordrecht: Kluwer Academic Publishers.
- Schütz, Albert J. 1985. The Fijian language. Honolulu: University of Hawaii Press.
- Seiter, William J. 1980. Studies in Niuean syntax. New York: Garland Publishing.
- Sells, Peter. 2000. Raising and the order of clausal constituents in the Philippine languages. In *Formal issues in Austronesian linguistics*, ed. Ileana Paul, 117–144. Dordrecht: Kluwer Academic Publishers.
- Travis, Lisa. 2005. VP-internal structure in a VOS language. In Verb first: on the syntax of verb-initial languages, eds. Andrew Carnie, Heidi Harley, and Sheila Ann Dooley, 203–226. Amsterdam: John Benjamins.
- van Everbroeck, Ezra. 2003. Language type frequency and learnability from a connectionist perspective. *Linguistic Typology* 7: 1–50.