

# Powerful you have become, the dark side I sense in you.

On the typological similarities of object-initial languages

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## Abstract

The thesis examined typological similarities across the fifteen languages listed on the World Atlas of Language Structures (WALS) website as having object-initial constituent orders in transitive clauses. Based on previous work by Derbyshire (1981, 1987) and Andersen (1988), who have attempted to account for diachronic developments in Hixkaryana and Pãri respectively, a matrix was created to check relevant grammatical features for their diachronic accounts against the other object-initial languages entered into WALS.

Ultimately, OSV languages did not perform very well on the matrix but there were strong results for OVS languages. The strongest features, in terms of describing all the OVS languages, were verb-agreement with syntactic roles accompanied by either flexible constituent order or frequently omitted nominals, but ergativity was also very prevalent among the languages.

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## 1. Introduction

At the time of writing, the WALS database (Dryer & Haspelmath, 2013) lists four languages as having OSV order in transitive clauses, and eleven languages as having OVS order. That's a total of fifteen object-initial languages of the 2679 languages registered in WALS, or roughly .6%. In addition to this, the fifteen languages are spread over ten different language families.

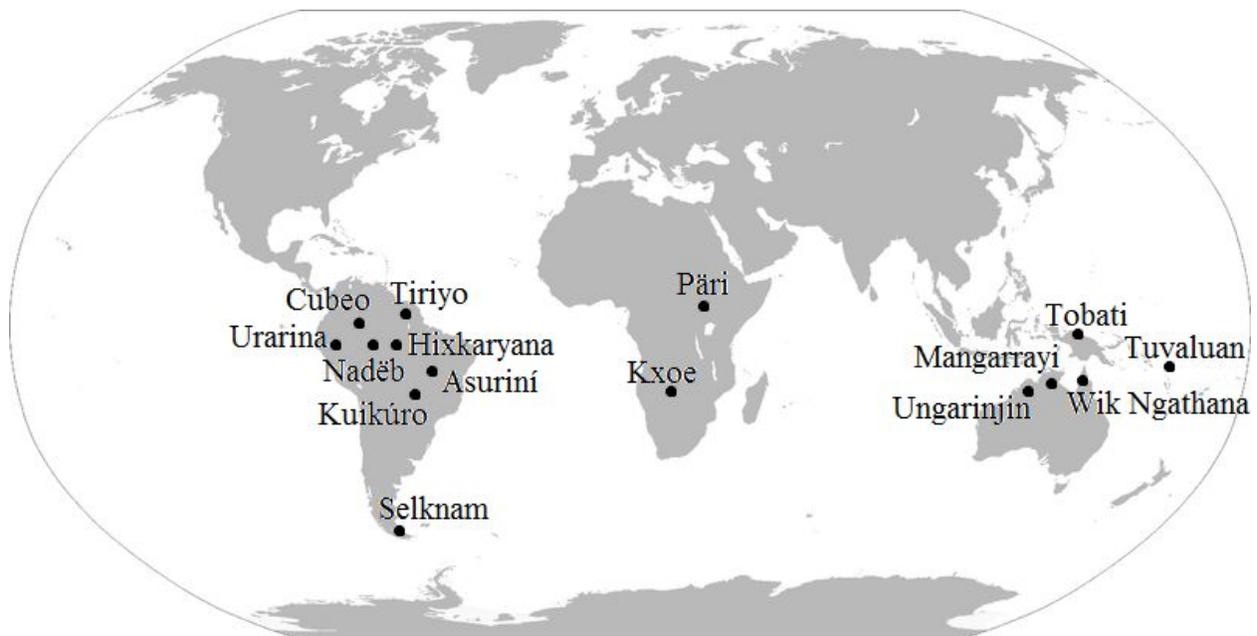
This thesis is an attempt to look for similarities in diachronic developments that have led to languages having object-initial transitive clauses. The line between object-initial and flexible constituent order can at times be blurry, and the case for object initiality can be made for several languages not included in this analysis. For the sake of convenience, the decision was made to look specifically at the fifteen languages listed in the WALS database as object-initial. The line is thus somewhat arbitrary, but this would be the case no matter where and how one were to draw it. The reader should thus recognize the possibility that whatever explanatory model might unify these fifteen languages there may be some language which may later be re-analyzed as object initial and fall outside the model; unfortunately, this is also unavoidable no matter where one draws the line. Table 1 thus shows the languages considered object initial for the purposes of this thesis, along with language family and the main source used for gathering data.

Language	Family	Main source(s)
OSV		
Kxoe	Khoe-Kwadi	Köhler (1981)
Nadëb	Nadahup	Weir (1984, 1986)
Tobati	Austronesian	Donohue (2002)
Wik Ngathana	Pama-Nyungan	Sutton (1978)
OVS		
Asurini	Tupian	Harrison (1970)
Cubeo	Tucanoan	Morse and Maxwell (1999)
Hixkaryana	Cariban	Derbyshire (1979, 1985)
Kuikuro	Cariban	Franchetto (2002, 2004)
Mangarrayi	Mangarrayi-Maran	Merlan (1982)
Päri	Eastern Sudanic	Andersen (1988)
Selknam	Chon	Rojas Bersica (2004)
Tiriyo	Cariban	Meira (1999)
Tuvaluan	Austronesian	Besnier (2000)
Ungarinjin	Worroran	Rumsey (1982)
Urarina	Urarina	Olawsky (2006)

*Table 1. List of object-initial languages with family and main source of data*

## 2. Background discussion and methodology

A reasonable null hypothesis for constituent-order patterns would presumably be that the languages are distributed evenly across the seven different possible configurations (SOV, SVO, VSO, VOS, OVS, OSV and no dominant order). A quick glance at the data (Dryer, 2013(a)), however, shows this to be overwhelmingly not the case: The subject-initial languages make up more than 75% of the roughly 1300 documented languages which have a listed constituent order, with the object-initial ones making up a total of 15. In addition to this, the object-initial languages are spread linguistically across twelve language families (as seen in Table 1) and geographically across most of the southern hemisphere (as seen on Map 1). Confronted with that data, one seems committed to find an explanation for the discrepancy between the null hypothesis and the data.



*Map 1. Geographical locations of object-initial languages.*

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As this thesis seeks to distinguish typologically similar diachronic developments of object-initial languages, we will first need to examine the different diachronic developments that have been postulated previously. The focus here will be on three distinctly different explanations given in Derbyshire (1981), which gives a plausible account of object-initiality as the result of grammaticalized afterthought as a consequence of the rigid OV order in the Carib family, Derbyshire (1987), which accounts for object initiality as a result of languages largely lacking a basic constituent order, and Andersen (1988), which accounts for the object initial transitives in

Päri as the result of syntactic ergativity. The three different accounts were chosen because they have provided explanatory accounts which are clear enough to be quantified into grammatical features and will henceforth be referred to by the shorthands "grammaticalized afterthought", "marked nominals" and "syntactic ergativity" and the purpose of this thesis is to categorize the grammatical features associated with each account and test their applicability across the whole set of object-initial languages as defined in WALS.

## 2.1 Object initiality as the result of grammaticalized afterthought

The case for object initiality as the result of grammaticalized afterthought that Derbyshire (1981) lays out is based on previous work by Vennemann (1975) and Hyman (1975). In short, the Vennemann (1975) explanation is that object initiality came about through, quoting Derbyshire, "loss of case markers caused by phonological change" while Hyman's (1975) account is that, again quoting Derbyshire, "right-dislocated afterthought patterns are a principal cause of word order change". While Derbyshire (1981) mostly deals with examples from Hixkaryana, Derbyshire sees OVS as a "basic order in Carib languages" and the article seeks to explain this by merging the two aforementioned accounts into one plausible hypothesis.

The relevant diachronic aspects of Derbyshire's (1981) arguments are that Carib languages, having historically been SOV-languages, are now shifting towards OVS. Carib languages also have, which is particularly relevant to this explanatory model, a very rigid OV sequence. Because other Carib languages (Makúsi and Arekuna/Taulipang) have case markers, it is then reasonable to assume that Hixkaryana too has had case-markers. This ties in with the Vennemann (1975) account of diachronic constituent order change through loss of case markers. Derbyshire then quotes one of the Greenberg (1966) universals, which states that "If in a language the verb follows both the nominal subject and nominal object as the dominant order, the language almost always has a case system". Derbyshire goes into further detail than this, of course, but the basic argument is that if this prediction holds true, then an SOV language which loses its case markers will change to SVO or OVS in order to differentiate between subject and object nominals, but since Carib languages have this "rigid OV"-feature, the resulting change of losing case markers would then be towards OVS rather than SVO order.

The second point of the Derbyshire (1981) diachronic account is about grammaticalized afterthought-patterns whereby right-dislocated subjects have become the standard constituent order. Afterthought patterns occur "in probably all languages, without necessarily becoming grammaticalized" (Derbyshire, 1981, p. 216), but because of the rigid OV order, this has come to be the unmarked ordering of constituents over time.

- (1) pa:pa woi kari?ná, ito:tó  
 father him-have-killed Indians, the enemy  
 "The enemy Indians have killed my father"

In (1) we see another property of Hixkaryana which supports Derbyshires findings, namely that "In Hixkaryana, postverbal subject NPs are frequently right-dislocated, and sometimes there is a series of dislocated phrases forming a complex subject constituent" (Derbyshire, 1981, p. 217). This ties in rather naturally with the Hyman (1975) hypothesis of right-dislocation as a principal cause of changes in constituent order. Both the Vennemann (1975) and Hyman (1975) explanations for word order change can thus be applied because of the rigid OV-sequence in Carib languages. In this merged explanatory account, then, Carib languages would lose their case markers, causing a need to split apart the subject and object nominals. Because of a strong tendency to right-dislocate subject nominals and a rigid OV-sequence, the transitive clauses would then over time develop into having OVS as a basic order.

The grammatical features deemed most relevant to this diachronic account were rigid OV, rigid SV/VS, loss of case markers and grammaticalized afterthought. One thing should be noted here: Derbyshire argues that the change in Hixkaryana and other Carib languages is specifically due to a rigid OV structure. While some theories of syntax might hold it unlikely or implausible, a similar development could theoretically happen in a language with rigid SV going from SVO to OSV, or even rigid VS going from VSO to OVS. An overarching goal of this thesis was to remain as neutral as possible towards other theories and let the data speak for itself and for this reason, a control field for rigid SV/VS is also in the spreadsheet.

## 2.2 Object initiality as the result of marked nominals in clauses

Derbyshire (1987), rather than focusing on the rigid OV sequence of Derbyshire (1981), makes the argument that object initial constituent orders possibly have come about through a different diachronic account. Here, Derbyshire (1987) stresses that it is hard to determine a specific basic order for many of these languages, but that the languages which can be thought of as basically object-initial share certain typological features. These are, in short, flexible word order, complex verb morphology and frequently omitted nominals from clauses.

Flexible word order, Derbyshire argues, makes determining a basic word order hard to establish. This is obviously logical, and in cases where languages have flexible constituent order, the notion will often be determined via statistical frequency rather than conventionalized syntax and this applies to Carib languages. Naturally, it takes more than flexible word order to have object initial transitive clauses come out as statistically dominant, but Carib languages also have very strong verb agreement with syntactic roles such that subject and object roles are mostly

expressed as verb affixes or verb phrase clitics. The result being that not only are nominals flexibly ordered, they are also for the most part optional in Carib languages. Since the notion of basic word order only applies to clauses with subject and/or object nominals, the basic word order of these languages ("most Amazonian languages", p. 313) actually rely on a minority of clauses in the data. Derbyshire notes that we may indeed have to qualify the notion of a basic word order for these languages.

Here we also return to the idea of languages losing case markers. As discussed in the previous section, Carib languages have historically been SOV with ergative case markers, which is still reflected in their verb agreement patterns. Since loss of case markers is already covered by the Derbyshire (1981) account, what is interesting here is primarily the unmarked non-use of nominal elements. Because a typical clause in these languages will only contain nominals based on discourse-pragmatic factors, Derbyshire (1987) argues that we are less likely to see object nominals omitted because they are less likely to be obvious from the discourse and so might have to be expressed as a full NP. We would then end up with a language that, in the minority clauses where nominals are actually expressed, object initial clauses become more statistically frequent.

The grammatical features deemed most relevant to this account were: Flexible word order, since a system like this would likely have considerable difficulties to work within a rigid word-order (though, as we shall see, there are some examples in the data where this might be the case). Verb agreement with syntactic roles. A minor note on the name of the feature: The name might as well have been "verb agreement", but the chosen label for the feature was "complex verb morphology" because that's how Derbyshire (1987) describes it. In the feature matching process, languages are mostly judged on verbal person agreement rather than complexity of verb morphology as such (where to draw the line for what constitutes "complex" verb morphology is unnecessarily arbitrary anyway). Finally, the presence of clauses without nominals is tested.

### 2.3 Object initiality as the result of syntactic ergativity

The diachronic account given in Andersen (1988), is based on the syntactic features of Pāri. Pāri is, unlike other Nilotic languages, highly ergative and "The parameters on which S is treated like O rather than A include case marking, position relative to the verb, and cross reference" (Andersen, 1988, p. 291). This supposedly newly acquired ergativity is the major point of the diachronic account that Andersen gives. The interesting feature here is in part the case marking (and indeed case markers have played a role in the other diachronic accounts we have looked at as well), but more relevant is perhaps the fact that S and O align in terms of position relative to the verb; Pāri is an SV language in intransitive clauses, but an OVA language in transitive ones.

While not flexible in the sense of the Carib family that previous sections covered, Pāri does allow for other constituent orders. AOV is permissible as a strategy for topicalization: The A then takes the absolutive case rather than the ergative, and a verb suffix complements it. This is relevant to Andersen's diachronic account because Eastern and Southern Nilotic languages have VAO/VS as their basic constituent order but also allow for different orders while topicalizing (Andersen, 1988). While the case system in these languages is generally nominative-accusative, the accusative case is morphologically unmarked, and the nominative case is generally only used postverbally (Andersen, 1988). Since the nominative case in these languages is not used preverbally, a topicalized agent would then take the accusative, morphologically unmarked, case. This is similar to Pāri where topicalized agents also do not have the ergative case. Andersen concludes that:

"The OVA/SV order of the latter must thus have developed from VAO/VS, probably via topicalization of O and S, and, as a side effect, the nominative-accusative case system turned into an ergative-absolutive system." (Andersen, 1988, p. 322)

That is, there is a shift from VAO with a case marker on the O, to OVA with a case marker on the A. Since there is only one morphologically marked case, it turns into an ergative case marker when it cannot appear preverbally and would then mark the subject of transitive clauses in the new case system. This leads Andersen to conclude that the case system changing is a reflex of the changed word order, rather than the case system changing leading to a new basic constituent order.

"Diachronically, then, the extended ergativity of other clause types in Pāri does not reflect an extension of the use of ergative case marking and ergative constituent order." (Andersen, 1988, p. 322)

The explanatory force behind this diachronic model, basically hinges on two things: It would not be possible to assume this development in a language with no notion of topicalization (there are, of course, multiple theories for what topicalization is and how to treat it but in this thesis any sort of pragmatically based movement of a constituent into a specified position will count as "yes" regardless of whether the author has dubbed it "emphasis", "topicalization", "focus" or what have you). The second part of Andersen's explanatory force is specifically ergativity, which has been divided into two separate categories: The presence of an actual ergative case-marker or some other overt particle denoting ergativity being an obvious one, but an additional field was added for the presence of other ergative phenomena such as ergative verb agreement-patterns, subordinate clauses, or any other obvious ways of aligning S and O.

## 2.4 Method

The three diachronic accounts discussed in this chapter were distilled into ten grammatical traits that, to some extent, would have to necessarily be present at some stage during the shift into an object initial language. This section will list the traits and why they were chosen to represent the corresponding explanatory hypotheses:

Rigid OV: For Derbyshire's (1981) explanation of grammaticalized afterthought to be fully applicable to a language, an assumption is made that the natural way for an SOV language that loses its case marking to change constituent order will be that it turns into an SVO language. The reason this didn't happen in Hixkaryana is that the OV sequence has a strong syntactic bond and the only option is for the language to become OVS. While what can be considered "rigid" is debatable, this will apply if a language uses OV in all possible configurations and never VO. A weaker version might be if VO is allowable only in narrow, discourse sensitive cases.

Rigid VS/SV: As above, but there are other variations of rigidity that might also result in the O becoming clause-initial and these will also be examined. Nadëb, for example, in addition to having VS transitives (Weir, 1984) has transitive clauses which unmarkedly puts the object as clause initial as in (2), but may also construct VSO clauses like (3) which is semantically identical to (2) (Weir, 1994).

(2) Tóóh            dab    na-w~~uu~~h            kad.  
wild:pig        meat   NEG-eat+NonInd    uncle  
"Uncle isn't eating wild pig meat"  
(Lit. "Uncle is a non-wild-pig-meat-eater")

(3) Na-w~~uu~~h                    kad    tóóh            dab    hã  
NEG-eat+NonInd    uncle   wild:pig        meat   DAT  
"Uncle isn't eating wild pig meat"  
(Lit. "Uncle is a non-eater with respect to wild pig meat")

It is possible, though according to Weir (1984) very rare, to have transitive clauses without VS order in Nadëb.

Lost case markers: Will be filled in based on whether the language in question has lost case markers, weaker versions includes changed case systems (as in, an accusative system becoming ergative) or if the language has a different case system than its proto-language.

Grammaticalized dislocation: Derbyshire's (1981) explanation of Hixkaryana suggests that right-dislocation of subjects might become grammaticalized and thus lead to a new basic constituent order. Granted, the chances of finding data explicitly distinguishing right-dislocation as grammaticalized are slim, but if there are ample examples of right-dislocation of subjects in the data it will be considered for this field.

Flexible word order: The arguments put forward by Derbyshire (1987) hinges on languages using nouns only in marked cases, and an object initial constituent order being the result of analyzing clauses which stand out from the norm by having an analyzable constituent order to begin with, and discourse pragmatic factors leading to objects being the more expressed type of nominal. For a language like this to develop, a flexible word order is required whereby objects start out as allowably clause-initial but end up as the basic clause-initial constituent when there is one.

Complex verb morphology: This field mostly expresses the ability for a language to agree with nominals by using clitics on the verb (or similar strategies) under certain circumstances, weak support for this could be a generally complex verb morphology with no person agreement, which might also lead to some clauses lacking nominals (such as serial verb constructions with a contextually obvious nominal left out, for an example of this see A1.2.2 on Nadëb verb morphology).

Clauses without nominals: Will apply to languages which have the ability to form transitive clauses without using any full NPs, or in the weaker case forming transitive clauses with only one nominal expressed. (4) is an example from Hixkaryana (Derbyshire, 1979), which illustrates what type of structures the feature is checking for.

(4)     netahano  
          she-hit-him  
          She hit him

Ergative case-marking: While in theory you could have syntactically ergative alignment of constituents (that is, SV intransitives and OVA transitives) without case marking, the argument of Andersen (1988) suggests that the case system of Pāri was transformed to ergative because of the shift to syntactic ergativity, such that it would seem implausible to have syntactic ergativity with an accusative case system. This field will test for the presence of an ergative case system and also tie in with the "lost case markers" field as they are mostly exclusive (except in cases where a languages has undergone a change from accusative case to ergative).

Grammaticalized topic-position: Since Andersen (1988) believes that the shift from VAO happened because of the O frequently getting moved into a grammaticalized topic position, a language conforming to this part of the explanation will have to express topic by syntactic position rather than morphological or intonational means.

Generalized ergativity: Ergativity in a broad sense seems to be a recurring theme in the three explanations, but does not have to apply to only case markers as we see in the case of Pāri. This field will check for other instances of ergative phenomena such as word order patterns, pronouns or subordinate clauses being ergative in otherwise nominative languages. A matrix was created with the languages, where each language has a row with the columns representing the diachronic factors discussed in this section. These traits were judged to be one of four levels depending on how well they matched up to the definitions above, with the central part of the analysis being the extent to which they might allow for the diachronic development of the corresponding hypothesis to take place.

- no (indicating that the language does not match the feature at all)
- weak (indicating some support for the feature, but not much)
- strong (indicating that there are clear signs that while the feature might not match entirely, there are factors similar enough to warrant the larger diachronic narrative)
- yes (indicating a full match of the feature).

### 3. Results

In this section, the three explanatory models used (Derbyshire 1981, Derbyshire 1987 and Andersen 1988) are evaluated on the basis of their explanatory force with regards to other object initial languages. It bears mentioning that neither of these models were suggested by their authors to apply to every object-initial language and have been used merely as a starting point to look for similarities across object-initial languages and that a given explanation's failure to account for every object-initial language is not to be interpreted as a refutation for that diachronic explanation in the context of the language it was presented for. In order to not overwhelm a reader with unnecessary details, explicit motivations for each feature being given a certain rating are not presented in full here, but all motivations with relevant quotations are available in the appendix, and the reader is welcome to read these as well.

#### 3.1 Evaluating "Grammaticalized afterthought"

As seen in Table 2, rigid OV only held true for three languages - all three of the Carib languages examined appeared to have something similar to the rigid OV order suggested by Derbyshire

(1981). Rigid VS/SV was only a strong consideration for Nadëb(cf. A1.2.1) and Urarina(cf. A2.11.1). The two differ in one respect as we shall get to in the next section: While the languages with strong "Rigid OV" features all rate strong in the "Flexible word order" feature, the two languages with strong "Rigid VS" both were among the three languages which rated low in the "Flexible word order" category. This obviously gives support to the aforementioned caveat about "Rigid VS/SV" being implausible, and was to some extent expected (the argument for still having a control field for this feature is found on p. 3). The "Loss of case markers"-feature did quite well, with eight languages rating "strong" or "yes", while "Grammaticalized dislocation" rated high in five languages (cf. A2.1.1 for Nadëb, A2.3.1 for Hixkaryana, A2.4.1 for Kuikuro, A2.7.1 for Selknam and A2.8.1 for Tiriyo). All told, we may evaluate the explanation as follows: For the three Carib languages, it seems like a plausible account. Kuikuro stands out by still having the ergative case system (Franchetto, 2002), which would beg some additional explanation since the Derbyshire (1981) explanation hinges on languages being forced to move a constituent to resolve ambiguities and with the case marker still in place, there would be no need to disambiguate between two constituents in the way Derbyshire suggests.

	Grammaticalized afterthought			
	Rigid OV	Rigid VS/SV	Lost case markers	Grammaticalized dislocation
OSV				
Kxoe	no	no	no	weak
Nadëb	no	strong	strong	no
Tobati	no	no	weak	no
Wik Ngathana	no	no	strong	weak
OVS				
Asurini	no	no	weak	strong
Cubeo	no	no	no	weak
Hixkaryana	yes	no	yes	yes
Kuikuro	yes	no	no	strong
Mangarrayi	no	no	strong	weak
Päri	no	weak	yes	weak
Selknam	no	no	weak	strong
Tiriyo	yes	no	strong	strong
Tuvaluan	no	no	strong	weak
Ungarinjin	no	no	yes	weak
Urarina	no	strong	weak	no

Table 2. Evaluation of the "grammaticalized afterthought"-model

When moving outside the Carib family, the explanatory force of "Grammaticalized afterthought" weakens considerably. There are some languages which have considerable right-dislocation, for

example Selknam (cf. 7.7.1) and Asurini (cf. 7.1.1), but that begs the question: If all there is to object-initiality is "considerable right-dislocation of subjects", wouldn't we find more object initial languages in the data? The Derbyshire (1981) explanation really hinges on all factors being present, and as we can see from the data, this explanation only holds for a subset of the languages this thesis analyzes; namely the languages that Derbyshire (1981) set out to analyze (and in fairness, Derbyshire also brings up in his 1981 paper that not all Carib languages have lost their cases but some are still moving towards object-initial).

### 3.2 Evaluating "Marked nominals"

	Marked nominals		
	Flexible word order	Complex verb morphology	Clauses without nominals
OSV			
Kxoe	yes	weak	weak
Nadëb	no	yes	weak
Tobati	weak	strong	weak
Wik Ngathana	yes	strong	no
OVS			
Asurini	yes	yes	strong
Cubeo	yes	yes	yes
Hixkaryana	yes	yes	yes
Kuikuro	strong	yes	yes
Mangarrayi	yes	yes	yes
Päri	weak	yes	yes
Selknam	strong	strong	weak
Tiriyó	strong	yes	yes
Tuvaluan	strong	weak	weak
Ungarinjin	strong	yes	yes
Urarina	weak	strong	strong

Table 3. Evaluation of the "marked nominals"-model

Overall, it is clear from Table 3 that there is something significant to Derbyshires (1987) explanatory model for object initiality. All languages except three rate high in "Flexible word order". The exceptions being Nadëb, Päri and Urarina, which were judged to have a low degree of flexibility (for example, Päri has a topic position where a subject may move to become preverbal but the unmarked case is OVS order, Andersen 1988). "Complex verb morphology" in terms of person agreement on the verb also rated high in the majority of languages, with only Kxoe and Tuvaluan being weak (though Tuvaluan does have verbal person agreement with the direct object in rare cases, cf. 7.9.2 or Besnier 2000). Notably, Nadëb has no person agreement

but was still rated "strong" on the basis of the verb morphology being so complex that it does allow for partly omitted nominals and occasionally even transitives completely without nominals (for more on this, cf. section 6.2.2). Finally, nine languages rated high in having transitive clauses without any nominal elements present. Notably absent from this category are all four OSV-languages, which will be discussed further in section 4. There is no doubt that the Derbyshire (1987) explanation goes well beyond just the Carib family, which would seem to be the pitfall of the Derbyshire (1981) model (Grammaticalized dislocation, discussed in 3.1). The question more reasonably postulated at this stage is whether some degree of flexible word order and/or systems for leaving nominals out of sentences is all there is to object-initiality. If one is to entertain this explanation as plausible, then there would reasonably be a larger explanation at work to account for why these particular languages have become dominated by object-initial transitive clauses rather than some other configuration. We shall return to this as well.

### 3.3 Evaluating "Syntactic ergativity"

	Syntactic ergativity		
	Ergative case-marking	Topic position	Generalized ergativity
OSV			
Kxoe	no	no	no
Nadëb	no	yes	yes
Tobati	no	no	weak
Wik Ngathana	yes	no	weak
OVS			
Asurini	no	weak	strong
Cubeo	no	yes	no
Hixkaryana	no	yes	strong
Kuikuro	yes	no	yes
Mangarrayi	yes	no	strong
Päri	yes	yes	yes
Selknam	no	yes	yes
Tiriyo	strong	no	weak
Tuvaluan	yes	yes	yes
Ungarinjin	no	no	yes
Urarina	no	yes	no

Table 4. Evaluation of the "syntactic ergativity"-model.

Compared to the expected rate of ergativity in languages, this explanation overperformed (as a comparative example, 5% of the listed languages in WALS as of this writing have ergative person agreement on the verb, with another 7% having split person agreement, while 17% have

ergative case systems). Given that, these results are very interesting. Six of the languages examined, or 40%, rated as strong with regards to ergative case, while more than half were rated as strong in having other ergative features. Most notably, ergative person agreement on the verb was very high among the languages compared to the 5% on WALS. Topic position was also a feature that rated quite well, with seven of the languages rated as strong in the data. Derbyshire (1987) alludes to topicality as well, when discussing the discourse-pragmatic factors that determine when and how an object is expressed.

Looking at the data in this way, the conclusion can be drawn that while "marked nominals" did better as far as ranking does, the over-representation of "syntactic ergativity" at least presents an account of why we might expect to find languages with these features to be object-initial.

## 4. Discussion

### 4.1 General observations

Taking the whole picture into account, Table 5 shows every feature that was rated "yes" or "strong" as blacked.

	Grammaticalized afterthought			Marked nominals			Syntactic ergativity		
	Rigidity	Lost case	Dislocation	Flexible WO	Complex V	No nominals	Ergative case	Topic position	Other erg
OSV									
Kxoe				■					
Nadëb	■	■			■			■	■
Tobati					■				
Wik Ngathana		■		■	■		■		
OVS									
Asurini			■	■	■	■			■
Cubeo				■	■	■		■	
Hixkaryana	■	■		■	■	■		■	■
Kuikuro	■			■	■	■	■		■
Mangarrayi		■		■	■	■	■		■
Päri		■		■	■	■	■		■
Selknam			■	■	■	■		■	■
Tiriyo	■	■	■	■	■	■	■		■
Tuvaluan		■		■	■	■	■		■
Ungarinjin		■		■	■	■			■
Urarina	■				■	■		■	

Table 5. Condensed summary of all features and languages.

One conclusion that may be almost immediately drawn from glancing at Table 4 is how poorly the explanatory models used performed with regards to the four OSV languages that were examined, and a reasonable argument can be made that one of two things is true: Either the OSV languages became object-initial through some other diachronic development than the ones

presented in this thesis, or there is some larger diachronic pattern which may account for all object-initial languages and it just so happens that the presented features coincided with strong tendencies in OVS languages. Assuming the former, we may put aside the idea of a unifying development for all object initial languages for now, and focus on how we might formulate a diachronic development that might lead to an OVS constituent order.

Given the strength of the data in the "marked nominals"-explanation, this is a natural starting point. Assuming we have some language with flexible constituent order, and verbal person agreement that frequently drops one or both nominal elements from transitive clauses such that, in Derbyshire's words, "a basic order is hard to establish", why would such a language become statistically dominated by OVS clauses? One theory that seems plausible given the data is that this goes back to languages having some notion of ergativity where an alignment of S/O leads to O aligning with S in position to the verb. We might then postulate a hypothesis predicting the following, in line with the Greenberg (1966) universals: In a strongly ergative language (either syntactically or using ergative case) with flexible word order, we should expect the unmarked clause to be dominantly object initial. The aggregate of these features has the following distribution over the OVS languages examined:

OVS	Flexible w.o OR No nominals	Ergative case OR Syntactic erg
Asurini		
Cubeo		
Hixkaryana		
Kuikuro		
Mangarrayi		
Päri		
Selknam		
Tiriyo		
Tuvaluan		
Ungarinjin		
Urarina		

Table 6. Aggregate of flexible word order or no nominals and some notion of ergativity

Note that this leaves out two of the OVS languages in our data in a pretty striking way: Cubeo and Urarina, which are both strongly accusative languages (Morse and Maxwell, 1999 and Olawsky, 2006 respectively). These languages, however, have VS intransitive clauses so the pattern presented above might actually match in a backwards kind of way. Cubeo and Urarina have VS intransitive clauses and are dominated by OVA transitive clauses. If the ergative languages have SV constituent order in intransitive clauses, all of the OVS languages could be unified by a fairly simple account that might also tie in with Andersen's (1988) notion of

movement through topicalization. What we could then assert, given that we accept the hypothesis as formulated above, would be that there is nothing particular about ergative constituent alignment being necessary for the development and a strongly accusative VS language may well develop a similar preference given that it satisfies the general criteria outlined for the "marked nominals"-model. What would then become a puzzle is the fact that this overwhelmingly happens in ergative languages despite them being in the statistical minority. One could, nevertheless, then formulate the refined, and scientifically more falsifiable hypothesis: A language with flexible transitive clauses or strategies for omitting nominal elements from a transitive clause will be dominated by clauses where the nominal elements align in position to the verb, such that ergative SV languages will become dominated by OVA transitive clauses, and accusative VS languages will become dominated by OVA transitive clauses.

OSV	SV	VS
Kxoe		
Nadëb		
Tobati		
Wik Ngathana		
OVS		
Asurini		
Cubeo		
Hixkaryana		
Kuikuro		
Mangarrayi		
Päri		
Selknam		
Tiriyo		
Tuvaluan		
Ungarinjin		
Urarina		

Table 7. Distribution of intransitive constituent order

Unfortunately, as we can see from Table 6, the data does not line up with this attempt at an improved hypothesis. Most of the ergative OVS languages examined actually turn out to be VS languages in intransitive clauses (and notably, all the OSV languages have SV intransitive clauses). Where the first stab at a diachronic account that might unify all OVS languages (ergativity and flexible word order) managed to account for nine of the eleven languages, this second hypothesis fares slightly worse: While Urarina and Cubeo are no longer problematic for the hypothesis, we instead end up with five problematic languages from the data (Asurini,

Hixkaryana, Selknam, Tiriyo and Tuvaluan) which are accusative in terms of subject position relative to the verb. Of course, on WALS, VS languages occur at a 1:6 ratio compared to SV languages, so in that sense the languages examined here clearly have a strong over-representation of VS intransitive clauses. Then again, one might well expect it natural for a language with OVS transitive clauses to have VS intransitive clauses, so perhaps it is the other languages which require attention under this approach.

In any case, this second approach becomes further problematic since we have already established that ergativity is over-represented among OVS languages compared to the WALS average (Dryer & Haspelmath, 2013). Given what we have covered so far, we may observe the following conclusion from the data: Each of the OVS languages except one were rated "strong" in the "complex verb morphology"-category (cf. Table 5), which rated person-agreement on the verb. The one that didn't (Tuvaluan), was rated as "weak" because Besnier (2000) argues that while intransitive verbs generally agree with the verb, it is rare for transitive verbs to do so (when they do, they agree with the object, but it only happens when an intransitive clause changes valency to become a causative clause such that the underlying S becomes O of the transitive causative).

OVS	Ergative	Accusative	Neutral
Asurini			
Cubeo			
Hixkaryana			
Kuikuro			
Mangarrayi			
Päri			
Selknam			
Tiriyo			
Tuvaluan			
Ungarinjin			
Urarina			

Table 8. Alignment of verb agreement in OVS languages

The verb agreement in itself is, perhaps unsurprisingly, also mostly ergative. Urarina and Cubeo, being mostly accusative languages have accusative verb agreement and the only thing standing out from the data is that so few of the languages have neutral person agreement. Table 8 examines whether the O agreement of a language is prefixal or suffixal. In some languages (Kuikuro and Mangarrayi, cf. 7.4.2 and 7.5.2 respectively), only the A is expressed in the verb morphology and in these cases this entered under "prefix" as well (because they express their verb agreement as prefixes), in one case (ie Päri, cf. 7.6.2) the O is expressed as a prefix while the A is a suffix, and this was judged on the placement of the O. We may note here that the two

accusative languages are also the only ones to express O as a suffix. This manages to line up with the data from Table 5 in a pretty striking way: We find the overt O (when there is one) in the same position relative to the verb as we find the verb agreement of the O (when there is one), in all languages except Urarina and Cubeo.

Further, the OVS languages all have some strategy that makes qualifying a basic order hard (either flexible constituent order or the ability to omit nominals) and were deemed OVS due to statistical prominence (Besnier 2000 notes VSO as the basic syntactic order for Tuvaluan, but it is still entered as OSV in WALS due to the statistical prominence of OSV clauses, cf 7.9.1). Each of the OVS languages except for Tuvaluan, also fall into either of two categories: Ergative and prefixal verb agreement or accusative and suffixal verb agreement (Päri notably expresses O by prefixing the verb and A by suffixing, cf. A2.6.2).

OVS	Prefix	Suffix
Asurini		
Cubeo		
Hixkaryana		
Kuikuro		
Mangarrayi		
Päri		
Selknam		
Tiriyo		
Tuvaluan	Vowel change	
Ungarinjin		
Urarina		

*Table 9. Placement of verb agreement in OVS languages*

Finally we may note, with regards to Table 9, that prefixing in general is an underrepresented mode of affixation according to WALS (Dryer, 2013(b)) by a ratio of 3 suffixing languages to 1 prefixing. This is also interesting because the languages examined are not characterized as dominantly prefixing. The reason the languages might not be, could be due to a lack of data but it may also be the case that the verb prefixes of the ergative OVS languages are among few prefixes used in the language.

With this in mind, we may now formulate a theory for explaining OVS in the following manner, following mostly the Derbyshire (1987) diachronic account: In a language with flexible word order and verbal person agreement, we should expect to find OVS constituent order being the most dominant if the language is ergative and the person marker is a prefix OR the language is accusative and the person marker is a suffix. This version of the hypothesis manages to account

for all the OVS languages examined in this thesis, except perhaps for Tuvaluan, but fails to account for why this pattern emerges. Because if this was all there was to a language becoming object initial, we would expect more languages to be analyzed as object initial than there actually are and we will return to this matter in 4.3.

## 4.2 What doesn't work

If one is to construct a unifying diachronic development for all the languages examined in this thesis, there are some concepts we started out with which now appear untenable which be discussed below.

1. Anything regarding OSV-languages. None of the OSV-languages have enough in common with either of the three models used to draw any meaningful conclusions. This should perhaps not surprise anyone, given that the diachronic accounts given by Derbyshire (1981, 1987) and Andersen (1988) are modelled on OVS-languages. The data does, fortunately, show interesting patterns with regards to OVS-languages and the focus of the remainder of this section will be on postulating a diachronic account to account for these.

2. Movement to topic position as hypothesized by Andersen (1988), it may well describe the development in Pāri but with only six of the eleven OSV languages displaying emphasis by moving a constituent into first position we will have to abandon it if we are to explain all the languages in a singular fashion. With OVS being as rare as it is, this appears a more scientifically fruitful endeavor.

3. Rigidity similarly seems to be out, since even with a generous interpretation it only applies to the Carib languages and Urarina. As above, this remains a plausible explanation for those languages but not one of much use if we are to explain a group of languages which also dominantly has flexible constituent order (a trait shared by even the Carib languages in question).

4. Previous constituent order. Looking at table 10, even among the languages which aren't isolates, constituent orders are mixed across SOV, SVO, no dominant order and mixed SVO/VOS. This means that whatever diachronic development is hypothesized, it cannot assume a specific constituent order as a starting point.

5. Constituent order of the intransitive clause. As discussed in the previous section, this does not seem to predict enough, and even though VS order is statistically over-represented there are no obvious tie-ins with the rest of the data.

OVS	SOV	SVO
Asurini		
Cubeo		
Hixkaryana		
Kuikuro		
Mangarrayi	Flexible	
Pari		
Selknam		
Tiriyo		
Tuvaluan	Mixed	
Ungarinjin	Flexible	
Urarina	Isolate	

*Table 10. Dominant constituent order of language family  
(for language families, cf. Table 1, p. 1)*

### 4.3 A possible diachronic account for OVS constituent order

Assuming here the general framework of Derbyshire (1987), and the points made in previous sections of this chapter we may begin postulating a diachronic account that might unify OVS constituent order. Working with the general idea that the features shared by most languages came first, the first development should conceivably be what all languages share to some extent: Verbal agreement with nominal elements. With this feature in place, languages might then develop either flexible word order or the possibility to omit nominal elements already present through the verb agreement. In most cases examined by this thesis, they have developed both. While these features may seem vastly different, for the purpose of this hypothesis they are actually quite similar in the sense that they both serve to deteriorate the notion of a basic word order.

Once these features are established, we should expect a language with many possible constituent orders (as we indeed do see in the data) but the question becomes why OVS arises as the most used or syntactically dominant. Looking at the data, it does seem like there is a link between the alignment of the verb agreement and the placement of the nominal elements: With a basic word order deteriorated, nominal elements might tend to appear phonetically closer to their verb agreement such that a movement takes place from "A verb O" through "{A/O} o-particle verb {A/O}" to eventually end up with "O o-particle verb A" being statistically dominant in clauses which express nominals.

This might explain the development that has taken place in the languages examined here, but not without more questions being opened. First, there is the matter of the accusative languages.

Given how overrepresented ergativity is among the OSV languages, it would almost seem strange if there was nothing to it but Cubeo and Urarina are both characterized as strongly accusative languages. One possible way to account for this is that they have developed object-initial constituent order as an areal feature, since they are both located in the northern South America. While OVS order is more common in this area than in the rest of the world, their closest neighbours are not OVS and they are actually geographically closer to each other than they are to Hixkaryana, which is the second closest OVS language for either of them (cf. Map 1 on p. 2).

Second, there is the fact that what seems to unify these languages (verb agreement with syntactic roles, lack of basic constituent order, some notion of ergativity) conceivably applies to many more languages than the eleven OVS languages examined here.

If one is to construct a proper theory with the ability to account for all eleven languages that doesn't also predict that many other languages "should" be OVS, one would require more data than what was gathered here and the scope of this thesis does not, unfortunately, allow me to pursue the question further. If I was, the next logical step would seem to be to examine languages entered into WALS as having no dominant constituent order which also have ergative verb agreement and see to what extent they are dominated by object initial clauses.

Still, I should close by saying that the one thing I feel confident stating after having examined how these languages line up against the explanatory force of Derbyshire's and Andersen's diachronic account is that there is something about the combination of verb agreement, marked nominals and ergativity that seems to have worked together to produce the OVS order and my suspicion is that if I was to examine Cubeo and Urarina more closely, I would not be surprised if I were to find some examples of S/O alignment.

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## Appendix

In this appendix, quotes and general reasons are provided for motivating why the selected features have been given the rating they have been given in the corresponding languages. As noted in the main text, the emphasis, as well as tie-breaker in ambiguous cases, is on how well the features line up with the diachronic explanatory models provided in Derbyshire 1981("Grammaticalized afterthought"), Derbyshire 1987("Marked nominals") and Andersen 1988("Syntactic ergativity").

### A1. OSV-languages

#### A1.1 Kxoe

##### A1.1.1 Kxoe and grammaticalized afterthought

Though the OSV order is dominant, Kxoe also allows SOV, SVO, OVS and VSO in certain contexts (Köhler, 1981) this type of flexibility blocks any notion of rigid constituent orders.

Other languages in the Khoe-Kwadi family has similarly small case systems, so it seems reasonable to assume that it has not undergone any change in this respect.

Trying to fit Kxoe into Derbyshire (1981), we might note the omitted subjects as reappearing as afterthoughts and Kxoe being "rigidly" verb-final (OSV and SOV being the most dominant transitive constituent orders, as well as SV and OV being intransitive constituent orders), and I have noted the feature as weak based on this even though it stretches the concept of dislocation a bit.

##### A1.1.2 Kxoe and marked nominals

As noted above, Kxoe has flexible word order (Köhler, 1981).

Kxoe verb morphology encodes tense and aspect, as well as being able to reduplicate (Köhler, 1981). While this might be considered complex compared to standard european languages, the feature is only rated as weak because of the lack of person marking on the verb.

Kxoe may omit contextually obvious pronouns, but only from subject position in transitive clauses, and only if the pronoun is a 3rd person pronoun that is not emphatic (Köhler, 1981). As

far as the Derbyshire (1987) explanation goes, this does not really work to the extent where it may be a diachronic explanation of Kxoe's object-initiality and the feature is noted as weak.

### A1.1.3 Kxoe and syntactic ergativity

Kxoe has accusative case marking, but it is not employed for singular, neutral gender (Köhler, 1981).

There seems to be no notion of topicalization in Kxoe. Köhler (1981) does not mention it, but notes that when a clause has both A and O in singular neutral (and thus no syntactic case marking), clauses are interpreted as AOV. This would indicate that there is no way of moving an object into topic position, given that both A and O lack case.

Nothing in Köhler (1981) stands out as particularly ergative: Typical constituent order is best classified as verb-final, the case system is accusative and the pronoun system does not reflect syntactic case at all.

## A1.2 Nadëb

### A1.2.1 Nadëb and grammaticalized afterthought

Nadëb is an OSV language, with SV intransitive clauses which also has possibility to form SVO transitive clauses. Weir (1986) argues that this process from SVO to OVS is a gradual ongoing shift in which the dominant constituent order of transitive clauses has already become OSV. This is done by way of postpositions becoming verb prefixes and the O moving to clause-initial position, such that older constructions of the type S-V-O-postposition become O-S-verb prefix-V.

"The present behaviour of these postpositions and verb prefixes and the different relationships between them are interpreted as illustrations of stages in a process of syntactic change which appears still to be continuing in the language" -Weir, 1986, p. 294. Weir does not term the "SV" construction as explicitly rigid, nor does she reflect on the change not going towards SOV which would be a more statistically plausible development. The example sentences below do fit the Derbyshire (1981) narrative of rigidity. Which is why this is described as a strong match.

- (5)    kad                    a-wut                    Nadub mahang  
      uncle                    formative-be = in = movement            Nadeb among  
      ‘My uncle lives among the Nadeb.’

- (6) Nadub            kad    mahang        wut  
 Nadeb            uncle among     live  
 ‘My uncle lives among the Nadeb.’

Martins and Martins (1999) describes Nadëb as "one of the most ergative languages in the Amazon region" (p. 263), with the other members of the Makú family (Nadëb is classified as Nadahup on WALS, but as Makú in Martins and Martins) being "consistently nominative-accusative." (p. 263). This does suggest a shift has taken place from nominative-accusative to ergative-absolutive, but not in terms of case markers but verbal person-marking (Martins and Martins, 1999). I have found no data on proto-Makú (or proto-Nadahup) but its relatives according to Martins and Martins (1999) - Dâw and Hupda-Yuhup "employ cases to mark core grammatical relations", so we can assume that there is some likelihood that Nadëb might have gone from a system with accusative case markers like its relatives to a system with no case markers.

So far, we have seen strong indications of the "Grammaticalized afterthought" model being applicable to Nadëb, however the language does not- it seems- have any grammaticalized dislocation. This is based in part on the fact that none of the sources listed on WALS talk about dislocation patterns, but also because the particular "rigidity" outlined in Weir (1986) did not cause a SOV to OVS shift but a shift from SVO to OVS. The O which has been moved as a result of this shift could obviously be analyzed as dislocated simply by being clause-initial, but since this process was ongoing at the time of Weir (1986) we also know how the old clause type looks. Since the shift is not one where the O is occasionally left-dislocated, allowing it to become grammaticalized over time, but one where "The process of incorporations of postpositions into the VP always results in a change in grammatical relations within the sentence" (Weir, 1986, p. 299) I do not consider this to be a process of dislocation.

### A1.2.2 Nadëb and marked nominals

Outside the standard OSV, and the acceptability of SVO in phrases with the old postpositions there are no signs of flexibility in constituent ordering to a point where, as in Derbyshire (1987), a basic order would be hard to identify (Weir 1986 notes OSV as statistically predominant).

When it comes to complex verb morphology, however, Nadëb delivers. Nadëb has a wide range of verb prefixes (Weir 1986 analyzes 16 different verb prefixes divided into six broader categories of formative, multi-function, derivational, thematic, relational and subordination) which can apply cumulatively to a verb root according to seemingly phonological rules rather

than syntactic (Weir, 1984). Nadëb does lack nominal agreement but is rated strong based on overall complexity, since the end result is still that nominals may be omitted in some clauses.

This cumulative stacking of verb prefixes does allow for some intransitive clauses being formed without any nominals as seen below (example from Weir, 1984, p. 51):

- (7)    ga-na-ni-wan  
          THEME-THEME-NEG + ASPECT-spill  
          'It does not spill.'

Martins and Martins (1999) also describe how some nominals can be incorporated into the verb, in the case of obligatorily possessed nominals even when there are multiple (p. 261) but there is no data to indicate the type of free incorporation that Derbyshire (1987) talks about in any of the sources.

- (8)    om    kad    hooñ-tob-nooh-ga-jəə  
          2sg   uncle grandmother-house-mouth-THEME-close be.suspended  
          "Uncle closed the door of your grandmother's house." (lit. 'Uncle  
          grandmother-house-mouth-closed you'; the effect on grandmother  
          is emphasized)

### A1.2.3 Nadëb and syntactic ergativity

As discussed above, Nadëb does not have case-marking and thus no ergative case marking, but it is ergative in many other respects. Martins and Martins (1999) describe a "split-ergative pattern for personal pronominal proclitics dependent on person and number" (p. 263) and also say that there is S=O alignment in what overt references may be omitted (A is obligatory, S/O are omissible) and a syntactic S/O pivot.

When it comes to topic positions, Weir (1984) notes that Nadëb does have some form of topicalization, but that this is not necessarily realized in every sentence and is exemplified by (9) and (10).

- (9)    εε    a-hing                                    hxɔɔoh            go  
          father   FORMATIVE.go-downriver canoe            in  
          "Father goes downriver in a canoe" (intransitive)

- (10) hxɔɔoh                      εε      ga-hing  
       canoe                      father in.go-downriver  
       "Father goes downriver in a canoe" (transitive)

According to Weir (1984), the incorporation of a postposition into a verb phrase can be a strategy for topicalization but when it is used as such, the incorporation does not render the sentence transitive. This fits very well with the syntactic ergativity-explanation offered by Andersen (1988) who noted that the O in Pāri had become clause initial possibly by first being moved there through topicalization, and then becoming the standard constituent order.

### A1.3 Tobati

#### A1.3.1 Tobati and grammaticalized afterthought

Donohue (2002) notes that "There appears to have been a recent syntactic change in Tobati, in which the order of the constituents has changed. In earlier elicited materials, we find a preference for SOV word order" (p. 198). In a shift from SOV to OSV, nothing can have been "rigid" in the sense of Derbyshire (1981) except for possibly something like a rigid verb-finality but nothing to match to either of the fields testing for rigidity.

Peripheral arguments in Tobati "often has case marking that marks their semantic role" (Donohue, 2002, p. 199). The possible case markers are focus, locative, ablative, allative, dative, instrumental and comitative where the allative case is also used as accusative (Donohue 2002). Nouns that don't appear in oblique or peripheral functions, don't take case markers except:

"Occasionally an object is also found with the allative case marker -ad used to indicate that this is the object of a sentence. This is particularly common if the object is unexpectedly found as the object, rather than the expected subject, of a verb, or when the word order is not the canonical OSV." -Donohue, 2002, p. 191

Donohue 2002 also gives some arguments for Tobati having been richer in noun morphology at earlier stages (kin terms all begin with /a/, and personal pronouns with /n/) coupled with the fact that oblique constructions still have case markers, this might indicate that non-oblique nominals have lost their case markers but it would be a fairly weak argument and is noted as such.

Because Tobati, as noted earlier, has changed from SOV to OSV, there is no reason to suspect any dislocation of the subject. The object might have become clause initial due to the aforementioned potential "rigid verb-finality" but at that point, we have moved so far away from

Derbyshires 1981 explanation that it becomes pointless to analyze it as such anyway since a non-rigid SO phrase would have no reason to move towards object dislocation.

### A1.3.2 Tobati and marked nominals

Tobati does not have flexible word order outside the position of oblique phrases which is fairly free but with "a definite preference for them not to intervene between the verb and its subject or object" (Donohoe 2002, p. 198). Donohoe (2002) cites some examples where what he calls "non-canonical word order", where the general idea is that a transitive clause can be either SOV or OSV with oblique arguments going anywhere and in some cases their placement alters the semantic content of a phrase.

(11) Nter            ic        t-rom-ric            sib  
1INC:PL        fish    1INC:PL-see-3PL    all  
"All of us saw the fish" or "We saw all of the fish"

(12) Nter            ic        sib        t-rom-ric  
1INC:PL        fish    all        1INC:PL-see-3PL  
"We saw all of the fish"

Tobati verb morphology is fairly complex, and most importantly has the type of structure necessary for the Derbyshire (1987) development where verbs can be inflected to agree with subject and object by applying bound pronominals to the verb such that the prefixal inflection agrees with the subject and the suffixal inflection agrees with the object of a verb (Donohoe 2002).

While Tobati has fairly complex verb morphology, it does not fall into the pattern of allowing nominals to be dropped. Donohoe 2002 cites some examples of verbless clauses (mostly related to copula constructions, but also ones that combine a nominal with one of the cases to form more complex meanings) such as:

(13) Anad            rum-mi  
roof                house-above  
"A roof is on top of a house"

The data does not, however, show any transitive clauses without nominals though it is not hard to see how such a clause be possible given that the verb morphology agrees with the nominals.

### A1.3.3 Tobati and syntactic ergativity

Tobati does not have the ergative case, and the only syntactic case seems to be the occasional use of allative to mark an object previously discussed (Donohoe 2002).

Tobati also does not seem to have a particular topic-position, where speakers can move a constituent to mark it as topicalized. Donohoe (2002) notes that "The lack of much overt morphology means that many constructions are coded by position alone, and are potentially, and really, ambiguous in their readings." (p. 201). This ambiguity is resolved through either verbal agreement, semantic possibilities or in some cases by marking the object with the allative case (Donohoe 2002).

There is no explicit mention of ergative phenomena in Donohoe (2002), which is reasonable given that there is no ergative case and the only syntactic case used is, as previously discussed, the use of allative to occasionally mark a syntactic object to alleviate sentences that might otherwise be ambiguous. There is, however, one phenomenon that stands out as plausibly ergative in how the verbal affixes are handled. As previously mentioned, Tobati resolves potential ambiguity by either case markers on objects or verbal morphology. Since there is no ambiguity in intransitive clauses, there is no need for either of these strategies but in transitive clauses the object-marking is optional while Donohoe claims that "The use of subject prefixes is always compulsory on verbs" (p. 195). It should be noted here that Donohoe does not distinguish between A and S but he is talking about transitive subjects in this context, and it should also be noted that there are also cases where his data seems to contradict this conclusion but if it does hold that as a rule, transitive subjects must agree with the verb while subjects and object don't there is at least some evidence of ergative phenomena in the language.

## A1.4 Wik Ngathana

### A1.4.1 Wik Ngathana and grammaticalized afterthought

Sutton (1978) notes that "The most common order in transitive sentences is OBJECT-SUBJECT-VERB. Deictic complexes and aspectual and modal particles, in that order, generally come immediately before the verb. Word order is, however, very free." (p. 303) which does not match any of the "rigidity" fields.

The case system in Wik Ngathana technically employs both nominative, accusative, ergative and dative (Sutton, 1978) which would perhaps indicate no match for "lost case markers". However, the nominative case is morphologically unmarked and the accusative case is only used for

objects that are "personal pronoun, the interrogative pronoun /wee'iyā/ 'who', or a kinship term" (Sutton, 1978) while the ergative case is morphologically identical to the instrumental case and the dative case is morphologically identical to the genitive case (Sutton, 1978). It seems strongly plausible that a shift like the one described in both Derbyshire(1981) and Andersen (1988) has taken place and Wik Ngathana has started shifting from a nominative/accusative system to an ergative/dative case system which still uses nominative/accusative for pronouns and kinship terms.

Since Wik Ngathana has a very complex pronoun system, it is not unreasonable that right-dislocated subjects might be common but since clauses are mostly verb final (Sutton, 1978) and word order is- as noted above- "very free", it would seem at most weakly plausible to analyze the language as per the Derbyshire (1981) model.

#### A1.4.2 Wik Ngathana and marked nominals

Wik Ngathana has free word order (Sutton, 1978).

Verbs in Wik Ngathana inflect for mood only, and expresses tense and aspect through particles (Sutton 1978). However, Sutton says that "Adjectives and nouns may be derived from verbs by the addition of the agentive suffix" (p. 271). Allowing for what Sutton calls "verbless clauses":

- (14) Wa'an-ka-nta            man-patha-nha-nk  
      stir-IMP-2SgSUB      neck-bite-AG-PURP  
      "You stir it to make it sweet!" (neckbite here being "sweet")

This is at least analogous enough with the Derbyshire (1987) model that we may note "complex verb morphology" as strong, in the sense that the feature may blur the lines of a basic word order. Of course, "clauses without nominals" is rated as no.

#### A1.4.3 Wik Ngathana and syntactic ergativity

As noted above, Wik Ngathana has ergative case marking for non-pronominal, non-kinship nominals.

On topic position, Sutton (1978) notes that "The universal affix /-eya/ is commonly attached to the word denoting that which has already been mentioned or established as a topic by implication in previous discourse or conversation." (p. 300). Thus, it seems safe to assume that any shift

towards object-initiality in Wik Ngathana has not happened because objects have moved into a topic-position.

Apart from the ergative case-marker, there does not appear to be any additional ergative characteristics in Wik Ngathana but the presence of the ergative case marker would be a good indicator that perhaps there is.

## A2. OVS-languages

### A2.1 Asurini

#### A2.1.1 Asurini and grammaticalized afterthought

Harrison (1970) notes that "The order of phrases within the actual Asurini basic sentence is not completely fixed and often appears to be quite free, although certain characteristic orders are preferred." (p. 161), which would indicate no match for any rigidity explanation.

Based on Harrison (1970) there do not appear to be any case markers in the language, but Derbyshire (1987) cites Harrison (1986) as having formulated a plausible hypothesis for diachronic change in Tupi languages, of which the principal features are "earlier SOV basic order" with "free S and O pronouns which later become cliticized to the verb, but with the S free pronoun retained and moved to postverbal position; and, at a later stage, "creeping accusativity" partly replacing the "older ergativity" in main clauses (but not in the SOV-ordered subordinate clauses)." (Derbyshire, 1987, p. 317). This diachronic change also does not mention any case markers to have been lost, and is noted as just weakly plausible.

In light of the postulated diachronic change cited above, the changes which Asurini has gone through do seem strongly consistent with the general notion of having grammaticalized afterthought.

#### A2.1.2 Asurini and marked nominals

As previously mentioned, Harrison (1970) says that sentence ordering is "quite free".

Asurini verbs agree with both A (Harrison does not distinguish between S and A, but it is clear from his use) and O, precisely the type of verb morphology discussed by Derbyshire (1987).

Asuriní does allow for nominals already introduced in a discourse to be replaced by their pronoun form, and because of verbal agreement dropped such that only the verb is needed. (Harrison, 1970). Unfortunately, Harrison only exemplifies this with an intransitive clause but it seems plausible it would also hold for transitive clauses.

### A2.1.3 Asuriní and syntactic ergativity

As noted above, Asuriní does not have case markers (Harrison, 1970).

With regards to having a strict topic position, this is not specifically discussed in Harrison (1970). Harrison does mention that in discourse initial sentences, in which the OSV order is more pronounced among the speakers with the least language contact (Harrison, 1970), having a noun phrase is obligatory. This might indicate some notion of at least a semantic topic, but between the lack of mention and the presence of a "quite free" word order, a grammaticalized topic would be weakly plausible at best.

Although I can't find any obvious examples of general ergativity in Harrison (1970), which frankly might be due to my lack of familiarity with the transformational grammar-framework, Derbyshire (1987) did mention "creeping accusativity" partly replacing the "older ergativity", and on that basis I have noted this feature as strong, since the quote indicates that some notion of ergativity has not been replaced.

## A2.2 Cubeo

### A2.2.1 Cubeo and grammaticalized afterthought

Morse and Maxwell (1999) state that "There is great variation in the order of the constituents of the Cubeo clause" (p. 141), the most common being OVS and VSO, we might note that among the two there could be a case for "rigid VS", but since other variations break this up it does not seem to match either of the rigidity criteria.

Cubeo has five case markers, one of them being accusative (Morse and Maxwell, 1999). While there might still have been a shift from ergative to accusative, Tucano languages typically don't have case systems (Barnes, 1999) so it seems more plausible to assume the cases are a recent development.

It is not uncommon for nouns in Cubeo to appear both pre- and postverbally either both times as their full noun phrase or pronominalized in one instance and as the full noun phrase in the other.

(Morse and Maxwell, 1999). Further, Cubeo is flexible in main clauses but mostly SVO in subordinate clauses which could indicate a drift by afterthought patterns (though not fully in the way Derbyshire 1981 describes it). Noted as weak since it is not obligatory to have nouns appear twice in a clause.

### A2.2.2 Cubeo and marked nominals

As discussed in the previous section, Cubeo main clauses have fairly free constituent order, with subordinate clauses being mostly SVO. (Morse and Maxwell, 1999)

Cubeo has "quite complex" verb morphology according to Morse and Maxwell (1999, p. 17), displaying a large number of suffixes encoding "a variety of of grammatical information" which "often overlap in function"(Morse and Maxwell, 1999). There is also agreement with subjects.

There is no explicit mention of noun omission in Morse and Maxwell (1999), but there are plenty of examples where transitive clauses express the subject by a verb clitic and even one where an object is assumed from discourse and the subject cliticized.

- (15)   boa-'bE-te-bl-jA  
          kill-NEG-DYN-3ms-REP  
          They say he didn't kill (any fish)

### A2.2.3 Cubeo and syntactic ergativity

Cubeo has accusative case as person marking only, which is "obligatory on the indirect object, and the majority of direct objects" (Morse and Maxwell, 1999, p. 110).

Cubeo topicalizes (see above) by topic position and pausing after the full topic constituent (Morse and Maxwell 1999).

There are no evidently ergative structures in Cubeo based on the examples in Morse and Maxwells 1999 grammar, and also no mention of any ergative phenomena. The case system as well as the verbal person agreement is nominative/accusative.

## A2.3 Hixkaryana

### A2.3.1 Hixkaryana and grammaticalized afterthought

As Derbyshire (1981) is based mostly on Hixkaryana, the relevant features are noted as "yes": Rigid OV, Lost case markers and grammaticalized dislocation.

### A2.3.2 Hixkaryana and marked nominals

Derbyshire (1987) is also based mostly on Hixkaryana, though it obviously generalizes to other languages. As expected, all three features here match Hixkaryana.

### A2.3.3 Hixkaryana and syntactic ergativity

Hixkaryana has no case system, and hence no ergative case (Derbyshire, 1979)

Derbyshire (1979) writes of Hixkaryana that "Movement to the initial position of the sentence is the usual way of placing emphasis on a constituent. Not more than one constituent in a sentence can be fronted in this way." (p. 71). Derbyshire later talks about various notions of topic and which terminology might be best suited for analyzing Hixkaryana, but the arguments are not of particular relevance here, since the topic position we are after is one which might fit with the suggested diachronic development of Andersen (1988), which Hixkaryana does.

There do seem to be small hints of ergative phenomena as Derbyshire (1979) notes of when verbs take on derivational morphology, they do so ergatively with separate morphology for transitive subjects and objects where the object receives the same morphology as an intransitive subject would.

## A2.4 Kuikuro

### A2.4.1 Kuikuro and grammaticalized afterthought

As Derbyshire (1981) noted, carib languages all seem to have rigid OV and Kuikuro is probably no exception in this regard; Franchetto (2002) states the basic sentence structure as [XV] with X being either S in intransitive cases or O in intransitive cases (Franchetto uses P). Any additional linguistic material in a clause either comes before or after this nucleus, and it seems reasonable to expect that a fixed structure like that would be hard to change diachronically.

Contrary to the Derbyshire (1981) explanation, however, Kuikuro has made the shift to OVS without losing its case markers, as an ergative case is marked by a particle "heke" (Franchetto, 2002).

Kuikuro has moved from SOV to OVS and does appear to have "rigid OV". Furthermore, Kuikuro does have verbal morphology agreeing with person of S/O (Franchetto, 2002), which would allow for the type of development mentioned in Derbyshire (1981) where a constituent is first only expressed as an afterthought and eventually grammaticalized as such. While there is no strict reference to grammaticalized afterthought in the data, it was judged good enough to note as strongly plausible.

#### A2.4.2 Kuikuro and marked nominals

Kuikuro has a couple of non-OSV transitive clauses, including rare cases without nominals. Franchetto (2002) brings up objects in postverbal position where they are reflexive to the subject, as well as copula constructions being AVO. While word order is not, it seems, entirely free it suffices as strong for the purposes of this thesis.

Kuikuro also has fairly complex verb morphology. Verbs agree with person and number of the S/O as well as expressing tense and aspect.

Finally, Franchetto (2004) notes that while both O and A are usually expressed, they "can be omitted without causing the verb valence changes, as occurs in "texts" (oral) of procedural type".

(16)   lepene           kwigi           hihi-Jü  
          after           cassava        peel-PONT  
          "then peels cassava"

#### A2.4.3 Kuikuro and syntactic ergativity

As previously noted, Kuikuro has an ergative case particle with S and O being morphologically unmarked (Franchetto 2002).

There is, however, no mention of topicalization in Franchetto's 2002 and 2004 papers. What may be noted, is that the way transitive clauses are formed there seem to be fixed rules for which circumstances during which a constituent may move, and none of them are relevant to the notion of topicalization.

Kuikuro does have a very strong notion of ergativity, extending beyond the use of the noun case and also including verbal agreement as noted earlier (verbs agree in person and number with the S or O, not with the A) and there is even the same type of constituent alignment Andersen (1988) described where S/O are typically preverbal, and the A postverbal.

## A2.5 Mangarrayi

### A2.5.1 Mangarrayi and grammaticalized afterthought

Verbs obligatorily agree with intransitive S or transitive A and O (Merlan, 1982). Merlan also notes that it is not uncommon that either of these are omitted, and that "It would create a false impression to speak of the ordering relation of nominal and verbal constituents as if all of them were ordinarily specified within the same clause" (Merlan, 1982, p. 25). The word order is thus analyzed as flexible, and the conclusion is that neither rigidity criteria match.

Merlan (1982), provides an argument based on related languages that Mangarrayi has undergone a shift in case system in the feminine gender, which is now accusative-dative, is likely to historically have followed ergative-absolutive pattern. While there are ample cases in Mangarrayi, I have noted this as strong based on the notes in the method section.

Since constituent orders are fairly flexible in Mangarrayi (Merlan, 1982), a transitive subject could be expressed clause-finally without it being a question of dislocation. Without any explicit mention of dislocation in Merlan, this has been noted as "weak" rather than "no".

### A2.5.2 Mangarrayi and marked nominals

Mangarrayi has flexible word order (see above).

Mangarrayi verb morphology, in addition to agreeing with S, A and O, also encodes tense and modality (Merlan, 1982).

Mangarrayi can express transitive clauses as just the verb in cases where the verbal person agreement and context is enough (Merlan, 1982), and it is highly infrequent for the examples in Merlan to express both nominals of a transitive clause.

### A2.5.3 Mangarrayi and syntactic ergativity

Mangarrayi has the ergative case, though it is only used on the neuter gender (Merlan, 1982).

Topic in Mangarrayi seems typically expressed by a clitic, though Merlan (1982) offers some perspective on this noting that the clitic is also used "to give salience or added significance" (Merlan, 1982, p. 49).

In addition to the ergative case, Mangarrayi also has a preference for "ergative word order" as outlined in Andersen(1988) as Merlan cites the typical word order to be "slight preference for a specified direct object to precede the verb in its clause. A specified intransitive subject likewise precedes the verb more often than it follows. Specified transitive subject tends to follow the verb" (Merlan, 1982, p. 26)

## A2.6 Pāri

### A2.6.1 Pāri and grammaticalized afterthought

While the basic order is OVA, Pāri does allow for both AOV, when the A is topicalized and AVO when the A is a focus constituent. (Andersen, 1988) It would therefore not match either of the fields corresponding to rigid constituent constructions.

With regards to the lost case markers, Pāri is interesting in that while it didn't quite lose its case markers, it did change from an accusative to ergative alignment (Andersen, 1988) which arguably qualifies it for having lost at least *accusative* case markers. For the purposes of this analysis, this reasonably comes close enough.

As far as grammaticalized afterthought patterns go, Pāri does have something similar in that its ergative case marker may generally not appear preverbally (Andersen, 1988). This means that while an A can appear preverbally in marked constructions, the ergative case will only appear on postverbal subjects in transitive clauses. This could be considered strong support for Derbyshires afterthought-explanation if it were not for the fact that Pāris shift went from VAO to OVA, which is why the feature is noted as weak.

### A2.6.2 Pāri and marked nominals

Pāris word order is fairly rigid OVA. Although exceptions exist, relating to topicalization and focus as noted above, Pāri only has mildly flexible word order.

Pāri has both S, O and A marking on the verb (Andersen, 1988; an interesting point here is that S and O are marked as prefixes on the verb, while A is marked as a suffix p. 291-292).



### A2.7.2 Selknam and marked nominals

Despite OVA being the dominant word order, Rojas Bersica (2004) contains many examples that are not and bases the analysis on frequency.

Verb morphology in Selknam is not particularly complex, it agrees with S or O and expresses mood (Rojas Bersica, 2004). It expresses tense mainly through series of adverbs and appears to have no grammatical way of expressing aspect except for progressive and habitual, according to Rojas Bersica (2004). This is arguably weak as far as "complex verb morphology" goes, but is noted as strong on the basis of part of the morphology being the type of agreement expressed by the explanatory force of the Derbyshire (1987) model, and the fact that the adverbs are obligatory outside of the present tense and certitive evidential mood (Rojas Bersica, 2004).

There are examples in Rojas Bersica (2004) of pronominalized elements not being overtly expressed other than by their verbal agreement, but no mention of other elements not being expressed. Verbal morphology being such that it agrees ergatively with S/O it would seem plausible to assume there being context where a contextually obvious A and a pronominalized O might produce a transitive clause with no overt nominals, but the data being what it is the feature is noted as weak.

### A2.7.3 Selknam and syntactic ergativity

Selknam does not have ergative case, possibly no syntactic cases at all but Rojas Bersica (2004) discusses the possibility of a marker only used for intransitive S.

Selknam expresses topicalization by moving constituents into clause initial position (Rojas Bersica, 2004).

"almost all the examples I presented in the grammar, it seems that S is being aligned with O in constituent order. Taking this into account, Selk'nam would be an ergative language in this formal property." (Rojas Bersica, 2004, p. 89). Rojas Bersinca (2004) also says the language is ergative in terms of verbal concordance.

## A2.8 Tiriyo

### A2.8.1 Tiriyo and grammaticalized afterthought

As one would expect, Tiriyo being a cariban language, Derbyshires (1981) comment about cariban generally having "rigid OV" holds true for Tiriyo as well. Meira (1999) says that word order is "pragmatically oriented", indicating some freedom of constituent placing but among the examples cited OVA is the clearly most common, and makes up most of the data together with AOV (which is the second most common, and of course also a plausible constituent order given that "rigid OV" holds). Additionally, this data also excludes "Rigid VS/SV" as plausible.

Consistent with Derbyshires (1981) remarks on Hixkaryana, there is ergative case marking in subordinate clauses in Tiriyo (Meira, 1999). For main clauses, Meira describes the system as split-S (see Meira, 1999, p. 506-508 for arguments) depending on conjugation of the verb but there are not always case markers in the data so it seems they are not obligatory. In any event, I will note this as strong based on the dominant absence of case marking in main clauses.

Assuming again the framework of Derbyshire (1981) to extend to proto-cariban, it seems plausible for Tiriyo to have undergone the same diachronic change with regards to losing case markers and having nominals expressed only as afterthoughts since it ended up with the same basic constituent order.

### A2.8.2 Tiriyo and marked nominals

While "OV" clauses are dominant, other clause types are permissible as listed in Meira (1999, p. 582), and "flexible word order" is noted as "strong" rather than "yes" because of how statistically dominant OVA is.

Tiriyo verb morphology codes tense, aspect and modality as well as person agreement (Meira, 1999).

As one might expect from a cariban language, Meira (1999, p. 144) mentions that "Due to the verbal person-marking system, overt pronouns are not obligatory" and proceeds to cite some cases with optional pronouns. Verbs cannot prefix both A and O, but there is still the possibility to have a transitive clause with no nominals by prefixing either A or O and omitting the other based on discourse (Meira, 1999).

### A2.8.3 Tiriyo and syntactic ergativity

As noted above, Tiriyo does have an ergative case marker but it seems to only appear in subordinate clauses from the data available in Meira (1999).

Meira (1999) rejects the notion of a grammaticalized topic in Tiriyo.

The fact that subordinate clauses are ergative indicates some notion of generalized ergativity, but it's been noted as weak since there is no overt mention of other examples in Meira (1999) and none of the transcribed sentences seem to have any particularly ergative characteristics.

## A2.9 Tuvaluan

### A2.9.1 Tuvaluan and grammaticalized afterthought

Besnier gives some arguments for why he considers the syntactically basic word order in Tuvaluan to be VSO, but also notes that "VSO is statistically the least frequent configuration for transitive clauses with both an overt subject and direct object, OVS being the most frequent and SVO the next most frequent." (Besnier, 2000, p. 133). The constituent orders Besnier lists as possible for Tuvaluan are VSO, VOS, OVS and SVO, which would rule out any notion of Derbyshires (1981) rigidity.

Besnier makes the case that proto-polynesian could be analyzed as having been a nominative-accusative language: "Object marking with \*ki and \*i in Proto-Polynesian can be reconstructed as direct-object markers, and the proto-language as a nominative-accusative language" (Besnier, 2000, p. 295). Based on this analysis, it seems reasonable to assume a shift in case system (since the case system in Tuvaluan is ergative) which is strongly consistent with Derbyshire (1981).

There is ample evidence of left-dislocation in Tuvaluan, but Besnier writes "Right-dislocation is very rare and, in most cases, the right-dislocated material is an afterthought or an elaboration of the information provided in the main body of the sentence" (Besnier, 2000, 242). The fact that it is rare, might obviously be due to OVS already being the statistically most common constituent order but if the basic syntactic order is VOS as Besnier says, then it would not be the case that transitive subjects become right-dislocated as a result of afterthoughts but objects becoming left-dislocated for other reason (perhaps the ergative omission pattern, though that is quite speculative). In either case, grammaticalized afterthought is weakly plausible at best.

## A2.9.2 Tuvaluan and marked nominals

Besnier writes of Tuvaluan that "it differs from most other Polynesian languages (other than Outlier languages) in that it allows many constituent-order configurations" (Besnier, 2000, p. xxiv). The four different configurations (noted above) are not completely flexible, but strongly plausible for the purposes of this analysis (especially since WALS lists Tuvaluan as OVS on the basis of being the most statistically common order).

Intransitive verbs generally agree with person and number of the subject. While transitive verbs generally don't agree with anything they may agree with the direct object of the verb. Other than that and a few exceptions, verbs in Tuvaluan seem to generally inflect for tense only. (Besnier, 2000)

Besnier (2000) gives some circumstances in which nominal elements can be omitted from clauses, but among the listed cases there is no evidence of any transitive "verb phrase only" clauses and it would also contradict the "ergative agreement" described in Besnier (2000).

## A2.9.3 Tuvaluan and syntactic ergativity

Tuvaluan uses an ergative case-marker which is "obligatory when the noun phrase is postverbal" (Besnier, 2000, p. 280).

Besnier says on topic that while there are other means of establishing a topic, "By far the most grammaticalized and common means of marking topic is the movement of a noun phrase to preverbal position, where it is left unmarked for case or marked optionally with the contrastive-absolutive marker" (Besnier, 2000, p. 247).

Examples of syntactic ergativity from Besnier (2000) are not that plentiful, and Besnier analyzes Tuvaluan as syntactically accusative. This is not to say the language lacks syntactically ergative features: There is the person agreement of the verb which is clearly ergative, certain "verbal adjectives" which modify either an intransitive subject or an object, and also a valency-changing operation which Besnier calls "pseudoergative".

## A2.10 Ungarinjin

### A2.10.1 Ungarinjin and grammaticalized afterthought

Because Ungarinjin has flexible word order and no obligatorily overt NPs (Rumsey, 1982), any notion of rigid constituent patterns can be ruled out.

Ungarinjin has an ample inventory of case markers, but syntactic case is expressed through verb morphology agreeing with syntactic roles. This is consistent with Dixon (2004) who writes that "Australian languages were originally dependent marking, with the syntactic function of a predicate argument shown by a case affix (or clitic) on the NP expressing that argument. There has been a steady development towards a head-marking profile, where information about the syntactic function of core arguments is largely given by bound pronominals to the verb" (p. 509). Taking the verb morphology system of Ungarinjin to be evidence for a development of this kind, this is noted in the spreadsheet as "yes".

As one might expect, there is no mention of dislocation becoming grammaticalized in Rumsey (1982). The transitive subject in Ungarinjin ending up in clause-final position through afterthought remains a plausibility due to the language not expressing NPs overtly, but because there is no underlying notion of rigidity, this would not necessarily need to become grammaticalized for OVS to emerge as a basic order, which is why it is noted as weak in the spreadsheet.

### A2.10.2 Ungarinjin and marked nominals

Ungarinjin word order is flexible but "The ordering of the NP constituents themselves does seem to be governed, albeit very loosely." (Rumsey, 1982, p. 187)

Ungarinjin has, in addition to person agreement in line with Derbyshire (1987), verb suffixes for tense, aspect, modality, irrealis, gender and number. (Rumsey, 1982)

Rumsey writes that "In the vast majority of naturally occurring Ungarinjin sentences, one or more of the NPs cross-referenced in the verb is not overtly present within that sentence except in the form of its pronominal manifestation within the verb" (Rumsey, 1982, p. 188)

### A2.10.3 Ungarinjin and syntactic ergativity

Ungarinjin has several case markers, but the syntactic case is expressed in verb morphology by agreement of gender or person (Rumsey, 1982). This is aligned ergatively, but no case marker.

There is no mention of a topic position in Rumsey (1982), but he does note that there is verb morphology to mark what he terms "definite subject", which serves to "signal that the subject of the verb so marked is an NP which is coreferential to one which has occurred in previous discourse" (Rumsey, 1982, p. 139). I bring this up here as a secondary argument for believing that there is no topic position in Ungarinjin. Whether or not this is a notion of grammatical topic is obviously interesting in its own right, but less relevant for the purposes here since it is not a matter of a topic position in either case.

Verb morphology, which is arguably the most important part of the Ungarinjin grammar is ergative in gender agreement, agreeing with either intransitive S or transitive O. The most preferred constituent orders are also SV and OVA (Rumsey, 1982), which fits nicely with the Andersen (1988)-explanation.

### A2.11 Urarina

It bears mentioning here, that I have been unable to get hold of the entire manuscript of this source, and the conclusions on Urarina are based on the sample pages available through Google Books. This makes the data more susceptible, but it was judged a better option than to skip the language in its entirety.

#### A2.11.1 Urarina and grammaticalized afterthought

Urarinas basic constituent orders are VS for intransitive clauses and OVS for transitives (Olawsky, 2006). The only qualifiable notion of rigidity would then be "VS". Unfortunately, Urarina is an isolate so there are no related languages to go on but presuming the Derbyshire (1981) explanation, it does appear that things can only be moved out of "VS" constructions by topicalization and it was judged strong for that reason. This naturally blocks "rigid OV" as an option.

It is clear from Olawsky (2006) that Urarina has no case system today, but again with the language being an isolate it is hard to deduce whether this is because it never had one or it did and has lost it. The pronoun system does not differentiate between syntactic roles, and this

feature was rated as "weak" out of generosity to the possibility. If Urarina lost case markers, it would have to be a long time ago.

On dislocation, this is not explicitly mentioned in the available pages of Olawsky (2006), but it does not seem very plausible if one considers the rigid VS-feature. Diachronically we would then have to explain this by having a VSO language losing cases and moving the O into first position, while it might be analysed as dislocated there, it would not be an afterthought pattern in the sense of Derbyshire (1981) and so is valued as "no".

### A2.11.2 Urarina and marked nominals

Urarina clauses are basically OVS, but many other orders are permissible through topicalization (Olawsky, 2006). This type of movement through topic position is arguably more consistent with Andersen (1988) than with Derbyshire (1987) and while constituent order is flexible in some sense of the word, this was judged as weak.

Urarina verbs agree with person and number of the transitive subject, and allows for serial verb constructions. (Olawsky, 2006)

Pronominalized subjects or objects may be omitted from overt expression in clauses, either because they are present by verb agreement or because they are presupposed by the context (Olawsky, 2006). I was unable to find an example where these two occur simultaneously, but have noted it as "strong" due to the theoretical possibility and the fact that it closely mirrors the Derbyshire (1987) explanation which this feature is based on.

### A2.11.3 Urarina and syntactic ergativity

Urarina has no case markers (Olawsky, 2006).

Urarina may express focused constituents either by moving them into clause-initial position, a morphological marker or both. (Olawsky, 2006)

There is no evidence of any ergative features in the available pages of Olawsky (2006), both verb agreement and constituent order is accusative. It may well be that there are examples in the full book, but the feature was rated as "no" for the purpose of this thesis.