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Referential distance and discourse structure in Yagua

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REFERENTIAL DISTANCE AND DISCOURSE STRUCTURE
IN YAGUA

Thomas E. Payne

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1 Introduction

This paper concerns Yagua, a lowland language of Peru.¹ It also concerns the choices speakers make as to how they will refer to or 'code' participants in discourse. The body of this paper will be organized into two broad parts corresponding to these two most general concerns. In the first part, consisting of Sect. 2, I will describe the major formal devices used to code participants in Yagua. In the second part, Sect. 3 and 4, I will look at the use of those devices in a body of folkloric narrative texts. I will take as starting point for the textual study the framework and methodology developed by Givón (1983a, b, c, d) for measuring 'referential distance', i.e., the distance in number of clauses between one mention of a participant and its previous mention in the text. The general framework is outlined in some depth and several substantive modifications to the methodology are proposed. Deviations from the general predictions of Givón's framework will then be examined in detail in Sect. 4. It is found that there are two circumstances under which relatively 'new' participants can be coded with attenuated coding devices (i.e., verb coding and enclitics), and seven circumstances under which relatively recently mentioned participants can be coded with full noun phrases. Each of these circumstances represents an area of further research into the functional factors underlying the choice of participant coding devices in discourse.

2 Coding devices

The term 'coding devices' (sometimes 'participant coding devices,' Givón 1983a) will be used to refer to formal devices used to code (i.e. 'mention' or 'refer to') participants (as opposed to, e.g., actions). For Yagua these devices include noun phrases, pronouns, verb coding (agreement), enclitics and all combinations and ordering permutations thereof. In this section I will introduce and illustrate the major coding devices available in Yagua.

As a descriptive convention, I will follow Silverstein (1976) and Dixon (1979) in using the terms A, S, and O to refer to subjects of transitive verbs, subjects of intransitive verbs, and objects of transitive verbs, respectively. Furthermore, I will follow Dixon (1979) in using the terms S_a and S_o to refer to two classes of intransitive subjects. S_a participants are those intransitive subjects that are coded morphosyntactically like transitive subjects (i.e., S_a and A participants share the same set of possible coding devices), while S_o participants are those intransitive subjects that are treated morphosyntactically like transitive objects.

2.1 A and S_a coding

All A's and S_a 's have the same set of possible coding devices in Yagua. These are verb coding (VC), pre-predicate noun phrase (PNP), verb coding plus post-predicate noun phrase (VC+NP), zero, pre-predicate pronoun, right-dislocated pronoun, and right-dislocated NP. In this paper I will be concerned exclusively with the first three of these devices, as the others are quite rare in discourse, and space dictates that I concentrate on the major coding devices of the language. (See T.

Payne 1985 for a more detailed description and functional analysis of coding devices in Yagua discourse.)

2.1.1 Verb coding (VC). A and S_a participants may be coded by verbal prefixes. The basic forms of the verb coding prefixes are identical to the head coding prefixes used on nouns to code possessors and on postpositions to code oblique objects. These basic forms are illustrated in Chart A:

	1st		2nd	3rd	4th	inan
	excl.	incl.				
Sg.		ray-	jiy-	sa-		
Dl.	nááy-	vųųy-	sááda-	naada-	jíy-	rá-
Pl.	núúy-	vųųy-	jiryey-	riy-	(no number distinction)	

Chart A: Prefixal Forms¹

T. Payne (1983b) presents rules that derive essentially all surface forms of person and number prefixes from the above underlying forms. There are four major classes of stems distinguished by the form of the initial syllable. Class I stems are all those whose initial syllable is a consonant other than *j* plus any vowel, or *j* plus the vowel *o*. The three other classes exhibit the initial stem syllables, *ja*, *ji*, and *ju* respectively. No stems begin with the syllable *je* in their underlying form, and *jo* stems conjugate just like Class I stems.

The following examples illustrate the VC device with a verb stem from each class:

- (1) **Rafikyéé.**
ray-nikyee (Class I)
1SG-speak
'I speak.' (S_a)
- (2) **Saatu buyáá.**
sa-jatu buyáá (Class II)
3SG-drink manioc:beer
'S/he drinks manioc beer.' (A)
- (3) **Vuryimíy.**
vurya-jimiy² (Class III)
1PLINC-eat
'We eat.' (S_a)
- (4) **Syutúra.**
sa-jutú-rà (Class IV)
3SG-carry-INAN
'S/he carries it.'

These prefixes may also occur on an auxiliary verb:

- (5) **Vuryaa** jatú buyáá.
 vurya-a jatu buyaa
 1PLINC-AUX:IRR drink manioc:beer
 'We will drink (or let's drink) manioc beer!'
- (6) **Saniy** jiryiy yímújura.
 sa-niy jiryiy yí-mu-jù-rà
 3SG-AUX:MALF grab 4-LOC-towards-INAN
 'He grabbed it to himself (to his own detriment, or
 with evil intentions).'

2.1.2 Pre-predicate noun phrase (PNP). When a full noun phrase is used to code an A or S_a participant, that noun phrase may precede the verb. Verb coding then may not be used to code the same participant, as illustrated by the ill-formed strings following examples(7) and (8):

- (7) **Sa-munaa-dee** kúútya.
 3SG-placenta-DIM whisper
 'His placenta³ whispers.' (S_a)

*Samunaadéé sakúútya.
 'His placenta he whispers.'

- (8) **Jíryoonú** sùúyanníí.
 jíryoonú sùúy-janu-níí
 bushmaster bite-PAST3-3SG
 'A bushmaster bit him.' (A)

*Jíryoonú sasùúyanníí.
 'A bushmaster he bit him.'

2.1.3 Verb coding plus (post-predicate) noun phrase (VC +NP). When verb coding is accompanied by the overt expression of a coreferential noun phrase within the clause, that noun phrase must follow the verb:

- (9) **Sa-suvúúy** Anita
 3SG-afraid Anita
 'Anita is afraid.' (S_a)

- (10) **Sa-nááyí** Alchíco-rà
 3SG-press Alchico-INAN
 'Alchico presses it.' (A)

Conversely, when a full NP coding an A or S_a participant follows the verb, a verb coding prefix is obligatory. Thus it is not necessary to annotate the coding device here termed VC+NP as to whether the NP occurs post-verbally or pre-verbally. It is a syntactic requirement that when an NP alone codes an A or S_a participant, that NP must be preverbal. When the NP occurs in combination with a coreferential VC prefix, however, then the NP must be post-verbal.

A preliminary hypothesis regarding the use of the post-verbal NP in addition to the VC prefix would be that the NP is uttered as an

'afterthought' when the speaker judges that VC was not sufficient to uniquely distinguish the correct participant. However, there are four arguments against this analysis: 1) An inspection of texts reveals that the VC+NP forms are used more commonly and in less marked discourse contexts than the simple NP constructions. This would hardly be an expected characteristic of 'afterthought' constructions. 2) VC+NP constructions are normally uttered under a single intonation contour, suggesting that they code a single focus of consciousness and therefore do not involve a reconsideration and partial restatement. 3) As illustrated in example (10), when an O participant occurs in the clause, it must follow any overt subject NP. This indicates that the overt subject NP is at least as closely tied syntactically to the verb as the O participant is, which again is not a reasonable characteristic of afterthought subjects. 4) Finally, there is another device--right-dislocated NP--that does, in fact, code afterthoughts, as evidenced by the fact that it is normally uttered under a new intonation contour and occurs very rarely in discourse. Thus it appears that the afterthought hypothesis does not explain the function of the VC+NP constructions, at least as far as the synchronic grammar is concerned.

2.2 O and S₀ coding

As discussed in Sect. 1, the term O refers to participants which can generally be thought of as transitive objects. In Yagua, subjects of non-verbal predicates, e.g., predicate nominals, predicate locatives, etc., as well as certain intransitive verbal predicates, are treated morphosyntactically just like transitive objects. Such predicates have been termed S₀ predicates following Dixon (1979), and the subject of such predicates is termed the S₀. In Yagua, the devices which code O and S₀ participants are enclitic (E), post-predicate NP (post-NP), enclitic plus NP (E+NP), pre-predicate noun phrase, zero, pre-predicate pronoun, pre-predicate noun phrase plus enclitic, and right-dislocated noun phrase. Again, in this paper we will only be concerned with the three major coding devices, E, post-NP, and E+NP.

2.2.1 Enclitic (E). O and S₀ participants in Yagua may be coded with an enclitic attached to the last post-verbal constituent. If no constituents (other than an NP coding the O or S₀ itself) occur after the verb, the enclitic occurs on the verb itself. If a coreferential full NP also occurs, it immediately follows the enclitic. Chart B illustrates the paradigm for O and S₀ enclitics.

	1st	2nd	3rd	refl	inan
ex	inc				
Sg.	-ráy	-jíy	-níí		
Dl.	-nááy	-vúúy	-sããdá	-yù	-rà
Pl.	-núúy	-vúúy	-jiryéy		(no number distinction)

Chart B: Forms of O and S₀ Enclitics

Examples (11), (12) and (13) illustrate the enclitic device used to code O participants of verbal predicates:

- (11) Ravyááta-jíy.
1SG:want-2SG
'I like/love you.'
- (12) Sa-nááyí Alchíco-ra.
3SG-press Alchico-INAN
'Alchico is pressing it.'
- (13) Sa-jáátya sínu-mu-níí.
3SG-toss land-LOC-3COL
'He tosses them on the shore' (i.e., fish, hence the animate '3COL' enclitic).

As mentioned above, subjects of non-verbal predicates are treated morphosyntactically just like direct objects. Hence, they also can be coded with an enclitic. The following examples illustrate some simple predicate nominals in which the subject is coded with the enclitic device:

- (14) a. Maésturu-níí.
teacher-3SG
'He is a teacher.'
- b. Maésturu-ríy.
teacher-3PL
'They all are teachers.'

Examples (14a) and (14b) illustrate the simplest kind of predicate nominal construction. In these examples the predicate nominal is **maésturu**, and the subject is coded with an enclitic. In the following example the 'copula' **day** appears. This particle may or may not be classifiable as the same **day** that functions as a discourse particle. It is certainly not a verb since it has none of the properties characteristic of true verbs. However, it does frequently occur in predicate nominal constructions such as (15), and so I have glossed it 'copula' following Powlison (1969) in such contexts.

- (15) Tomáása báárya dárya.
Tomáása báárya day-rà
Tom thing COP-INAN
'It is Tom's thing.' (It belongs to Tom.)

In example (15) the form **day** is fairly strongly demanded, though in isolation the sentence is acceptable to native speakers without the **day**. In (14a) and (14b), **day** could occur immediately following the predicate nominal with no change in true functional meaning. A detailed study of the use of **day** from a discourse perspective is certainly an important area for future study.

Examples (16) and (17) illustrate the use of enclitics to code the subject of predicate locative clauses:

- (16) **Vóóka-ncha-níí.**
 cow-upon-3SG
 'He is on the cow.'
- (17) **Rá-tuunu-dee-numaa-téé-naadá.**
 INAN-beside-little-now-INTS-3DL
 'They (2) are right beside it now.'

In example (16) the predicate locative is **vóókancha** 'on the cow', and the subject is coded with the 3SG enclitic **níí**. In (17) the predicate locative is **rátuumudee** 'right beside it,' and the subject is coded with the 3DL enclitic **-naadá**. The formative **numáá** is a second position special clitic that modifies the sense of the predication. **Numáá** and several other second position clitics are also used in verbal predicates (see Doris Payne 1985 for a detailed discussion of clitic placement in Yagua).

In addition to non-verbal predicates, many intransitive verbal predicates in Yagua can appear with S_o coding, though S_a coding is always allowed as well. For example:

- (18) a. **Naadasiiyaasiy rumusiy.** (S_a)
 naada-siiy-maasiy rumu-siy
 3DL-run-exit there-from
 'They (two) rush out from there.'
- b. **Rumusiy siiyaasifaadá.** (S_o)
 rumu-siy siiy-maasiy-naada
 there-from run-exit-3DL
 'From there they (two) rush out.'
 or 'Out from there rush the two of them.'

In example (18a) the compound verb stem **siiyaasiy** occurs with the VC prefix **naada-**, while in (18b) the same stem occurs with an enclitic. Contrary to observations concerning S_o coding on verbs in other languages, there is no necessary semantic difference between (18a) and (18b) such that (18a) implies volition and control on the part of the subject whereas (18b) does not. Both of these sentences clearly imply volition, action, and control.

When verbs occur with S_o coding, they are formally parallel to non-verbal predications in that they may not indicate time reference. Certain time reference suffixes may appear on S_o predicates, but the meaning of these suffixes is then no longer that of time reference. For example, consider the following:

- (19) **Nuufíítq̣q̣jásiy musajomú.**
 nuudya-jítq̣q̣-jásiy musa-jo-mu
 1PLEX-arrive-PROX1 descend-NOM-LOC
 'We arrived (earlier today) at the port.'

- (20) Siijéenuveejáasiy Mocáyu sútajyarifaadá.
 siiy-jááy-nupee-ja-jáasiy Mocáyu sútay-jariy-naada
 run-enter-ARR2-o'land-PROX1 Mocáyu shelter-into-3DL
 'They two run overland there (close by) into Mocáyu's
 shelter.'

In example (19) the PROX1 suffix **jáasiy** imparts the time reference of 'earlier in the day of speaking' to the verbal predicate. Notice that this is a single participant clause with the VC prefix indicating the S_a participant 'we.' Example (20), however, is an S_o predicate as evidenced by the fact that the single participant 'they two' is coded with the enclitic **naadá**. The PROX1 suffix in (20) does not impart time reference, but rather specifies that the location of Mocáyu's shelter was near to the place where the twins exit from. This is completely consistent with the use of **jáasiy** (and many other suffixes) with predicate nominals and predicate locatives. For example:

- (21) Tãari-fiiy jáasiy sa-tuunu-naadá.
 long:while-NIY PROX1 3SG-side-3DL
 'They two are there at his side a long while.'

Not: 'They two were (earlier today) at his side a long while.'

- (22) Tããara sííva jáasiy?
 tããara sa-íva jáasiy
 what 3SG-DAT PROX1
 'What does he have there?'
 (Lit: 'What is to him there?')

Not: 'What did he have (earlier today)?'

- (23) Ráju-ra mákindya-jáasiy.
 many-INAN machine-PROX1
 'Lots of machines are there.'

Not: 'Lots of machines were there (earlier today).'

These formal facts illustrate that verbal predicates with S_o coding have much in common with predicate nominals. However, on semantic grounds we must say that such predicates are not nominals. Specifically, there is no sense in which example (18b) can mean, 'There are the rushed out ones.' The stem **siimyaasíy** can only be interpreted as a verb in that 1) it cannot fill the role of a noun phrase, e.g., subject or object, in a clause, and 2) it must take nominalizing suffixes in order to fill such a role. This is true for all verbs that can occur with S_o coding.

The use of a locative demonstrative (**rumusíy** in example (18b) above) correlates highly, but not absolutely, with the presence of S_o coding. Example (24) illustrates an S_o verb with the locative demonstrative **múuy**:

- (24) Múúy kinchunuveejásiryíy.
 múúy kinchu-nuvee-jásiy-ríy
 there light:fire-ARR2-PROX1-3PL
 'There upon arrival they light a fire.' (KT57)

Occasionally, however, verbs occur with S₀ coding without a preceding locative demonstrative:

- (25) Siiryjidañíí koodidyéé.
 siiy-ríj-day-níí koodiy-dee
 run-in:passing-immediately-3COL snake-DIM
 'Immediately the little snakes' scurried.'
- (26) Kuutya-nuvaa-níí,
 whisper-ARR2-3SG
 'He whispers on arrival, . . .'

In summary, we have seen that enclitics are used to code three general classes of participants: 1) objects of transitive verbs, 2) subjects of non-verbal predications such as predicate nominals and predicate locatives, and 3) subjects of certain intransitive predicates based on verbal stems but sharing many features of non-verbal predicates.

2.2.2 Post-predicate noun phrase (post-NP). A full post-predicate NP may code an O or S₀ participant, in which case an enclitic is 'optional' from a sentence grammar perspective. The following examples illustrate the simple post-predicate NP device with no coreferential enclitic:

- (27) Saatú buyáá.
 sa-jatu buyáá
 3SG-drink manioc:beer
 'S/he drinks manioc beer.' (O)
- (28) Jiryimimyáá raryáávatá.
 jiy-rimiy-maa ray-raááva-ta
 2SG-spill-PERF 1SG-poison-partitive
 'You spilled part of my poison!' (O)

2.2.3 Enclitic plus noun phrase (E+NP). However, the enclitic can co-occur with a coreferential NP. This I will term the E+NP device:

- (29) Sa-suutá-ra sújay.
 3SG-wash-INAN clothes
 'S/he washes the clothes.' (O)
- (30) Maesturu-níí Alcídes.
 teacher-3SG Alcides
 'Alcides is a teacher.' (S₀)

When the E+NP device is used, the NP always immediately follows the enclitic, and no constituent may intervene between the enclitic and the coreferential NP. These facts constitute evidence that the enclitic forms a constituent with the following noun phrase, even though it is

phonologically attached (cliticized) to whatever word precedes. It is suggested in T. Payne (1983a) that the difference between the E+NP and NP constructions has to do with definiteness--the enclitic is used for definite O's and is not used for indefinite O's. However, there are clear cases where definite O's are coded without the enclitic and where indefinite O's are coded with the enclitic. For example, possessed O's occur with or without the enclitic in about the same proportions. This fact would not be expected if the presence of the enclitic were strictly dependent on definiteness of the O, since possessed NPs are overwhelmingly definite (see, e.g., DuBois, 1980:208). Example (31a) illustrates the use of a possessed O nominal without a preceding enclitic, and (31b) illustrates a possessed S₀ nominal without the enclitic:

- (31) a. Saryey j̄j̄ita-0 j̄ichikid̄ī.
 sa-ryey j̄j̄ita-0 j̄iy-sikid̄ii
 3SG-grab JIITA-0 4-intestines
 'He grabs his own intestines.' (TC519)
- b. Múúnumaatéé-0 rájaachéy.
 múúy-numaa-téé-0 rá-jaay-say
 there-now-INTS-0 INAN-heart-CL:tree
 'There now is its (the tree's) heart.' (TC327)

Example (32) illustrates that the E+NP device can be used to code indefinite participants. In this example the coca leaves have not been previously mentioned in the discourse, and the likelihood that they have been implicitly mentioned or are perpetually identifiable is minimal. Therefore we conclude that the leaves are indefinite in the sense of DuBois (1980), Chafe (1976), and others. And yet in this sentence the enclitic is used:

- (32) Saruuyéérya japat̄iy.
 sa-ruuy-yéey-rà japat̄iy
 3SG-roast-DIST- INAN coca
 'He is roasting coca.' (TC536)

In T. Payne (1985 chapter 4) a more satisfactory explanation for the use of the E+NP device is presented. This explanation rests on the notion of 'referentiality' (DuBois 1980), persistence (Givón 1983a, b, c), 'discourse manipulability' (Hopper and Thompson 1984), or 'deployability' (Jaggar 1985). Briefly, the simple post-predicate NP device is used for O and S₀ participants that do not persist on the discourse stage, i.e., they are not 'destined', as it were, to figure prominently in the immediately ensuing discourse. The E+NP device, on the other hand, is used for participants that will persist for a greater span of text. This explanation is quantitatively justified for Yagua in T. Payne (1985).

2.3 Oblique coding

Obliques are coded with exactly the same set of coding devices as are possessors: HC, NP, and HC+NP. The head of an oblique phrase is the postposition indicating the semantic role of the oblique nominal. In

the following subsections, examples of each of the coding devices used for postpositions are illustrated.

2.3.1 Head coding (HC). Postpositions and nouns fall into the same conjugation classes as do verbs. Head coding prefixes referring to the oblique participant whose semantic role is indicated by the postposition are the same as those referring to subjects (see chart A). The following examples illustrate some simple postpositional phrases where the participant is coded with an HC prefix on the postposition:

- (33) **Rá-taasá**
 INAN-middle
 'In the middle of it' (Class I)
- (34) **Sa-jariy**
 sa-jariy
 3SG-underneath
 'Underneath him' (Class II)
- (35) **Sa-jusiy**
 sa-jusiy
 3SG-from/after
 'From/after him' (Class IV)

2.3.2 Noun phrase. Like subjects with respect to their verbs, oblique nouns can occur as full NPs immediately preceding their postpositions. In such a case an HC prefix may not occur on the postposition:

- (36) **Núú taasá**
 path middle
 'in the middle of the path'
- (37) **Táára rudamú sayasiy?**
 táára ruda-mu sa-jiya-siy
 what day-LOC 3SG-go-PAST1
 'On what day did he go?'

2.3.3 Head coding plus noun phrase (HC+NP). When HC does occur on a postposition, a full NP referring to the oblique nominal may follow:

- (38) **Rá-taasa sa-moo-mu-dáy**
 INAN-middle 3SG-face-LOC-DAY
 'Right on his face'
- (39) **Riñeechó munufumiy**
 riy-naachó munufiu-miy
 3PL-towards savage-PL
 'Towards the savages'

Postpositional phrases are isomorphic with possessive constructions. In some cases stems which are clearly nouns are used in postpositional phrases to modify the sense of the relation being expressed. For example, the stem **moo** 'face/forehead' illustrated in

example (38) is used in combination with postpositions to impart the sense of 'in front of.' For example, contrast the a and b examples below:

- (40) a. Sa-moo-mú
 3SG-face-LOC
 'In front of him' (Lit.: 'at his fact')
- b. Siimú
 sa-jimú
 3SG-LOC
 'On him' or 'at his house'
- (41) a. Sa-moo-mu-síy
 3SG-face-LOC-from
 'Away from where he is headed' (Lit.: 'away from his face')
- b. Siimusíy
 sa-jimu-siy
 3SG-LOC-from
 'Away from him' (implies he is not moving)

2.4 Summary

In this section I have illustrated the major devices used to code participants in Yagua. A and S₂ participants employ the devices I have termed VC, PNP, and VC+NP, while O and S₁ participants employ the devices E, NP, and E+NP. Oblique participants employ the devices HC, NP, and HC+NP. Though I have termed the verbal prefixes VC and the postpositional (and possessor) prefixes HC, it is understood that the prefixes involved in both of these devices are selected from the same set.

3 Topic continuity

In this section I pose the question: How do discourse pragmatic factors affect the choice of participant coding devices in Yagua discourse? In attempting to answer this question I tentatively adopt the framework set out by Givón (1983a, b, c) for assigning quantitative continuity values to the various coding devices. This approach is a logical first step in that it rests on a well-defined limiting hypothesis, namely, that the use of all coding devices can be explained in terms of 'continuity' (as defined below). Once this preliminary hypothesis is tested, deviations from the expected results will point out other factors affecting choice of coding devices, thereby defining areas for further investigation. In Sect. 4 I examine specific examples that violate the general findings of the topic continuity study, and attempt to determine what additional factors might be influencing the choice of coding devices.

3.1 The contribution of topic continuity to a theory of anaphora

According to Givón (1983b:7), 'The clause ('sentence') is the basic information processing unit in human discourse.' Discourse is made up

of chains of clauses, which are in turn combined into larger units called 'paragraphs,' 'sections,' 'chapters,' etc. In order to qualify as a discourse, a chain of clauses must 'hang together' in certain demonstrable ways, i.e., it must be **continuous**. This particular observation certainly does not originate with Givón, but plays a central role in much previous work on discourse structure, though under different terminology. For example, Halliday (1967), Halliday and Hasan (1976), and Grimes (1975), among others, use the term 'cohesion' for essentially this same concept. Givón's central insight is that continuity (cohesion, if you will) from one clause to the next in real discourse is the most expected, unsurprising, and unmarked situation. Discontinuity is unexpected, surprising and marked. This observation suggests an 'iconicity principle' of human communication in general, and of topic continuity in particular:

- (42) 'The more disruptive, surprising, discontinuous or hard to process a topic is, the more **coding material** must be assigned to it.'

(Givón 1983b:18, emphasis in the original.)

This principle is consistent with a more general and obvious behavioral principle: 'Expend only as much energy on a task as is required for its performance' (ibid.). Principle (42) is iconic in that it relates a formal coding scale (amount of coding material) to a scalar functional domain (continuity) in a non-arbitrary way, i.e., the less continuity the more coding material. Characteristically, then, continuity (of various sorts) is either not marked morphologically or is encoded with minimal morphological marking. Discontinuity, on the other hand, is encoded with more substantial morphological marking, or with otherwise more 'marked' morphosyntactic structures.

There are three types of continuity mentioned in Givón (1983b): thematic continuity, action continuity, and participant, (or topic) continuity. Although he acknowledges that these three kinds of continuity are intimately related to one another, Givón concentrates on topic continuity for purposes of the quantitative analytical procedure he proposes. In Givón's view 'topic' is seen as a scalar category. Participants are more or less topical at any given point in a discourse. It is more continuous (and therefore less surprising, or less marked) for a speaker to refer to (or mention) a more highly topical participant than a less highly topical one.⁶ Certainly there are times when a speaker needs to refer to participants that are low in topicality. In particular, participants that have not been brought onto the discourse stage have no topicality whatsoever.⁷ Therefore, in order to introduce a participant, or to reintroduce a participant after a significant period of absence, more marked morphosyntactic coding devices are called for. The speaker/writer must 'work harder' to signal discontinuity since it is not the most natural state of affairs in human discourse. Givón's quantitative method is a way of determining how topical any participant is at any given point in a text. Once topicality is determined in a rigorous, non-circular, non-impressionistic way, participant coding devices can be ranked in terms of the average topicality values of the participants they code.

Certainly an all-inclusive theory of anaphora would have to take into account many factors other than brute number of mentions and number of clauses since previous mention in order to accurately characterize the use of participant coding devices in discourse. These other factors fall into two categories: 1) factors involving the **topicworthiness** of the participants themselves, and 2) factors involving the structure and flow of the discourse. These two factors will be discussed in the following two subsections, respectively.

3.1.1 Participant topicworthiness. Participant topicworthiness is here defined as the relative likelihood for a participant to be 'talked about' (Reinhart 1982). There are at least two kinds of topicworthiness associated with any potential participant in a discourse: **inherent** topicworthiness and **context-imparted** topicworthiness. These notions are reminiscent of, but not identical to, DuBois' notions of **intrinsic salience** and **plot salience** (DuBois, 1980:248-49). Certain entities are inherently more topicworthy than others, e.g. humans are more likely topics than non-humans, animates are more likely topics than inanimates, etc. Other entities are likely topics because of the semantics or pragmatics of the particular speech context. This second kind of topicworthiness is that which will be the focus of the rest of this paper and hence merits some elaboration here.

To take an obvious case of context-imparted topicworthiness, the speech act participants themselves are always highly topicworthy. They are always 'available' for reference in any discourse since interlocutors must always be conscious of one another. This fact explains why speech act participants can be universally referred to with reduced morphosyntactic coding devices, such as first and second person pronouns, regardless of whether or how many times they've been mentioned previously in the discourse. In addition, however, particular speech situations may impart topicworthiness to certain classes of entities. For example, in certain religious circles God is perpetually a highly topicworthy entity. Hence, in the context of a religious gathering of this type, a participant coding device of the appropriate inflectional category but with no obvious antecedent is taken to be a reference to God. Another more commonplace example of this same phenomenon is the fact that entities can be non-linguistically or implicitly brought onto the discourse stage, by deixis, inference, body language and shared presuppositions of the speech act participants. Also, the choice of a particular verb causes the class of participants that are typical for that verb to be more topicworthy. For example, 'to spew' in English implies a liquid participant; 'to speak', a human participant, etc. Finally, in narrative the central characters of the story are more likely topics than the non-central characters. In short there are a myriad of factors that affect 'degree of topicworthiness,' many of which are not accessible to the linguist working from transcribed materials, especially when the linguist does not have native understanding of the language or of the culture of the speakers of that language. Topicality (in the sense of Givón 1983b, as number or density of mentions) is only one kind of context-imparted topicworthiness. That is, if a participant has already been mentioned a lot and/or has recently been mentioned in the current discourse, it is more likely to continue as topic (it is more topicworthy) than are other entities, other factors being equal.

Despite the fact that the topic continuity methodology is sensitive to only a few of the factors involved in topicworthiness, it does represent a step in the right direction. The value of this methodology is that it is quantitative, rigorous, and non-impressionistic. Future research will certainly refine the methodology and the theoretical principles that underlie it until all variables have been isolated and incorporated into the findings.

In the quantitative study of Yagua presented in this paper, I have attempted to control for some of the variables outlined above by 1) distinguishing between central, major and minor characters (Sect. 3.3), 2) excluding from the general topic continuity counts references to entities which are clearly perpetually topicworthy due to their universal presence on the discourse stage, e.g., 'the sun,' 'the day,' etc. and 3) excluding references to speech act participants. The other factors (e.g., deictic mentions, implicit mention due to semantic subcategorization of verbs) will only be dealt with as they are obviously relevant in particular cases.

3.1.2 Discourse structure. The second major group of factors affecting the choice of coding devices has to do with the structuring of the information contained in a text. Again there are two subtypes of factors: 1) the hierarchical thematic or episodic structure of the text, and 2) factors of grounding, i.e., foregrounding and backgrounding of information (Hopper and Thompson 1980). The first factor corresponds to Givón's 'thematic continuity' and relates to the fact that thematic (or episode) boundaries crucially affect a speaker's choice of coding devices. The second group of factors corresponds to Givón's 'action continuity.' Neither of these areas is dealt with in great detail in Givón (1983a, c, d), though he does compare continuity indices for participants at thematic junctures with those not at such junctures (1983d:192ff.).

Two recent works which incorporate the notion of thematic structure into the question of choice of participant coding devices are Clancy (1980) and Fox (1984). Clancy (1980) is the first work in which topicality (though Clancy does not use this term) is measured in terms of distance in number of clauses since last mention. However, in addition to counting numbers of clauses, Clancy also notices that discourse boundaries tend to elicit stronger coding devices than would be expected given a strictly linear view of continuity based on number of mentions or distance since last mention. The particular boundaries that Clancy finds relevant are 'world shifts,' where a narrator shifts between the 'real world,' i.e., the situation in which the narrative is being recounted, and the 'story world,' i.e., the world being depicted in the narrative. Clancy also finds 'episode' boundaries significant. There are many other factors that Clancy deals with in her article on a case-by-case-basis.

Fox (1984) shows that the choice between use of a pronoun versus a full noun phrase in English is influenced by the hierarchical structure of the content of the text. The frameworks that Fox employs for determining the hierarchical structures of texts are Rhetorical Structure Analysis (Mann and Thompson 1983) for written texts, and Conversational Analysis (Sacks, Schegloff, and Jefferson 1974) for

conversational texts. Fox takes particular examples of what would, from a strictly linear point of view based on number of clauses since previous mention, appear to be excessively strong coding devices (i.e., full NPs) or excessively weak devices (i.e., pronouns) and shows how from a hierarchical point of view, such patterning is explainable (Fox 1984:240ff.). On the basis of such examples Fox rejects the 'distance' view of topicality in favor of a hierarchical view.

There is no question that hierarchical structure must be taken into account in an all-inclusive theory of anaphora. However, the essential contribution of Givón's work on topic continuity is that it provides a quantitative method of calculating at least some of the factors affecting choice of coding devices. It is not meant to be all-inclusive or predictive, in the sense of being able to provide an algorithm for generating exactly the correct coding choices in a text, and none of the incorrect ones. It simply provides a rigorous, quantitative method of comparing the functions of coding devices according to certain well-defined parameters (referential distance, persistence and ambiguity as defined below). Future research on the use of anaphora in discourse must still provide a rigorous, preferably quantitative way of characterizing the effect of thematic continuity on participant coding choices. In Sect. 4.1.2 and 4.2.5 I will illustrate two respects in which the hierarchical structure of the text affects the choice of coding devices in Yagua.

3.2 Technique

In this paper topicality will be measured in terms of the index of **referential distance**. Two other indices, persistence ('decay') and ambiguity ('interference'), will not be considered here for reasons of space limitations. T. Payne (1985) shows that the functional domains measured by the indices of persistence and ambiguity are sufficiently distinct from that measured by referential distance so as to render each worthy of separate treatment, though all fall into the overarching functional category of topic identification and manipulation in discourse.

The index of referential distance (RD) is based on the assumption that participants that have not been mentioned recently in the discourse are more difficult to process and are therefore less topical than those that have been mentioned more recently. This index measures the gap between the current mention of a participant and its previous mention in the discourse in terms of number of clauses. Thus an RD of 1 indicates that the participant was last mentioned in the immediately preceding clause and is therefore maximally continuous. In the extreme case of discontinuity, where a participant has not been mentioned at all in the present discourse, the RD index is technically infinite. However, since we cannot deal satisfactorily with infinite values, I will follow Givón (1983a, c, d) in imposing the arbitrary limit of 20 on the RD index. Thus participants which are introduced into the discourse for the first time, or are absent from the discourse stage for twenty clauses or longer receive the RD index of 20.

3.3 Modifications

The major modifications I will introduce into Givón's methodology involve the treatment of quoted material. This is particularly important for this study since over thirty percent of the clauses in the corpus are quotes. Participant mentions within quotes will not be assigned RD measurements, since I judge that their continuity pertains more to the quoted discourse than to the discourse in which the quote appears. However, such mentions will be counted for purposes of determining the RD of other mentions that occur outside the quotes. This decision rests on the assumption that if a participant is mentioned in a quote, that participant is 'on stage' and therefore is just as potentially topical as it would be were it mentioned outside a quote.

A second modification that I will introduce will be to count the character that utters the quote as having been mentioned, even if no overt mention of that character is made. This modification is based on the assumption that if a participant has a 'speaking part' in the discourse drama, that participant must be 'on stage,' and therefore must be available as a discourse topic at the point where he or she speaks. It is quite common in Yagua discourse for a series of quotes to occur in which two or more participants are interacting, but where explicit verbs of saying are not indicated for every conversational 'turn' in the quoted discourse. It is simply understood by the content of the turn which interactant is speaking. Such situations will be considered to constitute a mention of the speaker for purposes of calculating the RD of other mentions. However, such implicit mentions will not themselves be assigned an RD measurement.

Other modifications involve the measurement of mentions of participants that are referentially included within mentions of other, non-singular participants. Non-singular mentions are considered to be mentions of each of the individuals contained in the group. Thus the RD of a non-singular mention would be the distance back to the last mention of any of the included individuals. Similarly, non-singular mentions are considered to be mentions of each of the individuals for purposes of measuring the RD of other singular mentions of those individuals.

Finally, I will introduce four **character statuses** as follows:

1. Central characters--These are the characters that the text is about, and which are normally present throughout the text. Central characters do not lose their status as central characters, even if they are not mentioned for an entire episode (e.g., the snail episode of the Twins Cycle, TC398 to TC458, see appendix).

2. Non-central major characters -- those characters mentioned five or more times in twenty clauses in a single episode. Characters mentioned only four times in twenty clauses are also considered major if in the majority of those mentions (i.e., three or four) the character was a subject, i.e., an A or S participant. For purposes of determining whether a character is major or not, a quote is considered to be a (non-subject) mention of the character who utters the quote. Major characters may lose their status as major in a subsequent episode if they don't meet the criterion.

3. Perpetually present--This category encompasses that small number of referents that are automatically present on the discourse stage and therefore do not need to be introduced, e.g., the sun, the day, etc. Also, dummy referents such as the subject of 'thunder' in, 'It thunders.' Mentions of such participants are not given continuity indices, and therefore do not figure into the counts for the various coding devices.

4. Minor characters--All other participants.

The scope of this study is purposely limited in several respects. I will be concerned only with A, O, S (all types, including subjects of non-verbal predicates) and all Oblique (OBL) participants. I have not calculated continuity values for interjections or possessors, though these categories of mentions are considered in the measurement of RD for other mentions. Furthermore, as mentioned in Sect. 1, there are many coding devices in Yagua that I will not be considering, e.g., zero, pronouns, devices involving right or left dislocation, etc. These devices are all somewhat 'marginal' numerically in Yagua discourse, and all have functions outside of the domain measured by the index of referential distance (T. Payne 1985; See Doris Payne 1985 for an explication of the pragmatically marked status of right and left dislocations).

3.4 Data base of the quantitative study

The data base for this study consists of four texts, all of which are essentially folkloric narratives. Table 1 summarizes the data base of this study:

Text	Number of Clauses ⁹		
	Quotes	Non-Quotes	Total
1. First Squirrel (FSQ)	49	87	136
2. Hunter Narrative (HN)	72	154	226
3. Kneebite Twins (KT)	32	78	110
4. Twins Cycle (TC)	232	371	603
Totals:	385	690	1075

Table 1: Corpus for the Topic Continuity Study

The fact that all these texts are folkloric narratives biases the sample, to be sure. However, I have chosen to keep the genre constant in order to eliminate genre as a possible complicating factor as much as possible. Also, folkloric narrative is virtually the only non-first person genre available in Yagua, and questions of topic continuity are not as relevant when the primary characters are speech act participants for the simple reason that all speech act participants are always highly topicworthy. Finally, since little is known about Yagua in general, I judge it appropriate to begin the investigation with straightforward, narrative material. Future research would certainly need to include other genres.

These texts were all orally composed by unquestionably competent native storytellers, under reasonably natural circumstances. Transcriptions and translations were made either by native speakers, or by linguists working closely with the storytellers themselves (all of whom were preliterate at the time of storytelling). Text 1 appears in Appendix 2 of T. Payne (1985) and is an episode of a longer Yagua folktale titled 'Little Baldy' in Powlison (1969). This particular version was recorded as a self-contained unit, so all continuity is relevant within the span of text examined. The other texts were all recorded by Paul Powlison. Texts 2 and 3 remain unpublished, while Text 4 appears in Powlison (1969), though in a different orthography than that which is used in this study, and without clause numbering. The free translation of Text 4 appears in the appendix of this paper.

3.5 The results

The tables and discussion presented in this section represent only a few of the possible ways of displaying the results of the quantitative study. I have endeavored to provide enough figures so that the reader with interest in a specific issue not dealt with in the discussion will be able to glean the appropriate data from the tables provided. Inevitably, however, the discussion is limited to a few areas of particular interest to this thesis. The following abbreviations will be used in the tables: C = Central character, MA = MAJOR character, MI = MINOR character (see Sect. 3.3 for an explanation of these terms), T = totals, n = number of instances, Mn = mean. A, O, S_a, and S_o will, of course, refer to semantico-syntactic roles, as outlined in chapter 1, Sect. 1.5.2.

Mean RD values have been calculated and appear on the bottom row of each table. Since individual deviations from those mean values will be of particular interest, however, the tables also indicate the total number of instances of each value of each index for each coding device. Thus the tables graphically represent the distribution of instances of particular values within the entire range of possible values.

3.5.1 A and S_a participants (subjects). Table 2 indicates the referential distances for all A and S_a participants coded with the VC (verb coding) device:

RD	A				S _a				To\
	C	MA	MI	T	C	MA	MI	T	
1.	81	43	2	126	123	64	9	196	322
2.	13	12	1	26	22	23		45	71
3.	7	4		11	10	8		18	29
4.	2	1		3	6	3	1	10	13
5.	2			2	1	1		2	4
6.		1		1		1		1	2
7.									
8.									
9.						1		1	1
10.						3		3	3
.	(no instances of VC device coding RD of 11 to 19)								
20.	1			1	3			3	4
n =	106	61	3	170	165	104	10	279	449
Mn=	1.57	1.46	1.33	1.52	1.62	1.88	1.3	1.77	1.68

Table 2: Referential Distance, Verb Coding Device
A and S_a Categories

From Table 2 we observe that the referential distance for the VC device is quite low and is roughly equal for all participant categories. The majority of instances of the VC device (322/448 or 72%) code participants which had been mentioned in the immediately prior clause (RD = 1), and most of the others cluster nicely near the lower end of the scale. These gross facts lead me to classify VC as a **short-range** coding device. That is, its primary function is to code participants that have been mentioned very recently in the discourse. However, it is interesting to note that occasionally the VC device is used to code quite distant participants. In fact, four times in this corpus the VC device has the maximal RD index of 20, even though it never has an RD index between 11 and 19. In Sect. 4 I will look at specific examples of VC used to code relatively distant participants (RD>8) for possible explanations for this patterning.

Table 3 presents the referential distance counts for the PNP device used to code A and S_a participants:

RD	A				S _a				Total
	C	MA	MI	T	C	MA	MI	T	
1.		2		2	1		1	2	4
2.									
3.					1			1	1
4.									
5.							1	1	1
6.						1		1	1
7.									
8.	1			1					1
.									
.									
20.			1	1		1	5	6	7
n =	1	2	1	4	2	2	7	11	15
Mn =	8	1	20	7.5	2	13	15.14	12.36	11.07

Table 3: Referential Distance, Pre-Predicate NP Device
A and S_a Categories

An obvious and expected finding of the figures in Table 3 is that PNP is a relatively **long-range** coding device. That is, it typically codes participants that have been absent from the discourse stage for a substantial amount of time. The mean RD of 11.07 for the PNP device is significantly higher than 1.68 for the VC device. However, the figures in Table 3 do not show nearly as much homogeneity as do those for the VC device. In particular, we notice that S_a participants taken as an aggregate exhibit higher referential distance than do A participants (RD = 12.36 for S_a and RD = 7.5 for A). This fact indicates that participants coded in the S_a role (subjects of intransitive verbal predicates) are generally less topical and more discontinuous than those coded in the A role (transitive subjects). This observation is consistent with DuBois (1981) who observes that intransitive subjects and transitive objects share the characteristic of being the primary roles in which 'new' information is introduced, as opposed to a transitive subject which is typically 'given' information. And in fact a quick glimpse ahead reveals that the pre-verbal NP device used to code 0 participants has an RD more similar to that of the same device used to code S_a rather than A participants (see Table 8).

The individual figures for central, major, and minor participants in Table 3 are not particularly helpful since the number of examples is so low. However, we may make two general observations: 1) the PNP device is relatively uncommon, occurring only fifteen times in 690 non-quote clauses of text, and 2) when it is used, it tends to code non-central characters (twelve instances) rather than central characters (three instances).

Table 4 presents the referential distance counts for the device termed verb coding plus (post-verbal) noun phrase (VC+NP) used to code A and S_a participants:

RD	A				S _a				Total
	C	MA	MI	T	C	MA	MI	T	
1.	2	6		8	10	11		21	29
2.	1	1		2	4	6	1	11	13
3.	1			1	3	1	3	7	8
4.						3		3	3
5.	1			1	1			1	2
6.		1		1	1	3		4	5
7.		1		1			1	1	2
8.									
9.					2			2	2
10.									
18.					1	1		2	2
19.									
20.	1	2	4	7	2	9	9	20	27
n =	6	11	4	21	24	34	14	72	93
Mn =	5.33	5.55	20	8.24	4.75	6.94	14.14	7.86	7.95

Table 4: Referential Distance, Verb Coding Plus NP Device
A and S_a Categories

The aggregate mean for the RD of the VC+NP device (7.95) is not as high as that of the PNP device (11.07). Thus I conclude that participants coded with the PNP device are **less topical** than those coded with the VC+NP device. This fact is consistent with the view expressed in Givón (1983c:19) that left-dislocated NPs are universally associated with higher discontinuity than are NPs in the neutral position.¹⁰ However, these same facts seem to go against the scale of phonological size (Givón 1983c:18), which says that the phonologically 'larger' device (in this case VC+NP) should be correlated with higher discontinuity than the 'smaller' device (PNP). Clearly there is some other factor involved here. This issue is discussed briefly in T. Payne (1985) chapter 8.

Again, the figures in Table 4 exhibit less homogeneity than those for the VC device. Unlike the PNP device (Table 3), the referential distance counts for the VC+NP device do not separate out according to semantico-syntactic role, i.e., for the VC+NP device A and S_a participants as a whole exhibit similar RD counts (8.24 and 7.86^a, respectively). However, what we notice in Table 4 is that the counts do separate out according to character status. Central characters are consistently more topical, in terms of RD, than major characters, which are in turn consistently more topical than minor characters.

3.5.2 0 and S₀ participants. Table 5 indicates the Referential Distances of 0^o and S₀ participants coded with the simple E (enclitic) device. A distinction is also drawn between S₀ participants of predicate nominals, and S₀ participants of verbal predicates.

RD	O				S _o (pred nom)				S _o (verbal)				Total
	C	MA	MI	T	C	MA	MI	T	C	MA	MI	T	
1.	14	22	7	43	1	3	1	5	7	2		9	57
2.	5	12		17						3		3	20
3.	4	2	1	7					1			1	8
4.		2		2					1			1	3
5.	1	1		2									2
.													
.													
.													
20.		2	1	3									3
n =	24	41	9	74	1	3	1	5	9	5		14	93
Mn =	1.71	2.56	3.33	2.38	1	1	1	1	1.55	1.4		1.57	2.18

Table 5: Referential Distance, Enclitic Device
O and S_o Categories

From Table 5 we can conclude that, like the VC device, the enclitic is a short-range device in that most instances of this device cluster nicely towards the low end of the RD scale. Another interesting parallel between the enclitic device and VC is that for both there are some instances of the device used to code quite distant participants even though there is a significant gap in which no instances of the device are found. For the enclitic device the gap is from RD 6 to 19, with three instances of the device used to code participants whose RD is 20. One dissimilarity between the figures in Table 5 and those in Table 2 for the VC device is that, especially for O participants, RD is slightly higher for the E device than for the VC device. This indicates that O participants coded with the E device are slightly more discontinuous than A and S_a participants coded with the VC device.

There is no clearly significant patterning of RD indices for the E device according to semantico-syntactic role or character status. For the O role, central characters exhibit a slightly lower RD than do major characters, and major characters exhibit a slightly lower RD than do minor characters. This is yet another example of central characters being more topical than non-central, and major characters being more topical than minor characters. However, the overall spread between the RD indices of the various character statuses is not particularly striking, and the overall RD indices for O and S_o participants of verbal predicates are very similar. I judge that there are not enough examples of S_o participants of non-verbal predicates to draw any conclusions from their RD indices, which are consistently 1.

Table 6 shows the referential distance indices for the post-predicate NP device used to code O and S_o participants:

RD	O			S ₀ (pred nom)				S ₀ (verbal)	Total
	C	MA	MI	T	C	MA	MI	T	
1.		1	1	2					2
2.		2	1	3				(none)	3
3.									
4.			1	1					1
5.									
6.		1		1					1
7.		1		1					1
.									
.									
20.		3	7	10			5	5	15
n =	8	10	18		5	5			23
Mn =	9.75	14.7	12.5		20	20			13.83

Table 6: Referential Distance, Post-Predicate NP Device
O and S₀ Categories

Table 6 shows that the simple post-predicate NP device is not used to code central characters at all. However, the generalization that major characters exhibit lower RD (9.75) than do minor characters (14.7) still holds. Also, subjects of non-verbal predications (S₀ participants) are only used to code participants with the maximum RD^o (20), though the number of examples of subjects of non-verbal predications coded with this device is so small that any generalizations made with respect to their indices must remain tentative.

Table 7 indicates RD figures for the enclitic plus NP device used to code O and S₀ participants:

RD	O				S ₀ (pred nom)				S ₀ (verbal)				Total
	C	MA	MI	T	C	MA	MI	T	C	MA	MI	T	
1.	1	5	2	8		4		4					12
2.	2	2	1	5		1		1					6
3.	1	1		2						1		1	3
4.													
5.		1		1									1
6.		1	1	2									2
7.		2		2									2
8.		1		1									1
9.													
10.													
11.	1			1									1
12.													
13.													
14.													
15.													
16.													
17.													
18.													
19.													
20.	2	3	15	20		1		1					21
n=	7	16	19	42		6		6		1		1	49
Mn=	8.43	6.56	16.32	11.29		4.33		4.33		3		3	10.26

Table 7: Referential Distance, Enclitic Plus NP device
O and S₀ categories

In Table 7 again we see that the only substantial numbers of instances of the E+NP device occur in the O columns (n = 42). Here we see that central and major characters are similar in RD, while minor characters are substantially higher. However, for the first time the generality that central characters are more topical than major characters is violated. In Table 7 we see that central characters coded with the E+NP device are actually less topical in terms of RD (RD = 8.43) than are major characters (RD = 6.56).

3.5.3 Oblique participants. In this section the tables indicating referential distance and figures for oblique participants are presented. The only devices ever used to code oblique participants in my corpus are HC, NP, and HC+NP.

Table 8 presents the RD figures for the HC device:

RD	C	MA	MI	Total
1.	27	41	10	78
2.	5	10		15
3.	2	5	1	8
4.		2		2
5.		1		1
6.				
7.	1			1
8.				
9.		1		1
.				
.				
17.		1		1
<hr/>				
n =	35	61	11	107
Mn=	1.43	1.88	1.18	1.66

Table 8: Referential Distance, Head Coding Device
Oblique Categories

From Table 8 we observe that the RD indices for the HC device are roughly comparable to those of the VC (Table 2) and E (Table 5) devices. This is to say that HC is a short-range device in that there is a nice clustering of instances of this device near the lower end of the scale. However, these figures differ from those for VC and E in that there are no instances of the HC device used to code a participant with the maximum RD of 20. In other words, there is no secondary clustering towards the upper end of the scale as there is for VC (see Table 2) and E (Table 5).

Table 9 presents the RD figures for the (pre-head) NP device:

RD	C	MA	MI	Total
1.		3		3
2.		3	5	8
3.		2		2
4.			2	2
5.		1		1
6.		3		3
7.			1	1
8.		2		2
9.		1		1
10.			1	1
11.				
12.			2	2
.				
.				
20.		5	51	56
<hr/>				
n =		20	62	82
Mn=		8.2	17.39	15.15

Table 9: Referential Distance, NP Device
Oblique Categories

As with all other roles, the simple NP device used to code oblique participants is reserved for non-central characters.

Table 10 presents the RD figures for the HC+NP device:

RD	C	MA	MI	Total
1.	6	2	1	9
2.	1	2	1	4
3.	3	2	1	6
4.	1			1
5.				
6.		1		1
7.	1	1		2
8.		1	1	2
.				
.				
13.		2		2
.				
.				
17.		1		1
18.		1		1
19.				
20.	1	6	8	15
<hr/>				
n =	13	19	12	44
Mn=	3.69	11.26	14.5	9.91

Table 10: Referential Distance, Head Coding Plus NP Device
Oblique categories

In Table 10 we observe that for obliques, central characters are much more likely to be coded with a head coding prefix in combination with an NP than with an NP alone. This fact, along with similar observations made for the other semantico-syntactic roles, allows us to make the more general observation that for all semantico-syntactic roles a simple NP is primarily used to code non-central characters. Central characters are much more likely to be coded with a VC, E, or HC device in addition to the NP.

3.5.4 Summary of mean values by coding device. Table 11 summarizes the aggregate RD figures from all of the preceding tables. In the first column of Table 11 the figures for the three attenuated devices, VC, E, and HC, are found. Since VC is only used for A and S_a participants, the first two boxes in the first column give the appropriate figures for that device. The next two boxes give the figures for the E device, and the last box gives the figure for the HC device. The same is true for column three, where the figures for VC+NP, E+NP, and HC+NP are listed from top to bottom, respectively. At the bottom of these columns the aggregate means for each of these sets of devices are given.

	VC/E/HC	PNP	VC/E/HC+NP	post- NP	All devices
A	1.52	6.2	8.24	----	2.37
S _a	1.7	12.36	7.59	----	3.3
O ^a	2.38	----	11.17	12.33	6.53
S _o	1.53	----	3.75	16.4	5.03
Obl	1.67	15.15	9.91	----	7.97
All roles	1.75	14.37	8.83	13.22	

Table 11: Referential Distance, Summary

3.6 Discussion

Of the three major A and S_a coding devices investigated in this study, I conclude that VC is a "short-range" (or "weak") device (mean RD = 1.68). This means that VC is used to code participants that have very recently been mentioned in the discourse, and which therefore are highly topical. NP and VC+NP, on the other hand, are "long-range" (or "strong") devices (mean RD = 11.07 and 7.95, respectively). Of the three major O and S_o coding devices, E is a short-range device (mean RD = 2.18) while O^a Post- NP and E+NP are long-range devices (mean RD = 13.22 and 9.98, respectively). Of the three major oblique coding devices, HC is a short-range device (mean RD = 1.67), while NP and HC+NP are long-range devices (mean RD = 15.15 and 9.91, respectively). These facts are consistent with the iconicity principle of topic continuity stated in Sect. 3.1 in that the VC, E, and HC devices are the "smallest" (i.e., they are the most attenuated devices both in phonological size and in semantic features that they represent) of the major coding devices, and therefore are predicted by the iconicity principle to code the most continuous, least surprising topics. Full noun phrases, on the other hand, should be used to code less continuous topics. That is, when a topic is introduced for the first time, or reintroduced after a long absence from the discourse stage, a semantically highly specified and phonologically large coding device such as a full NP will be needed to code that topic. A small device is likely to be insufficient to distinguish the topic from among all other potential topics available to the hearer.

Some problems to be considered with respect to these figures are 1) under what conditions the short-range devices can be used to code more distant participants, and 2) under what conditions the long-range devices can be used to code recently mentioned participants. These problems will be dealt with in the following section.

4 Exceptions to the general pattern

In this section I will examine specific instances of coding devices that seem to violate the general tendencies observed in Tables 2 through 11. In Sect. 4.1 I look at the thirteen examples of short-range devices used to code participants with RD greater than 8, and in Sect. 4.2 I look at the 113 examples of long-range devices used to code participants with RD less than 4. Many of the observations made in this

section are rather speculative, and none is as yet perfectly explicit and predictive. What I have done is categorize the various examples, and suggested possible explanations for their patterning. It may be the case that my explanations can be verified by some psycholinguistic experimental procedure yet to be devised. However, for the purposes of this paper, they will remain simple post hoc observations.

4.1 Short-range devices used to code distant participants

Tables 2, 5, and 8 indicate that there are thirteen occurrences of the short-range devices VC, E and HC used to code participants with an RD greater than 8. Of these thirteen, four are central characters, eight are major characters and one is a minor character. Thus there is a ratio of twelve mentions of central or major characters to one mention of a minor character. In the corpus at large there is a total of 818 mentions of major and central characters to 210 mentions of minor characters, resulting in a ratio of 3.9 to 1. (X^2 with Yates' correction: 2.82.) Thus status as central or major character is a significant factor in allowing a participant to be coded with a weaker coding device than would otherwise be expected. In the following section I will show that the one instance of a minor character coded with a weaker coding device than expected has an obvious explanation in terms of the context of the utterance. The other anomalous uses of short-range devices are best understood in terms of the hierarchical thematic structure of the text. These factors will be discussed in Sect. 5.1.2.

4.1.1 Contextual inference. TC297 is the only instance of a minor character with $RD > 8$ coded with a short-range device. It occurs in an episode where the twins are spying on their grandfather to see where he gets water:

- (43) Sa-mutá-nuvee-tée sa-dííya-ra, 'jpuu, 'soon.
 3SG-open-ARR2-INTS 3SG-sight-INAN 'gush!' 'pour!'
 'On arrival he opens it in his sight. "Gush! Pour"' (TC297)

The 'it' of this sentence refers to some kind of 'spigot' (as Powlison (1969:115) terms it, though we don't really know its identity) that Grandfather opens to get his water. This spigot is never mentioned again in the story, and is therefore a very minor prop. In this sentence, the simple enclitic device is sufficient to code the spigot since the verb *mutá* 'open' combined with sound words that can only be used for rushing water make it clear that the thing being opened must be the source of the water. It doesn't really matter whether the teller of the story really imagined a spigot (which is an item alien to the Yagua culture) or if it is some kind of tree branch or plant or whatever. The actual identity of the item is not important. Rather, it is its function as the source of the water that makes it relevant at this point in the story, and for that purpose the verb and the sound words make the reference as clear as necessary.

4.1.2 Levels of topicality. If the above-mentioned use of a weak coding device is explained in terms of contextual inference, then there are twelve instances remaining to be explained, all of which are either central or major participants. In this section we will see that the fact

that all of these examples are either central or major participants is due to the hierarchical nature of topicality. The central characters are topical throughout the discourse, and therefore are highly topicworthy at any given point in the discourse. Major characters are highly topicworthy throughout particular sections of the discourse. Minor characters, on the other hand, come and go and are, in general, unlikely topics at any point. This inherent topicworthiness of central and major characters is enough in the cases cited in this section to overcome a high distance index.

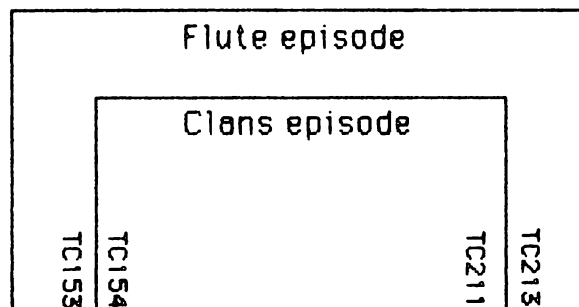
Of course this is not to say that hierarchical structure is more important than distance in determining whether a strong or a weak coding device need be used--in the vast majority of cases distance is clearly the crucial factor. It is only in those few cases where the distance index is overridden that levels of topicality prove relevant. Looking at the twelve remaining instances of central or major characters where referential distance does not explain the use of a short-range coding device, there are particular cases where the hierarchical structure of the text is obviously the relevant conditioning factor. I will illustrate four of these cases here.

In TC213 (see appendix) the following sentence occurs with the simple enclitic device used to refer to the object, the spirit father's magic flute, even though the flute had not been mentioned for sixty clauses:

- (44) Santya jį́ta váriy riinírya.
 sa-ntyá jį́ta váriy riy-jiniy-rà
 3SG-test JIITA then 3PL-in:presence-INAN
 "Then he tested it in their presence." (TC213)

The flute is then mentioned three more times in succession, but never with an NP. The last previous mention of the flute is in TC153, where the twins test it on their grandmother. Between these two instances of flute testing, however, there is an entire episode in which the twins go about creating all the Yagua clans. Thus the hierarchical structure of the text at this point can be diagrammed as one episode **embedded** in another:

(45)



In TC153 there is a problem to be solved, namely, how to avenge the death of the twins' father. TC154 to TC211 is how the twins go about solving the problem. In TC213 (TC212 is a transition marker) the problem is solved, and the action can continue where it left off in

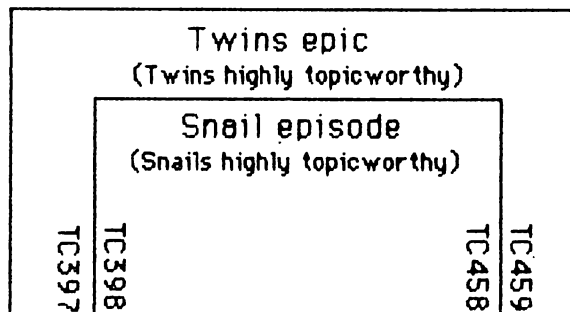
TC153. The flute resumes as topic because its topicality spans the creation of the clans episode.

Another example of topicality spanning an embedded episode occurs in TC459. Here the twins, though the central characters of the entire narrative, have not been on stage for sixty-two clauses, and have not been mentioned at all for sixty-five clauses. And yet in TC459 they are coded with simple verb coding:

- (46) Jáschiy jíítantíy naaniiniy ránaachø píúriy.
 jásiy-siy jííta-ntíy naada-jiniy rá-naachø píúriy
 there-from JIITA-REP 3DL-come INAN-after pifayo
 'From there they (two) came after pifayo.' (TC459)

It is significant that the span of text since the previous mention of the twins is clearly definable as an episode. In it the major characters are a water snail and a land snail, and the creation of the Amazon River is explained. The twins are last mentioned in the episode in which they make water available, then comes the snail episode, and then TC459 introduces another episode on how the twins make pifayo available. Clearly the twins, being the highest level topics of the entire discourse, are topicworthy enough at this point to be coded with the simple VC device.

(47)



Ten of the twelve instances of short-range devices coding high RD topics are explainable in terms of the above notion of 'levels' of topicality. Two others are not obviously explainable in this way, though I will contend that they in fact do constitute examples of high-level topics being topicworthy even though their RD is quite high. Each of these happens to be where one of the two twins is introduced into the discourse:

- (48) Naanutuvaꞗachu jííta syúnááy ruudiimú.
 naada-tuvaꞗachu jííta sa-júnááy ruudii-mú
 3DL-hear JIITA 3SG-cry trash:heap-LOC
 'She hears him crying in the trash heap.' (TC22)
- (49) Naanutuvaꞗachuntíy syúnaantíy.
 naada-tuvaꞗachu-ntíy sa-júnááy-ntíy
 3DL-hear-REP 3SG-cry-REP
 'She again hears him crying.' (TC30)

In TC22 Elder Brother is introduced, and in TC30 Placenta is introduced.

We might speculate that even though the twins have not been mentioned prior to this point in the text, they are still highly topicworthy because presumably the hearers know the story well, and understand that the Twins Epic is being recounted, even though the twins themselves have not yet been mentioned. Thus we can consider these clauses to be further examples of higher level topics that are topicworthy at any point in the text. At this point, however, the level of topicality rises to the cultural and social setting of the story itself, with all the activities of the group that had taken place since the last telling of the story constituting an "embedded episode" in the ongoing collective awareness of the Twins Epic.

4.2 Long-range devices used to code recently mentioned participants

In this section I will examine specific instances of long-range coding devices (all those involving NPs) used to code recently mentioned participants. The long-range devices distribute much more evenly within the possible range of RD variation than do the short-range devices, i.e., there is a large number (113) of NPs used to code participants with RD less than 4 (see Tables 3, 4, 6, 7, 9, and 10), whereas the number of short-range devices used to code long-distance participants (RD > 8) is relatively small (thirteen to be exact). In the following subsections I will outline seven conditions under which long-range devices are used to code recently mentioned participants, and will give specific examples of each one. In Sect. 4.2.8 I will also present examples that do not seem to fit nicely into any of the other seven categories. The examples presented in these sections were chosen primarily for their brevity. All but one involve long-range devices used to code participants whose RD is 1, allowing most passages cited to be held down to two clauses in length. Hence the examples presented do not exactly constitute a random sampling. However, they do, I feel, adequately represent each of the categories posited.

4.2.1 Ambiguity. Of course a very likely reason for using a strong coding device where referential distance is low is where there are other semantically compatible referents "on stage" that might compete for interpretation as the referent of that coding device. Such situations are termed situations of "interference" by Clancy (1980) and "ambiguity" by Givón (1983a). In the latter work an index of ambiguity is calculated by noting whether or not there are competing referents on stage--if there are no such competing referents, the index is 1; if there are competing referents, the index is 2. Thus a scale of ambiguity ranging from 1 to 2 is defined. Of the 113 examples of strong (long-range) coding devices used to code participants with RD less than 4, fifty-seven were used where the ambiguity was clearly high (i.e., A = 2).¹² The following excerpt illustrates this phenomenon in the First Squirrel text:

- (50) a. Naada-rááy jííta jáś-chiy.
 3DL-jump JIITA there-from
 'They jump from there.' (FSQ9)

- b. Sa-rááy jíita múcatyu munátyi-í sa-jíísíy.
 3SG-jump JIITA squirrel first-NOM 3SG-before
 'The first squirrel jumps before him.' (FSQ10)

In (50a) the squirrel and the deer are collectively referred to with the dual VC form *naadá*, and so in (50b) the RD for both is 1. In (50b) the squirrel is singled out from the deer by the use of a full NP in addition to a VC prefix. Without the NP 50b would be ambiguous as to who jumped first, and the whole point of the sentence would be lost.

In the Twins Cycle, the following passage occurs:

- (51) a. Sa-jíí jíita su-úsíy.
 3SG-fly JIITA 3SG-after
 'He (Placenta) flies after him (Grandfather).' (TC296)
- b. Sa-múta-nuvee-téé sa-díiya-ra, 'Jpuu, soon.'
 3SG-open-ARR2-INTS 3SG-sight-INAN gush! pour!
 'He (G) opens it in his (P) sight, "gush! pour!"' (TC297)
- c. Sa-ráni jíita naada-jáápa rá-áry.
 3SG-stand JIITA 3DL-grandfather INAN-under
 'Their grandfather stands under it.' (TC298)

In (51a) (TC296) the identities of the two participants are clear from the context--Grandfather has just left to bathe, and Placenta has transformed himself into a hummingbird in order to follow Grandfather and find out where he gets water. Again in (51b) the identities of the participants are clear from the context-- the one who has gone to bathe is the only one likely to engage in an act involving gushing and pouring, while the other, the spy, looks on. In (51c), however, the context does not help us quite so much to identify the single participant. Yes, we could say that the bather is the only one likely to stand under the flow of water. However, the coding device used to refer to the water here is not explicit. It would not be clear that the thing being stood under is the water flow if the clause did not make explicit reference to the bather. Furthermore, in (51a) and (51b), both Placenta and Grandfather are mentioned in such a way, both pragmatically and syntactically, that precludes coreferentiality between the two mentions within either of these clauses. Thus the hearer knows there are two participants involved in each of these clauses, and must identify one as Placenta and the other as Grandfather. The semantics of these multi-participant clauses is explicit enough to render this task fairly simple, as outlined above. In (51c), however, there is only one participant mentioned, and the hearer must determine whether that one is Placenta or Grandfather. The semantics of this single-participant predicate does help the hearer as much as do the other, more explicit, predicates in (51a) and (51b). Thus the use of a stronger coding device to help the hearer with this identification is justified.

4.2.2 Elaboration. Eleven of the 113 examples of strong coding devices used to code recently mentioned participants are what I will call **elaborations**. Elaboration is where a participant is mentioned in one clause and then further specified, either by noun-phrase modifiers or by

a predicate that attributes additional qualities to that participant. One example of this phenomenon is found in KT20:

- (52) a. Naada-supátay jííta.
 3DL-come:out JIITA
 'They come out.' (KT19)
- b. Naada-supáta-myáá jííta-váry dá-nu-júúy vánu-júúy
 3DL-come:out-PERF JIITA-then 2-CF:ANIM-2 male-dual
 'Two males have then come out.' (KT20)

In (52b) it is fairly obvious that a full NP is used to code the subject because the subject is being quantified and specified as to gender. This consideration overrides the fact that the two males had been mentioned in the previous clause.

A similar example occurs in another text, the Hunter's Narrative:

- (53) a. Su-únúú-ntyíy rá-tiryq̄q̄ su-únóó.
 3SG-see-REP INAN-lie 3SG-head
 'He also sees his head lying there.'
- b. Jánariy junoo tiryq̄q̄.
 deer head lie
 'A deer's head lies there.'

Again it is clear that the head in (53b) is being specified as a **deer's** head as opposed to any other possible head. For this purpose a full NP is required even though the head had been mentioned in the previous clause.

4.2.3 Discourse promotion. Twelve of the 113 instances of strong coding devices used to code recently mentioned participants are instances of what DuBois (1985 UCLA class lectures) calls **discourse promotion**. This is the phenomenon whereby a participant is first mentioned as an oblique, or possessor, using an explicit coding device such as a full NP. Then in the immediately following clause this participant is again coded with a strong coding device, but 'promoted' to a more central semantico-syntactic role, i.e., A, O or S. For example:

- (54) a. Naan-dííy rí-íva jánariy múdii dárájúy.
 3DL-see INAN-DAT deer jawbone two
 'They see two deer jawbones.'
- b. Rá-raníy jánariy múdii naana-ajííjy.
 INAN-stand deer jawbone 3DL-in:front
 'The deer jawbones stood in front of them.'

In (54a) the jawbones are first mentioned as a full NP in the dative case (the verb **dííy** meaning 'see' requires that the entity seen appear in the dative case). Then in (54b) the jawbones are repeated as a full NP but this time 'promoted' to the S role.

A similar example occurs in TC70:

- (55) a. Si-itóó-ta jíí naadi-imú jí-tyééyada-ra.
 3SG-arrive-TRNS JIITA 3DL-LOC 4-grandma-INAN
 'He takes it to his own grandmother.' (TC69)
- b. Naada-díryey jíí sj-ityééyadá-yu.¹³
 3DL-welcome JIITA 3SG-grandmother-REFL
 'His own grandmother welcomes him.' (TC70)

Here the grandmother is mentioned with a full NP in (55a) in an oblique role, and again in (55b) as an S participant.

The phenomenon of discourse promotion illustrates that not all mentions are created equal in terms of activation of participants in memory (Chafe 1985). In particular, it seems that mentions of participants in non-core roles such as obliques do not necessarily suffice to activate a participant to the point where it can subsequently be coded with less explicit devices. This fact suggests a question for further research into coding choice in discourse: how do the various semantico-syntactic roles compare in terms of the degree to which they activate participants in memory? To answer this question we would have to introduce only a minor complication to our methodology for calculating RD indices--in addition to counting clauses back to the last mention of a given participant, we would also record the role of that last mention. Then we could correlate RD with role of last mention. The following is a possible working hypothesis concerning this correlation:

Let MRD1 be the mean of all RDs between coding device X and the last mention of the participant coded by X where that last mention is in an oblique role.

Let MRD2 be the mean of all RDs between coding device X and the last mention of the participant coded by X where that last mention is in a core role.

MRD2 will be significantly greater than MRD1.

If this hypothesis can be proven, then we would have an empirical basis for the intuition that core roles activate participants more strongly than do oblique roles. The same kind of hypothesis could be devised for any pairing of roles, thus leading to a weighting of the various semantico-syntactic roles in terms of how strongly they activate participants in memory. This would certainly be an interesting and fertile direction for future research.

4.2.4 Dative objects. In both the Hunter's Narrative and in the Twins Cycle there is a pair of central participants that interact throughout the text. When one member of the pair speaks to the other, there is a marked tendency for the addressee to be coded with a full noun phrase, even though that participant may have been very recently mentioned, and even though the noun phrase in question apparently does nothing to disambiguate between the two members of the pair. For example:

- (56) a. *Jutq̄q-já-ásiy si-imú jí-tyeerj-nti-níí.*
 arrive-o'land-PROX:1 3SG-LOC 4-brother-REP-3SG
 'He arrives there to where his brother is again.' (TC304)
- b. *Sa-túȳchu-nuvee jíí sí-íva jí-tyeerj.*
 3SG-speak-ARR2 JIITA 3SG-DAT 4-brother
 'He speaks on arrival to his own brother.' (TC305)

In (56a) one participant is coded explicitly with the NP meaning 'his own brother.' In (56b) the same NP is used as a dative complement of the verb *túȳchu* 'to speak.' Ambiguity is, technically, high at the point of (56b), since both brothers are on stage. However, the NP in (56b) does nothing to relieve this ambiguity. Since both participants are brothers to each other, the NP could refer to either one. In fact we know from the context that the brother that arrives in (56a) is the one that speaks in (56b), but we could just as easily have come to this conclusion were the brother spoken to in (56b) coded with a less explicit device.

Similar examples occur in the Hunter's Narrative:

- (57) a. *Sj-ímyí-rya ríchanú naanu-moo-mú.*
 3SG-eat-INAN shiringara 3DL-face-LOC
 'He eats shiringara fruit in front of them.'
- b. *Sy-úta-chí-íva yí-saa vichí-í. . .*
 3SG-say-3SG-DAT 4-COM be-NOM:ANIM
 'He says to his own companion . . .'

In (57b) the noun phrase meaning 'his companion' (literally: 'his own being-with one', i.e., 'the one who is being with him', or something like that) does nothing to disambiguate the reference of the addressee. Both hunters are companions to each other, and in this case it could be either one that is speaking. The two hunters are simply not differentiated at this point in the story.

There are eleven examples of this use of full NP for recently mentioned participants in the corpus. The only explanation I have for this phenomenon at present is purely speculative. Since in every case there is a 'semantically appropriate' referent in the immediate context, perhaps the speaker feels constrained to use a device normally used in situations of high ambiguity, even though in these particular cases a full NP does not accomplish the task of disambiguation. Under this analysis, these examples would be additional examples of the use of full NP in situations of high ambiguity (Sect. 4.2.1).

4.2.5 Thematic structure. Clancy (1980) shows how coding choices in English and Japanese narratives are at least partially influenced by the thematic structure of the text. In particular, noun phrases tend to be used at thematic junctures, even though RD may be low. The particular thematic boundaries that Clancy considers are 'world shifts,' i.e., shifts between the 'real world' where the narrator and an interviewer are the participants, and the 'story world.' Clancy also considers 'episode boundaries.' Fox (1984), working primarily in the framework of 'story grammar' (Rumelhart 1975), makes similar observations for

English. In a similar vein, Derbyshire (to appear) shows that free noun phrases in addition to verb coding devices are used at points of thematic discontinuity in Hixcariana, a language of the Brazilian Amazon region.

The general observation that thematic junctures are sometimes accompanied by stronger than otherwise necessary coding devices is also relevant for Yagua, though the nature of the units and boundaries that are especially relevant to Yagua is still a matter for further investigation. In the following excerpt Squirrel is referred to with a modified NP, 'the one who makes him jump' even though he is mentioned in each of the eight previous clauses, and is therefore a highly topicworthy participant:

(58) a. Squirrel: 'Yi-núúy rā-ā rāā-kyu.
2SG-see 1sg-IRR jump-potential
'"You see, I can jump!"' (FSQ11)

b. Sa-niy suvú-tyéé jifū munátya su-ymutaasá
3SG-MALF fear-INTS this ancestor 3SG-behind

játiy sa-rāā-níí.
REL 3SG-jump-3SG

This ancestor (the deer) is really afraid behind
the one that makes him jump. (FSQ12, 13)

c. Deer: 'Rā-ā jūú-charatá jiyu-dáy koodí-vyimú.
1SG-IRR fall-might here-DAY snake-inside
'"I might fall here inside a snake." (FSQ14)

However, when we look at the story structure of the text, we notice that FSQ12 (58b) occurs at a fairly major thematic boundary. Up to FSQ11 (58a) the theme is, 'the squirrel tries to trick the deer into crossing the stream on the back of the boa.' The theme beginning in FSQ12, however, is, 'the deer debates within himself.' There is an obvious shift from the external actions of the squirrel to the internal state of the deer. In terms of Rumelhart (1975), this shift corresponds to an 'event' boundary where the sequence beginning in FSQ12 (and continuing for several clauses) is a 'reaction' to the sequence ending in FSQ11. Of the 113 examples of long-range coding devices used to code recently mentioned participants, four are explainable in terms of some notion of thematic boundary, though the exact character of those boundaries is still to be defined. Not all are as clearly related to story structure as (58) is.

4.2.6 Crucial inanimate participants. In the Twins Cycle there are three examples of inanimate participants introduced into the discourse with multiple full noun phrase mentions in succession. In each of these cases, the inanimate participant involved is one which is particularly salient in the subsequent episode. Each of the three instances is at the beginning of a major episode of the Twins Cycle: 1) how the twins obtain water, 2) how the twins obtain pifayo, and 3) how the twins obtain corn. As might be expected, water, pifayo, and corn are the salient inanimate participants involved:

- (59) a. Sa-tada-chu-muu-myáá jííta Rísu
3SG-recede-cause-COMPL-PERF JIITA God

naana-jisi-ntí-rya jáá-ntíy.
3DL-from-REP-INAN water-REP

‘God had also caused the water to recede from them.’
(TC272)

- b. Néé jáá-dana-ñuudáy.
NEG water-not:exist-any:more
‘There is no more water.’ (TC273)

- c. Múú-chi-ñumaa naada-jáápa-mu-síy
there-from-now 3DL-grandfather-LOC-from

jí-ryi-yaa-ra jáá.
4-get-DIST-INAN water

‘Now they repeatedly get water from their grandfather.’
(TC274)

According to the definition of the various character statuses (Sect. 3.3), water is a minor character, since it is never mentioned more than four times in any stretch of twenty clauses. However, it is clearly a major participant in this episode, since the whole episode is about how the twins obtain water. The use of three full noun phrases in a row to code the water iconically represents the importance of water to the episode. It is interesting that crucial animate participants are not introduced in this way. In fact, the Twins themselves, in the same version of the same story, are first mentioned with simple verb coding (TC22 and TC30, see Sect. 4.1.2). This observation is understandable in terms of the fact that inanimates are less likely to be important participants than are animates. When important animates are introduced, no special coding other than whatever is needed to make their identity clear is necessary. For important inanimates, however, special coding is necessary in order to signal that something unusual is going on. Whereas mention with a single NP may suffice to activate an animate participant for future deployment, inanimates, by virtue of the fact that they don't characteristically persist as important participants, need the reinforcement of several full NP mentions in order to be sufficiently activated in the hearer's memory.

The following sentences introduce the episode in which the Twins obtain pifayo from their stingy Grandfather:

- (60) a. Jás-chiy jííta-ntíy naani-iníy rá-naachó púúriy.
there-from JIITA-REP 3DL-come INAN-towards pifayo.
‘From there they come looking for pifayo.’ (TC459)

- b. Púúri-vya-numaa jííta naada-yasanta-ntí-ñíí.
pifayo-DAT-now JIITA 3DL-pester-REP-3SG
‘They now pester him for pifayo.’ (TC460)

Here pifayo is mentioned twice in a row with a full NP. This is not

technically speaking an instance of discourse promotion, since both mentions of pifayo are in oblique roles. Also it is not elaboration, since there is no modification of the reference of pifayo in the second sentence. Like water in the previous set of examples, pifayo in (60a) and (60b) goes on to be a significant element in the subsequent development of the episode introduced in (60a). Of the 113 examples of long-range devices used to code recently mentioned participants, five are explained in terms of this notion of 'introduction of crucial inanimate participant.'

4.2.7 After mention in quotes. There are four examples in my corpus of full noun phrases being used to code participants that had been mentioned in a quote in the immediately preceding clause. Because of my method of counting mentions of participants within quotes as full mentions, the RD for these instances is 1. For example:

- (61) a. 'Ra-chikidi-naach^{óó} vurya-a junúú-yaa-tée-kii.
1SG-intestines-towards 1PLINC-IRR look-DIST-INTS-must
'"We must look all around for my intestines!"' (TC517)
- b. Díy ri-jyetyá-ásiy ri-inúú-rya.
there 3PL-throw-PROX1 3SG-see-INAN
'"There I saw them throw them." (TC518)
- c. Sa-ryiy jííta jí-chikidi.
3SG-get JIITA 4-intestines
'He gets his own intestines.' (TC519)

In (61c) the intestines are referred to with a full NP even though they were mentioned in the preceding two clauses, and there are no other inanimate participants cluttering the discourse stage at this point. My conclusion is that perhaps my method of counting mentions within quotes as full mentions needs to be revised. It seems from examples such as this that mentions of participants within quotes, like mentions of participants in oblique phrases, are not as salient as mentions of participants in core semantico-syntactic roles in straight non-quote clauses. This hypothesis could be tested in a manner similar to that outlined in Sect. 4.2.3 for oblique mentions.

4.2.8 Residue. Finally, there are nine examples of long range devices used to code recently mentioned participants that do not seem to fall into any of the above categories, and which don't have any obvious idiosyncratic motivation. A couple of these will be presented here:

- (62) a. Sa-deenu-dee-rá yí-náá-tyéniy
3SG-child-DIM-NOM:NEUT 4-cry-cause
- váácha jii-taasá.
huapo:monkey branch-middle
- 'The huapo monkey makes his own child cry in the middle of the branch.'

- b. Sa-ata-tyén-níí tápi raatya-déé jíí-va.
 3SG-jump-cause-3SG slow careful branch-DAT
 'He makes him jump slowly, carefully along the branch.'

In (62b) there is no obvious reason why the branch is coded with a full NP. This example is somewhat akin to discourse promotion (see Sect. 4.2.3) in that the reference to branch in (62a) is in an oblique role. However, there is no 'promotion' involved since the reference to the branch in (62b) is also in an oblique role. Nevertheless, the explanation of discourse promotion in terms of less salience ascribed to mentions of participants in oblique roles would still potentially be relevant here, i.e., the branch is referred to with a full NP in (62b) because the speaker judged the mention of the branch in (62a) to insufficiently activate that participant for further non-explicit mention.

Another unexplained example of use of a full NP occurs in KT45:

- (63) Rá-juy-yaa-múúy naada-suytá.
 INAN-fall-DIST-COMPL 3DL-shelter
 'Their shelter fell to pieces.' (KT45)

At this point in the story the shelter has an RD of 3, where the last mention of the shelter is in the 0 role. There are no potentially interfering inanimate participants on stage, and there is no other obvious reason why the speaker did not use a less explicit coding device. Hence this is an 'unexplained' example. It may be the case that since this is an inanimate participant, and not a very salient one at that, an RD of 3 is sufficient for it to decay from active memory, whereas animate and otherwise more salient participants decay more slowly. This observation suggests further hypotheses which will have to await future research.

5 Conclusion

In this paper I have presented the results of a quantitative study of the use of certain participant coding devices in a body of folkloric texts. The specific measurement employed is that termed 'referential distance' (Givón 1983a,c,d), though several modifications to the methodology as outlined by Givón are proposed. These modifications relate primarily to the treatment of quoted material. The general findings of this study confirm the iconicity principle of topic continuity as expressed in Givón (1983a), though there are several individual instances that deviate from the general pattern. In Sect. 4.1 and 4.2 I look more closely at these exceptions and class them into two general types: 1) short-range devices used to code relatively distant participants, and 2) long-range devices (i.e., all those involving full NPs) used to code recently mentioned participants. In the first class, most examples are explained in terms of the hierarchical nature of topicality, i.e., participants are highly topicworthy (and therefore codable with attenuated coding devices) throughout the span of text in which they figure prominently, even though they may cease to be mentioned for long stretches within those spans. In the second class, most examples are explained in terms of the index of ambiguity, i.e., the presence of other semantically appropriate participants in the

immediate context. In addition to the examples explainable in terms of ambiguity, there are several other subclasses of examples of long-range devices used to code recently mentioned participants. These subclasses are discussed in Sect. 4.2.2 through 4.2.7, and tentative, sometimes speculative explanations are provided. Finally in Sect. 4.2.8 some examples of unexplained uses of long-range devices are presented.

This study shows that the quantitative methodological procedure coming to be known as "topic continuity" is a useful base upon which to build observations concerning the use of coding devices in discourse. However, much work is yet to be done before a truly predictive theory is available. This study has attempted to refine the methodology, and to point out areas where further research is in order.

Appendix

The Non-Identical Twins Cycle (TC)

From Powlison (1969) and Dorson (1975)

Laureano Mozombite

The following is a retranslation (by Mamerto Macahuachi and T. Payne) of a tale that appears in Yagua in Powlison (1969:176-219), and in English in Dorson (1975:553-6). All translation mistakes in this version are my own responsibility. Like many long tales, this story is a series of episodes, each of which may be told as individual stories. Powlison (1969) provides a detailed description of the various Yagua epic tales, and how the episodes and individual characters intertwine. The overarching theme of this tale is how the world came to be the way it is. Some of the specific topics dealt with in this version are 1) the significance of the distinction between the Yaguas and the non-Yagua Indians, 2) how the Yagua clans were created, 3) how the Amazon river was created, 4) why life must involve difficult labor, 5) the origins of blowguns and other hunting equipment, 6) how water turtles and land turtles came into being, 7) how pifayo (*guilielma gasipaes*, a palm fruit) was obtained by the Yaguas, and 8) how corn was obtained by the Yaguas.

This tale forms part of the data base for the topic continuity study described in this paper. Although it would be preferable to include the full Yagua transcription of this text, due to space limitations I have limited presentation to the English translation. The English is included in order to help the reader understand something of the thematic structure of Yagua discourse and to locate specific examples from this text cited in the body of the paper in their discourse contexts. As mentioned above, this text appears in Yagua in Powlison (1969), though in a different orthography than that which is employed in this paper, and without clause numbering.

1. Yes, Creator created. Creator created long ago.

 Scene I: The House

2. The adults drink manioc beer,
 3. beer they drink.
 4. Her pregnant daughter says to the old woman:
 5. 'While you weed the manioc patch, we are going to
 continue drinking.
 6. You don't drink anything with us.'

 Transition

7. She goes.
 8. They drink in her absence.

 Scene II: The Manioc Patch: Grandmother Worries

9. After a while, suddenly they are quiet, silent.
 10. She listens and listens.

11. 'What could have happened to them again, what?'
12. They aren't laughing, they aren't drumming anymore.
13. It's almost evening.
14. Finally she goes.

Scene III: The House: Grandmother Discovers Carnage

15. She looks on arrival. 'jiii'
16. The house is smoking, the ruins of the house.
17. The savages have burned it.
18. 'Certainly the savages have completely killed them!
19. No wonder they're not drumming, no wonder!
20. Clearly they've all been killed!'
21. From there she is wandering around
22. when she hears crying from the trash pile:
23. 'Cuway, cuway, cuway, cuway!'
24. 'Jiii, here clearly the savages have thrown my
daughter's child!'
25. She goes.

Scene IV: The Trash Pile: Grandmother Discovers the Twins

26. 'I will recover him to be my companion.
27. I will raise him to be my companion.'
28. She recovers him.
29. As she is going, she hears that another is crying
there also.
30. 'Is someone there?'
31. She returns again.
32. It is his placenta that has been transformed.
33. She recovers him also.
34. She goes, then, under her shelter again.

Scene V: Grandmother's Shelter (in the Manioc Patch):
The Twins Grow

35. She washes him there on arrival.
36. In two days they sit up.
37. In three days they walk all over the place.
38. They don't delay in growing.
39. In five days they are complete adults.
40. He asks his grandmother:
41. 'How then did my deceased father die, how?
42. And my deceased mother?'
43. 'The savages just killed them.'
44. 'Really?'
45. 'Yes.'

Scene VI: The House: The Twins See Game

46. The two go again there in the neighborhood of the
ruined house of their father,
47. and they pass by all sides,
48. and they see little toucans, everything: toucans,
wild turkeys.

49. They are eating tayra berries.
 50. 'What can we use to kill them?'
 51. The two return to their grandmother again.

Scene VII: Grandmother's Shelter: The Twins Learn about
Hunting

52. 'With what did my father hunt animals, with what?'
 53. 'With just a blowgun.'
 54. It's not here, you know, the blowgun,
 55. that which is its tree (that which is the
 blowgun tree).
 56. From there your deceased father got his blowgun.
 57. Darts also from the fork (heart) of the inayuga palm
 he got them.'
 58. When it dawned again,

----- Transition -----

59. they left for the tree.
 60. 'Be careful it traps you!
 61. Quickly you must snatch it from inside,
 62. if you want to get a blowgun.'
 63. They go to the blowgun tree.

Scene VIII: The Blowgun Tree: The Twins Get a Blowgun

64. It is yawning over and over again in front of him,
 'Po, po, po!'
 65. Right close by he is now, right close by.
 66. There grabbing it he yanks, 'Siyon!'
 67. There it springs out beside it.
 68. So he grabs his blowgun.

Scene IX: Grandmother's Shelter: The Twins Learn about
Blowguns

69. He carries it to where his grandmother is.
 70. He greets his grandmother;
 71. 'Why have you ruined it again?'
 72. 'Why not?'
 73. 'For what purpose do you ruin it, for what purpose?'
 74. 'So that our offspring will have to suffer
 (work hard) to make their blowguns.
 75. Isn't it important that they make them with their
 hands? (rhetorical question meaning 'you know it's
 important that they make them with their hands').

----- Transition -----

76. They go again for darts.
 77. 'Be careful, the scorpions that protect it bite you!
 78. It's not just one biting thing that protects it, red
 scorpions and snakes also.

Scene X: The Inayuga Palm: The Twins Get Darts for Their
Blowgun

79. He climbs searching to the fork of the inayuga.

80. He finishes off the scorpions, the red scorpions,
the snakes,
81. and collects from where they were the darts.

Scene XI: Grandmother's Shelter: The Twins Learn about Darts

82. She sees also that he carries a roll of darts.
83. 'Why did you finish off the biting things that
protected it also?'
84. 'Why not?'
85. 'For what reason did you finish them off,
for what reason?'
86. 'So that they will have to whittle their darts with a
knife.'
87. They go again for a dartholder,

Scene XII: The Catirina Palm: The Twins Get a Dartholder
for Their Darts

88. which is in the fork of the catirina palm.
89. There are biting things that protect it also.
90. He finishes them off,
91. the ones that protected it also,
92. and he gets the dartholder also.

Scene XIII: Grandmother's Shelter: The Twins Learn about
Dartholders

93. His grandmother sees also.
94. 'Why did you finish off the biting things that
protected it also?'
95. 'Why not?'
96. 'So that they will have to weave their own
dartholders.'
97. Thus it remained there (i.e., like that).

Scene XIV: The House: The Twins Hunt and Grab the Magic
Flute

98. The two of them go from there again around the
neighborhood of the ruins of the house of their
deceased father.
99. There they went blowgun-hunting little toucans,
everything, wild turkeys.
100. There they spy on the spirit of their mother, and
the spirit of their father,
101. those that dance in the middle of the ruins of the
house.
102. Another day, the same thing again.
103. Another day, the same thing again.
104. Finally the two think:
105. If only we could snatch the flutes of our deceased
parents,
106. with them we could secure vengeance for our departed
parents.

107. Finally he says to his brother:
 108. 'Let's go and snatch them!'
 109. The two of them get up early again.
 110. Today, yes, we are going to snatch them.
 111. They hide nearby, there where they circle (all
 traditional Yagua dancing involves circling).
 112. 'Here is where they come circling.'
 113. They put cético leaves over themselves, the other
 one too.
 114. 'Be careful not to let go when you grab it!
 115. If it heats up,
 116. your hand will heat up immediately also.
 117. If it shrinks to a tiny flute,
 118. your hand will shrink immediately also.
 119. If it enlarges to a huge flute,
 120. your hand will enlarge immediately also,'
 121. he says to his brother.
 122. The two (spirits) descend to earth again.
 123. They are dancing on arrival,
 124. 'Puju!' they dance.
 125. There he jumps up suddenly against them.
 126. 'Rupa!' His brother has grabbed his deceased
 father's flute.
 127. 'Tanti!' The two of them stick together.
 128. His brother now screams:
 129. 'Now my hand is burning!'
 130. 'Equally your hand will heat up immediately also.'
 131. 'Now it burns me!
 132. Now it burns me!
 133. Now I let go of it!'
 134. 'Don't let go of it!'
 135. Finally, he yanks his flute from him completely.
 136. Only Placenta succeeds in grabbing the flute of his
 deceased mother.
 137. Finally he snatches it away from her,
 138. and she ascends jumping, 'puri.'
 139. The two have snatched the flute from their deceased
 mother.
 140. The two go again there to where their grandma is.

Scene XV: Grandmother's Shelter: The Twins Test the Flute,
 Grandmother Makes Manioc Beer

141. They call to their grandmother upon arrival:
 142. 'Grandmother! Here, sit down.'
 143. She sits down at their command,
 144. and they blow into it, 'Vii, vii, vii, vii,
 vii, vii.'
 145. One strong blow into it, 'kiiin.'
 146. She falls like dead.
 147. Their grandmother revives again.
 148. She says,
 149. she scolds her two grandsons:
 150. 'Jii! What's happening with you two?
 151. Obviously you've succeeded in grabbing the flute of

- your deceased mother also!"
152. "Why not?"
153. Maybe with it you (speaking to other twin) will secure vengeance for our dead father."
154. He says to his grandmother:
155. "Grandmother, prepare manioc beer."
156. "Who, then, is going to drink it with you, who?"
157. There aren't any people that I see (i.e., know about) around here, none."
158. "Just nearby there are people."
159. "(But) the house is not large enough."
160. Where then will the people sit, where?"
161. "I'll just make the house larger then!"
162. She makes the manioc beer.
163. "Jujum," she finishes making it.
164. When she finished making it,
165. she says to her grandson:
166. "Here now is the manioc beer that you requested."
167. He commands then his elder brother:
168. "Invite!"
169. "Where then will I go to invite, where?"
170. I have not seen any people around here, none."
171. "But just over there there are people."
172. Finally, he goes.

Scene XVI: The Jungle: Elder Brother Searches for People

173. From there he goes circling,
174. without seeing any people,
175. and returns.
176. "Aha! Many have you invited?"
177. "I didn't see anybody to invite."
178. He greets his brother:
179. "Where, then, do people lack, where?"
180. I then will invite!"
181. Placenta goes.

Scene XVII: The Jungle: Placenta Creates the Clans

182. Near the top of a heap he kicks.
183. "Come and drink at my place!"
184. From there on the top of a heap of Macaw feathers,
185. "Jun! Come and drink at my place!"
186. From there also on top of a spotted cavy burrow.
187. "Come and drink at my place!"
188. From there also upon an ant's nest.
189. "Come and drink at my place!"
190. From there also against the buttress root of a pachaco tree he kicks in passing also.
191. "Come and drink at my place!"
192. From there on top of a bat's nest he kicks in passing also.
193. "Come and drink at my place!"
194. From there against the trunk of the blowgun tree he strikes in passing.

195. 'Come and drink at my place!'
 196. He turns back from there.
 197. 'Enough now.'

Scene XVIII: Grandmother's Shelter: The Clans Arrive
and Drink

198. He says upon arrival to his brother again:
 199. 'Do you think I have invited (things) which you say
are people?'
 200. There are no people within a great distance, none.
 201. After a long time, a long time, they now arrive in
groups.
 202. Those of the Squirrel clan begin to arrive,
 203. those of the Red Macaw clan after them,
 204. those of the Spotted Cavy clan after them,
 205. those of the Ant (Isula, a large stinging ant) clan
after them,
 206. those of the Pachaco tree clan after them,
 207. those of the Bat clan after them,
 208. those of the Blowgun clan after them.
 209. And the house was filled with people.
 210. They pulled out the supports of the house to make a
large house.
 211. They drink all night long, all night long.
 212. It dawns.
 213. He tries it on them,
 214. (to see) if it works.
 215. He blows into it in the midst of them.
 216. He blows hard into it.
 217. They all fall then.
 218. So he says:
 219. 'It works!'
 220. So they get up early (to fight) against the savages.
 221. 'Let's go to the savages!'
 222. 'Let's kill them!'
 223. They go.

Scene XIX: The Savages' House

224. They arrive near the house of the savages.
 225. Placenta transforms himself into a small hawk,
beautifully speckled.
 226. He ascends running along the roof on arrival,
 227. because the savages' roof didn't reach the ground.
 228. He ascends running along the roof on arrival.
 229. The savages hear:
 230. 'Who then is running up there on the roof?'
 231. They come out.
 232. They look.
 233. 'Who then also?'
 234. How beautiful!
 235. Look!'
 236. He calls to his kinsmen.
 237. They come running out.

238. 'Jiin, unreal!'
 239. They all run out of house, all the savages.
 240. One carries a blowgun.
 241. 'I'm still going to blowgun him!'
 242. 'Don't blowgun him yet!
 243. We should tell the people of the other house too,
 244. that they might come right away.'
 245. One runs to the other house
 246. and tells them also.
 247. They ran then also. 'Jiin.'
 248. He begins to blow into the flute of his deceased
 mother, 'Vii, vii.'
 249. He says to him:
 250. 'Don't blowgun him yet.
 251. How is he going to play (the flute)?'
 252. 'O.K.'
 253. He is blowing into it.
 254. He blows. He blows. He blows. He blows.
 255. Quickly he now blows.
 256. With all his strength he blows into it.
 257. 'Yun!' All the savages fall over,
 258. there they are laid out.
 259. Not one remains (standing).
 260. So the ones that were with him run in passing.
 261. There they kill with clubs.
 262. 'Juuun.' Finished!
 263. 'Your request.
 264. That's how they killed my deceased father.'
 265. The matter was finished.
 266. They turn back after the battle.
 267. They drink the leftover manioc beer in the house
 again.
 268. That's how all the clans remained.
 269. So they all stayed outside.
 270. So it was he who created the Squirrel clan,
 the Red Macaw clan,
 271. so he created them all.

Scene XX: The Twins Obtain Water

272. God has caused the water to subside from them
 until it is all gone.
 273. There isn't any water anymore.
 274. From then on they keep on getting it from their
 grandfather.
 275. Day by day, day by day,
 276. 'Tiiy,' until they are tired of it.
 277. 'I'm tired of this!'
 278. They ask one who lives there with their grandfather,
 279. 'How does he get water?'
 280. 'I don't know.'
 281. 'Don't you know where he bathes?'
 282. 'He always goes bathing over there.'
 283. He bathes at noon.
 284. He says to his placenta again,

285. 'Go see where.
 286. This fellow says he bathes at noon.'
 287. 'O.K.'

Scene XXI: Grandfather's Bathing Place

288. He goes to the edge of the woods
 289. and watches patiently from there.
 290. At last he (Grandfather) speaks,
 291. 'Ugh! It's too hot for me!
 292. I'm going to bathe first.'
 293. The sun is directly overhead.
 294. He (Placenta) goes then
 295. and changes himself into a little hummingbird
 296. and flies after him.
 297. He (Grandfather) opens (a spigot) when he gets there
 in his sight (Placenta's), 'Gush! Pour!'
 298. Their grandfather stands under it.
 299. The hummingbird is flying along,
 300. 'Tu tu tu.' He hits at him.
 301. 'Hummingbird, Hummingbird! Why are you being a
 nuisance?'

Scene XXII: Back Home

302. There he returns 'Chiy! Chiy! Chiy! Chiy!'
 303. He returns.
 304. He arrives back at his brother's,
 305. and tells his brother,
 306. 'It's in that whatcha-ma-call-it water tree which is
 standing,
 307. that great big tree standing (there)!'
 308. 'Really!'
 309. 'Yes.'
 310. 'What shall we do?'
 311. 'I don't know
 312. unless we cut it down.'
 313. 'O.K.!'

Scene XXIII: Grandfather's Place

314. They rise and go early the next morning to their
 grandfather's again.
 315. They say to their grandfather when they get there,
 316. 'Grandpa?'
 317. 'What?'
 318. 'Uhh, we're going to cut down this tree which is
 standing.
 319. 'Go ahead and cut!
 320. It isn't forbidden to cut it down.'
 321. They invite (to work) with them woodpeckers,
 squirrels, agoutis--all of them--
 322. woodcreepers, those who make holes, barbets.
 323. They invite them all (to work) with them.
 324. They cut it.

325. They begin cutting
 326. and cut and cut and cut,
 327. as far as its center.
 328. They cut and cut
 329. until the woodpecker is into its heart.
 330. 'Ti!' It's getting late.
 331. It's late.
 332. They give up on it.
 333. It is quite thin (when) they leave off.
 334. 'Tomorrow we'll fell it!'
 335. 'Yes.'
 336. It dawns
 337. and they go again.
 338. It stands there intact again.
 339. 'No doubt he put its chips back again!'
 340. They cut again. 'Ti!'
 341. They cut and cut and cut
 342. until it isn't very thick anymore.
 343. At last he sends his placenta again,
 344. 'Go listen, transforming yourself into the likeness
 of a little bird,
 345. to what Grandfather says.'
 346. Their grandfather is sitting in the yard, smoking.
 347. He (Placenta) goes.
 348. He transforms himself.
 349. He listens.
 350. He (Grandfather) smokes,
 351. he blows it around.
 352. He (Grandfather) speaks and
 353. he (Placenta) hears,
 354. 'Those two children will never fell the
 whatcha-ma-call-it water tree!
 355. They'll never be able to fell it,
 356. unless they should make a scorpion bite the tip of my
 little toe.
 357. Then, it would fall.'
 358. Then Placenta turns back again.

Scene XXIV: Back Home

358a. He tells his elder (brother),
 359. 'This is what Grandpa said,
 360. only if we were to get a scorpion to bite the tip of
 his little toe,
 361. then it would fall.'
 362. He says to him,
 363. 'Transform yourself then!'
 364. 'Into what?'
 365. 'Transform yourself into a scorpion.'
 366. He transforms himself again.

Scene XXV: Grandpa's

367. He has gone again.
 368. He (Grandfather) smokes, and smokes,

369. and blows it around on (the tree's) vines.
 370. There he bites him on the tip of his little toe when
 he gets there, 'siii.'
 371. 'Hey!' It begins to crack immediately,
 372. 'Yikes! Ouch! How wise these two kids are!'
 373. It stays,
 374. it stays just a little bit on the lean now.
 375. He says to him again,
 376. 'Who on earth is the most painful biter?
 377. 'The red scorpion, I suppose.'
 378. 'Transform yourself into a red scorpion.'
 379. He transforms himself into a red scorpion.
 380. He goes again
 381. and bites him the same way on arrival again.
 382. He was indeed a very painful biter.
 383. 'Sii.' He falls over,
 384. 'Puu.' It falls then,
 385. 'Yuuun, puu.'
 386. It falls.
 387. His grandson runs at the same time to him,
 388. 'What happened to you, Grandpa?'
 389. He is not alive anymore.
 390. He had died.
 391. He blows on him, 'Juuuu.'
 392. He sits up,
 393. 'Ha! How are you two so wise?
 394. No doubt you've cut it down, too!'
 395. 'Of course.'
 396. What is our posterity supposed to drink?'
 397. 'O.K. Let it be so!'

Snail Episode (No Scene Change)

398. A little snail comes running for a leaf,
 399. and grabs it for his door plug.
 400. He touches (it).
 401. In his view, it makes a pretty sound.
 402. The first water snail comes running to him.
 403. He says then to him,
 404. 'You just got that?'
 405. He asks him for it.
 406. 'Let me see!'
 407. He gives it to him then,
 408. 'Go ahead and look at it.'
 409. He handles it with his hands.
 410. 'How very pretty it is!'
 411. He gives it back to him,
 412. 'Here it is!'
 413. He asks for it again.
 414. He gives it to him again.
 415. He rubs it in his hands.
 416. At last he says to him departing,
 417. 'I have it now!'
 418. He runs away from him to the water.
 419. He jumps with it away from him into the water.

420. The owner of the taken object follows him for it.
 421. He has jumped with it into the water ahead of him.
 422. He jumps in after him.
 423. 'Tiiy, he can't submerge.
 424. He just floats around.
 425. The land snail speaks then,
 426. 'Why did you impoverish me?!
 427. Now the isulillo (ants) will always bite my exposed
 fleshy parts.
 428. Another comes running, too,
 429. 'I'll be a water tortoise.
 430. He jumps into the water, 'Tápuu.
 431. 'Yuu, he floats up.
 432. 'Tiiy. You can't be a water tortoise!
 433. Another comes running,
 434. 'I'll be a water tortoise!
 435. In he jumps, 'Tápuu.
 436. 'Piri. He sinks,
 437. the one who says he will be a water tortoise.
 438. He lands on the bottom of the Amazon.
 439. 'I'll be the water tortoise,
 440. you be a land tortoise.
 441. That one remains as the water tortoise.
 442. 'I'll be the water tortoise,
 443. you be the land tortoise.
 444. 'What will I eat?
 445. 'Well, fungus and tortoise fruit.
 446. You'll eat the tortoise fruit.
 447. The berries which ripen red.
 448. 'O.K.
 449. Its owners (the caterpillars that 'own' the water
 tree) are now transformed one by one.
 450. They paddled away.
 451. The white people paddled away, as whites, as blacks,
 all of them, Cocama Indians.
 452. All its owners go transformed.
 453. Its chips have all been transformed into fish,
 which are the umbrella tree chips.
 454. All its leaves transform into what they call mojarra
 fish, a long kind of mojarra fish.
 456. They all transform.
 457. Gamitana fish, arapaima, all its leaves are
 transformed into fish.
 458. It (the tree) became the long Amazon River then.

Scene XXVI: The Twins Obtain Pifayo

459. From there they (two) come for pifayo.
 460. Now for pifayo they pester him again.
 461. 'Give me a pifayo seed, Gramps!
 462. He gives him a whole stalk.
 463. They cut them all in half.
 464. 'Tiiy. None have seeds.
 465. 'None of them have any seeds.
 466. He gives them another stalk.

467. 'Tíiy.' Neither does this one.
 468. 'This one doesn't either.'
 469. Finally, he thinks again.
 470. 'Let's steal it.'
 471. Just over there is one that has seeds.
 472. He always gives us ones that don't have seeds.'
 473. He goes.
 474. Transform yourself.
 475. Transform yourself into a parakeet.'
 476. 'O.K.'
 477. He calls the parakeets to himself.
 478. Many he calls.
 479. He goes from there to his grown-over garden,
 479a. there where his pifayo palm grove is.
 480. 'This is really thick.'
 481. The parakeets descend on it, 'Yuuuu.'
 482. There they are destined to be blowgunned by him.
 483. They pile into the pifayo.
 484. So there he shoots (blows).
 485. So then he shoots.
 486. So then he shoots.
 487. There now Placenta penetrates it.
 488. So then he shoots.
 489. There at last he finds its seed.
 490. When he comes out from there,
 491. there he immediately shoots him, 'Kijj.'
 492. 'Ke, ke, tíye,' he falls.
 493. 'Yuuu,' so then they scatter all over from him.
 494. He gathers his kill.
 495. 'Juuu,' its a big pile.
 496. He takes them.
 497. They defeather them when he arrives.
 498. They clean them.
 499. They cook them in pifayo peel water.
 500. Then his brother arrives.
 501. They take the parakeets from the fire now.
 502. His grandfather gives him to him.
 503. 'Eat this one at your house.'
 504. They are no good pifayo wreckers.
 505. He was wrecking pifayo.
 506. It's his BROTHER he gives to him.
 507. He says to him,
 508. 'Quick! Hurry!'
 509. He whispers to him.
 510. 'Lick my eye.'
 511. Pifayo water has already entered my eye.
 512. Let's go!'
 513. He says to his grandfather,
 514. 'I'm going now, Gramps.'
 515. 'O.K.'
 516. There at the forest edge he says to his brother,
 517. 'Let's look around for my intestines.'
 518. Yonder I saw them throw them.'
 519. He grabs his intestines.
 520. He inserts them inside himself.

521. Then he is transformed into a person again.
 522. He gives the pifayo seed to him.
 523. 'This is the pifayo seed you requested.
 524. It is just a little bit cooked.
 525. Try planting it.'
 526. He plants it.
 527. It dawns.
 528. It's already this size of tree at dawn.
 529. After three sleeps, it already gives fruit.

Scene XVII: The Twins Obtain Corn

530. There corn is now lacking.
 531. Not just recently they keep asking their
 grandfather for corn also.
 532. He doesn't want to give them any.
 533. Finally they say to the grasshopper,
 534. 'Can you steal one seed for me?'
 535. 'Sure.'
 536. He roasts coca leaves.
 537. Grasshopper roasts them.
 538. Their grandfather is just sitting outside.
 539. Finally he stands up.
 540. The coca leaves now stir themselves around in
 his absence.
 541. 'Yq, yq, yq.' As he shells (corn),
 542. it spills all over, 'yuyuyu.'
 543. 'Grasshopper, Grasshopper, you are stealing again!'
 544. 'Not at all. I'm just here roasting coca leaves.'
 545. He (GF) goes after it (the spilled corn),
 546. and puts it all back where it was.
 547. He puts it back where it was.
 548. 'Ppu, ' another grain also, another grain also.
 (grain by grain).
 549. 'But exactly one grain is lacking!
 550. You have stolen one grain!'
 551. 'Not at all, not at all.'
 552. He goes to him.
 553. He looks all over him, his mouth, inside his nostril,
 everywhere.
 554. There all over he looks, inside his ear.
 555. 'Did you find what you were looking for?'
 556. He had inserted the corn seed inside his little
 penis.
 557. His two grandsons now arrive also.
 558. He takes it out for him.
 559. 'Here is your requested corn seed.
 560. Now plant it.'
 561. They return,
 562. and they plant it also.
 563. They invite their grandfather again.
 564. 'Drink some corn drink Gramps.'
 565. 'It must be as I thought!
 566. That Grasshopper stole corn for you also.'
 567. 'Of course.'

568. Otherwise, what would our posterity eat?"
 569. "O.K."
 570. Let it be so.
 571. But it won't grow quickly for them anymore.
 572. It'll take three months for it to grow for them.

Scene XXVIII: The Twins obtain the correct name for pifayo

573. After a while they invite him for pifayo drink also.
 574. "It must be that you stole the pifayo seed."
 575. "Of course."
 576. Otherwise what will our posterity have to drink?"
 577. "O.K. So be it."
 578. But it will not grow quickly for them anymore.
 579. It'll take one year for it to give fruit for them.
 580. He also wants its name now.
 581. He asks the one living with him,
 582. "What does he call this?"
 583. He does not say "púuriy" yet.
 584. He just says its name is "taachurá."
 585. "That's not what it's called!"
 586. He says its real name.
 587. He (Placenta) says to one of his servants,
 588. "How does he say its name?"
 589. He is afraid of telling it.
 590. "Tell him only half of it."
 591. Of course he speaks its name loudly.
 592. "Púuriy," he says it.
 593. "Púú," his mouth twists then.
 594. His mouth becomes little then.
 595. "What is it?"
 596. "Tíiy," he can't speak anymore.
 597. Now he just babbles, "si, si, si."
 598. "Tíjì," he figures out its name.
 599. "Is it "púuriy"?"
 600. Is that what he just said?"
 601. "Tíiy," he can't answer anymore.
 602. He has been transformed into a flounder.

Notes

1. Yagua is the only extant member of the Peba-Yagua language family of northeastern Perú (Loukotka 1968). It is currently spoken as a first language by about 2,000 individuals. See T. Payne (1985) and D. Payne (1985) for details of Yagua grammar. See Powlison (1969) for ethnographic and folkloric information.

Abbreviations employed in the Yagua examples and in the text are the following:

1SG	= First person singular
1DL	= First person dual
1PLINC	= First person plural inclusive
1PLEX	= First person plural exclusive
2SG	= Second person singular
2DL	= Second person dual
2PL	= Second person plural
3COL	= Third person collective (same form as 3SG)
3SG	= Third person singular
3DL	= Third person dual
3PL	= Third person plural
4	= Fourth person (1st paradigm only)
ARR1	= Arrival 1 (action takes place as subject arrives on current scene---no scene change implied)
ARR2	= Arrival 2 (action takes place as subject arrives on new scene---scene change implied)
AUX	= Auxiliary
CL	= Classifier
COP	= Copula
DAT	= Dative
DAY	= Discourse particle
DEMO	= Demonstrative
DIM	= Diminutive
DIST	= Distributive
E	= Enclitic
HC	= Head coding
INTS	= Intensifier
INAN	= Inanimate
IRR	= Irrealis auxiliary (also referred to as AUX:IRR)
JIITA	= Discourse particle
LOC	= Locative (to, at, in)
MALF	= Malefactive auxiliary (also referred to as AUX:MALF)
NIY	= Semantically 'empty' morpheme following a left-dislocated pronoun
NOM	= Nominalizer
NP	= Noun phrase
PAST1	= 1st past tense (Action occurred a few weeks ago)
PAST2	= 2nd past tense (Action occurred a few months ago)
PAST3	= 3rd past tense (distant past)
PNP	= Pre-predicate or pre-head noun phrase
Post-NP	= Post-posed noun phrase

PROX1	= 1st degree of proximity (When attached to verbs, indicates that action occurred earlier in the day of speaking. When attached to other elements, including predicate nominals, indicates that action occurred in a location close to the speaker.)
PROX2	= 2nd degree of proximity (On verbs indicates action occurred a day or so ago; on other elements indicates action occurred farther away from speaker.)
RD	= Referential distance
REP	= Repetition (enclitic meaning 'again' or 'also')
SW	= Sound word (idiophones, or onomatopoeic expressions)
TRNS	= Transitivity
VC	= Verb coding

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2. Forms from the paradigm represented in Chart A will always appear as prefixes. Therefore in the gloss line of examples, any gloss such as '3SG', '1PLINC', etc., which glosses a prefix refers to a form from this paradigm. On verbs such prefixes always code the subject (A or S), on nouns the same prefixes code possessors, and on postpositions the same prefixes code the object of the postposition. Occasionally a pronoun will appear with an enclitic attached. In order to distinguish such pronouns from the forms illustrated in Chart A, the gloss 'PRO' will always accompany person and number specification of pronouns, e.g., '3SG:PRO'. I will simply rely on linear order to distinguish the forms in Chart A from those in Chart B -- forms appearing as prefixes are from Chart A, those appearing as enclitics are from Chart B.

3. The form **vurya** for the first person plural/dual inclusive is the allomorph regularly used for Class II, III, and IV stems.

4. In Yagua, placentas and uterus are almost always expressed as possessed noun phrases. Contrary to what may seem natural from an English point of view, the possessors of these items are the children that are born with the placenta, or which come from the uterus. To refer to a person's uterus is to refer to the uterus from which that person was born, even if that person is a full grown woman, and even if she happens to be pregnant. To refer to the uterus that is located inside a woman's body, one must refer to her child's uterus, even if she has never had a child and/or is not currently pregnant. In the text from which example (7) is taken, the placenta transforms into a human being and becomes a central character. As such, the term **munáá** 'placenta' comes to be used as a proper name, and is therefore not required to be possessed. However, whenever it is possessed, it is possessed by Placenta's elder brother, i.e., the child that was born with the placenta.

5. Full NPs referring to intransitive subjects do occasionally occur post-verbally without a coreferential prefix on the verb. However, the use of this coding device has much in common with 'S₂' coding (see Sect.

2.2.) Quite independently from their defining characteristics based on subject coding devices, clauses which employ S coding have many features of non-verbal predications, as demonstrated⁰ in Sect. 2.2.1.

6. It is a general principle of Yagua discourse that one avoids the use of fully-specified noun phrases as much as possible, allowing the rich participant coding system to keep participants sorted out. Only in marked contexts, or to avoid ambiguity, are fully-specified noun phrases used. One strategy for avoiding the use of fully-specified noun phrases is to treat one plural participant as singular when two groups are interacting. In such cases it is the most topical group that is treated properly in terms of its semantic plurality, while the other group is treated as singular. For example, if adults and children are interacting, the adults will be coded as plural, while the children singular. If humans are interacting with animals, the humans will be plural and the animals singular. If 'good guys' are interacting with 'bad guys' (as is often the case in folkloric history narratives) it is predictably the 'good guys' which are treated as plural while the 'bad guys' are treated as singular:

- (1) Rityçeryá rumusíy váriy,
 riy-taarya rumusiy váriy
 3PL-return from:there then
 'They (good guys) returned from there,

 sasiityatítyiiyanuntiryíy.
 sa-siiy-ta-títyiiy-janu-ntiy-riy
 3SG-run-TRNS-going-PAST3-REP-3PL
 they (savages) chasing them again.'

In this example the savages are treated as singular in the second clause even though they are obviously a group of people and in other examples in the same story are treated as plural. The people being attacked (the clan to which the narrator belongs) are treated as plural. The 'good guys' as a group are never treated as singular. This bending of the categories plural and singular is a very obvious feature of Yagua narrative, and is clearly used in order to avoid the use of fully-specified noun phrases.

7. Anaphoric zeros, as well as all other participant coding devices, are considered to constitute 'mentions' of the participants they code. The terms 'refer to' and 'mention' are to be taken as equivalent in this paper. Essentially, high topicality for Givón is correlated with large number of mentions within a thematic paragraph, while low topicality is correlated with small number of mentions. It stands to reason that the participants that a text is 'about' will be mentioned more often than others. This conception of topicality is logically independent of the notion of topicworthiness as discussed in Sect. 3.1.1, though the two notions are intimately related.

8. The assumption that participants that have not been mentioned in the discourse have no topicality whatsoever is extreme, but is a logical presupposition of the topic continuity framework. In Sect. 3.1 I present some of the problems inherent in this notion of topicality as number of mentions. In Sect. 3.3 I outline some of my crude attempts to

deal with these problems in my own topic continuity study of Yagua. The fact is that speakers are more likely to talk about certain entities apart from whether those entities have already been mentioned in the current text or not. It would be unfair to suggest that Givón does not recognize this fact, as more recent work has shown that he and his students are sensitive to other factors affecting topicality (e.g., Givón 1985). However, these factors have as yet not been incorporated into a quantitative study simply because they are so difficult to deal with. The best we have been able to do so far is to control for them.

9. Though see Sect. 4.2.7 for some evidence that this assumption may be mistaken.

10. Clause numbers are only approximate for several reasons. First, discourse units which clearly fill a breath group or conversational turn are counted as clauses even though they may not constitute a clause in the syntactic sense, e.g., "Really?" (TC44), "With just a blowgun" (TC53), "Another day the same thing again" (TC102, 103) etc. Second, there were occasional misnumberings of clauses in the original transcriptions such that some numbers occurred twice and others were omitted. Hence, it will be noted that occasionally an annotated clause number occurs, e.g., TC358a, indicating that in the original transcription two distinct clauses received the number 358. This convention never results in a discrepancy of more than one or two clauses, and does not affect the referential distance counts at all, since the clause numbering system was not utilized in calculating the RD figures.

11. Although the claim made in Givón (1983c:19) refers specifically to "rigid word order languages" such as English (SVO) and Japanese (SOV), the findings for Ute (Givón 1983d:196), a relatively "free" word order language, yield the same conclusions. Further studies of Papago (D. Payne 1984) and Cayuga (Mithun 1984) also confirm this fact. This is not to say that Yagua is acting "exactly like" Ute, Papago, Cayuga, Japanese, or English in this regard. In fact there are some very significant differences. For example, there is the fact that post-verbal subjects in Yagua require the use of a coreferential prefix on the verb whereas preverbal subjects (within the same intonation unit as the verb) preclude the prefix. Second, the preverbal NP device in Ute is used much more often than the post-verbal NP device (39 to 25), whereas in Yagua PNP is much less common than VC+NP (15 to 93). Finally, the RD indices for preverbal and post-verbal NPs in Ute differentiate much more strongly (10.84 for preverbal NPs and 1.48 for post-verbal NPs) than do the RD indices for PNP and VC+NP in Yagua (11.07 for PNP and 7.95 for VC+NP). Thus I conclude that the fact that the preverbal NP devices in both languages are more discontinuous than the post-verbal NP devices is a relatively minor similarity. In almost every other respect they are different.

12. The terms introduced here in quotes are impressionistically defined cover terms, not technical terms. The same is true of several other terms used in this section and elsewhere, such as "recently," "highly topical," etc. At this point in the state of the art in topic continuity studies, there is no standard by which we can evaluate in fine detail the differences between various values for the continuity

indices. Therefore, any conclusions regarding the significance of the difference between any two figures are purely impressionistic. The difference between an RD of 11.07 and 1.68 'feels' very significant, whereas the difference between 1.68 and 2.2 is less clear. I don't claim to have solved all the problems of the topic continuity framework in this paper. Hopefully, further research will be able to render the methodology more exact.

13. Ambiguity proved to be a very difficult measure to calculate due to the slipperiness of the notion of 'semantically compatible.' In the calculation of ambiguity for the 113 long-range devices used to code recently mentioned participants, I tried to be as conservative as possible in positing the presense of a semantically compatible referent on the discourse stage, precisely because I was interested in what factors other than strict ambiguity might be triggering the use of a stronger coding device. That is to say, some of the other six conditions I found for using extra-strong coding devices may well be subsumed under ambiguity in a framework that only recognized ambiguity as a possible reason for using a stronger than expected coding device.

References

- Chafe, Wallace L. 1985. Cognitive constraints on information flow. Cognitive science program, University of California at Berkeley.
- Clancy, Patricia M. 1980. Referential choice in English and Japanese narrative. The pear stories, ed. by Wallace L. Chafe, 127-202. New York: Academic Press.
- Derbyshire, Desmond C. To appear. Topic continuity in Hixcariana. Native South American discourse, ed. by Joel Sherzer and Greg Urban.
- Dixon, R. M. W. 1979. Ergativity. Lg. 55. 59-138.
- Dorson, Richard M. 1975. Folktales told around the world. Chicago: University of Chicago Press.
- Du Bois, John W. 1980. Beyond definiteness: the trace of identity in discourse. The pear stories, ed. by Wallace L. Chafe, 203-74. Norwood, NJ: Ablex.
- Du Bois, John W. 1981. Ergativity and preferred argument structure in Sacapultec discourse, a preliminary outline. MS.

- Fox, Barbara A. 1984. Discourse structure and anaphora in written and conversational English. University of California, Los Angeles doctoral dissertation.
- Givón, T. 1983a. Topic continuity in discourse: the functional domain of switch reference. Switch reference and universal grammar, ed. by John Haiman and Pamela Munro, 51-82. Amsterdam: John Benjamins.
- Givón, T. (ed.). 1983b. Topic continuity in discourse: a quantitative cross-language study. Amsterdam: John Benjamins.
- Givón, T. 1983c. Topic continuity in discourse: an introduction. Topic continuity in discourse: a quantitative cross-language study, ed. by T. Givón, 1-41. Amsterdam: John Benjamins.
- Givón, T. 1983d. Topic continuity and word order pragmatics in Ute. Topic continuity in discourse: a quantitative cross-language study, ed. by T. Givón, 141-214. Amsterdam: John Benjamins.
- Grimes, Joseph. 1975. The thread of discourse. The Hague: Mouton.

- Halliday, M. A. K. 1967. Notes on transitivity and theme, Part 2
Journal of Linguistics 3. 199-244.
- Halliday, M. A. K. Ruqaiya Hasan. 1976. Cohesion in English.
London: Longman.
- Hopper, Paul J., and Sandra A. Thompson. 1980. Transitivity
in grammar and discourse. Lg. 56. 251-99.
- Hopper, Paul J., and Sandra A. Thompson. 1984 The discourse
basis for lexical categories in universal grammar.
Lg. 60.
- Jaggar, Phillip. 1985. Referential choice in Hausa narrative.
University of California, Los Angeles doctoral
dissertation.
- Klimov, G. A. 1977. Tipologia jazykov aktivnogo stroja.
Moscow: Nauka.
- Loukotka, Cestmir. 1968. Handbook of South American
Indian languages. Los Angeles: University of
California, Latin American Studies Center.
- Mann, William C., and Sandra A. Thompson. 1983. Relational
propositions in discourse. MS. To appear in discourse
processes.

- Mithun, Marianne. 1984. Is basic word order universal?
Paper presented at the Symposium on Discourse Relations
and Cognitive Units, June 1984, Eugene, Oregon.
- Payne, Doris L. 1985. Aspects of the grammar of Yagua:
a typological perspective. University of California,
Los Angeles doctoral dissertation.
- Payne, Thomas E. 1983a. Yagua object clitics: syntactic
and phonological misalignment and another possible
source of ergativity. The interplay of phonology,
morphology, and syntax, ed. by John F. Richardson,
Mitchell Marks, and Amy Chukerman, 173-84. Chicago:
University of Chicago Press.
- Payne, Thomas E. 1983b. Subject inflection of Yagua verbs.
MS, available from the author.
- Payne, Thomas E. 1985. Participant coding in Yagua discourse.
University of California, Los Angeles doctoral
dissertation.
- Powlison, Paul S. 1969. Yagua mythology and its epic
tendencies. Unpublished University of Indiana
doctoral dissertation. Ann Arbor: University Microfilms.

- Reinhart, Tanya. 1982. Pragmatics and linguistics: an analysis of sentence topics. Bloomington: Indiana University Linguistics Club.
- Rumelhart, David E. 1975. Notes on a schema for stories. Representation and understanding: studies in cognitive science, ed. by Daniel G. Bobrow and Allan Collins, 211-36. New York: Academic Press.
- Sacks, H., Emanuel Schegloff, and G. Jefferson. 1974. A simplest systematics for the organization of turn-taking for conversation. Lg. 50. 696-735.
- Scancarelli, Janine. 1984. Referential strategies in Chamorro narratives. University of California, Los Angeles master's thesis.
- Silverstein, Michael. 1976. Hierarchy of features and ergativity. Grammatical categories in Australian languages, ed. by R. M. W. Dixon. Linguistic Series 22. 112-71. Canberra: Australian Institute of Aboriginal Studies.