

THE LOCAL ORGANIZATION OF ZERO ANAPHORA
IN TUVALUAN CONVERSATION

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This paper¹ is a study of zero anaphora in Tuvaluan (Nukulaelae dialect) conversational discourse. Zero anaphora is the expression of a nominal referent through the absence of any phonologically realized element.² It is found to be at play to various degrees in a wide range of language; it is best documented for Japanese (Clancy 1980, Hinds 1978, 1980, 1981, Kuroda 1979, Tamori 1977) and Chinese (Huang 1983, Li and Thompson 1979, 1981). Tuvaluan is a Polynesian language spoken in Tuvalu (formerly the Ellice Islands) in the Central Pacific.

Zero anaphora, like other reference-tracking mechanisms (Clancy 1980), is conditioned by a wide variety of discourse- and situation-dependent factors that, generally speaking, have received little attention to date. I propose that, despite the multiplicity of the factors involved, general but systematic organizational principles governing at least the endophoric (text-internal) uses of zero anaphora can be found.

I shall show here that the occurrence of zero-anaphora in Nukulaelae conversational data is closely inter-dependent with the structural principles in terms of which conversations are organized, and with the nature of the functional relationship between utterances in conversation. A number of factors will be shown to provide support for such an analysis, including the occurrence, whenever a conversational rule of zero anaphora is violated, of *repairs* (Schegloff, Jefferson and Sacks 1977, Schegloff 1979, Besnier 1982) to clarify the identity of the zero-anaphoric referent. This analysis bypasses the more traditional analysis of zero anaphora in terms of paragraph structure. Zero anaphora and, perhaps, reference-tracking in general, are thus *local phenomena* in conversation, a fact that reflects the socio-cognitive status of informal conversation

as *collaborative action* (Jefferson 1973, Sacks, Schegloff and Jefferson 1974, Schegloff and Sacks 1973).

The data on which this paper is based consist of the transcripts of five informal, non-elicited conversational interactions. The conversations are instances of minimally planned (Ochs 1979a) discourse types. The transcription used here follows the standard conventions used in the Ethnomethodological analysis of conversations (Ochs 1979b), which are summarized in the appendix.

This paper develops as follows: section 1 is an overview of the scope of Tuvaluan zero anaphora; section 2 is a review of the literature on zero anaphora and on conversation organization; sections 3, 4 and 5 present the analysis, which is recapitulated in the conclusion.

1. The scope of Tuvaluan zero anaphora

This section is an outline of how zero anaphora differs from other deletion phenomena found in Tuvaluan and of the types of nominal expressions that zero anaphora may refer to.

I distinguish zero-anaphoric slots from the 'empty categories' (Chomsky 1981) created by a number of deletion and movement rules.³ These distinctions will simply be stated here, as the syntactic argumentations that motivate them are beyond the scope of this paper (they are presented in full in Besnier 1981a, 1983, in preparation). Equi-deletion, which obligatorily takes place in subordinate constructions (as illustrated in (1)), differs from zero anaphora, in that the latter is neither obligatory nor limited to subordinate clauses.⁴

(1) --> F: A k(o) kooti hee mafai o toe ffoki *
and Foc goat Neg can Cmp again return (they-3)

Lo: i laatou? (FK5:2)
indeed by them(selves-3)

'F: Goats cannot find their own way home again.'

Imperative formation obligatorily deletes the subject of the verb if it is topicalised (i.e. in clause-initial

position - Besnier, in press). Because the subject of an imperative verb is in the second person, imperative formation is different from zero anaphora, which can delete a second-person noun phrase only in certain circumstances, as will be seen below. Finally, the omission in relative clauses of the noun phrase co-referential with the head is not considered to be akin to zero anaphora (as shown by Chung 1978 for Polynesian languages in general).

The main difference between zero anaphora and other deletion phenomena is the fact that, while the latter are obligatorily triggered by syntactic processes, the former is never obligatory and never subject to syntactic constraints. The choice between zero anaphora and other referential strategies is a *pragmatic* choice.

Furthermore, for every zero-anaphoric slot, there must exist (from a theoretical perspective) a full noun phrase with same referent as the zero-anaphoric slot which can substitute syntactically the zero-anaphoric slot. Zero anaphora is an example of what Gunter (1963) calls ellipsis with linguistic context, in contrast to telegraphic ellipsis, namely implied linguistic information that is recoverable with the help of conversational implicature, and for which an 'equivalent' noun phrase does not necessarily exist.

Noun phrases of all non-oblique relational categories may be expressed through zero anaphora. In the following example, the subjects and objects of both occurrences of the transitive verb *ttala* 'open', and the intransitive subject of *nofo* 'stay' are all expressed zero-anaphorically:

- (2) --> J: *Teenei te mea. (E) ttala * * ki luga-*
 this the thing Nps open (you) (it) to top
- > S: *(I)kai, hee ttau o ttala * * ki luga,*
 no Neg must Cmp open (you) (it) to top
- > *me e nofo * i lalo. (S13:3)*
 because Nps stay (it) at down

'[Dismantling a flashlight] J: There is the thing; it opens from the top. S: No, you mustn't open it from the top because it [is supposed to] stay down'

The domain of zero anaphora is the entire noun phrase; thus, no preposition-stranding, article-stranding or headless nominal modifiers are allowed. The basic order of Tuvaluan sentential

constituents being VSO, despite the occurrence of other configurations (Besnier, in press), zero-anaphoric slots are posited here as being postverbal.

Oblique noun phrases (including middle objects) marked with the case markers *i* 'location' and *ki* 'direction', can also be expressed through zero anaphora. Zero-anaphoric oblique noun phrase will preferably be signalled by the presence of a postverbal deictic adverb *mai* 'hither' or *atu* 'thither' (which may also be used in conjunction with overt oblique noun phrases):

(3) --> K: *Teelua (laa) a te kaaui hei mai * telotou*
 thus then Cnt the group say Dxs (to me) their-3

pati mo ko:- A, (FK5:3)
 word Cmp Foc A

'K: So then the others told me that it was A'

(4) --> K: *kae olo atu* * *hoki laa* * ,
 and go Dxs (there) also then (they-3)

--> *naa ttala atu* * *laa te ttili* (FK9:3)
 Imp open Dxs (there) then the the+net

'K: And then while they were going that way, [why didn't they] open up the fishing net?'

This study will be primarily focused on the zero anaphora of subjects and direct objects. In Tuvaluan, these two grammatical categories function distinctively from other grammatical categories (Indirect objects, locatives, etc.) with respect to reference tracking in discourse, in that an obliquely-marked noun phrase rarely serves as the discourse antecedant of a zero-anaphoric non-obliquely marked slot (and vice-versa). Cross-linguistically, furthermore, oblique noun phrases are more inherently optional in a clause than non-oblique noun phrases (Fillmore 1971), and there is psycholinguistic evidence for not including in a universally 'basic' clause structure any oblique category.⁵ Finally, as the most frequently foregrounded elements of a sentence, subjects and direct objects form the 'core' of reference-tracking schemes in discourse (Givón 1984).

The noun phrases of a sentence all appear to behave disjunctively with respect to zero anaphora, in the sense that the deletion of one noun phrase in a clause (whatever grammatical

function it may fulfil) neither triggers nor precludes the application of zero anaphora to any of the other noun phrases in the clause. Thus, the full range of possibilities obtains, from that of a verb with no overtly expressed nominal or pronominal argument, as in example (5), to that of a ditransitive verb with all of its arguments overt, as illustrated by (6). The only constraint at play, as discussed elsewhere (Besnier, *in press*), is that a direct object cannot be zero-anaphoric if the subject of the same clause is topicalized:

(5) --> S: =E aa, e avatu * * * ?(FK9:6)
Nps what? Nps send+Dxs (I) (food) (to you-3)

'S: [having prepared food for a group of men, she calls out to them] So, shall (I) send (the food down to you)?'

(6) --> F: *Koe koo oti ne::: ne lavea nee koe te iku*
you Prf see Erg you the fish

--> *te:- s(i)ta::fis(i)?* (FK9:8)
the starfish

'F: Have you ever seen that fish, the [crown-of-thorn] starfish?'

Zero anaphora refers most frequently by far to third-person singular entities. Zero-anaphoric slots may also refer to dual and plural third-person entities, as in (7), although these are more frequently expressed with an overt pronoun than zero-anaphorically:

(7) --> K: *Fakapeelaa atu laaou ki lalo tala ** *ttili:*,
do-thus Dxs they-3 to down open (they-3) the+net

--> *ka:e tuku mai **, (FK5:5)
and let Dxs (they-3)

'K: They went down that way, (they) opened the net, and (they) started running'

In contrast, first- and second-person referents are much less commonly expressed through zero anaphora. Only when a coreferential first- or second-person pronoun is present in the immediately preceding discourse (usually the previous clause) can a first- or second-person referent be zero-anaphoric:

(8) --> S: *Aa, tuku atu au, fao atu ** *te lima ki loto,*
Exc let Dxs I stick Dxs (I) the hand to inside

--> *eokasoka atu peelaa **, () *llave ** *stab Dxs thus (I) lock (I) (it)*

--> *i vae, a koo tuku atu ** *te ffuti.* (SJ3:4)
at legs and Inc let Dxs (I) the pull

'[narrating a coconut-crab hunt] S: So I let (it) have it, (I) stuck my hand inside, (I) stabbed around like this, grabbed (it) around the legs, and started pulling'

(9) F: *E aa koe: na?*
Nps what? you there

--> L: ** hano o inu.* (FL4:7)
(I) go Cmp drink

'F: [to 5-yr old L] What are you up to? L: (I) am going to have a drink'

The reference to a first- or second-person referent through zero anaphora often triggers a repair, with the reference of the zero anaphoric pronoun as the repairable, as in (10):

(10) N: *mo niisi mea kolaa ne fakamatila mai **
and some thing that Pst explain Dxs (you)

(to-me)

--> O: *Nee au?*
Erg I

N: *Mm.* (ON2:1)
hm

'N: Along with some of the other things [you told me about],
O: That I [told you about]? N: Hm'

The norm, thus, is to refer to first- and second-person expressions through full pronouns. This norm is adhered to even in contexts where no reference disambiguation is necessary; note for example the persistent use of the first-person pronoun in (11):

(11)--> K: *Ae ofo laa au me ne matae nnao atu loa*
and amazed then I Cmp Pst see far Dxs indeed

- > *nee au. (2.0) Ae fakasino atu nee au kīaa SF.*
 Erg I and indicate Dxs Erg I to SF
- > *Kae saga au o hai ki ttoko luaa kee- kee*
 and turn l Cmp say to the+Num two+Spc Shj Sbj
- olo eīloa kee ttoo ki tai. (FK9:3)*
 go indeed Sbj fall to sea

'K: And I was amazed [at myself] for having spotted (the fish) from so far away. And I indicated (it) to SF. And then I started telling those two to- to walk away until (they) were far out in the lagoon'

The preference for overt pronouns when referring to first- and second-person referents is at variance with patterns found in other zero anaphora languages, such as Chinese and Japanese, where first- and second-person pronouns are the referential expressions most frequently expressed zero-anaphorically.

2. Zero anaphora and the organization of conversation

Many discourse-oriented studies of zero anaphora have characterized its occurrence in terms of the notion of paragraph (Tai 1978, Hinds 1978, etc.). The paragraph is typically defined as 'a connected series of sentences, or sentence fragments, all of which relate to the same topic' (Hinds 1978:154). Paragraphs are units that are bounded by points at which the speaker switches from one topical orientation to another: 'as long as the speaker continues talking about the same thing, he remains within a single segment of the text at some level of partitioning. When he changes the subject, he passes from one element of the organization of the text to the next' (Grimes 1976:103).

In a framework that takes the notion of paragraphing as a given, zero anaphora is characterized as being intrinsically linked to the paragraph structure of the discourse:

When a speaker assumes a *paragraph topic*, *segment topic*, or *detail topic* to be known by the addressee, zero anaphora may be used to refer to it. In order to interpret these instance of zero anaphora, the addressee first assumes an instance of zero

anaphora refers to the detail topic. If this is impossible, the addressee assumes it refers to the segment topic. If this is impossible, the addressee assumes it refers to the paragraph topic. (Hinds 1978:164)

The notion of paragraph, and the characterization of zero anaphora in terms of paragraph structure, are not without problems. A notable factor is that the studies in which the paragraph is taken as the unit of discourse rely on data bases that consist of narratives (Longacre 1979), or on speech uttered in interview situations (Hinds 1976, etc.).

In contrast, discourse topic-hood and paragraphing in conversation are not easily defined notions (Fox 1984). Conversations exhibit many instances of continuous discourse (as defined by Keenan and Schieffelin 1976:340-2) where topical continuity is found on one level but not on another level. 'Free-associative' conversations, for example, are characterized by more or less overt shifts in discourse topic-hood that are not necessarily accompanied by breaks in the anaphoric chains (defined by Chastain 1975 as a sequence of referential expressions in continuous discourse that all refer to the same referent). Conversely, an anaphoric chain may be present across a sequence of conversational turns, even though the theme of the conversation may have changed radically in the course of the exchange. In the following sample, the conversation evolves from a discussion of 10-year-old O's activities during the day, to the uses of necklaces, two conceptually unrelated themes; a continuous anaphoric chain around the NP *tui* 'necklace' is, however, from the beginning to the end of the exchange:

(12) A: (*K*)*ae n:of*o *f*o*k*i *k*o*e* O (*o*) *t*ui *au* *t*ui.
and stay also you O Cmp thread your necklace

*K*iloko *laa*, *k*oo *a*o*g*aa *t*ena *a*so *m*o *a*na *t*uaa *n*iu,
see then Inc useful her day and her coconut-twigs

*k*oo *p*alele *a*n- *a*ve * *a*na *t*ui *k*oo.
Inc finish her send (she) her necklace there

F: *K*ilo *a*tu *laa*, *m*o *k*oo *a*o*g*aa *t*e *t*t= // =ui, //
see there then Cmp Inc useful the necklace

A: // *M*m. //
hm

(0.8)

F: *Fakamea ki luga* * *moo ou safe*;
thing to top (you) Ben you hang

(0.5)

A: *Ae aa laa, ma koa mmai te kuu ttogi ah*
and what? then as Fut come the group buy Cnt

haa M, e ttogi * ! =
group M Nps buy (them-3)

F: ((high pitch)) = *Peenaa?* *Kae aa?* (1.0)
thus and what?

// *aogaa eiloo* * ! //
useful indeed (they-3)

A: // *aogaa* * , *mm.* // (FK5:2)
useful (they-3) hm

'A: [Reported speech] And you stay here, O, string your (shell) necklaces. [Direct speech] You see, she made good use of her day and of her coconut twigs, she finished her- she can [then] send her necklaces there. F: [Yes,] see, necklaces are useful, A: Hm. F: You can hang them up, A: There you are, and you can sell them too! M's people, they buy them! F: That's it, you see? Very useful! A: Useful, hm'

Discourse-topic changes and paragraph boundaries, thus, are not always readily identifiable in conversation and, as such, cannot form the basis of an account of zero anaphora.

Instead, topical coherence in conversation is best thought of as '*constructed* across turns by the collaboration of participants' (Levinson 1983:315). This interactional definition of conversational topic-hood is illustrated by the common cooccurrence of several topics over the same sequence of turns. A single piece of conversation may have topics embedded into each other (which are thus hierarchically ordered in terms of their conversational importance), topics alternating with each other, or complex combinations of both types (Stech 1982). Conversational topic-hood is a malleable tool in the hands of interactors.

It is shown here that interactors cooperatively construct anaphoric chains around the same concepts that their conversations and their conversational topics are organized. The

most concrete unit of conversation is the turn (Goodwin 1981, Sacks, Schegloff, and Jefferson 1974), which 'carries' the exchanged utterances from one party to others, and which is the very basis for conversational participation (Speier 1972: 402). It is argued here that the structure and maintenance of anaphoric chains in conversation depend on turn-taking organization and on other related phenomena and that conversationalists rely on turn-taking for the systematic use of zero anaphora.

In the rest of this paper, I shall show how zero anaphora may be analysed in terms of conversation organization. New-referent introduction strategies are investigated first; the first mention of a nominal entity is the 'antecedent' of subsequent references to the same entity, including zero-anaphoric slots, and, as such, needs to be described here. Inter-turn reference tracking involving zero anaphora is then described. The discussion closes with an overview of intra-turn reference tracking through zero anaphora.

3. Introducing a new referent

In the unmarked case, the introduction of a nominal referent for the first time in a conversation is achieved with the use of a full noun phrase:⁷

(13)--> K: A ko te:: niu teelaa koo maaluga:
 Cnt Foc the coconut-tree that Inc tall

 e: too eilaa kiaa koe? (FK9:1)
 Nps fall indeed to you

'K: And that tall coconut tree there, is it on your land?'

If an interactor does not opt for this general principle, the referential introduction is likely to fail; in (14), S introduces into the conversation a new referent through zero anaphora, and his interlocutor, failing to identify it, initiates a repair over the identify of the zero-anaphoric expression:

(14)--> S: Teanaa laa koo oti ⁴
 thus Inc finished (it)

--> J: *Koo oti te aa?* (SJ3:3)
Inc finished the what?

'S: So (it) is finished. J: What is finished?

In some cases, the interlocutor does not initiate a repair on the referential expression, but instead continues the conversation by guessing the identity of the zero anaphoric referent. This pattern is common when the range of possible referents for the zero anaphoric expression used in the previous turn is limited by the semantics of the rest of the sentence. In the following interaction, 5-year-old L utters a sequence of sentences on a variety of topics (not unlike the self-directed speech phenomena discussed by Piaget 1923), finally focusing on a question to her father regarding the location of the house where he had stayed on Funaafti, another atoll of Tuvalu. Her father mistakes the zero-anaphoric argument of her question as referring to *vakalele* 'airplane', instead of *fale* 'house'. His guess is plausible as L's question refers to an entity that stands/lands (the verb *tuu* has both meanings) in a lagoon or on sand (which sea-planes do, but not houses):

(15) L: [...] *A koutou e nofo i::* (0.4) *hh i toutou*
Cnt you-3 Nps stay in In your-3

fale, a ko te p- a ko te fale, (0.3)
house Cnt Foc the Cnt Foc the house

e tuu i te ttai? Au e matakū!
Nps stand on the sea I Nps afraid

F: *Kaiaa?*
why?

--> L: *E tuu i te ono?*
Nps stand (it) on the sand

--> F: *A te vakalele, e tuu e iloa i uta,*
Cnt the plane Nps land indeed on firm-land

i te mea peela me se vai pulaka. (FL4:1)
on the thing like a taro-garden

'L: When you were all staying in in- in the house, the h- the house, did it stand in the lagoon? I am scared!
F: Why? L: (It) stands/lands on the sand? F:
The plane, it lands on the island itself, on something

that looks like a taro garden'

The 'first mention' noun phrase is not necessarily the most explicit or 'informational' (Lakoff 1968) referential strategy available. Nukulaelae interactors commonly introduce new referents with a noun phrase other than the most informational description available. This strategy is typically followed by a clarification sequence (Ochs, in press) initiated by the interlocutor:

(16)--> A: A ko ou taagata ne olo ki te ulugaa fomu.
 Cnt Foc your men Pst go to the pair-of-turtles

--> L: A ai?
 Cnt who?

A: Haa T. (0.4) T mo F. (SJ3:2)
 group T T and F

'A: And your men have gone to the pair of turtle [that had been spotted earlier that morning]. L: Who did?
A: T's gang. T and F'

The success of this strategy as a reference-introducing device relies on the fact that the interlocutor will invariably respond with a clarification sequence, thus confirming the fact that the first speaker has his attention; it also lends a certain amount of suspense to the conversation, which is not without appeal to Nukulaelae conversationalists.

To summarize, the initial introduction of a referent in a conversation may be accomplished with the help of a full noun phrase; this noun phrase, however, need not be the most informational descriptor of the nominal entity. Referent-introduction may not be done through zero anaphora.

4. Inter-turn zero anaphora and reference tracking

This section addresses the question of how a zero-anaphoric referent may be maintained successfully from the utterance of one speaker to the utterance of the next speaker, once that referent has been introduced into the conversation. The discussion will focus on situations of increasing complexity, both in terms of number of referents and in terms

of turn length and number.

The allocation of conversational turns is an organized phenomenon (Sacks, Schegloff, and Jefferson 1974) that follow a set of specific principles. These principles appear to be cross-linguistically valid, although this has been carefully tested in only a handful of languages (Boden 1981, Creider 1978). These principles, which I shall not spell out here, are based on the conversationalists' ability to recognize possible turn-changing points (or 'transition relevance places') in a conversation and to identify inter-actional signals indicating who is to take a turn at speaking at those transition relevance places.

In Nukulaelae conversation, a referent introduced in the first turn of a conversational sequence is almost invariably zero-anaphoric in the following turn:

(17) F: *A te fonu tagata?*
Cnt the turtle male

(0.5)

--> T: *E- e- e: sao * .* (FL4:1)
Nps Nps Nps free (it)

'F: How about the male turtle [, was it caught]?'
T: (It) got away'

Viewed from a processing perspective, reference tracking is thus based on the following rule: if a nominal referent is zero-anaphoric in a given turn, and if the previous turn contains the introduction of a new referent, the zero-anaphoric slot is most likely to refer to the referent introduced in the previous turn.

Many examples of inter-turn reference tracking phenomena involving zero anaphora are illustrations of adjacency-pair structures. Adjacency pairs are pairs of turns in which the communicative content of the second turn is constrained by that of the first turn; for example, a question is followed by an answer, a greeting by an acknowledgement of the greeting, and so on (Atkinson and Drew 1979). As pointed out by Benoit (1980), adjacency pairs, which are characterized by a number of specific mechanisms (see Schegloff 1977), form an appreciable proportion of all conversational turns. The second turn of an adjacency pair is the canonical environment for the zero-anaphoric expression of noun phrases referred

to in the previous turn:

(18) F: (Tee)naa laa, (0.8) A e hano ki luga i
 thus A Nps go to top on

 ttuaakoi?
 the+boundary

(1.0)

--> K: Oo, o fano:- fano * ki luga nee? (FK5:4)
 yes Cmp go go (she) to top Tag

'F: So A['s land] comes all the way to the boundary?
K: Yes, and (it) goes- (it) goes all the way to the
top, right?'

In both adjacency-pair structures and other sequences of turns, if the initial speaker takes the floor again after his interlocutor's turn,⁶ he may assume that his interlocutor's use of zero anaphora in the second turn has confirmed the success of the referent-introduction, and may refer to the same entity through zero anaphora in the third turn:

(19) L: E uke, e uke agaaga i Niu Kini?
 Nps many Nps many ghost in New Guinea

F: ((creaky)) He:ai * ,
 Neg (they-3)

L: ((emphatic)) E: uke: * ! (FL3:1)
 Nps many (they-3)

'L: Are there a lot of ghosts in New Guinea? F: There aren't (any ghosts), L: There are a lot (of them)!'

If the interaction consists of a sequence of relatively short turns (i.e. turns that do not include a long narrative sequence, for example), all of which make a reference to the same entity, all references to that entity after its initial introduction can be zero-anaphoric:

(20) F: [...] te mea laa teena see tuku fua
 the thing then that Neg give just

 kiaa Sa ka:ee:: ttau eiloa o peeofu K
 to Sa but must indeed Cmp pay K

--> me::- ne aawai * ki te fakalavelave nee? =
since Pst sent (it) for the family-event Tag

((S1 arrives and joins the interaction))

K: ((mid-high)) = Mm.
hm

(0.6)

F: Teenaa laa e mafai nee koe o fai se faiga
thus Nps can Erg you Cnp do a action

ki ei me se aa? (0.4) Kae tonu-
about Anp or a what? and true

--> ka:e kaafai ne puke nee ttamaa * ,
and if Nps take Erg the+person (it)

((mid-high)) me see::: fai valevale
because Neg use-any-old-way

--> fua nee ia * . =
just Erg she (it)

S1: ((fast)) = Teelaa laa koo oti ne vvae
thus Prf divide

--> nee ia * ?
Erg she (it)

F: ((falsetto, high)) Oo:- puke loa nee ia
yes take indeed Erg she

--> * // eilaa ki-
(it) indeed to

--> K: ((high)) // Vvae loa nee ia *
divide indeed Erg she (it)

i te aso loa teelaa // ne fai fua i:- (FK9:11)
on the day very that Pst do just at

'F: That thing, it should not have been given to Sa but (it) should have been paid off to K because (it) was sent for the wedding, right? K: Hm. F: So now is there anything you can do about the matter or something? It is true- so since that woman took (it), because she doesn't- she'll just use it any old way. S1: So she just divided

(it) up? F: Yes, she just took (it) at- K: She divided (it) up the very day that-'

The rule for zero-anaphoric reference in conversation thus reads as follows: once a referent has been introduced into the conversation, and once its introduction has been confirmed by the interlocutor, all mentions of the referent expressed zero-anaphorically in the previous turn may be expressed zero-anaphorically in the current turn. This principle holds when more than one referent is expressed zero-anaphorically:

- (21) S: *Kiloko hua laa ki pateta!*
look just then to sweet-potatoes
- > F: *Ia ai * ?*
belong-to who? (they-3)
- > S: *Ia L mo- =*
belong-to L and
- > F: *= Ne toki * * i hee?*
Pst plant (they-2) (them-3) at where?
- S: *(Ne toki) i tafa o telaa umu!* (FN10:4)
Pst plant at side of their-2 cooking-hut
- 'S: Just look at these sweet potatoes! F: Whose are (they)? S: (They) are L's and- F: Where did (they) plant (them)? S: Next to their cooking hut!'

The principle outlined above is followed with remarkable regularity. Crucially, it is based on the notion of the turn, the basis on which conversations are locally organized. Reference-tracking in conversation is thus a local phenomenon. Of course, violations of the principle can be found, even if the range of reference phenomena to be accounted for is limited to endophoric reference. Indeed, a speaker will not necessarily shape an utterance so that all anaphoric chains present in the conversation will have a 'link' within the turn. In other words, discontinuities exist, and a given speaker may have to refer to the penultimate turn (which may have been uttered by that speaker or someone else) to find the last 'link' of an anaphoric chain.

The ways in which conversationalists deviate from the principle are nevertheless restricted and systematic. The context of deviations all appear to fall under a number of

specific categories that are analyzable in terms of their communicative function; most of these can be categorized as particular instances of 'side sequences' (Jefferson 1972). A clarification sequence, for example, is characterizable as a sequence of turns focused on a particular component of the meaning conveyed in the triggering turn; this component can be the truth value, the conversational relevance, or the ambiguity of a part of or of the whole utterance of the triggering turn.

Conversationalists follow a provision that allows them to overlook clarification sequences focused on the meaning of any element of a turn in which zero anaphora occurs, other than the zero-anaphoric expression itself. Thus, zero anaphora can be used again after several turns have been dedicated to clarifying the utterance in the first turn of the sequence. In example (22), for example, the original mention of the female turtle is taken up again zero-anaphorically after several turns are devoted to a clarification on what happened to the male turtle:

(22) F: *E aa:- e lasi te fonu a (t)tamaa?*
 Nps what? Nps large the turtle of the+guy+Spc

T: *A:o::, te fonu fafine hua. =*
 yes the turtle female just

--> F: *= A te fonu tagata?*
 Cnt the turtle male

(0.6)

--> T: ((creaky)) *E:: e:- e sao **,
 Nps Nps Nps free (it)

--> F: *AIAAhhh?*
 why?

(0.8)

--> T: *See iloa * !*
 Neg know (one)

(1.0)

F: *Ne sele * me ne puke fua * ?* (FL4:1)
 Pst lasso (it) or Pst grab just (it)

'F: So, is the turtle [that] that guy [caught] a big one? T: Yes, [but it's] just the female turtle.
 F: What about the male turtle? T: (It) got away,
 F: Why? T: (Who) knows! F: Was (the female turtle) lassoed or just grabbed [from the water]?'

Clarification sequences (Ochs, in press) may thus be considered as conversational 'bridges' over which an anaphoric chain can be sustained without the requirement that an anaphoric link be present in the clarification sequence. Other sequences of turns that function similarly include collateral-information sequences in explanatory or narrative conversational routines (Grimes 1976), reformulation sequences, and the general type of utterance that Schifffrin (1980) labels 'discourse brackets'.

To summarize, inter-turn zero anaphora is allowed in Tuvaluan conversations in a turn immediately following a turn in which a new referent is first introduced, or in a turn immediately following a turn in which reference to the same referential entity is made zero-anaphorically.

5. Inter-turn zero anaphora and reference tracking

The major distinction between the inter-turn and intra-turn management of reference is that only one conversationalist is in charge of how the current anaphoric chains are to be managed in the latter, while decision-making is shared between the successive floor-holders in the former. However, by viewing intra-turn reference-management as the primary responsibility of one individual, we must not underestimate the fact that a conversationalist must be sensitive to the fact that all referential expressions he mentions must be readily identifiable.

Interacting with the principles of inter-turn zero anaphora is the following rule of intra-turn zero anaphora: a speaker may express through zero anaphora any noun phrase that refers to the same entity as the referential expressions introduced in the first few clauses of the turn (whether the first introduction is made with a full noun phrase, a pronoun, or zero anaphora):

(23)--> K: *SF naa ne vau kee hano ei *1 i toku vaka:*
 SF there Pst come Sbj go Anp (he) in my canoe

o: hai mai ne niu maa olotou puaka.
Cmp gather Dxs some coconuts Ben their pigs

*Kee- kee olo laa *2 mo A kee puke mai*
Sbj Sbj go then (they-2) with A Sbj bring-back

--> *hoki *1 ana puaka i:- Teelaa laa hai eiloo*
also (he) his pigs on then say indeed

**2 o olo ki: kkoo (2.7) ((high, fast))*
(they-2) Cmp go to there

(muna a-) (2.5) ((normal)) galo atu naa
say Cst disappear Dxs there

**1 , hh foki mai *1 koo muna mai i*
(he) come-back (he) Inc say Dxs (he) that

laaua koo hee olo. (FK9:4)
they-2 Inc Neg go

'K: SF came to me to see if (he) could borrow my canoe to bring coconuts back for the pigs. So- so- that (he) and A go to bring back his pigs from- So (he) said (he) was going over. (He said-) (He) then disappears, and then (he) comes back and (he) tells me that they are not going after all'

The number of turn-initial clauses in which new referential expressions may be introduced remains to be determined through further investigation.

When the mention of a third referent intervenes between two mentions of the same referent, the pattern is to ignore this intervening referent in the interpretation of the next zero anaphora slot. This is the case in two successive instances in (24):

(24) J: *A- koe e hai ki te moolii teelaa-* (0.5)
Cnt you Nps refer to the flashlight that

--> *o K i te umu, telotou fale i uta.*
of K at the cooking-hut their-3 house in bush

--> ** feelaa me he leetioo! Tui tena koga*
(it) like a radio stand its piece

*i lalo, [...] kae ttonu * p(eel)aa ki*
at below and straight (it) thus to

tua
back

(SJ3:3)

'J: You are referring to K's flashlight at the cooking hut, (at) his house in the bush. (It) is like a radio [because it's so big]! There is that piece underneath that stands out, [...] and it straight like this in the back'

This principle of reference-override thus allows speakers to insert informational details in their discourse, which will necessarily be marked as pragmatically less prominent in the sentence (through word-order or case-marking, for example; see Besnier, *in press*). The status of informational details with respect to the referential scheme of the turn is similar to that of clarification sequences for inter-turn referential schemes.

The principle is violated when the intervening referent is grammatically focused to warrant a pragmatic 'take-over' of foregrounding (Hopper 1979) and when potential referential ambiguity is introduced into the discourse. This will happen when the intervening expression is placed in the same pragmatic function that the current zero-anaphoric referent held when last mentioned as a non-zero-anaphoric expression and when the two referents have the same degree of animacy. In the following example, the introduction of 'a young woman' intervenes between two references to 'women'; the second reference to 'women' cannot be zero-anaphoric, and is expressed with *laatou* 'they':

(25) O: *Ne olo faafine peela ki te Potuloa:(h), koo*
Pst go women thus to the Potuloa Inc

*mmai- koo aummai ** , (0.4) *koo sausau mai*
come Inc come (they-3) Inc drag Dxs

te ttamaafine, ne too i luga i te pua. (0.5)
the young-woman Pst fall from the gardenia-tree

Teenaa laa, ttamaafine teela, koo: pakia
thus the+young-woman that Inc wounded

valevale eiloa. (0.6) *Teenaa laa,*
all-over indeed thus

--> *aummai nee laatou ** , [...] (ON2:1)
bring Erg they-3 (her)

'O: [Once,] the women had gone to the Potuloa, [and as] (they) were coming back- were coming back, a young woman was brought in, who has fallen off a gardenia tree. So, that young woman, she was badly wounded. So they [the women] took (her), [...]'

Interactors may disregard other participants' 'small turns', like confirmations of attention, exclamations, and other affective expressions:

(26)--> K: *Ae logo a:u ne t:agi * i te ttagi*
and hear I Pst complain (she) with the complaint

a: L teslaa maa- fooliki, ((high)) koo:: oti
of L that senior junior Prf

ne oko ki:::
reach to

(0.4)

F: *Ttaa!* =
Exc

K: = *kiaa T. [...]* *teenaa laa i te- annafi, (2.5)*
to T thus on the yesterday

kkai aka maatou, (1.0) ((high)) au naa e
eat up we-3 I there Nps

vau i te fale o: ((normal)) E mo M
come at the house of E and M

--> ((high)) *e nofo atu * i ei!* (FK5:4)
Nps stay Dxs (she) In Anp

'K: Then I heard that she (had) complained- lodged the complaint of L sen- junior, that had already reached-
F: [scandalized] Heavens! K: reached T. [...]
Then on- yesterday, after we got done with eating, I was walking along at the level of E and M's house, (she) was sitting there!'

For the purpose of the conceptual distinction between inter-turn and intra-turn anaphoric chains, such 'small' turns are not significant enough 'breaks' of the current turn to affect the ongoing intra-turn reference-tracking mechanisms.

Another salient deviance from the principle of intra-turn zero anaphora is the change of 'referential world' (Clancy 1980) that accompanies a shift from direct to reported speech, and vice-versa. This can be accounted for in the framework presented above by positing such changes of discourse strategies as being accompanied by the re-promotion of all the referents in the discourse to the status of new referents in the reported speech, which then need to be reintroduced:

- (27) K: *teelaa laa i ttamaa saega o:: M ki*
 thus as-for the+little stretch of M to
- tai i te mataafa(ga), ((high)) tamaa lee mea*
 sea at the beach-front tiny thing
- eilo(a)! (1.0) ((mid-high)) maa vau ki luga*
 indeed Prc come to top
- i te: ttuaakoi teelaa, [...] Muna a: T, (0.5)*
 on the boundary that say Cnt T
- ((very high, creaky)) ia, naa ttoki*
 so do plant
- > *laa ttuaakoi!* (FK5:2)
 then the+boundary

'K: so M.'s little stretch of land that runs to the sea on the beach-front, it is just a tiny thing! (they were arguing) whether it should be taken into consideration for that boundary marker. T. then said: "So, get that boundary planted!"'

To summarize, intra-turn reference-tracking is based on the following principle: the referential expressions that are introduced in the first few clauses of the turn (this number remains to be determined through further research), or continued from the previous turn, may be expressed zero-anaphorically in the rest of the turn as long as no other referential expression is grammatically focused and pragmatically foregrounded. When this occurs, the original noun phrase must be reintroduced. Conversationalists may overlook the 'small' turns that their interactors utter in the course of their turn as far as reference-tracking is concerned. Finally, changes from and to quoted speech sequences involve the reintroduction of all referential expressions through full noun phrases.

6. Summary and conclusion

In this paper, I have suggested that zero anaphora in Tuvaluan conversation can be explained in terms of the principles through which conversation is organized, such as turn-taking. Reference-tracking in Tuvaluan conversation appears to be guided by two types of basic principle: the 'mechanical' organizational principles of conversation, such as turn taking; and the functional relationships between utterances in conversation, such as clarification-sequence bridging and adjacency-pair organization. An analysis of reference-tracking in terms of these principles does not rely on the validity of the units of discourse segmentation traditionally called upon to account for zero anaphora and reference maintenance in general. These discourse units, it is suggested here, are often not applicable to conversation as a discourse genre. In contrast, conversation-organization principles exist independently of the cohesive structure of the discourse, and, thus, offer a more explanatory basis for an account of reference-tracking.

The arguments developed in this paper are based on the premise that meaning in conversation is constructed by more than one person. The fact that reference-tracking can be shown to depend on the socio-cognitive demands that are the result of the multi-party construal of meaning is not surprising. This analysis is an illustration of the status of both social and cognitive processes (Ochs 1979c) on discourse structure and on the reflection of discourse structure in sentence grammar.

The psychological reality of this analysis is supported by the repair mechanisms that are initiated whenever the organizationally-based principles outlined here are violated. Furthermore, the apparent exceptions to the general principles of referential choice proposed here are accountable in terms of their specialized communicative function: changes from direct to reported speech and vice-versa, attention-sustaining sequences, clarification sequences, and so on; again, these structural types are defined in organizational terms.

Much work remains to be done to refine the description outlined here, in categorizing and explaining problematic cases, and in testing the cross-linguistic validity of the principles. It is through fine-grained analyses of the type of data presented here that we shall further our

understanding of the universal and language-specific factors affecting referential choice.

NOTES

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²Alternative terms include 'empty pronominalization', 'zero pronominalization', 'pronominalization by deletion', 'NP-deletion' and 'NP-ellipsis'. The term 'zero anaphora' will be used here because its connotations are theory-neutral. However, the term 'anaphora' is used here without the implication that it necessarily 'points back to some previous item' (Halliday and Hasan 1976:14), as will be seen further.

³Standard Generative Grammar terminology is used here for the sake of simplicity. This does not imply any adherence to the principles of the Generative model.

⁴The orthography used in examples is that developed in Besnier (1981b). Personal names are replaced by initials. A certain amount of freedom is taken where the literal translation of an example is unidiomatic in English or does not convey adequately the conversational 'flavour' of the Tuvaluan original. Noun phrases in parentheses in the translation represent zero-anaphoric referents in the original; square brackets mark elements added in the translation for greater intelligibility or idiomaticity.

⁵In Tuvaluan, case-marking and a variety of other factors clearly distinguish verbs that are high in transitivity from verbs that are low in transitivity (Besnier 1981a). Thus, in principle, the problem of whether sentences like 'John ate' should be derived from a sentence of type 'John ate (something)' does not arise in this language.

⁶This is not to say that topic-changing mechanisms are random

happenings: Maynard (1980), for example, shows that the ways in which conversationalists signal and initiate topic changes is highly systematic. The point here is that discourse topic-hood cannot be taken as an analytic basis for phenomena like the organization of referential coherence. Rather, topic development and referentiality are parallel phenomena that take place on two different levels of analysis and that are interrelated but not in a cause-and-effect relationship.

⁷The same discussion applies to the reintroduction of a referent that is 'lost' in the course of a conversation. The non-trivial problem of how a referent is 'lost' is beyond the scope of this short paper. Further research is needed into the question.

⁸All the conversations in my data base are of dyadic interactions. Whether similar analyses can be advanced for non-dyadic interactions remains to be tested.

APPENDIX : ABBREVIATIONS

1. Transcription conventions

(1.2)	length of significant pause in seconds
word-	abrupt cut-off
word	(nonitalicized word) forte volume
WORD	fortissimo volume
hhh	exhalation
.hhh	inhalation
wo::rd	non-phonemic segment gemination
?	rising pitch (not necessarily in a question)
,	slightly rising pitch
.	falling pitch (not always at the end of a sentence)
!	animated tempo
=	turn latching
//	beginning and end of turn overlap
((text))	information for which a symbol is not available
((high))	dominant pitch level of utterance string
((creaky))	voice quality
()	incoherent string
(word)	conjectured string
(1:12-13)	transcript and line number
-->	position of illustrative element

2. Interlinear morphological glosses

Art	article	Nps	non-past
Ben	benefactive conjunction	Prc	precautionary
Cmp	complementizer	Prf	perfective
Cnt	contrastive marker	Pst	past
Dxs	deictic adverb	Sbj	subjunctive conjunction
Erg	ergative case	Spc	specific
Exc	exclamation	Tag	tag question marker
Foc	focus marker	Trn	transitivizing suffix
Inc	inchoative	2	dual
Neg	negative verb	3	plural
		+	morpheme boundary

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