ALTERNATIVE SEMANTICS FOR FOCUS AND QUESTIONS:
EVIDENCE FROM SĀMOAN *

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This paper investigates the semantics of the particle ‘o which marks noun phrases under a variety of conditions in Sāmoan, a Polynesian language. We argue that ‘o marks those noun phrases for which an alternative-semantic value needs to be calculated. Evidence for such an analysis comes from the distribution of the particle, the absence of certain locality constraints, and from intervention effects. Accordingly, the ‘o-marking of wh-phrases in questions provides evidence for an alternative-semantics approach to interrogatives and against a quantificational one.

1. Introduction

In Sāmoan, a Polynesian language with approximately 300,000 speakers, noun phrases are marked with the particle ‘o in a number of configurations. Among them, focused and topicalized noun phrases, wh-phrases as well as noun phrases associated with the exclusive particle na’o (‘only’) or with the free choice item so’o (‘any’) receive ‘o-marking. The syntactic and information-structural function of this particle and its cognate ko in other Polynesian languages has been a subject of debate: For Sāmoan, the particle has been previously analyzed as nominative case marking by e.g. Downs (1949) or as serving some information-structural purpose (Pawley 1966; R. Clark 1969; Chapin 1970; Mosel & Hovdhaugen 1992). In other Polynesian languages, ko has received an analysis “...as a preposition, a copular preposition, a focus or topic complementizer, a pred morpheme, and a tense morpheme”, to quote the excellent overview in Massam, Lee & Rolle (2006, p. 3). However, the semantic implications of any of these analyses have never been spelled out in detail. This paper offers a semantic perspective on the function of ‘o in Sāmoan. We take as a starting point the observation that the distribution of the particle ‘o correlates with the main constructions for which a semantics relying on a second tier of semantic interpretation, referred to as the alternative- or focus-semantic value, has been proposed. We suggest that ‘o marks those noun phrases for which an alternative-semantic value (i.e. a semantic value different from the ordinary semantic value) needs to be calculated. As a consequence, we argue that the ‘o-marking found on wh-phrases indicates a semantics for interrogatives that operates on alternatives rather than one which treats wh-phrases as quantifiers.

The plot of the paper is as follows: In section 2 we discuss the data pertaining to the distribution of ‘o-marking of focus and topics as well as with exclusive particles and free-choice items. Section 3 then spells out the semantic analysis in detail. In section 4, we look at constituent questions in Sāmoan, and extend our analysis to explain the occurrence of ‘o

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with wh-phrases. Section 5 looks at further predictions of the proposed analysis, including predictions relating to island (in)sensitivity and intervention effects. Section 6 concludes and provides an outlook on extensions of the analysis in Sāmoan and other Polynesian languages.

2. Data: Focus, Topic, Only and Any

A primary motivation for the semantic account of the particle ‘o which we propose in this paper comes from its distribution: As we will show in this section, ‘o marking occurs in the core constructions for which a second tier of semantic interpretation, the alternative- or focus-semantic value (Roeth 1985, 1992), has been suggested to play a role.

The particle ‘o in Sāmoan occurs with noun phrases that are the focus, as in (1-b), or topic, as in (3), of a sentence. This includes both new information focus, in (1-b), as well as contrastive focus, in (2), and extends also to cases of multiple focus, as indicated by data from the literature in (4). Sāmoan ‘o also obligatorily co-occurs in the equivalent of English only, the exclusive particle na‘o, as in (5), and in the equivalent of English any, the free-choice item so‘o. Both items employ alternatives in their semantics. (See Roeth (1985, 1992) as well as Beaver & B. Z. Clark (2008) for analyses of the semantics of English only and Krifka (1995), Aloni (2007), and Chierchia (2013) for alternative-semantics analyses of English any.)

(1) New Information Focus

a. ‘O ʻā mea‘ai na ‘aumai e Pita?
   ALT. what food TAM(past) bring ERG. Peter
   ‘What food did Peter bring?’

b. [‘O le talo] na ‘aumai e Pita.
   ALT. DET. taro TAM(past) bring ERG. Peter
   ‘Peter brought the TARO.’

(2) Contrastive Focus

a. Na alu i Apia lou tinā?
   TAM(past) go PREP. Apia your mother
   ‘Did your mother go to Apia?’

b. Leai, [‘o lo‘u tamā] na alu i Apia, ‘a [‘o lo‘u tinā]
   no ALT. my father TAM(past) go PREP. Apia but ALT. my mother
   na nofo i le fale.
   TAM(past) stay PREP. DET. house
   ‘No, my FATHER went to Apia but my MOTHER stayed at home.’

(Mosel & So‘o 1997, p. 52)

1 Unless otherwise indicated all data come from work with Sāmoan native speakers conducted in Germany, Hawai‘i and Sāmoa. The material was designed following Matthewson (2004) and Matthewson (2011). The original orthography of the examples (especially with respect to diacritics) has been preserved. Abbreviations used in glosses are ABS. = absolutive case marker, ALT. = alternative marker, DEM. = demonstrative, DET. = determiner (specific, singular), DIR. = directional particle, EMPH. = emphatic particle, ERG. = ergative case marker, fut. = future, INDEF. = determiner (indefinite), NEG. = negation, PART. = particle, pl. = plural, PREP. = preposition, PRN. = pronoun, prog. = progressive, sg. = singular, and TAM = tense-aspect marker.

2 We were however unable to replicate the finding of Chapin (1970)’s fieldwork that multiple ‘o-marked constituents are acceptable in Sāmoan.
Topic

‘Afai [o mea’ai], e fiafia Luka i panikeke.
if ALT. food TAM like Luke PREP. pancakes
‘As far as food is concerned, Luke likes pancakes.’

Multiple Focus

[‘O le tama] [’o le teine] sa alofa i ai.
ALT. DET. boy ALT. DET. girl TAM(past) love PREP. PRN.
‘The BOY loved the GIRL.’

(Chapin 1970, p. 375)

Exclusive Particle

[Na *(‘o) Luka] ’o lo’o ia te a’u.
only ALT. Luka TAM(prog.) be.with PRN.(1 sg.)
‘Only LUKE is currently here with me.’

Free-Choice Item

E mafai ona tupu le ositoaftairi i [so*(‘o) se tagata].
TAM possible that grow DET. arthritis PREP. any+ALT. INDEF.(sg.) person
‘Anybody can get arthritis.’

In the examples above, ‘o-marking always co-occurs with fronting of the focus or topic, but there are examples of the in-situ use of ‘o as a means to mark focus in the literature, such as (7) and (8). However, we were unable to reproduce these examples in our own fieldwork. ‘O-marked noun phrases are only acceptable to the native speakers we have consulted when fronted. The exception to this generalization are noun phrases associated with the exclusive particle na’o (‘only’) and with the free choice item so’o (‘any’), both of which can occur either fronted, as in (5), or in situ, as in (9). One possible explanation for this pattern is that in Sāmoan the initial phrase is prosodically maximally prominent and speakers aim to align the different structural representations. (See also Calhoun (2013).)

(7) Ai lava se mauoloa [o lou tama]?
perhaps EMPH INDEF.(sg.) rich ALT. your father
‘Perhaps your father is a rich person.’
(Mosel & Hovdhaugen 1992, p. 264, no. (6.71))

(8) …‘ae o’o a’e ia [‘o le ‘autaunonofo]…
but reach DIR. EMPH. ALT. DET. harem
‘…but the wives went up to her.’
(Mosel & Hovdhaugen 1992, p. 273, no. (6.141))

(9) I le 1960 na pau ai le fuainumera o tagata mamai i le
PREP. DET. 1960 TAM(past) limit PRN. DET. number of people sick PREP. DET.
3,000 ma i le 1979 e tua [na *(‘o) le 10].
3,000 and PREP. DET. 1979 TAM be.equal.to only ALT. DET. 10
‘In 1960, it restricted the number of people that got sick to 3,000
and in 1979, it was equal to only TEN.’

Intonational focus marking is also available in Sāmoan (cf. Calhoun 2013). An interesting
question, which we have not pursued in this paper, is the interaction between these two focus-marking strategies. For example, we have noted above that both focus and topics receive ‘o-marking. It might be the case that Sāmoan differentiates sentences with ‘o-marked noun phrases as focus and sentences with ‘o-marked noun phrases as topic intonationally, like in Māori (cf. Bauer 1991). This remains to be tested empirically. Further investigation may also reveal evidence of competition between these two strategies, and in fact, Sasha Calhoun (p.c.) speculates that focus marking strategies might currently be in flux and an area of linguistic change in the language.

3. Alternative Semantics for Focus

In the previous section, we observed that ‘o-marking in Sāmoan occurs in exactly those constructions whose semantics makes use of alternatives. To explain this observation, we propose in this section that the function of the particle ‘o is to mark those noun phrases for which alternatives need to be calculated. To do so, we first need to spell out our assumptions about the way focus-alternatives are generated and manipulated by the grammar.

The basic idea under this type of account is that focus gives rise to the generation of alternatives. For example, in the sentence in (5), the ‘o-marking on the noun phrase Luka will give rise to the generation of the alternative set in (10). Focus-sensitive operators work with these alternatives. In the case of an operator like only, for example, the other alternatives are excluded as false.

(5) [Na ‘o Luka] ‘o lo’o ia te a’u.
    only ALT. Luka TAM(prog.) be.with PRN.(1 sg.)
    ‘Only LUKE is currently here with me.’

(10) {that John is here with me, that Mark is here with me, that Matthew is here with me,…}

There are several ways of technically implementing an analysis of this kind for focus, namely structured propositions (cf. e.g. Krifka 1992), a two-tier semantics with focus- and ordinary-semantic values (cf. esp. Rooth 1985, 1992), and distinguished variables (cf. e.g. Beck 2006, to app.)). Here, we will use distinguished variables, a framework in which, at the level of Logical Form, focus-marking is realized as a distinguished variable that is bound by an alternative-evaluating operator higher up in the structure. (In this case: the squiggle operator ∼.) Variables as we know them receive a value assignment via the function g. Distinguished variables receive their value assignment via a second assignment function h. Essentially, the distinguished variable tells us where to compute alternatives and of what type these alternatives are. Thus, (5) has the Logical Form in (11). When evaluated with respect to the assignment function h, the focused constituent, Luka, is replaced by a distinguished variable, ii, as in (12-b).
The squiggle operator $\sim$, in (13), unselectively binds distinguished variables and adds a presupposition regarding the value assignment to a free variable $C$ of type $\langle\langle s, t, t \rangle, t \rangle$. Namely, it adds the presupposition that the value assigned to this free variable is a subset of the set of alternatives generated by replacing the distinguished variable with all possible instantiations of it. Operators sensitive to alternatives such as only and its Sāmoan equivalent in (14) also come with a contextual variable $C$, which receives the same value as the contextual variable that comes with the squiggle operator. That is, they work with the alternatives the squiggle operator generated with the help of the distinguished variable. For the example from (5), this yields the desired truth conditions in (15), which state that all alternative propositions to the proposition that Luke is with me are false.

$$\alpha = \lfloor \sim C \beta \rfloor$$

If $\alpha = \lfloor \sim C \beta \rfloor$, then for any $g, h$:

$$[\alpha]^g$$ is only defined if $g(C) \subseteq \{ p : \exists h[p = [\beta]^h] \}$.

Then $[\alpha]^g = [\beta]^g$ and $[\alpha]^h = [\beta]^h$.

$$[na] = [\text{only}] = \lambda C(\langle s, t, t \rangle, \lambda p(\langle s, t \rangle, \forall q[C(q) \& p \neq q \rightarrow \neg q])$$

$$\forall q[C(q) \& q \neq \lambda w. \text{Luke is with me in } w] \rightarrow \neg q$$

presupposition: $g(C) \subseteq \{ p : \exists h[p = [\lambda w. h(ii, \langle e \rangle) \text{ is with me in } w]] \}$

with e.g. $g(C) =$

$$\{ \lambda w. \text{Luke is with me in } w, \lambda w. \text{Paulo is with me in } w, \lambda w. \text{Ioane is with me in } w, \ldots \}$$

In summary, this system of focus interpretation has three main ingredients: (i) distinguished variables to generate alternatives, (ii) alternative-evaluating operators such as $\sim$ to bind distinguished variables and introduce a set of alternatives into the semantics via the presupposition, and (iii) operators sensitive to alternatives such as only. This system is used for focus interpretation but not limited to focus. There are a number of other alternative-evaluating operators and operators sensitive to alternatives (cf. also Beck (2006)), including questions, free choice and negative polarity items, disjunction and certain quantifiers. Thus, a prediction of this analysis of Sāmoan ‘o is that the particle show up in other constructions that have been analyzed to involve alternative-evaluating and alternative-sensitive operators. This prediction is borne out. As we have seen in section 2, the particle ‘o not only marks focus but also topics, and it co-occurs in the free choice item so'o ('any'). Wh-phrases, which we will discuss in detail in section 4, are also obligatorily ‘o-marked as is disjunction, which we will briefly discuss in section 5.

### 3.1. Excursus on the Syntax of ‘o-Constructions

Let us point out that the semantic analysis we propose has syntactic implications as well. Polynesian ko-constructions such as the Sāmoan example in (16) can potentially be analyzed either as clefts, as in (17), pseudoclefts, as in (18), or dislocation structures, as in (19). (See especially Potsdam (2009) as well as Potsdam & Polinsky (2011) for discussion.) Under the analysis presented above, interpretation proceeds from structures that are not in any way bi-
clausal. Rather, the ‘o-marked constituent has undergone movement, as in (19). (This is also the analysis adopted in Pizzini (1971).)

(16) ‘O Ioane e umi.  
ALT. John TAM long  
‘John is tall.’

(17) Cleft:  
It is John \[RelCl who is tall].

(18) Pseudo-Cleft:  
\[RelCl Who is tall] is John.

(19) Movement of Noun Phrase and Verb Raising in Derivation of VSO (cf. e.g. Collins 2014):

Because of the lack of an overt copula and of overt expletives in Sāmoan, arguments in favor of such a dislocation analysis are not straightforward (cf. also Potsdam & Polinsky 2011). However, evidence in favor of the structure in (19) above comes from the following: First, tense-aspect markers are ungrammatical in ‘o-marked constituents, as in (20), contrary to expectations for a bi-clausal structure. (Mosel & Hovdhaugen (1992, p. 500) also observed that the ‘o-marked constituent in Sāmoan is “...unmarked for tense-aspect or mood and does not accept any verb or negative particle.”)

(20) \([*Na] \ ‘o le meleni [na ‘ai e Sioane analeilā].\)  
TAM(past) ALT. DET. melon TAM(past) eat ERG. John yesterday  
‘It was the melon that John ate yesterday.’

Second, the possibility of multiple fronted ‘o-constituents, as in (4), is unexpected under both, a cleft- and a pseudocleft-analysis. Third, as far as they are accepted by native speakers, the occurrence of ‘o-marked constituents in situ, as in (7) to (8) provides additional evidence against a bi-clausal structure. Finally, the unavailability of headless relative clauses as arguments elsewhere in Sāmoan, as discussed in Mosel & Hovdhaugen (1992, p. 633), also weakens the empirical support for a cleft-analysis under which fronted ‘o marked constituents are headless relative clauses. We conclude from this brief discussion that for Sāmoan, a dislocation analysis is preferable.
4. Questions

As mentioned in the previous section, a prediction made by this analysis is that ‘o-marking should be found in other environments where distinguished variables are used in the semantic calculation. Wh-questions provide an interesting opportunity to test this prediction, because certain approaches derive the meaning of wh-questions from a set of alternatives generated by a distinguished variable in the wh-phrase. Interestingly, Sāmoan wh-phrases are marked by the particle ‘o. Based on the occurrence of ‘o-marking in questions, we argue in this section that questions in Sāmoan should receive an alternative-semantics analysis rather than a quantificational one.

4.1. Data

Constituent questions in Sāmoan also obligatorily employ ‘o, as illustrated in (21) below. (See also the example in (1-a) from section 2.)

(21) \[ *(O) ai \] na sau ma le talo?

ALT. who TAM(past) come with DET. talo

‘Who came with the taro?’

In embedded questions, like the one in (22), the question particle pē, is additionally present in the complementizer of the embedded clause. Examples from the literature such as the one in (23) indicate that the question particle pē may have also been realized overtly in matrix questions in Sāmoan in the past, though matrix sentences marked with the question particle were rejected by our consultants.

(22) ‘Ou te iloa [po [‘o ai] e alofa iaiai Sina]…

I TAM know Q ALT. who TAM love PREP.+PRN. Sina

‘I know who Sina loves…’

(23) Po [o le tusi a ai] sa e fa’aaogā?

Q ALT. DET. book of who TAM you use

‘Whose book did you use?’

(Downs 1949, p. 44)

4.2. Approaches to the Semantics of Questions

Questions denote the set of possible answers to them, an idea going back to Hamblin (1973). (Cf. also Krifka (2011) for an introduction to the semantics of questions.) There are multiple ways to derive these sets compositionally.

Quantificational Analyses of Interrogatives. The most prominent approach (e.g. Karttunen (1977) as well as Groenendijk & Stokhof (1984)), developed primarily for English, derives this set of propositions by analyzing wh-words as existential quantifiers, which obligatorily undergo movement to produce an interpretable structure, and by the covert question operator Q,

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3 In order to avoid complexity, we focus only on arguments questions.
4 The question particle pē is realized as pō when followed by an ‘o.
in (25-b). Thus, the question in (24) is assigned the Logical Form in (26), where \(wh\)-pronouns have a lexical entry as in (25), yielding the set of propositions in (27).

(24)  What did Mary eat?

(25)  a. \([what] = \lambda\{e,\langle s,t\rangle\} \cdot \lambda p_{(s,t)} \cdot \exists x [(P(x))(p)]

b. \([Q] = \lambda p_{(s,t)} \cdot \lambda q_{(s,t)} \cdot [p = q]

(26)  \([\langle s,t\rangle t] what [\langle e,\langle s,t\rangle\rangle 1 \langle\langle s,t\rangle,t\rangle] what [\langle e,\langle s,t\rangle\rangle 1 \langle\langle s,t\rangle,t\rangle] Mary [\langle e,\langle s,t\rangle\rangle 1 \langle\langle s,t\rangle,t\rangle] eat t_1(e)]

(27)  \([what] (\lambda x_{(e)} \cdot (q_{(s,t)}). [q = [\lambda w. eat(x)(Mary)(w))]) \Leftrightarrow \lambda p_{(s,t)} \cdot \exists x [p = \lambda w. eat(x)(Mary)(w)]

e.g. \{that Mary ate a banana in \(w\), that Mary ate taro in \(w\), that Mary ate some papaya in \(w\}\}

In the interpretation in (27), the question operator \(Q\) combines with a proposition and turns it into a set of propositions. The existential quantifier introduced by the \(wh\)-word subsequently binds the trace left by its movement, yielding the set of possible answers to the questions in (24) of the shape that Mary ate some thing.

**Alternative Semantics for Questions.** A second more recent approach (e.g. Kratzer & Shimoyama (2002) as well Beck (2006)) capitalizes on the similarity between interrogative semantics and focus semantics, and analyzes \(wh\)-words on par with focus-marked constituents as elements which introduce distinguished variables, as shown in (28), and which thus generate alternatives. The question operator \(Q\), in (29), is another alternative-evaluating operator, just like the squiggle operator, in (13).

(28)  a. \([what_{ii,e}]^g UNDEFINED

b. \([what_{ii,e}]^h = h(ii, (e))

(29)  If \(\alpha = [Q_{i,(\tau)} \beta]\), then for any \(g, h:\)

\([\alpha]^g = \{p : p = \exists x \in D_{(\tau)} : [\beta]^h[x/i]\}.

Under this account movement is not required at Logical Form. Rather, the \(wh\)-pronoun remains \textit{in situ} and its distinguished variable is bound by the \(Q\)-operator, as illustrated in (30). Like the squiggle operator \(\sim\), \(Q\) generates a set of propositions. It does so by taking the alternative semantic value of the embedded proposition and replacing the distinguished variable introduced by the \(wh\)-pronoun with all of its possible instantiations. Thus, only the alternative semantic value of the embedded proposition, in (31), is used in the generation of the question meaning. Its ordinary semantic value is undefined.

(30)  \[
\begin{array}{c}
\langle s,t,t_1 \rangle \\
Q ii_{i,e} \\
\langle s,t \rangle \\
\ldots wh ii_{i,e} \ldots \\
\text{in situ}
\end{array}
\]

(31)  a. ordinary semantic value:

\([\text{-embedded proposition-}]^g UNDEFINED
b. focus-semantic value:

\[ [-\text{embedded proposition-}]^h = \ldots (h(ii, \langle e \rangle)) \]

The obligatory in-situ interpretation of \textit{wh}-pronouns, while somewhat unintuitive in \textit{wh}-fronting languages, is desirable in \textit{wh-in-situ} languages like Japanese, in which \textit{wh}-phrases do not undergo covert movement (cf. Shimoyama 2006). However, an alternative-semantics analysis of questions has also been argued for in some \textit{wh}-fronting languages, in particular Tinglit, a Na-Dené language spoken in Southeast Alaska and Western Canada (Cable 2010).

4.3. Applying the Analysis to Sāmoan

The perspective from Sāmoan suggests a unified treatment of interrogatives and focus, and thus is another language that provides support for an alternative-based analysis of interrogatives. We suggest that \textit{wh}-words in Sāmoan questions such as (21) are interpreted in situ, yielding the Logical Form in (32). The denotation, in (33), is the set of propositions that are possible answers to the question. This is the same set of propositions which a quantificational analysis would generate, but they have been calculated using the focus-alternatives of the proposition embedded under the focus-sensitive operator \(Q\).

(21) \[
\text{'O ai na sau ma le talo?} \\
\text{ALT. who TAM(past) come with DET. taro} \\
\text{'Who came with the taro?'}
\]

(32)

\[
\begin{align*}
&\lambda s.t. \langle s.t \rangle \\
&\text{Q}_{i,e} \langle s,t \rangle \\
&\langle t \rangle \\
&\text{wh}_{i,e} \langle e,t \rangle \\
&\text{sau}_{w_{3,e}} \langle s \rangle \text{ma le talo} \\
&\text{come}_{w_{3,e}} \text{with DET. taro}
\end{align*}
\]

(33) \[
\begin{align*}
\{ p : \exists x \in D_{(e)} : p = &\left[ \left[ \lambda s.t. \langle s.t \rangle \text{[sau}_{w_{3,e}} \text{ma le talo}]\right]\right] \downarrow^{h[x/i]} \} \\
\{ p : \exists x \in D_{(e)} : p = &\lambda w. x \text{ came with the taro in } w \} \\
\text{e.g. } \{ \text{that Malia came with the taro in } w, \text{ that Eseta came with the taro in } w, \ldots \} 
\end{align*}
\]

This analysis for Sāmoan makes some predictions about sensitivity to syntactic islands and the presence of intervention effects in constructions with ‘\textit{o}, which will be explored in the next section.

**Interim Summary.** The analysis proposed thus far for ‘\textit{o}-marking in Sāmoan can be summed up as follows: Constituents containing distinguished variables, including constituents containing focus and \textit{wh}-pronouns, are marked with the particle ‘\textit{o}. Two covert operators, the squiggle operator \(\sim\) for focus and \(Q\) for questions bind these distinguished variables to generate sets of alternatives, which yield question meanings, or are used by focus-sensitive particles like \textit{na'o}.
We hypothesize that the inventory of alternative-sensitive operators in Sāmoan (in Table 1) additionally includes the free choice item so'o ('any') and a covert ASSERT-operator for topics.

<table>
<thead>
<tr>
<th>alternative-sensitive operators</th>
<th>alternative-evaluating operators</th>
<th>distinguished variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>na'o (= only)</td>
<td>covert ~</td>
<td>marked by 'o'</td>
</tr>
<tr>
<td>so'o (= any)</td>
<td>pe or covert Q</td>
<td></td>
</tr>
<tr>
<td>covert ASSERT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1:** Alternatives in Interpretation: The View from Sāmoan

5. Predictions: Island (In)sensitivity and Intervention Effects

Aside from arguments based on the distribution of the particle ‘o, diagnostics used in the semantic literature to test for an alternative semantics, such as island insensitivity (Rooth 1985; Shimoyama 2006) and the presence of intervention effects (Beck 2006; Erlewine & Kotek to app.) provide additional evidence for the analysis proposed in the previous sections.

5.1. Island Insensitivity of Focus Association

A primary motivation for introducing alternatives into the interpretation component of the grammar comes from the fact that association with focus is not subject to the same locality constraints as movement or Quantifier Raising are. Whereas Quantifier Raising is blocked in English by a relative clause boundary, no such locality restrictions affect association with focus, as illustrated by the contrast in (34) below. Crucially, the exclusive particle only can associate with a focused constituent across a syntactic island.

(34)  a. I know the person [RelCi that [every girl] loves].
    = ‘The person that I know is such that every girl loves them.’
    ≠ ‘For every girl, I know the person that is such that she loves them.’

       b. I only know the person [RelCi that MARY loves].
       = ‘Only for Mary do I know the person that she loves.’

Similarly in Sāmoan, although relative clauses are otherwise islands for movement, as illustrated by (35), we find that na'o ('only') can associate with a focused constituent across a relative clause: In (37) in the context of (36), association is with the focused noun phrase Malia across the relative clause boundary.

(35)  *[‘O ai] ‘o lo’o Malia i le [RelCi e alofa i ai _]]?
      ALT. who TAM(prog.) Mary PREP. DET. boy TAM love PREP. PRN.
      (Lit.) ‘Who is Mary talking to the boy that loves?’

(36)  **Context:** Sina is very well informed. She is always the first to know whom on a date, and who is in love with whom. That’s why shortly after three girls move to town, some of the boys in the village ask Sina whether she has any information about the new girls. She answers:
The example suggests that an adequate analysis of the particle *na'o* should not involve movement out of the relative clause but rather employs association with focus alternatives.

### 5.2. Intervention Effects

A second prediction made by our analysis of *'o*-marking in Sāmoan is that we should find certain interactions between alternative-evaluating operators. Beck (2006) proposes that the presence of the squiggle operator ∼, an unselective binder of distinguished variables, at Logical Form, separating a distinguished variable from the alternative-evaluating operator that is intended to bind it is the cause of so-called intervention effects. One such configuration that gives rise to an intervention effect is sketched in (38). Intervention effects have been observed in a variety of languages when a certain class of operators including exclusive particles, certain quantifiers and negation intervene between a *wh*-pronoun and its evaluating *Q*-operator, as in the Korean example in (39).

\[
\begin{align*}
\text{(38)} & \quad \ast [Q_i \ldots \sim \ldots [\text{wh-phrase}_{ii} \ldots \alpha_i]]] \\
\text{(39)} & \quad \ast \text{Minsu-man nuku-lül po-ass-ni?} \\
& \quad \quad \text{Mina-only who-ACC: invite-past-Q} \\
& \quad \quad \text{(intended) ‘Who did only Mina invite?’} \\
& \quad \text{(Beck 1996, p. 28, ex. (55-a))}
\end{align*}
\]

The ungrammaticality of (39) indeed follows from the semantics of the ∼-operator: It unselectively binds all distinguished variables in its scope, preventing the *Q*-operator from binding the distinguished variable of the *wh*-pronoun. (The reader is referred to Beck (2006) for details of the proposal.) Under this analysis, the presence of intervention effects can be used as a diagnostic for constructions which employ semantic alternatives (cf. also Beck (to app.) and Erlewine & Kotek (to app.)). If the insertion of an intervener results in ungrammaticality, we have further evidence for an alternative-semantics analysis. Thus, our proposal for the semantics of Sāmoan constituent questions, taken together with Beck (2006)’s account makes the prediction that intervention effects should arise in questions.

Unfortunately, it is well known that movement obviates intervention effects (Beck 1996; Pesetsky 2000), so in order to test this prediction for questions, we require *in-situ* *wh*-phrases. In Sāmoan, however, *wh*-phrases cannot remain *in situ*. Moreover, multiple questions, where intervention effects have been observed in languages like English and German, are ungrammatical, as is true more generally across Polynesian languages. However, in addition to *wh*-questions, intervention effects have been observed in another type of question, in alternative questions. The term alternative question here refers to a particular reading of an apparent *yes/no*-question containing a disjunction under which possible answers to the question are the two disjuncts rather than *yes* and *no*. For example, English (40-a) has both, an alternative question and a *yes/no*-question reading, as we can see from the possible answers in (40-b) and the paraphrases

\[\text{(40)}\]

\[
\begin{align*}
\text{5 Other analyses (Beck 1996; Tomioka 1997; Haida 2007; Mayr 2013) attribute intervention effects to other grammatical properties of interveners and make no predictions regarding the interaction of multiple alternative-evaluating operators.}
\end{align*}
\]
in (41). In the presence of an intervener such as negation, in (42), however, the alternative-question reading is unavailable. (For discussion see e.g. Beck & Kim (2007).)

(40) a. **Question:**
   *Did Sally teach Syntax or Semantics?*

   b. **Possible Answers:**
   *Yes./No.*
   *Syntax./Semantics.*

   (Beck & Kim 2007, p. 166, no. (3))

(41) a. **Alternative Question Reading:**
   *‘Which of Syntax and Semantics did Sally teach?’*

   b. **Yes/No-Question Reading:**
   *‘Did Syntax or Semantics, or not?’*

(42) a. **Question:**
   *Didn’t Sally teach Syntax or Semantics?*

   b. **Possible Answers:**
   *Yes./No.*
   *# Syntax./Semantics.*

   (Beck & Kim 2007, p. 166, no. (7))

As this type of question is also available in Sāmoan, it can be used as a diagnostic for alternative semantics. An example of a Sāmoan alternative question is given in (43). Possible answers to (43) are, for instance, ‘*O le māketi.* (‘To the market.’) as well as *Leai.* (‘No.’).

(43)  *E ō le fanau a Tavita i le māketi po ‘o le falesā?*

   *TAM go(pl.) the children of David PREP. DET. market or ALT. the church.*

   *‘Are David’s kids going to the market or the church?’*

Just like in English, negation causes an intervention effect in this type of questions. In the Sāmoan example in (44), ‘*O le māketi.* (‘The market.’) is not a possible answer to the question, whereas *Leai.* (‘No.’) is. Note that the disjunction *po’o* (‘or’) also contains ‘*o*, as our analysis predicts if disjunctions employ alternatives.

(44)  *E le‘i ō le fanau a Tavita i le māketi po ‘o le falesā?*

   *TAM NEG. go(pl.) DET. children of David PREP. DET. market or ALT. DET. church.*

   *‘Aren’t David’s kids going to the market or the church?’*

Thus, the presence of intervention effects in Sāmoan alternative questions provides further evidence for our alternative-semantics analysis of ‘*o*.  

6. **Summary and Outlook**

The paper offered a perspective from semantic theory on the function of the particle ‘*o* in Sāmoan. The particle marks those noun phrases for which alternatives need to be calculated during interpretation. Evidence for this analysis comes from the distribution of ‘*o* as well as from intervention effects and the absence of locality constraints in association with focus: The particle marks topic, focus, and *wh*-phrases, and obligatorily co-occurs with the exclusive par-
article na’o (‘only’), the free-choice item so’o (‘any’), and the disjunction po’o (‘or’). Although constituent questions in Sāmoan involve movement, the data provide evidence in favor of an alternative-based approach to the semantics of interrogatives and against a quantificational analysis. At this point, we can identify two pathways for extensions of this analysis, first, within the language, and second, across Polynesian languages. In Sāmoan, the particle ‘o also occurs in identity statements, as in (45), and in appositives such as (46). An alternative-semantics approach to these constructions might provide a new perspective on their syntax and semantics.

(45) [O puua fanua] [o puua popoto ia].
   PART. pig cultivated PART. pig clever EMPH.
   ‘The domestic pigs are very clever pigs.’
   (Mosel & Hovdhaugen 1992, p. 503, no. (11.17))

(46) . . . ma lana tama, ['o Sina].
   and her child PART. Sina
   ‘. . . and her child, Sina.’
   (Mosel & Hovdhaugen 1992, p. 500, no. (11.4))

Another pathway for further investigation is the extension of the analysis to ko in other Polynesian languages, which seems to share the distribution of its Sāmoan counterpart. An example is the interrogative from Niuean in (47) below.

(47) [Ko hai] ne lalaga e kato ē?
   PART. who TAM(non-fut.) wove ABS. basket DEM.(sg.)
   ‘Who wove this basket?’
   (Massam, Lee & Rolle 2006, p. 15, no. (25))

This shared distribution, however, needs to be investigated against the syntactic micro-variation in the relevant constructions already observable in the literature (cf. e.g. Bauer (1991), Cook (1999), Pearce (1999), and Massam, Lee & Rolle (2006)). A diachronic perspective on this micro-variation might in the end help us better understand the division of labor at the interface of syntax, semantics, and phonology when it comes to constructions that invoke alternatives.

References


Erlewine, Michael & Hadas Kotek (to app.). Covert Pied-Piping in English Multiple Wh-Questions. *Linguistic Inquiry*.


