Non-canonical switch-reference and situation semantics

Andrew McKenzie

Summary

In this paper, I argue that some occurrences of Switch-reference (SR) mark the identity or distinctness of topic situations, not subjects. This proposal explains the meaning of what SR is marking in those cases, and provides the explanation for a curious trait of SR: It never marks topic situations in subordinate configurations. It also offers an example of the overt marking of topic situations.

The discussion focuses on the Kiowa language (Kiowa-Tanoan, U.S.A.); the data comes either from the literature or my own fieldwork conducted over the previous year. Kiowa provides a rare opportunity to fully explore SR because it exhibits it in both coordinate and subordinate configurations.

1. The phenomenon

1.1 Canonical switch-reference

Switch-reference (SR) canonically marks the maintenance or switch of reference of the subjects of two adjacent clauses (Jacobsen, Jr. 1967, Haiman and Munro 1983). That is, it ‘tracks’ subjects. If the subjects co-refer, same-subject (SS-) marking is used. If not, different subject (DS-) marking is used.

(1) a. same-subject (SS)-marking

\[ \emptyset = \text{hèba}=\text{chê} \quad \text{èm}=\text{sâu} \]

[\(\emptyset:0:3s\) enter.PF=\text{when.SS} [3s:0:RFL] sit.down.PF]

‘When she \(i\) came in, (she\(i/*j\)) sat down.

\text{pronominal gloss} = \{\text{agent: oblique: ‘absolutive’}\)

Andrew McKenzie

b. different-subject (DS)-marking

∅= hébâ=è èm= sau
[3s] enter.PF=when.DS [3s:RFL] sit.down.PF
‘When she came in, (she*új) sat down.

Sometimes, however, SR doesn’t really track a subject, but some other nominal argument. Kiowa employs intransitive datives to express possession (along the lines of “it is to me”). In (2), the subject of the first conjunct is the dative possesor, not the nominative possessee. However, it’s the possessor that triggers SR.

(2) góm+jágá á= dâu-mê gáu ∅= báuлу+faù-l-è
wind+grease [∅[3s]3s] be-HSY and.SS [3s:∅][3s] butter+eat-IMPF-HSY
‘He had mentholatum (Mentholatum was to him) and he was eating it like butter.’

Since the possessor in the first conjunct is identical to the agent of the second, SS-marking is used.

This fact is not necessarily surprising, given the basic word order (S-IO-DO-V) and corresponding structure proposed by Adger and Harbour (2007). The possessor would be higher in the structure than the possessee; it is the highest argument, whose base position is [Spec, vP], as seen in the abbreviated tree below.

(3) a. subj. I.O. D.O. Verb
Nâu qầhí cut yán= âu
I man book [...]3s:3p give.PF
‘I gave the man the book.’

b.

\[\text{vP} \quad \text{agentive subject} \quad \text{ApplP} \quad \text{indirect object} \quad \text{VP} \quad \text{direct object} \quad \text{non-agentive subject}\]

1.2 Non-canonical switch-reference

In some cases, SR ignores subjects altogether. We get DS-marking when the highest nominal arguments co-refer, or SS-marking even though they don’t. This is is known in the literature as non-canonical SR (NC-SR). Here is an example from Kiowa (Watkins 1993: 148).
Non-canonical switch-reference and situation semantics

(4) Kathryn gà=gút gàu Esther=àl gà=gút.


‘Kathryn wrote a letter and Esther wrote one too.’

The names ‘Kathryn’ and ‘Esther’ most certainly do not refer to the same person (They are relatives of mine!) Yet, SS-marking can be used here.

We will explore what it means to use NC-SR in cases like (4). In doing so, we will need to refer to that which SR is tracking in a given utterance. Since it doesn’t always track subjects, we will use the term (SR-)pivot to refer to what’s being tracked. We can re-cast the question in terms of SR-pivots: In canonical SR (C-SR), the pivot is the highest argument. In NC-SR, it is something else.

1.3 Configurational difference

Another question we will explore relates to the effect of configuration on SR. NC-SR only occurs in coordinated configurations, and never in subordinating ones. Kiowa is rare in that it expresses SR both in Coordination and Subordination, as shown by the the table of SR morphemes below.

<table>
<thead>
<tr>
<th>Coordinate</th>
<th>Subordinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss</td>
<td>SS</td>
</tr>
<tr>
<td>‘and’</td>
<td>gàu [gà]</td>
</tr>
<tr>
<td>‘and_EXPR’</td>
<td>qàut [k’ët]</td>
</tr>
<tr>
<td>‘when’</td>
<td>—</td>
</tr>
</tbody>
</table>

My consultants strongly reject NC-SR in embedded contexts like (5), below, but allow it for coordinated ones, such as (4).

(5) dè= dåu+vàigàu=*chè /è bè= gùn


‘When I sang, you danced.’

This configurational difference also shows up in the Australian language Pitjantjatjara (Bowe 1990). Pitjantjatjara is the only other language I know of that has SR in both configurations.¹ Although SR rarely shows up in two configurations in a languages, the same configurational effect can be demonstrated in other SR langauges. Essentially, other documented cases of NC-SR occur only in configurations that are clearly coordinat-ing (Nélémwa, Bril (2004); Lakhota, Dahlstrom (1982)), or that are in dispute (Amele, Roberts (1988)).

One might conclude that the different behavior of NC-SR points to there being two types of SR. However, the behavior of subordinate SR (C-SR only) is a subset of that of coordinate SR (NC-SR and C-SR). In addition, I have found no case of NC-SR that does

¹Maricopa (Gordon 1986) might be a third, though the description of the possible coordinated cases is not clear.
not also allow C-SR (albeit with a different meaning). Therefore, we may safely assume that SR has a unique denotation that is restricted in embedded contexts.

2. Situations and SR

What restricts SR in embedded contexts? Why is NC-SR unavailable in embedded contexts? Let us rephrase this question in terms of pivots: NC-SR shows that something besides ‘subjects’ is the pivot of SR. Why can’t that something else be a pivot in subordination? To find out why, we need to know what that something else is. I hypothesize that they are topic situations.

2.1 (Some of a) Kratzerian Situation semantics

The situation semantics I employ here follows the lines of Kratzer (1989, 1998, 2007). I will now lay out the main points of this theory that are relevant to our hypothesis:

- A situation is a part of a possible world. Any situation is part of a larger situation ($s \leq s'$), except for worlds, which are maximal situations.

- Propositions are not true of the entire world, but only of parts of the world. (It is raining; Everyone is asleep)

- In a discourse, topic situations indicate what part of the world an asserted proposition is true over. Asserting a proposition involves reference to a specific situation, claiming that the proposition is true over that smallest part of the world in which it is true.

- Situations can be arguments of predicates.

- Aspect is a relation between the event situation (e) and the topic situation (s), e.g.:

\[
\langle \text{perfective} \rangle = \lambda P \lambda s. \exists e [ P(s) \land e \leq s ]: (s,t)
\]

(6) a sample proposition: Alissa kicked Travis =
\[
\lambda s. s \prec s' \land \exists e [ \text{kick(Travis)}(e) \land \text{agent(Alissa)}(e) \land e \leq s ] : (s,t)
\]

The set of situations $s$ in the past where there is an event within $s$ of Alissa kicking Travis.

2.2 SR in terms of situations

I propose that NC-SR is tracking these topic situations. If the two situations co-refer, SS-marking is used no matter what the highest nominal arguments are. If they do not co-refer, DS-marking is used. I set aside for now the question of mechanics, which I address more precisely in McKenzie (2007). In terms of pivots:
Non-canonical switch-reference and situation semantics

(7)  

a. In Canonical SR, the pivot is the highest nominal argument.

b. In Non-canonical SR, the pivot is the topic situation.

Two facts follow from (7) as corollaries: First, the canonicity of SR is derivative of the pivots chosen by the speaker. Second, we can explain the configurational difference as the inability of embedded topic situations to be the pivots of SR.

3. Accounting for the configurational difference

Under our hypothesis, topic situations cannot be SR-pivots in subordinate contexts. An explanation for this comes from Kratzer (2004): Subordinate clauses do not contain topic situations. Attitude predicates contain res argument (8b). The res is the situation that the attitude is about. That is, if you believe that it is raining, you believe about s that it is raining in s. However, the res is not embedded. It is an argument of the matrix attitude verb, and as a result sits in the matrix clause.

(8)  

a. p = proposition, s = situation, e = event.

b. \([\text{believe}]=\lambda p\lambda s\lambda e. \text{believe}(p)(e) \& \text{about}(s)(e)\)

c. Travis believes that Alissa burned his toast.

d. \((\text{Alissa burned } x_4 \text{'s toast }) = p, \text{ and propositions are sets of situations.}\)

e. Travis believes about s that p = 1 in s

In addition to intensional clauses, frame-setting adverbial clauses (When Travis was little. . . ) behave like other adverbials, including ‘yesterday’. Yesterday expresses a property of situations: \(\lambda s. \text{yesterday}(s)\). Correspondingly, frame-setting clauses are properties of situations: \(\lambda s. (\text{Travis was little})(s)\). Under the situation framework adopted here, a property is equivalent to a set of objects with that property. So a property of a situation is also a set of situations, which we have already defined as a proposition, which is not asserted about a specific topic situation. In short, subordinate clauses do not contain topic situations. It follows that NC-SR does not happen in subordinate contexts. NC-SR tracks topic situations, but without topic situations it cannot occur.

It should be mentioned that this explanation may mean that the configurational difference (coordinate vs. subordinate) is too simple. It opens the door to subordinate clauses that might be large enough to have their own topic situations. This class may include relative clauses, or because-clauses– which Johnston (1994) and Sawada and Larson (2004) both describe as ‘bigger’ than normal subordinate clauses. Alternately, we can entertain the logical possibility that there exist coordinated clauses without topic situations. This may be a way to explaining the properties of what Roberts (1988) calls co-subordination, seen in clause-chaining languages. Unfortunately, these interesting ideas cannot be tested with Kiowa, for its complement, relative, and because-clauses do not mark SR at all.

Having seen the hypothesis and how it would lead to an explanation of the configurational difference, let us now demonstrate that the hypothesis is empirically adequate.
Andrew McKenzie

3.1 NC-SR in Kiowa

I pointed out earlier that the pivot of SR is chosen by the speaker. This is clearly demonstrated in the Kiowa minimal pair from Watkins (1993).

(9) A minimal pair (Watkins 1993):
   a. NC-SR
      Kathryn gà= gùt gàu Esther=àl gà= gùt.
      ‘Kathryn wrote a letter and Esther wrote one too.’
   b. NC-SR
      Kathryn gà= gùt nàu Esther=àl gà= gùt.
      ‘Kathryn wrote a letter and Esther wrote one too.’

Watkins reports that non-canonical SS-marking would be used when the letters were “written for the same reason, to the same person, at about the same time.” She has more recently confirmed (p.c.) that the main feature is “shared purpose.” I asked my consultants if they found (9a) acceptable, and they did. One commented that a possible scenario would be two people writing the Governor to pardon a prisoner. 2 However, the identity of the addressee doesn’t matter—there could be different ones.

(10) Kathryn yà= gùt gàu Esther Tom gà= gùt.
    K. [3s:1s:3p] write.PF and SS E T [3s:∅:3p] write.PF
    ‘Kathryn wrote me a letter and Esther wrote one to Tom.’

Here is another example, offered by a consultant:

(11) a. à= tháum+chàn-thâu gigáu nàu+côm 0=
    [0:∅:1s]= first+arrive-FUT and SS then me+friend [0:∅:3s]=
    yáugùt+chàn-thâu gigáu á+jâu+dè 0=
    second+arrive-FUT and SS then his+male’s sister+his [0:∅:3s]=
    hòn+chàn-thâu last+arrive-FUT
    ‘I’ll get there first and then my friend will get there next and then his sister will get there last.’
   b. à= tháum+chàn-thâu negáu nàu+côm 0=
    [0:∅:1s]= first+arrive-FUT and DS then me+friend [0:∅:3s]=
    yáugùt+chàn-thâu negáu á+jâu+dè 0=
    second+arrive-FUT and DS then his+male’s sister+his [0:∅:3s]=
    hòn+chàn-thâu last+arrive-FUT

2In the United States, the Governors of the individual states can pardon prisoners and commute sentences within their own state.
Non-canonical switch-reference and situation semantics

‘I’ll get there first and then my friend will get there next and then his sister will get there last.’

She commented that you would say (11a) if you were talking about or making a plan. I asked what it would mean if we replaced SS-marking with DS-marking (to get (11b)), and she commented that in that case you would simply be stating what will happen. In (11a), everyone is doing the same thing, but SR doesn’t depend on what the people are doing; for instance, if one person stays in Carnegie while the others go to Norman, you can still say (12):


‘I will stay in Carnegie and you two will go to Norman.’

In light of our hypothesis that NC-SR pivots are topic situations, we can say that non-canonical SS marking signals that the conjoined propositions are true of the same situation.

3.2 Can parts of a situation be linked by coherence?

If these propositions are true of the same situation, and a situation is by definition some part of the world, what part of the world are we talking about? The usual conception is a spatio-temporal one, but letter-writing can take place at different times in different places. What is holding these together?

The fact that NC-SR appears in ‘plans’ is our clue. Poesio (1993) shows that plans are situations by using them as resource situations to restrict uniqueness operators in definite descriptions. When we say “the cat,” we do not mean that there is one unique cat in the world. Instead, we are saying that there is a unique cat in the situation. Situations allow us to maintain the old Russellian conception of definites as denoting uniqueness. Poesio shows that definite descriptions are used to refer to items identifiable only by their role in the plan.

(13) (Based on Poesio 1993:5)
A: We have to ship a ton of bananas from Los Angeles to Fresno by Tuesday, but our delivery people are on strike.
B: No problem. We’ll get [a truck] drive it to LA, load up a ton of bananas, and hurry up to Fresno.
A: Yeah, but who’s gonna drive [the truck]?

In this example, speaker A refers to ‘the truck’, but doesn’t need to know what truck it will be, or even whether it exists in the actual world (maybe it needs to be built first). Yet, it is referred to as unique, because it is unique in the plan.

To this we can add Bennett’s argument (as reported in von Fintel (2005)) that events can be held together by coherence, not spatio-temporal contiguity. Again, definite descriptions diagnose this. Take the expression ‘the winner’. This denotes the unique person
winning a certain event (The unique winner in s). The event need not be spatio-temporally contiguous. To take a real-life example: On February 28, 2007, a football match between Sevilla and Real Betis was halted when a Betis fan threw a bottle and hit the Sevilla coach in the head, rendering him unconscious. As part of Betis’s punishment, the rest of the match was held a month later in the distant city of Getafe. No one scored in the second ‘part’ of the match, but Sevilla was already ahead, and so can rightfully be called the winner (in s), where s is this non-contiguous match.

3.3 Further points to investigate

The Kiowa examples presented here mark non-canonical SS, and show that different times and places can still be involved in the same situation. But they still involve some kind of nearness in time (at least they imply it). I was unable to elicit examples involving long-term plans; the question in the back of my mind was ‘Can long term-plans trigger non-canonical SS-marking? More testing is needed in order to be absolutely certain that the only thing that is the same in these clauses is the topic situation itself. But in the meantime, looking at other languages lends additional support to the hypothesis.

4. Other languages with non-canonical SR

As mentioned earlier, two delimiting properties of a situation are time and space (see Barwise and Etchemendy (1987)). A proposition is true in a topic situation. If you change the time or place, you get a new topic situation, of which that same proposition might be false. One language where SR is clearly sensitive to time and place is Amele (Stirling 1993, p. 113), spoken in Papua New Guinea.

(14) Time:
   Eu 1977 jagel November na odo-co-b cul-i-gen
   that 1977 month November in do-DS-3s leave-1p-3s.RemPst
   ‘That was in Nov. 1977 that he did that and then he left it for us.’

(15) Place:
   Age ceta gul-do-co-bil li bahim na tac-ein
   3pl yam carry-3s-DS-3pl go-Pred floor on fill-3Pl.RemotePast
   ‘They carried the yams on their shoulders and went and filled up the yam store.’

NC-SR is also sensitive to time and space in Lakhota (Dahlstrom 1982) and Pitjantjatjara (Bowe 1990). These occurrences are often described by speakers as some kind of change in scene.

This is also the feeling given by Kiowa speakers for NC-SR; Some ineffable change is being relayed. Here is an example of ‘scene-changing’ from a story in Palmer, Jr. (2003) about a deer-hunting party.
Non-canonical switch-reference and situation semantics

(16) gígáu ₀= jō-gà, “óp á= əl-è
  and SS. then [3s:3s]= say-PF there [3p:3s]= chase-PF
  ‘And then [Grandfather] said, “They₁ chased them₂ over there”’

(17) nègáu  óp jú=chó  á= əl-è
     and DS. then there like.this=instead [3p:3s]= chase-PF
     ‘“And then they₁ chased it this way’, he said.

What is being marked is a shift in action from chasing the many deer in one direction to chasing a single deer in a different direction. It’s as if we’ve changed scenes; this is being marked by NC-SR. In terms of our hypothesis, the SR is being used to mark that we have changed topic situations; we are talking about a different part of the world.

5. Improvement over previous accounts

Previous accounts of SR have only addressed half of the phenomenon of SR. There are two main approaches to the problem: Formal and functional.

5.1 Formal approach: SR is a pronominal

The formal approach (Finer 1984, Broadwell 1997) focuses on the co-reference properties of SR. Under these accounts, SR is an Ə-pronominal fused with C, co-indexed to the subject via T₀, and subject to the Binding Theory. This approach is quite elegant, but it misses half the phenomenon. First, it predicts (and requires) that SR occur only in subordinate contexts. We have seen counter-examples to this throughout this paper. Second, it does not account for non-canonical SR, because it ties the denotation of the proposed SR pronominal to whatever is in the specifier position of TP. Third, it predicts that SR is obligatory. In Kiowa, the morphemes that do mark SR must mark it. But speakers have the option of using non-SR connectives, or no connectives at all. More crucially, some languages allow full optionality of SR-marking.

One such language is Choctaw (Muskogean, USA). (Broadwell 2006, 299) cites an example first pointed out by Lynn Gordon (1987). Choctaw relative clauses can be SR marked, but do not need to be. In (18a), the SR marker is used (and must be DS), while in (18b), the case marker is used to mark the relative clause’s role in the matrix predicate.

    dog feed=1SI-TNS-PREV-DS run-PART go:away-TNS
    ‘That dog I fed ran away.

    dog feed=1SI-TNS-PREV-NOM run-PART go:away-TNS
    ‘That dog I fed ran away.

It is clear from these examples that the formal binding approach is not adequate.³

³The binding approach is also incompatible with what McKenzie (2007) calls non-local SR; SR
5.2 Functional approach: SR is event anaphora

Stirling (1993) argues for a functional approach by examining the pivots of SR, especially non-canonical SR. For Stirling, SR marks agreement between clauses, by expressing whether their eventualites share values along certain parameters:

a) Protagonist (Agent)

b) Spatio-temporal Location

c) Actuality (whether the eventuality takes place in the actual world or not.)

If all three parameters agree, we get SS-marking. If any of them don’t, then DS-marking is obligatory.

This account improves on the formal approach by taking NC-SR into account. However, it too misses part of the problem. It adequately describes the Amele data Stirling was focusing on, but predicts that NC-SS marking is impossible.

We have seen NC-SS throughout the Kiowa data. For example, let’s recall our letter-writing example.

(9a) Kathryn gà= gút gàu \textit{and}.SS Esther=àl gà= gút.
K. \textit{[3s:3p]}\textit{write.PF and.SS }E.=\textit{too }\textit{[3s:3p] write.PF}

‘Kathryn wrote a letter and Esther wrote one too.’

According to Stirling’s system, SS marking would ensue only if the two pivots matched on all three parameters. The table in (19) shows that this is not the case – the two protagonists differ. Her system would predict obligatory DS-marking.

(19) Eventuality index parameters:

\begin{itemize}
  \item Protagonist(\(e_1\)) \(\neq\) Protagonist(\(e_2\))
  \item Location(\(e_1\)) \(\approx\) Location(\(e_2\))
  \item Actuality(\(e_1\)) \(\approx\) Actuality(\(e_2\))
\end{itemize}

\[\rightarrow \text{DS-marking!! } (e_4 \neq e_2)\]

A second point is that this account does not account for the configurational difference. Stirling lumps together the protagonist (our ‘highest argument’) with the other factors related to the eventuality. It cannot therefore explain why those two parameters are systematically ignored in subordinate contexts.

Third, Stirling proposes that SR’s meaning is expressed as an anaphoric condition (\(e_1 = e_2\)) that is launched into the discourse structure. However, nothing seems to restrict this anaphora to an adjacent clause, a feature found in SR systems.

\[\text{across sentential boundaries. Incidentally, non-local SR is restricted to coordinate contexts just like non-canonical SR is.}\]
6. Conclusion

To summarize the argument:

1. SR-pivots are situations. Therefore, SR marks the identity or distinction of two situations.

2. Canonically, these pivots are individuals, which are considered situations.

3. Non-canonically, pivots are topic situations.

4. (Most if not all) Subordinate clauses do not contain topic situations, ruling out NC-SR in embedded configurations.

Each of the previous approaches to switch-reference only deal with half of the problem. Finer and Broadwell only deal with subordinate SR, while Stirling mainly deals with coordinate SR in Amele. The present account shows that looking at the whole phenomenon allows for generalizations that lead to a new and more complete analysis. Studying non-canonical SR also provides a useful line of inquiry to examine the role of topic situations in the grammar.

References


Andrew McKenzie


226 South College
150 Hicks Way
Amherst, MA 01003

armckenz@linguist.umass.edu
http://people.umass.edu/armckenz