

Switch-reference and event cohesion

Andrew McKenzie

This chapter considers some of the ways that grammars encode how speakers build discourse structures larger than sentences, focusing on switch-reference systems. Canonically these indicate that the clauses share subjects, but findings in many North American languages show that switch-reference indicates various kinds of event cohesion as well. The chapter also discusses different clause types that switch-reference can be found with and how those types affect the kinds of cohesion available. Finally, it compares switch-reference to a number of phenomena that have been linked to it over the years.

1. Introduction

Most grammatical study emphasizes how clauses and sentences are built, but people do not generally utter sentences in isolation. Rather, we situate sentences as part of a larger conversation (or discourse) between speech participants. In the course of a conversation, we will link certain sentences together as involving the same theme, event, or topic— that is, how much cohesion they have. We also set other sentences as distinct from one another. Adverbials like *then* or *while* fulfill this purpose, but in many of the languages of the world, specific forms in the grammar provide speakers with the means to indicate cohesion across clauses.

In the languages of North America, one very common form that marks cohesion is called switch-reference, which usually indicates that the two clauses have the same grammatical subject or different subjects. For instance, in Kiowa (Kiowa-Tanoan), the connective meaning ‘when’ has forms that indicate switch-reference (SR). The form in (1a) indicates that the clauses share the ‘same subject (SS)’, and the form in (1b) indicates they each have a ‘different subject (DS)’.¹

- (1) a. *tôy* *à=hé:bà=tsè:* *ém=bó:*
house.in 1SG=enter.PFV=**when.SS** 1SG>2SG=see.PFV
‘When I went into the house, I saw you.’
- b. *tôy* *à=hé:bà=è:* *é=bó:*
house.in 1SG=enter.PFV=**when.DS** 2SG>1SG=see.PFV
‘When I went into the house, you saw me.’
Kiowa (author’s field notes, ex. from Christina Simmons)

SR markers are not usually translated, since English and other European languages lack them. However, their use is crucial for fluent conversation in the languages they appear in, so care must be taken to document and understand them.

2. Cohesion via role identity

When thinking about cohesion, we want to keep in mind exactly what is being held as cohesive. It is typically held that a marker of cohesion actually indicates some kind of semantic identity across clauses.

¹ Glossing conventions follow Leipzig rules, with the following additions and clarifications: !: surprise, A: agent, D: dative/applicative argument, DECL: declarative mood, DS: different subject/situation, DUR: durative, EVID: indirect evidentiality, EXP: personal experience evidential, H: h-grade aspect, INDIC: indicative mood, IRR: irrealis mood, MV: middle voice, OBL: oblique, OR: open reference, PMA: perfective, male addressee, PREV: previously mentioned, PTCP: participle, S: subject, SEQ, sequential in time, SIM: simultaneous, SPEC: specific, SS: same subject/situation. Some glosses from various sources have been adjusted for clarity or to standardized abbreviations.

That is, the same particular role in each clause is fulfilled by the same real-world object.² A marker of non-cohesion actually indicates some kind of semantic non-identity across clauses; the same role is fulfilled by different real-world objects. Thus, in (2), the *-ku* suffix in Tümpisa Shoshone (Numic) indicates that the two clauses' time arguments are filled by the same interval in time (SIM), while *-ka/ha* indicates two distinct intervals (3):

- (2) a. *ümake tammü kahni kuppa weekikkwantu'ih*
 rain-SIM.DS we.INCL house in enter.PL-going to
 'When it rains, we're going to go in the house.'
 b. the time of it raining = the time of us going into the house
- (3) a. *Nümmü [tatsa naakkiha] nümmü supe toya mantu mi'a*
 we.EXCL we.INCL get-SEQ.DS in there mountain to go
 When [=after] it gets summer, we go there to the mountains.'
 Tümpisa Shoshone (Dayley 1989: 347-8)
 b. the time of it getting summer ≠ the time of us going to the mountains

When we consider cohesion across clauses in terms of identity of a particular role-filling item, we can try to organize these markers based on the roles, and we observe that usually, different kinds of semantic objects fill different roles.

2.1 Subject identity

A common form of cohesion across clauses involves subject identity. For instance, in some subordinate clauses in Chickasaw (Muskogean) the *-t* suffix indicates that the subject of the main clause is the same as the subject of the subordinate clause. The nasal-vowel suffix *-ĩ* indicates that the subjects are distinct. This bivalent marker is called switch-reference, and in (4) it is the only overt difference between the two sentences.

- (4) a. *Amposhi' achifa-kmat kashooch-a'ni*
 dish wash-if:SS dry-can
 'if she₁ washes the dishes she₁ can dry them'
- b. *Amposhi' achifa-kmã kashooch-a'ni*
 dish wash-if:DS dry-can
 'if she₁ washes the dishes she_{2/*1} can dry them'
 Chickasaw (Munro 2017: 122)

Switch-reference was first named by Jacobsen (1967) when describing the Washo (Isolate) and Tonkawa (Isolate) languages, and it was swiftly found in dozens of other languages in North America and then around the world (Austin, 1981; Haiman & Munro, 1983; Roberts, 1997; McKenzie, 2015; van Gijn, 2016). Many American languages allow arguments to be unexpressed; sentences might just consist of a verb. Because of this, switch-reference can tell listeners who is doing what when there are two people involved. For instance, the Crow (Siouan) sentence *uá dappéék* can mean that someone killed his wife, or that his wife killed someone. In a sentence with SR, this important distinction becomes clear.

² If one is talking about unreal situations or hypotheticals, these 'real-world' objects might also be hypothetical.

- (5) a. *bachée-sh húu-laa uá Ø-Ø-dappeé-k*
 man-DET come-SS his:wife 3O-3A-kill-DECL
 ‘The man came and killed his wife.’
- b. *bachée-sh húu-m uá Ø-Ø-dappeé-k*
 man-DET come-DS his:wife 3O-3A-kill-DECL
 ‘The man came and his wife killed him.’
 Crow (Graczyk 2007: 417)

This effect can be very helpful in a narration. In the following excerpt from a Kiowa story, seven consecutive sentences (b-g) start with an SR-marker. Each marker helps listeners understand the action, since the subject is not expressed verbally in any of them, and the overt nouns are not case-marked.

- (6) a. *pólá:tè tsê: á=p'óy-hyèl ... t'ók'h'óy+k'i: món á=pò:dó:*
 Poolant horse 3SS>3SD=be lost-EVID White+man probably 3SA>3SO>3SD=care for
 ‘Poolant had lost a horse ... a White man must have been watching it for him.’
- b. *nò hóndé?+t^hà:lyì: Ø=pò:+k^hó:+tòl-hèl*
and:DS some+boy 3SA>3SO=bring+get+send-EVID
 ‘So he sent a boy to bring it back.’ (DS → Poolant)
- c. *nò món Ø=ó:gyá+tò:*
and:DS probably 3SS=refuse to relinquish+act.PFV
 ‘But he refused to give the horse up.’ (DS → the White man)
- d. *nò hégó ǰ:gò gyà=ây-hyèl*
and:DS then SELF 3SA>3PO=start.off-EVID
 ‘So then he went to get it himself.’ (DS → Poolant)
- e. *gò món háyá t'ók'h'óy+k'i: mó: Ø=éppáté:+dò:pè:*
and:SS probably somehow White+man somewhat 3SA>3SO=with force+ask.PFV
 ‘He must have somehow tried to coerce the White man a bit. (SS → Poolant)
- f. *nò hégó món Ø=sǰò:dè*
and:DS then probably 3SS=become angry.PFV
 ‘and then he got angry’ (DS → the White man)
- g. *gìgò Ø=t^hótè-hèl gò Ø=hól-hèl*
and:SS|then 3SA>3SO=shoot-EVID **and:SS** 3SA>3SO=kill-EVID
 ‘and shot him and killed him’ (SS → the White man)
 Kiowa (P. McKenzie n.d. “Poolant’s Killing”)

Switch-reference is very common in North America and will form the focus of the rest of this chapter. We will see how it interacts with other expressions of cohesion, and how it often ignores subjects in favor of vaguer forms of cohesion.

2.2 Events and times

Switch-reference in many languages can ignore subjects altogether, to mark a continuity between the events of the clause rather than the subject. This is sometimes called ‘non-canonical switch-reference.’ Watkins (1993) finds that in Kiowa, SS marking can be used with different subjects when the two events are linked.

- (7) a. *Kathryn g'á=gút gò Esther=àl g'á=gút*
 K. 3sA>3PO=write.PFV **and:SS** E.=also 3sA>3PO=write.PFV

- ‘Kathryn wrote a letter and Esther wrote one, too.’
- b. *Kathryn gʷà=gút nɔ̃ Esther=àl gʷà=gút*
 K. 3sA>3PO=write.PFV **and:DS** E.=also 3sA>3PO=write.PFV
 ‘Kathryn wrote a letter and Esther wrote one, too.’
 Kiowa (Watkins 1993: 149)

McKenzie (2012) investigates this link and reports that speakers like (7a) if for instance the letters are being talked about as parts of a campaign under discussion, like writing the governor to pardon a particular person. If there is no such campaign, or even if there is, but it is not significant to the discussion, then DS marking is chosen (7b).

DS marking can also indicate that the events being described are distinct, even if the clauses’ subjects are identical.

- (8) *mazop^hiyeta wa’i yũk^hã c^huwe wãblake*
 store-to 1.go **and:DS** sister 1.see
 ‘I went to the store and I saw my sister.’
 Lakota (Siouan | lkt) (Dahlstrom 1982: 73)

In the terms we use here, we can say that these cases involve ordinary switch-reference, but with an event or situation as the locus of cohesion instead of the subject. Events and situations are real-world objects that we can describe or refer to with anaphora. Events can be verb arguments, and they can be related to each other as identical or not. SS marking in cases like these indicates that the event (or situation) that the first clause describes is the same event as the event that the second clause describes. DS marking indicates that the clauses describe different events or situations that are not being joined in this sentence. In (7a), the speaker chooses the same event and applies the two sentences to it; the letter-writings are parts of that event. In (7b), the speaker chooses each letter-writing event separately. This choice is schematized in Figure 1.

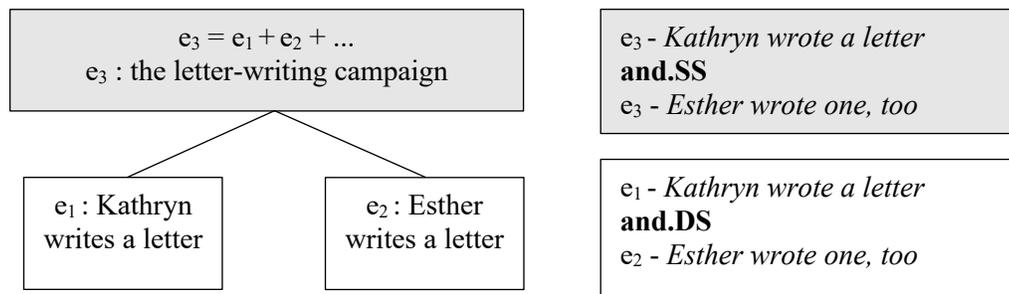


Figure 1. Speaker’s choice of event continuity and its effect on SR marking.

It can be hard for investigators to ‘see’ what the difference is between these choices, but native speakers clearly distinguish them.

Another use of SS in this way is to ‘zoom in’ on a scene. In (9), the boy looks over at the campsite, and the events he sees are linked by SS.

- (9) *chiláakshe shikáakee-sh asall-ák kuss-ikaa-lee-m ashé ah-ak*
 morning boy-DET go out.SS GOAL-look-!-**DS** lodge many-**SS**
- bilaxpáake chiwakálaa-(a)k dahkú-m*
 people go back and forth-**SS** continue-**DS**

‘in the morning the boy went out, he looked in the direction of [the old campsite], and to his surprise, there were lots of lodges, and people going back and forth.’
Crow (Graczyk 2007: 415)

Mithun (1993) notes that the Central Pomo (Pomoan) sentence (10), uttered as part of a legal discussion, describes two clauses “packaged as a single event explaining the lack of documents, even though their subjects were different.”

- (10) *mu:l* *ʔe* *k^he* *pápil=ʔel* *s-ts’á-ba* *čalél*
 that COPULA 1.OBL paper=the with.liquid-destroyed-**and:SS** just
- ʔa: *qów=mča-w=ʔk^he* *č’o-č=ya*
 1A out=throw-PFV=FUT happen-SEMELFACTIVE=EXP
 ‘My papers got wet and I just had to throw them away’
 Central Pomo (Mithun 1993: 132)

In narratives, DS marking can indicate the boundary between two episodes in a story, as exemplified in (11). DS links two clauses with the same subject but marks the story’s boundary between the landing and the traveling. Once the second part begins, SS marking links his actions.

- (11) *kipxeak* *kirąterį* *kasi:wįowąkoʔš* *kirųwąʔkšis*
ki-pxe-ak *ki-rątE-rį* *ka-si:-wį-o:wąk-oʔš* *ki-rųwąʔk-šis*
 MV-land-**DS** MV-get up-**SS** INCEPTIVE-travel-PROG-NPST-PMA ?-man-good-DEF
 ‘Coyote landed, got up, and started traveling.’
 Mandan (Mixco 1997:248)

It can be difficult to determine what drives speakers to choose to describe one event or two when linking two clauses. Pustet (2013) quantitatively analyzes the use of SR in Lakota narratives, finding that subject identity, identity of the event’s time, contrast, and probability all play a role in choosing SS or DS. Mithun (2020) discusses similar factors playing roles in Pomoan languages, along with possible routes of the markers’ origins.

3. Additional morphology of switch-reference

This section discusses some of the morphology of switch-reference in more detail, focusing on the general traits one can expect to find if it is present in a language.

3.1 Diagnosing switch-reference

Switch-reference (SR) markers can be diagnosed as such if they have all of the following features, based on McKenzie (2015: 418).

1. They occur at or near a clause juncture, including coordination or subordination.
2. They have two values in a complementary pair, such that the forms have identical meanings except for their SR value.
3. The SR value depends solely on the reference of the subject or prominent argument of each joined clause.

The complementary forms are known as ‘same subject’ and ‘different subject’ forms, or SS and DS. Some of these pairs are shown in Table 1. Notably, the SS/DS abbreviations are used even when the prominent argument is not the subject.

Table 1. Complementary pairs of SR markers

Language	SS	DS
Choctaw (Muskogean cho)	<i>-t</i>	<i>-ʎ</i> (<i>nasal vowel</i>)
Mojave (Yuman mov)	<i>-k</i>	<i>-m</i>
Crow	<i>-laa</i>	<i>-m</i>
Tohono O’odham (Piman ood)	<i>c</i>	<i>ku</i>

Not all SR morphemes have all three properties on this list. For instance, a handful of languages only have a DS form, like Washo *-š*. No language has been observed to have only SS forms. Some languages have what researchers call “open reference” (OR), where the SS form can only occur with same subjects, while an ‘open’ form can be used with same or different subjects. One such language is Northern Pomo (Pomoan), where *-(e)n* is SS (12a), but *-da* is open reference (12b-c).

- (12) a. *ša-nam maʔa-n man mo:wal baʔol-e*
 fish-SPEC eat-SS 3S.FEM 3S.MASC call-PRES
 ‘While she₁ ate the fish she_{1/*2} called him.’
 Northern Pomo (O’Connor 1993:231)
- b. *ša-nam maʔa-da man mo:wal baʔol-e*
 fish-SPEC eat-DS 3S.FEM 3S.MASC call-PRES
 ‘She₁ vomited because she_{2/*1} ate the fish.’
 Northern Pomo (O’Connor 1993:231)
- c. *tiyi ša-nam maʔa-kan ma:dal yat-ye*
 logophor fish-dET eat-BECAUSE.OR 3S.FEM.PAT vomit-PAST
 ‘She₁ vomited because she₁ ate the fish.’
 Northern Pomo (O’Connor 1993:232)

Most SR morphemes do have all the features on this list. For cases where not all of them are met, if a morpheme has two out of three of the features, it is likely switch-reference (see McKenzie (2015) for more details).

Many languages have multiple forms of SR markers, such as Kiowa, whose SR markers are fused with different connectives (Table 2). Each set of SR markers forms a complementary pair. The first two are sentential conjunctions, and the second two are adverbial subordinators.

Table 2. Kiowa SR forms (Watkins 1984: 236)

	SS	DS
‘and’	<i>gò</i>	<i>nò</i>
‘and’	<i>k’òt</i>	<i>òt</i>
‘when’	<i>=tsè:</i>	<i>=è:</i>
‘if, as’	<i>=gò</i>	<i>=nò</i>

3.2. Fusion with other morphemes

SR markers in many languages fuse with another morpheme, creating a portmanteau. The SR markers thus seem to indicate two or more things at once. We saw this with Kiowa in the previous section, where the SR marker also indicates some sentential connection. As linguists we often will separate the SR meaning from the other meaning in our analysis, the way we often do with fused tense, aspect, or mood markers, because phenomena like temporal connectives or conjunctions operate independently from indications of reference.

In Chemehuevi (Numic), the SR markers also indicate simultaneity or sequentiality. Between those two values, and the SS/DS pair, the language has four distinct markers of SR (Table 3).

Table 3. Chemehuevi SR markers (Press 1979:108)

	SS	DS
same event time (SIM)	-ga(i)	-g(u)
different event time (SEQ)	-c(i)	-k(a)

The Chemehuevi case is also interesting because it demonstrates how tricky it can be to rely on linguistic descriptions without further investigation. Linguists over the years have used the same terms in different ways, and that difference can cause confusion to a reader in our time. In the case of Chemehuevi, Press (1979) does not use term ‘switch-reference’, but simply states that some adverbial clause markers depend on whether the subject is the same as that of the main clause. We also see that the marker appears at a clause boundary, occurs in a complementary pair, and indicates subject identity or non-identity. These are all signs of switch-reference, so we can consider it as SR, even if the author did not.

When we consider the description of the time relation in the SR markers, we also must take care. Press (1979: 108) describes the same time (SIM) SR markers as contemporaneous due to being durative, and different time (SEQ) markers as momentaneous (which leads to a sequential reading). However, Press then states that the ‘momentaneous’ markers “refer to antecedent actions”— things that had previously occurred. Press claims that these adverbial markers also indicate whether or not the clauses’ ‘tense’ matches, but this cannot be the case, as Press points out elsewhere that Chemehuevi subordinating clauses are not marked at all for tense and are interpreted with the tense of the main clause (13). The clauses therefore always have the same tense, so “different tense” marker could not be used here. We can see from the description that the marker indicates that the clauses’ *event times* are distinct. They are non-contemporaneous, as one occurs after the other is complete.

- (13) *Ann ijapaka-c tirawai?i-kwai-vi*
 Ann be scared-SS.SEQ dash-away-PAST
 ‘Ann got scared and ran away.’
 Chemehuevi (Press 1979: 108)

This discussion is not intended to cast doubt or aspersions on previous work, but to warn readers about encountering terminology. Modern usage of the term *tense* usually does not apply to the event time (when the action actually happens) but rather to the topic or reference time (the time frame the sentence is about). However, this usage did not become widespread until after much of the descriptive literature was already published, including the description of Chemehuevi. When examining a language’s reference materials, a reader should keep this usage difference in mind.

3.3 Where switch-reference is found

Switch-reference is found in languages in many parts of North America. McKenzie (2015) finds SR in nearly 70 languages and dialects in indigenous languages of the US and northern Mexico. Many language groups lack it altogether, notably the Algonquian, Iroquoian, and the Athapaskan groups. In many language groups, virtually every language has it, including the Numic, Yuman, and Muskogean groups.

However, one of SR’s interesting features worldwide is that it spreads through contact from one language to its neighbors (Austin 1981). In North America, this kind of diffusion explains why many

language families have one or a few members that use SR, while the rest do not. Among the Siouan languages, for instance, languages whose speakers were in contact with speakers of SR languages often came to have SR, including Crow in the North (near Numic communities) and Biloxi in the south (near Muskogean communities). However, those that were not in such contact never adopted it, like Osage or Kansa. Kiowa is an even more striking case, for it is the only Kiowa-Tanoan language with SR, having changed from close contact with the Crow and the Comanche, who both speak SR languages.

Another consequence of areal diffusion is that we cannot assume that a language has SR forms or does not simply based on the languages related to it. On the other hand, the presence of SR markers can reveal interesting pieces of a language's history (Mithun 2020).

4 Switch-reference with subordination

Switch-reference frequently occurs with subordinate clauses. The SR marker appears at the end of the subordinate clause, usually attached to or fused with the subordinating connective. It and relates its subject to the subject of the main clause: SS if the subjects are identical and DS if they are not. In this section's examples, subordinate clauses are enclosed within [square brackets].

- (14) *Puhakantiin puuhawinna [ung kamma-ku]*
 shaman cure you.ACC be sick-when.DS
 'The shaman cures you when you're sick'
 Tümpisa Shoshone (Dayley 1989: 348)

If there are multiple subordinate clauses in a single sentence, each clause's SR marker compares its subject to the main clause subject, not to that of any adjacent subordinate clause. (

- (15) [*'iipaa-ny-sh nya-vaa-k*]_A [*'ayuu 'rav-m*]_B *ny-wik-k*
 man-DET-NOM when-come-SS something 1-rav-DS 3>1-help-ASPECT
 'When the man came, he helped me because I was sick.'
 Maricopa (Yuman) (Gordon 1983:98)

4.1

Adjunct clauses

Switch-reference is commonly found with adverbial clauses, subordinate clauses that modify the event of the main verb. These include when-clauses, if-clauses, and as- clauses.

- (16) *nya-avač+ku:ʔe:-kum ah^wer-k*
 when-arrive.PL+poor.PL-DS fence in-SS
 'When the [poor] parents had a chance to come in, they [the Whites] had fenced the place off'
 Mojave (Powskey et al., 1980)
- (17) *Tiballichi-li-kmā am-anooli-h*
 err-1S-if:DS 1SD-tell-TENSE
 'If I make a mistake, tell me.'
 Choctaw (Broadwell 2006:292)

- (18) *qwaloyawa 'nwirk-k 'wu-m [ssah-a 'um-t-m]*

chicken 1>3-cook-SS 1-do-IPFV spoil-IRR NEG-while-**DS**
 ‘I cooked the chicken before it spoiled.’
 Tolkapaya Yavapai (Yuman) (Hardy & Gordon 1980:185)

4.2 Complement clauses

Complement clauses are arguments to the verb, usually a verb expressing a mental state like *think* or *know*, or a verbal action like *say* or *tell*. SR can occur with complement clauses in some languages, though not very often.

- (19) *Lynn-at ik-ikháan-o-h [iy-aachĩ-ka-t]*
 Lynn-NOM agr-KNOW-NEG-TENSE go-IRR-COMP-**SS**
 ‘Lynn does not know that she will go’
 Choctaw (Broadwell 2006: 271)

4.3 Relative clauses

It is uncommon for relative clauses to bear SR marking, but it does occur. Choctaw and Chickasaw permit SR marking to be used in place of the case-marking that the relative clause normally bears.

- (20) [*Ofi’ ipiita-li-k-aash-mã*] *balii-t kaniiya-h*
 dog feed-1S-TENSE-PREV-**DEM.DS** run-PTCP go away-TENSE
 ‘The dog that I fed ran away’
 Choctaw (Broadwell 2006:299)

- (21) [*Ofi’ ipita-li-kaash-oot*] *isso-li-tok*
 dog feed-1S-PREV-**FOCUS.SS** hit-1S-PAST
 ‘I hit the dog I fed’
 Chickasaw (Gordon & Munro 2017:13)

Washo employs DS marking with internally-headed relative clauses.

- (22) *k’ák’a? dá: Ø-gé:gel-i-š-ge Ø-yá:m-a?*
 heron there 3-sit-IPFV-**DS-3O** 3-speak to-AORIST
 ‘She spoke to a heron who was sitting there.’
 Washo (Peachey 2006:7)

It is not yet known why SR appears so much more frequently with adverbial clauses than with complement or relative clauses, or why any particular language employs SR on one type but not another.

5. Switch-reference with other clause types

Switch-reference is not restricted to the juncture of subordinate clauses to main clauses. It occurs in many languages in coordinating constructions, and its properties in those cases differs slightly from those of SR with subordination. It also occurs with clause-chains, where its properties again differ slightly.

5.1 Sentential coordination

A good number of languages use SR with sentential coordination, where two complete sentences are joined together. The SR marker is fused with the conjunction.

- (23) *píteli?* *yát'umuwa?*-*a?* *?*-*i-š-da* *géwe* *ge?**išúwam-i-da*
 lizard go down in-AORIST X-IPFV-DS-LOC Coyote pursue him-IPFV-DS
 'The lizard went in and then Coyote pursued him and. . .'
 Washo (Jacobsen 1967)

Coordination contrasts with subordination in several ways. With coordination, the SR markers appear at the beginning of the clause (clause-initial) attached to the conjunction, while with subordination they appear at the end of the clause (clause-final) near the subordinating morpheme. The subject of a coordinated SR clause is compared with the previous clause that it is coordinated with, and there is no skipping of main clauses (see (6)). Also, coordination allows for non-canonical SR in many languages (7a), but subordinating SR is strictly canonical.

5.2 Clause-chaining

Many languages use switch-reference with clause chains. Clause-chaining is a type of clause linking where a series of incomplete 'medial' clauses are chained one after another and capped off by a main 'final' clause.

- (24) *?**a:* *čáw=yó-ba* *máti* *?*-*č^há:-č-ba* *ma?**á* *qa:-yú?**č'i-w*
 1A in=go-SS down by gravity-sit-INCH-SS food biting-begin-PFV
 'I came into the house, (I) sat down, and (I) started to eat.'
 Central Pomo (Mithun 1993:121)

Clause-chains skirt the line between subordination and coordination. Clause-chaining behaves like subordination in many ways. A chained clause's tense and aspect are determined by the main clause. In a sentence with a long chain of clauses, all of their tense and aspect values depend on those of the main clause. However, chained clauses also behave like coordination in many ways. For instance, anaphora proceeds in a linear fashion, rather than from main clause to subordinate. Since their clause structure is distinct from coordination and subordination, chained structures are translated into English as coordinations, subordinations, or other structures altogether, as we can see in (25).

- (25) a. *servees* *me-si-x-pu* *m-aa-**chm*** *uuyaaw*
 beer 2-drink-IRR-DEM 2-go-**DS** know
 'I know you went there to drink beer'
- b. *w-amp-**ch*** *'al'al-**ch*** *w-aam-s*
 3-walk-SS wobble-SS 3-go away-EMPHATIC
 'He staggered away'
- c. *chaw-k* *uuyaaw-x*
 fix-IRR.SS know-IRR
 'I will find out how to fix it (or, I will know how and I will fix it)'
 Jamul Tiipay (Yuman) (Miller 2001:240)
- d. *isti* *hamk-**ín*** *facci:ca-n* *háhy-i:-t*
 person one-**DS** judge-ACC make.H-AGR-SS
 'We'll make one person the judge...'

Creek (Muskogean) (Martin 2011:315)

With SR, clause-chains skirt the line as well. An SR marker appears at the end of the chained clause, as it would in a subordinate clause. However, SR's meaning behaves like it does with coordination, in that it compares the medial clause to the next one, whether it is another chained clause or the main clause. Also, SR can be non-canonical with clause-chains, like it can with coordination.

5.3 Pro-verbs

Another structure that carries SR is the pro-verb. A pro-verb is a verb linking two sentences together, and which stands in place of the main verb of the first of the two sentences. The Tonkawa example (26) demonstrates this effect. The two sentences are linked by the verb translated as *do so*, which bears the SR marker.

- (26) hostaxso:n xilipa:nanoklaknoʔo ha:ʔako:nwa:ʔa:la.
 in the morning he always went out hunting.EVID that man
- ʔe:lʔila ʔaweykak k^wa:lowkak ya:lo:nanklaknoʔo
he so doing.SS many deer big ones he always killed them.EVID
 ‘That man went out hunting every morning, it is said. So doing, he always killed
 many big deer, it is said.’
 Tonkawa (Hoijer 1949: 43)

Muskogean languages routinely use pro-verbs in discourse. For instance, the Creek verb *mom* ‘be so’ is used to link two sentences, often in narratives.

- (27) a. *isti* *hámk-it* *inókk-i:-t* *wá:kk-ati:-s*
 person one-NOM sick-DUR-SS lie.SG-HISTPST-IND
 ‘A man lay sick.’
- b. *mo:m-ít* *i-heywa* *ó:c-i:-t* *ô:m-ati:-s*
 be so-SS one-NOM exist-DUR-SS be.SG-HISTPST-IND
 ‘And he had a wife.’
- c. *mo:m-ít* *hatâm* *ifá-n* *sólk-i:-n* *ó:c-i:-t* *ô:m-ati:-s*
 be so-SS again dog-ACC many-DUR-DS exist-DUR-SS be.SG-HISTPST-IND
 ‘And he also had many dogs’
 Creek (Martin 2011: 354--355)

Pro-verbs are used in languages that do not have SR on coordinating conjunctions. SR on coordinating conjunctions occurs at the start of its sentence, allowing a link to previous sentences. SR on subordinate or chained clauses is clause-final, so that link is not really feasible. It is thus likely that the use of pro-verbs offers a strategy that allows a switch-reference effect between main clauses in languages whose grammar only allows it between a main and subordinate or chained clause.

6 Other structures

This section discusses a few other methods of indicating coherence across sentences. These methods are sometimes linked to switch-reference, and sometimes described as switch-reference, but they do not meet the diagnostic criteria for it.

6.1 Obviation

Obviation is a distinct system of grammar that is widely found in some regions and language families, marking arguments based on their relative discourse prominence. Obviation has been linked to switch-reference on multiple occasions (Hale 1992; Wichmann 2007; Muehlbauer 2012), because it indicates a kind of cohesion throughout a discourse. However, obviation is a distinct system with several differences from SR, with its own mechanisms. These differences are summarized in Table 4. More obviously, there exist languages with both obviation and switch-reference, like Hopi (Uto-Aztec) (Hale 1992).

Table 4. Comparison of switch-reference and obviation

property	SR	obviation
1. at clause juncture	yes	no
2. occurs in complementary pair	yes	yes
3. depends on reference	yes	no
marked on nouns	no	yes
restricted to 3 rd person	no	yes
interacts with agreement	no	yes
depends on discourse prominence	no	yes
marked on conjunctions or subordinating connectives	yes	no

While obviation and switch-reference can co-occur, such co-occurrence might be a rare accident. The language groups most widely known for obviation are Algonquian (see Oxford, this volume) and Athapaskan (see Saxon, this volume), and they all lack switch-reference, with the likely exception of Arapaho (Algonquian) (Cowell & Moss 2008), whose speakers spent many years interacting with speakers of SR-languages on the Northern Plains.

6.2 Special kinds of reflexives

Woodbury (1983) discusses ‘switch-reference’ in Central Yup’ik (Central Alaskan) by way of a third-person reflexive form that only appears in embedded clauses. If the embedded subject is the same as the main clause subject, the reflexive form must be used.

- (28) *wangkugneng-tawaam* *tangvakuneng* *aavurciiqut*
 us.DU-however if they (3.REFL) see they will be amused
 ‘If they see the two of us, they will be amused’
 Central Yup’ik (Woodbury 1983: 296)

However, this form also appears on objects and can be considered a long-distance reflexive, a co-referent form that refers to an antecedent in a dominant clause, instead of switch-reference.

- (29) *peg’arcani=gguq* *qanpacugtuq*
 when-he₃.released.him_{3,REFL}=it is said he cried out.INDIC.3SG
 and when he₁ released him₂, he₂ cried out.
 Central Yup’ik (Woodbury 1983: 296)

We can see in Table 5 how this reflexive form differs from switch-reference.³

³ A reviewer points to Berge (2011)’s description of switch-reference in West Greenlandic (Eskimo-Aleut); I could not access that volume in time for this revision to compare for this chapter.

Table 5. Comparison of switch-reference with Central Yup'ik special reflexives

property	SR	special reflexive
1. at clause juncture	yes	no
2. occurs in complementary pair	yes	no
3. depends on reference	yes	yes
marked on nouns	no	yes
restricted to 3 rd person	no	yes
interacts with agreement	no	yes
marked on conjunctions or subordinating connectives	yes	no

7 Conclusion

This chapter has introduced the concept of switch-reference and discussed how it expresses different kinds of cohesion from between clauses. The most common way is marking whether two clauses' subjects are identical, but it can also mark identity of events or situations from one sentence to another. The chapter also showed the variety of ways that switch-reference can appear in different North American languages.

Switch-reference's meaning, function, and frequency all contribute to its importance in discourses like conversations and narratives. This importance makes SR vital to understand for communities interested in maintaining and revitalizing their languages. SR is a key component of putting sentences together, and thus a key component of teaching learners how to build conversations. It is difficult to translate, though, and even including its meaning in a translation can be very awkward. Due to this difficulty, teachers cannot rely on comparison to the structures of more familiar languages when discussing SR. It has to be described on its own terms by people familiar with how it works, and it is hoped that this chapter can help people gain that familiarity.

References

- Austin, Peter. 1981. Switch-Reference in Australia. *Language* 57(2). 309–334.
- Berge, Anna. 2011. *Topic and Discourse Structure in West Greenlandic Agreement Constructions*. Lincoln, NE: University of Nebraska Press.
- Broadwell, George Aaron. 2006. *A Choctaw Reference Grammar*. Lincoln, NE: University of Nebraska Press.
- Cowell, Andrew & Alonzo Moss, Sr. 2008. *The Arapaho Language*. Boulder, CO: University Press of Colorado.
- Dahlstrom, Amy. 1982. A functional analysis of switch-reference in Lakota. In Kevin Tuite, Robinson Schneider & Robert A. Chametzky (eds.), *Chicago Linguistics Society (CLS) 18*. Chicago: University of Chicago Press.
- Dayley, Jon. 1989. *Tümpisa (Panamint) Shoshone grammar*. University of California Publications in Linguistics Vol. 115. Berkeley, California: University of California Press.
- Gijn, Rijk van. 2016. Switch-reference in South America. In Rik van Gijn (ed.), *Switch-Reference 2.0 (Typological Studies in Language 114)*, Amsterdam/Philadelphia: John Benjamins.
- Gordon, Lynn. 1983. Switch-reference, clause order, and interclausal relationships in Maricopa. In John Haiman & Pamela Munro (eds.), *Switch-reference in Universal Grammar*, 83–104. Philadelphia: John Benjamins.
- Gordon, Lynn & Pamela Munro. 2017. Relative clauses in Western Muskogean languages. *Glossa: A Journal of General Linguistics* 2(1). 30.
- Graczyk, Randolph. 2007. *A Grammar of Crow*. Lincoln, NE: U of Nebraska Press.

- Haiman, John & Pamela Munro (eds.). 1983. *Switch-reference and Universal Grammar*. Amsterdam: John Benjamins.
- Hale, Ken. 1992. Subject obviation, switch-reference, and control. In Richard K. Larson, Sabine Iatridou, Uptal Lahiri & James Higginbotham (eds.), *Control and Grammar. Studies in Linguistics and Philosophy*, 51–77. Kluwer.
- Hardy, Heather K. & Lynn Gordon. 1980. Types of adverbial and modal constructions in Tolkapaya. *International Journal of American Linguistics* 46(3). 183–196.
- Hojjer, Harry. 1949. Tonkawa syntactic suffixes and anaphoric particles. *Southwestern Journal of Anthropology* 5(1). 37–55.
- Jacobsen, William H., Jr. 1967. Switch-Reference in Hokan-Coahuiltecan. In Dell Hymes & William Bittle (eds.), *Studies in Southwestern Linguistics*, 238–263. The Hague: Mouton.
- Martin, Jack. 2011. *A Grammar of Creek (Muskogee)*. Lincoln, NE: University of Nebraska Press.
- McKenzie, Andrew. 2012. *The role of contextual restriction in reference-tracking*. Amherst, MA.: University of Massachusetts Amherst dissertation.
- McKenzie, Andrew. 2015. A survey of switch-reference in North America. *International Journal of American Linguistics* 81(3). 409–448.
- McKenzie, Parker. n.d. Account of Poolant's killing. Recorded by Laurel Watkins. Oklahoma Historical Society Research Center.
- Miller, Amy. 2001. *A Grammar of Jamul Tiipay*. The Hague: Mouton de Gruyter.
- Mithun, Marianne. 1993. Switch-reference: Clause combining in Central Pomo. *International Journal of American Linguistics* 59(2). 119–136.
- Mithun, Marianne. 2020. Inside contact-stimulated grammatical development. In Patience Epps, Danny Law, and Na'ama Pat-El (eds.) *Historical Linguistics and Endangered Languages: Exploring Diversity in Language Change*. Routledge Series in Historical Linguistics. New York: Routledge.
- Mixco, Maurício. 1997. Mandan Switch Reference: A Preliminary View. *Anthropological Linguistics* 39(2). 220–298.
- Muehlbauer, Jeffrey. 2012. The relation of switch-reference, animacy, and obviation in Plains Cree. *International Journal of American Linguistics* 78(2). 203–238.
- Munro, Pamela. 2017. Chickasaw quantifiers. In Denis Paperno & Edward L. Keenan (eds.), *Handbook of Quantifiers in Natural Language, vol. II*, 113–201. Amsterdam: Springer Netherlands.
- O'Connor, Mary Catherine. 1993. Disjoint reference and pragmatic inference: Anaphora and switch reference in Northern Pomo. In William A. Foley (ed.), *The role of theory in language description (Trends in Linguistics, Studies and Monographs 69)*, 215–242. Berlin: Mouton de Gruyter.
- Peachey, Robert M. 2006. On switch-reference and the Internally-Headed Relative Clause construction in Washo. Ms.
- Powskey, Malinda, Lucille J. Washington & Akira Y. Yamamoto. 1980. Language use: Explorations in language and meaning. In James E. Redden (ed.), *Proceedings of the 1979 Hokan Language Workshop*, 60–67. Carbondale, IL: Dept. of Linguistics, Southern Illinois University.
- Press, Margaret L. 1979. *Chemehuevi: A Grammar and Lexicon*. Berkeley, CA: University of California Press.
- Pustet, Regina. 2013. Switch-reference or coordination? A quantitative approach to clause linkage in Lakota. *International Journal of American Linguistics* 79(2). 153--188.
- Roberts, John. 1997. Switch-Reference in Papua New Guinea. In Andrew Pauley (ed.), *Papers in Papuan Linguistics No. 3*, 101–241. Canberra, ACT, Australia: Australian National University.
- van Gijn, Rik. see Gijn, Rijk van.
- Watkins, Laurel. 1984. *A Grammar of Kiowa*. Lincoln, NE: University of Nebraska Press.
- Watkins, Laurel. 1993. *The Discourse Function of Kiowa Switch-Reference*. *International Journal of American Linguistics* 59(2). 137–164.
- Wichmann, Søren. 2007. The reference-tracking system of Tlapanec: Between obviation and switch-reference. *Studies in Language* 31(1). 801–827. doi: 10.1075/sl.31.4.04wic.

Woodbury, Anthony C. 1983. Switch reference, syntactic organization, and rhetorical structure in Central Yup'ik Eskimo. In John Haiman & Pamela Munro (eds.), *Switch-reference in Universal Grammar*, 291–315. Philadelphia: John Benjamins.