Typological Studies in Language 114

Switch Reference 2.0

edited by Rik van Gijn
and Jeremy Hammond

John Benjamins Publishing Company

Switch Reference 2.0

Typological Studies in Language (TSL)
ISSN 0167-7373

A companion series to the journal Studies in Language. Volumes in this series are functionally and typologically oriented, covering specific topics in language by collecting together data from a wide variety of languages and language typologies.

For an overview of all books published in this series, please see *http://benjamins.com/catalog/tsl*

Volume 114

Switch Reference 2.0
Edited by Rik van Gijn and Jeremy Hammond

Switch Reference 2.0

Edited by

Rik van Gijn
University of Zurich

Jeremy Hammond
The University of Sydney

John Benjamins Publishing Company
Amsterdam / Philadelphia

DOI 10.1075/tsl.114

Cataloging-in-Publication Data available from Library of Congress:
LCCN 2016022235 (PRINT) / 2016034087 (E-BOOK)

ISBN 978 90 272 0695 4 (HB)
ISBN 978 90 272 6677 4 (E-BOOK)

John Benjamins Publishing Company · https://benjamins.com

Table of contents

Switch reference

An overview*

Rik van Gijn
University of Zurich

Until not very long ago, switch reference was regarded as a marginal phenomenon found in a handful of lesser-known languages. An increasing number of studies of the phenomenon made it clear, however, that the geographical extent of switch-reference systems is rather large, spanning large parts of the New World, Siberia, Oceania, Australia, and also including some areas in Africa and East Asia. The growing body of information on the topic raises new theoretical and empirical questions about the development, functions, and nature of switch reference, as well as the internal variation between different switch reference systems. This contribution will give an overview of the relevant issues that are involved in switch reference, focusing on geographical, typological-theoretical, and diachronic aspects, and suggesting a number of lines for further research.

1. Introduction

The term switch reference (SR) will soon celebrate its 50th anniversary since its coinage in Jacobsen (1967).[1] In half a century of research, SR has evolved from an exotic phenomenon in a handful of North-American languages to a rather widespread phenomenon that is at the heart of theoretical linguistics. The theoretical interest of the wider linguistic community in the phenomenon was given a major impetus by the publication of John Haiman and Pam Munro's seminal book *Switch reference and universal grammar* in 1983, the second volume in the Typological Studies in Language in which this book is also published. Their often cited definition of SR can serve as the starting point for this volume:

* I thank Balthasar Bickel, Jeremy Hammond, John Roberts, and Hilario de Sousa for very useful comments on earlier drafts of this paper. Remaining errors are mine.

1. Jacobsen (1967) was based on a presentation given in 1961, so one can say that in fact the term switch reference is over half a century old.

DOI 10.1075/tsl.114.01van

> Canonical SR is an inflectional category of the verb, which indicates whether or not its subject is identical with the subject of some other verb.
>
> (Haiman & Munro 1983b: ix)

For example, the Papuan language Usan uses a set of suffixes on the medial verb *su* 'cut' to indicate that the subject of 'cut' is the same *-ab* 'ss' (1) or different *-ine* 'DS' (2) from the subject of the final verb 'go down'.[2]

(1) Usan [TRANS-NEW GUINEA], Reesink 1983: 217–8

a. *ye nam su-**ab** isomei*
1SG tree cut-**IDENT** I.went.down
'I cut the tree and went down.'

b. *ye nam su-**ine** isorei*
1SG tree cut-**NONID** it.went.down
'I cut the tree down.'

However, almost all key aspects of Haiman and Munro's definition have been challenged in one way or another.[3] For instance, there are languages whose SR system is not a verbal inflectional category, but rather marked by opposed (sets of) free conjunction markers, as in the Brazilian language Maxakalí, exemplified in (2).

(2) Maxakalí [MACRO-JÊ], Popovich 1986: 355, cited in Rodrigues 1999: 197–8

a. *ʔĩ-mõŋ **tɨ̃** ʔ-nĩ̃n*
3-go and.**IDENT** 3-come
'He went and returned.'

b. *ʔĩ-mõŋ **ha** ʔ-nĩ̃n*
3-go and.**NONID** 3-come
'He$_i$ went and he$_j$ returned.'

Perhaps most famously, the subject requirement has been challenged, for instance on the basis of 'mismatches' such as in (3), from the Californian language Eastern Pomo (McLendon 1978, discussed in Foley & Van Valin 1984 and Matić et al. 2014).

(3) Eastern Pomo [POMOAN], McLendon 1978, cited in Foley & Van Valin 1984: 119–120

a. *há: káluhu-**y** si:má:mérqaki:hi*
1SG.A go.home-**IDENT** went.to.bed
'I went home and then went to bed.'

---

2. For ease of comparison, I gloss opposed SR values as IDENT (identity) versus NONID (non-identity) in all examples of this chapter.

3. Haiman and Munro were certainly aware of most of these challenges, which is why they include the word 'canonical' in their definition.

b. *há:* *káluhu-**qan*** *mí:ṕ* *si:má:mérqaki:hi*
1SG.A go.home-**NONID** 3SG.A went.to.bed
'I went home and he went to bed.'

c. *há:* *xá:* *qákki-**qan*** *wi* *ǫa:lál* *ṭá:la*
1SG.A water bathe-**NONID** 1SG.U sick become
'I took a bath and got sick.'

Judging from (3c), semantic role rather than subjecthood ultimately determined the pivot of the SR system in Eastern Pomo. In fact, the SR systems of some languages suggest that SR marking goes well beyond referential identity, or perhaps rather may be overruled by non-referential factors to do more generally with discourse cohesion. This is shown in the following example from the Ecuadorian language Tsafiki.

(4) Tsafiki [BARBACOAN], Dickinson 2002: 137

junni *man=ja-na-**sa*** *wata=te* *aman* *chide*
then again=come-PROG-**NONID** year=LOC now bone

la-ri-bi *man=ji-man-ti-e*
come.out-CAUS-PURP again=go-SIT-REP-DECL

'They say then, coming back, after one year he went to take out the bones.'

All other things being equal, the same referent marker *-to* appears in situations of referential identity between the subject participants of two clauses, and the different referent marker *-sa* when there is no such referential identity. However, other factors, to do with discourse cohesion may overrule this basic set-up. In (4) for instance, the fact that the events are not temporally adjacent causes the different referent marker to appear, in spite of the referential identity between the subject participants. Not all of these challenges to the subject requirement have stood the test of time. The agent-based analysis for Eastern Pomo, for instance, must be revised in the light of new data, although the exact nature of the pivot remains somewhat unclear (Marianne Mithun, personal communication).[4]

Finally, even within systems where referential identity is at stake, the interpretation of "identity" is subject to cross-linguistic variation. For instance Austin (1980) reports for the Australian language Diyari, that coreferentiality mismatches may occur if (i) the number of the subordinate clause subject exceeds the number of main clause subject, and (ii) the subordinate subject referent set includes the main clause subject, as in (5).

4. Agent-based pivot analyses tend to be controversial. They have been proposed for other languages, like Amele (Roberts 1987) and Kashaya (Oswald 1983), but other researchers have signaled problems for these agent-based analyses (see Stirling 1993 for Amele and Olsson 2010 for Kashaya).

(5) Diyari [Pama-Nyungan], Austin 1980: 16.
ngathu nganyja-yi *ngalda* *diyari* *yawada*
I.erg want-pres we.dl.incl.nom Diyari language.abs
*yathayatha-**lha***
speak-impl.**ident**
'I want us to talk Diyari.'

Examples such as the ones in (2)–(5), although they do not deny the identity-nonidentity distinction, raise a number of questions about the unity and demarcation of SR as a phenomenon. Nevertheless, a few points seem to be rather basic for SR systems. I introduce these briefly here, and come back to them in more detail in Section 3.2.

I. SR systems encode mutually exclusive values whose semantics include referential (non-)identity

Many languages have some complex sentence construction that only allows for identical participants of the clauses in the construction. What is special about SR systems is that, for the functional equivalent of the identity construction, there is an equally constrained non-identity construction. Although it has been made clear in by several authors (e.g. Reesink 1983; Roberts 1988; Stirling 1993), that SR systems may be sensitive to a number of other parameters, referential (non-identity) is always an important part of what determines which construction must be employed.

II. SR systems track a particular, generalized role

Focusing on referential (non-)identity, the work of Foley and Van Valin (1984) and Van Valin and LaPolla (1997) made clear that one of the defining characteristics of SR systems is that they do not track a particular participant, but rather a role. This role may be a syntactic (typically subject), semantic (typically agent) or pragmatic (typically topic) one, but it is defined in a general way, applicable across many contexts.

III. The domain of resolution for an SR marker lies outside its clause proper

A third characteristic of SR systems is their domain of application. They are narrow-domain operations (Kibrik 2011), meaning that they operate on stretches smaller than the entire discourse. Unlike reflexives and agreement, the interpretative resolution of an SR construction operates across, rather than within clauses, in a domain that may loosely be termed the sentence.[5]

5. 'Clause' and 'sentence' are difficult concepts to define in a cross-linguistically salient and consistent way, they are broadly conceived of as minimally a predicate and its arguments (clause) and a larger syntactic unit that may contain multiple clauses. This leaves a lot of room

IV. SR systems are morphologically marked

A final characteristic of SR systems is that they are associated by some overt morphological marking for at least all but one of the opposed values. The type of morpheme that is used (free form, affix, clitic, non-concatenative operation) is in principle unconstrained. This requirement excludes systems that encode the difference between identity and non-identity by the presence or absence of over arguments only (gapping versus non-gapping).

Two additional comments are in order to place the above in an appropriate perspective. First, the four criteria above should be taken to identify canonical SR systems; I do not claim that switch reference is (or indeed should be) always clearly distinguishable from other linguistic phenomena that deal with similar issues to do with interclausal referential coherence. Switch reference systems may develop out of or into other, similar subsystems, which naturally yields a situation where some systems may be more closely related to canonical SR than others. Studying systems that do not quite fit all of the above characteristics is therefore instructive and highly recommended.

Second, SR is not just limited to isolated sentences; it is shown to have clear links with discourse-level phenomena (see especially Stirling 1993). In many languages where it is found, it is integral to cohesion and text interpretation. It can be used to form clause chains of high complexity or length that are "pervasive" in day-to-day language use (Crowley 1998: 247). Therefore, any description of such languages relies heavily on a clear understanding of the grammar, function and historical development of SR systems in general, and consequently, for a full understanding of the phenomenon of SR, all of these dimensions need to be referred to.

The present volume is intended as an exploration into some of the questions relating to SR and their possible answers. In particular, the following questions are addressed.

1. What is SR (and what is it not)?

Given the many exceptions and/or expansions to Haiman and Munro's definition given above, the question becomes relevant whether SR can be defined as a unified phenomenon. Moreover, the opposite question (What is not SR?) is equally problematic, given the presence of similar linguistic phenomena like logophoricity, gapping, long-distance reflexivity, converbs, obviation etc. This issue is explored in more detail in Section 3.1.

2. What is the cross-linguistic variation space of SR systems

Section 3.2 will address this related question. What are the relevant variables of cross-linguistic diversity within SR systems, and what are their values?

---

for cross-linguistic variation, and indeed there is a wide range of constructions that fall under these definitions. This makes it rather difficult to make a more precise statement about the interpretative resolution domain of SR markers, as it may range from (almost) monoclausal converbal constructions to paragraph-length clause chains.

3. What is the function of SR?

Authors working from a variety of theoretical perspectives have proposed different functions for SR and consequently disagreement has arisen about the proper theoretical embedding of SR, ranging from syntactic binding to discourse-cohesion. These different perspectives are discussed in Section 4.

4. How does SR evolve?

Given the often contiguous geographical areas in which SR occurs, it is tempting to assume that SR spreads through contact. However, as mentioned above, the phenomenon is rather widespread, and occurs in many unrelated parts of the world. Moreover, even in contiguous geographical areas the SR systems in different languages or families may be rather different from each other. This raises questions about the diachronic stability and propensity to diffuse through contact of SR. Moreover the geographical spread of the phenomenon may warrant alternative explanations, relating to e.g. human cognition and communicative functionality. Issues relating to the diachronic development of SR systems are discussed in Section 5.

Before moving on to the issues raised by questions 1–4, I start out with a brief historical overview of the study of SR between 1967 and the present.

2. A brief history of switch reference

In a paper published in 1967, William H. Jacobsen introduced switch reference a new term to linguistics, defining SR as a system where "a switch in subject or agent (…) is obligatorily indicated in certain situations by a morpheme, usually suffixed, which may or may not carry other meanings in addition" (Jacobsen 1967: 240).[6] He discusses data of three North American languages, Tonkawa, Kashaya, and Washo, of which some authors had proposed a distant genetic connection to the Hokan family.[7] One of the points addressed by Jacobsen in this paper is whether or not the presence of a switch-reference system can be an argument in discussions on distant genetic relationships, a question which he answers negatively. He briefly contemplates areal diffusion

6. This citation shows that the original meaning of switch reference was restricted to non-identity marking only.

7. The Hokan hypothesis has waned over the years in the absence of convincing evidence. Today, Tonkawa and Washo are considered to be language isolates, and Pomoan languages (Kashaya is Pomoan) are presently not considered to be part of the Hokan family (see Campbell 1997: 290–305 for a historical overview and assessment).

in southwestern USA as an explanation for the patterns found, but finds the evidence for that equally indecisive.

The main point of Jacobsen's paper, however, is to describe certain important variables within switch-reference systems in order to give an idea of the typological variation that may be encountered. He discusses the position of the SR marker, markedness of the opposed values, the syntactic/semantic contexts in which SR marking occurs, the nature of identity (discussing person matches but number mismatches), the relative order of the marked and controller clauses, additional meanings carried by SR markers, nominalizing effects of some SR markers. He moreover compares SR to similar devices like reflexivity, obviation, and fourth person systems. In short: many relevant typological parameters of SR systems (see Section 3.2) were already included in this remarkable paper.

Publications subsequent to Jacobsen's paper in the 1970s made it clear that the geographical extent of SR was considerable. Much more information on SR systems in North America came to light (e.g. Munro 1976; Oswalt 1976; Watkins 1976; Winter 1976; Langdon & Munro 1979) but also in other areas, in particular Papua New Guinea (Longacre 1972; Scott 1973; Huisman 1973; Olson 1978; Haiman 1979).

This increase in information gave rise to two edited volumes with SR as their topics in the beginning of the 1980s: Munro (1980a) and Haiman & Munro (1983a). These publications included an overview study of SR in Australian languages (Austin 1980), as well as contributions on South American languages (Weber 1980, Cole 1983 on Quechuan languages, Longacre 1983 on a Tucoanoan language in comparison with a Papuan language), non-canonical systems from the Caucasian area (Nichols 1983) and from Yup'ik Eskimo (T. Payne 1980; Woodbury 1983).

Apart from increasing our knowledge of types of SR systems and their geographical distribution, these two collections can be thought of as pivotal for the study of switch reference in the sense that they introduced the phenomenon to a much broader audience of linguists and – perhaps even more importantly – because they have outlined the issues that are relevant to the broader study of linguistics. The issues raised in these two volumes are still of importance in the study of switch reference today (although they have not received equal attention) and they will be of relevance to the present volume as well. In fact, the structure of this paper is based on what in my opinion are the most important themes of Munro (1980a) and Haiman & Munro (1983a):

(i) The typology of SR
This includes the delimitation of the phenomenon vis-à-vis other, related phenomena (e.g. Munro 1980b; Comrie 1983; Givón 1983; Haiman 1983; Heath 1983, see also Nichols 1983) as well as the variables that describe cross-linguistic variation between SR systems in different languages (D. Payne 1980; Munro 1980c, 1983; Cole 1983). This will be the topic of Section 3.

(ii) The function of SR
Haiman and Munro (1983b) famously declared that reference tracking was the main functional motivation for languages to develop a SR system. This claim has been challenged in later publications, to which I come back in Section 4.

(iii) The diachronic development of SR
Two major lines of inquiry can be distinguished with respect to this topic. The first is based on the language-internal development of SR systems, in particular the diachronic sources of SR markers or constructions (e.g. Givón 1983; Haiman 1983; Jacobsen 1983) and a second that focuses on the contact-induced diffusability of SR systems, mainly instigated by the often contiguous areas where SR systems occur (e.g. Austin 1980; Jacobsen 1983; Longacre 1983). Section 5 deals with this third theme.

The theoretical aspects of Munro (1980a) and Haiman and Munro (1983a) opened up a different debate, placing SR rather in the center of attention of linguistic theories, such as Government & Binding (Finer 1984, 1985), the Minimalist Program (Camacho 2010; McKenzie 2012; Keine 2013), Role & Reference Grammar (Foley & Van Valin 1984; Van Valin & LaPolla 1997), as well as more discourse-semantic oriented approaches such as Discourse Representation Theory (Stirling 1993), Neo-Gricean pragmatic theory (Huang 2000), and cognitive-discourse analytical approaches (Kibrik 2011). These approaches to SR will be discussed in more detail in Section 4.

The publication of Munro (1980a) and Haiman and Munro (1983a) also changed the nature of the descriptive studies that appeared at later occasions, as they formed points of reference. Later descriptive studies, therefore, were much more theoretically informed, shifting the emphasis to theoretical challenges posed by individual languages (see e.g. Reesink 1983; Roberts 1988; Steward 1988; Mithun 1993; O'Connor 1993; Watkins 1993 to mention a few, as well as most of the descriptive studies in Munro 1980a and Haiman & Munro 1983a themselves).

3. The dimensions of SR

As mentioned above, SR is not a highly unified phenomenon. This has two consequences relevant for the study of SR. First, it is not always easy to draw the line between SR and other linguistic phenomena. Second, it makes the study of typological variation between SR systems necessary. In this section I address these two questions, starting with the external boundaries of the domain of SR.

3.1 The outer dimensions: SR vis-à-vis other phenomena

Switch-reference is not a phenomenon that exists in a vacuum. It may develop out of or into constructions or grammatical systems that are functionally related to it. In

the first place, most SR systems are analyzed at least partially as reference-tracking systems. This makes switch reference part of a family of constructions that deal with signaling referential (dis)continuity, in particular those constructions that deal with referential (non-)identity between two (or more) clauses. In this section I discuss a number of these related construction types and indicate where they prototypically differ from or pattern with (canonical) SR. As will become clear, it is impossible to strictly separate SR from other constructions because of the existence of non-canonical instances of construction types that blur the boundaries. In fact, it is undesirable to draw a hard line between the different construction types, because their comparison may shed light on diachronic pathways that may give rise to SR systems, or that may describe the transition of an SR system into another. I will come back to the diachronic development of SR systems in Section 5.

Gapping of arguments that are coreferential with some argument in another clause are examples of reduction strategies. Like SR, the notion of pivot is often important for reduction strategies, in particular for gapping. Whereas the pivot for gapping in English coordination is the subject, in Dyirbal it is the absolutive argument.[8]

(6) Dyirbal [Pama-Nyungan], Dixon 1979:62
ŋuma yabu-ŋgu buṛa-n banaga-n^{y}u
father mother-erg see-nonfut return-nonfut
'Mother$_i$ saw father$_j$ and Ø$_J$ returned.'

Especially systems where gapping is obligatory for coreferential and prohibited for non-coreferential arguments between two clauses come very close to SR systems, for example the complements of want-constructions in English.

(7) English [Germanic]
a. *I want Ø/*me to help you*
b. *I want *Ø/John to help me*

In fact, the main difference between these grammaticalized gapping rules and SR is the fact that the latter requires some additional marking (see Matić et al. 2014).[9]

---

8. Nevertheless, as Dixon (1979:63) mentions, many languages that are morphologically ergative still have accusative syntactic rules (like for gapping). This is another parallel with SR, where many systems seem to have a subject (S/A) pivot, regardless of their morphological alignment patterns.

9. Another, more gradual difference is that, in gapping, it tend to be the grammatically more tight constructions (like complementation or relativization) that have the most grammaticalized and least flexible gapping rules, whereas SR tends to occur more often in looser grammatical structures such as adverbial clauses than in complementation or relativization. Another gradual difference is that gapping is often more flexible than SR in the distribution of the referentially dependent element (see Matić et al. 2014:26–27).

Nevertheless, as Jendraschek (this volume) argues, the system of Iatmul can be analyzed as a SR system where the difference between same-subject and different-subject verbs is the fact that the former does not have any person marking and the latter does.[10]

There is a group of strategies that exhibit explicit morphological marking, which also come close to SR, and in fact sometimes considered to be a (non-canonical) subtype of SR. I discuss them in turn, spending a little more time on logophoricity on the basis of discussions by Comrie (1983) and Stirling (1993) because similar issues recur for the other construction types. **Logophoricity** (Güldemann 2003) shares a number of features with switch reference. In Igbo, the subjects of complements of verbs of communication are marked for coreferentiality with the source of the information.

(8) Igbo [Niger-Congo], Comrie 1983: 21

a. *ọ́ sị̀rị̀ nà ọ́ byàrà*
he said that he came
'He$_i$ said that he$_j$ came.'

b. *ọ́ sị̀rị̀ nà yá byàrà*
he said that LOG came
'He$_i$ said that he$_i$ came.'

A special pronominal form is used when the subject of the complement clause is coreferential with the agent of the communication act. This is a grammaticalized system in that the use of the wrong pronominal form necessarily leads to a different interpretation.

There are certainly also differences between SR and logophoricity (see discussions by Comrie 1983 and Stirling 1993), but these differences may sometimes be blurred by the existence of languages with characteristics of both types of systems. First, whereas SR is most prototypically marked on the verb, or alternatively on conjunctions, logophoricity is prototypically marked on the (pro)noun. However, this is not always true. Comrie (1983) reports on the Nigerian language Gokana, which displays a system with many logophoric characteristics, where coreferentiality is marked on the verb.

(9) Gokana [Ogoni], Comrie 1983: 21

a. *aè kɔ aè dɔ̀*
he said he fell
'He$_i$ said that he$_j$ fell.'

b. *aè kɔ aè dɔ-è̀*
he said he fell-LOG
'He$_i$ said that he$_i$ fell.'

10. The same-subject verb forms are also marked for relative tense with markers that are not found in different-subject environments. One could also argue that these in fact mark the SR system. In that case it is the coreferent situation that is more marked than the non-coreferent one.

At the other end, there are SR systems where, although marked on the verb, the marking patterns are merged with the bound pronominal markers. In particular for pro-drop languages, these bound pronominal markers may be argued to constitute pronouns rather than inflection (see e.g. Siewierska 1999; Corbett 2006). An example of a language where the system of bound pronouns and SR marking are merged is Kobon, whose SR paradigm is given in Table 1 (Comrie 1983: 20).

Table 1. SR suffixes in Kobon [Trans-New-Guinea]

	identity	**non-identity**
1sg	-em	-nö
2sg	-(m)ön	-ö
3sg	-öm	-ö
1dl	-ul	-lo
2/3dl	-mil	-lö
1pl	-un	-no
2pl	-mim	-be/-pe
3pl	-öm	-lö

The situation in Kobon in terms of the marking strategy is similar to what is found in fourth-person systems, where (non-)coreferentiality is fused with the pronominal system.

Munro (1980b: 2), reporting on the results of a conference on switch reference notes that at least two characteristics set SR apart from other types of interclausal reference marking strategies:

1) In a "real" switch-reference system the same/different subject distinction is pervasive, not restricted to a few constructions.
2) Switch-reference continues to operate even when no one would question the difference of two subjects (i.e. between a first and third person subject).

These two characteristics set canonical SR further apart from canonical logophoricity. First whereas SR systems are especially common in different types of adverbial clauses and may have extensions to coordinate, complement, and relative constructions, logophoric systems are usually found in a much more restricted set of contexts, namely complements of communication verbs. With respect to Munro's second point, prototypical logophoric systems generally apply to third persons only, without having non-third person logophoric pronouns.

Furthermore, SR differs from logophoricity in the way the controller is defined. In logophoric systems the controller is semantically defined as the source of the utterance (or thought or emotion), independently from the syntactic role it has.[11]

(10) Gokana [Ogoni], Comrie 1983: 32
mm̀ dā́ ɛ́ gā́ kɔ aè dɔ-ɛ̀
I heard him mouth that he fell-log
'I heard from him$_i$ that he$_i$ fell.'

SR systems have been described with a semantic pivot, but these semantic systems are still more general than the very specific semantic role for the controllers of logophoric pronouns (see e.g. Eastern Pomo, discussed above).

Finally, there is a difference in tendency between SR and logophoricity in that the former, if there is a marked and unmarked feature value, it generally is the marker for non-identity that is marked. In logophoric systems this is reversed. Coreferent pronouns are usually the marked ones and non-coreferent third person pronouns are identical to third person pronouns that appear in independent clauses.

Long-distance reflexivity also involves the explicit marking of interclausal (non-) coreference, by the use of a reflexive form of one of the arguments in the subordinate clause. In (11), the reflexive element *ziji* may refer back to all three possible antecedents.

(11) Mandarin [Sino-Tibetan], Cole et al. 2001: xiv
Zhangsan renwei Lisi zhidao Wangwu xihuan ziji
Zhangsan think Lisi know Wangwu like self
'Zhangsan$_i$ thinks Lisi$_j$ knows Wangwu$_k$ likes self$_{ijk}$.'

Some of the criteria that set logophoricity apart from SR are also valid to argue for a distinction between long-distance reflexivity and SR. Like logophoric constructions, long-distance reflexivity is often marked in the (pro)nominal domain to the extent that the reflexive markers share with (pro)nouns the ability to function as an

---

11. In Gokana, the pivot is also rather free, compare (9b) above with a subject pivot above to these two sentences with an object and possessor pivot, respectively.

a. aè kɔ oò div-èè e
he said you hit-log him
'He$_i$ said that you hit him$_i$.'

b. aè kɔ oò ziv-èè a gɪ́ā́
he said you stole-log his yams
'He$_i$ said that you stole his$_i$ yams'

Nevertheless, this is not a typical situation for logophoric systems.

argument. Moreover, in the cases where a morphological difference is made,[12] the coreferent rather than the non-coreferent is morphologically marked. Furthermore, long-distance reflexives tend to occur in complement clauses (specifically infinitive or subjunctive clauses) whereas SR seems to prefer 'flatter' syntactic structures. Another difference from SR is that, whereas the controller of LDR is prototypically a subject (see Cole et al.) but the reflexive pronoun itself often exhibits more freedom. It can be the object as in (11) above, but also a subject, as in (12), a dative/benefactive, as in (13), or a possessor, as in (14).

(12) Japanese [Japonic], Lee 2003: 436
Mariko-ga zibun-ga ichiban moteru-to shinjiteiru
Mariko-nom ldr-nom best be.popular-comp believe
'Mariko$_i$ believes that self$_i$ is the most popular.'

(13) Malay [Austronesian], Cole et al. 2001: xvii
Ahmad tahu Salmah akan membeli baju untuk diri-nya
Ahmad know Salmah will buy clothes for ldr-3sg
'Ahmad$_i$ knows Salmah$_j$ will buy clothes for him/herself$_{i/j}$.'

(14) Mandarin [Sino-Tibetan], Huang & Tang 1991: 265
Ziji de xiaohai mei de jiang de xiaoxi shi Lisi hen nanguo
ldr of child not get prize of news make Lisi very sad
'The news that his own child did not get the prize made Lisi very sad.'

A final difference is that whereas LDR can be bound within its clausal domain, as shown by the three-way ambiguity of (11) this is not true for SR. In fact, long-distance binding seems to be rather avoided in some circumstances. In (15) the person features of the potential antecedents (the subjects) do not match, and consequently the potential antecedents are reduced to the subject of the local domain. The non-matching intermediate subject is not a potential antecedent because of the feature mismatch, but it also blocks the highest subject as a possible antecedent.

(15) Mandarin [Sino-Tibetan], Cole et al. 2001: xiv
Zhangsan renwei wo zhidao Wangwuk xihuan ziji
Zhangsan thinks I know Wangwu likes self
'Zhangsan$_i$ thinks I$_j$ know Wangwu$_k$ likes self$_{*i/*j/k}$.'

12. For most cases it is questionable whether one can really speak of a difference in morphological markedness for long distance reflexives, since they tend to be morphological roots, just like non-reflexive pronouns. Nevertheless, since long-distance reflexives are often restricted to specific types of subordinate clauses, compared to the main clause the reflexives are marked. Moreover, when there is morphological marking, like in Malay (see Example 13) and Turkish (Rudnev 2008), it appears on the long-distance reflexive.

On the other hand, there are also examples of long-distance reflexives that require or prefer non-local antecedents, as in Danish.

(16) Danish [Indo-European, Germanic], Testelets 2008, cited in Rudnev 2008

a. *Peter hørte Anne omtale sig*
Peter heard Anne mention self
'Peter$_i$ heard Anne mention him$_i$.'

b. *Peter fortalte Michael om sig*
Peter told Michael about self
'*Peter$_i$ told Michael about himself$_i$.'

Fourth-person systems have been regarded as non-canonical instances of SR (see e.g. Munro 1980b; Haiman & Munro 1983b). The term refers to a cross-referencing paradigm that contains a form which cross-references a third person participant which is coreferent with a participant that occurs elsewhere in the construction. An example is given in (17).

(17) Central Yup'ik [Eskimo-Aleut], T. Payne 1980: 65.

a. *Doris-aq quya-u-q Tom-aq cinga-llra-ø-ku*
Doris-abs happy-intr-3sg Tom-abs kiss-because-3sg:subj-3sg:obj
'Doris$_i$ is happy because she$_j$ kissed Tom.'

b. *Doris-aq quya-u-q Tom-aq*
Doris-abs happy-intr-3sg Tom-abs
*cinga-llra-**mi**-ku*
kiss-because-3sg.coref:subj-3sg:obj
'Doris$_i$ is happy because she$_i$ kissed Tom.'

The only difference between (17a) and (17b) is the presence of the suffix *-mi* in the latter, which forces the coreferent interpretation, whereas its absence renders a coreference reading impossible. A few differences with canonical switch reference are immediately clear: fourth persons are marked within the (bound) pronominal paradigm (though this is not a decisive difference), the coreferent rather than the non-coreferent form is marked, and the coreference marking is restricted to third person referents.

The marking of coreference for third persons in complex sentences is restricted to certain adverbial subordinate (connective – T. Payne 1980: 68, oblique – Woodbury 1983) moods and the appositional mood, though in the latter case there is no opposed non-coreferent construction because appositional mood clauses always have a coreferent subject (Woodbury 1983).[13] In its usage in the adverbial clauses the system is

13. Verbs in the appositive mood only cross-reference the absolutive argument, while the coreference marking functions to a large extent on a subject pivot. The upshot of this is that coreference in appositional mood clauses is only marked for intransitive verbs (Woodbury 1983). Note that this analysis differs from the one offered in T. Payne (1980) who argues for fourth person object markers.

functionally akin to canonical SR, though with the differences noted above. However, coreference marking extends to possessors as well.

(18) Central Yup'ik [Eskimo-Aleut], T. Payne 1980: 80
Yero-q *angya-mi-ni* *qava-llru-u-q.*
Yero-abs boat-3sg.coref-loc sleep-pst-intr-3sg
'Yero$_i$ fell asleep in his$_i$ boat.'

This is unlike SR, and reminiscent of the long-distance reflexives discussed above.[14] However, they are different from each other in several respects. First, long-distance reflexives are often free, monomorphemic forms acting as nominal and fourth person markers are part of an inflectional paradigm of person markers. Second, whereas long-distance reflexives tend to occur in complement clauses rather than adverbial clauses, fourth person markers display the opposite pattern. Finally, the interpretation of the fourth person marker in adverbial clauses is that it is coreferent with the subject of the directly superordinate clause, in long-distance-reflexive constructions there are usually more alternative antecedents.

Although fourth person systems are generally associated with languages of the Eskimo and Yup'ik branches of the Eskimo-Aleut family, some languages in the Tupian language family of South America display a remarkably similar pattern. In the systems of both these families, there is a special form for (at least) the coreferential third person, and this pattern extends to the marking of bound possessor pronouns. A contrasting example of the interclausal type is given for the Tupian language Karo.

(19) Karo, [Tupian, Ramarama], Gabas Jr. 1999: 200–201

a. *péŋ* *yaʔwat-t* *[to=wé-a* *kanãp]*
white.man leave-ind 3coref=cry-ger when
'The white man$_i$ left when he$_i$ cried.'

b. *o=yaʔwat-t* *[aʔ=ket-a* *kanãp]*
I=leave-ind 3sg=sleep-ger when
'I left when he slept.'

The state of the coreferentiality markers in the different Tupian languages is quite diverse. Some languages have lost the dimension altogether, others have maintained it for the third person only, and/or mostly restricted to verbs, and yet other languages have a full set of coreferential prefixes occurring in both verbal an nominal contexts, like Tocantins Asurini. Jensen (1997) argues that the system for proto-Tupian was like the one found in Tocantins Asurini, and has decayed in other languages. This makes the system found in Tupian languages slightly more like prototypical SR. The

14. A further point of overlap between fourth person systems and LDR is that, at least in Yup'ik eskimo (but not in the Tupian systems) the antecedent of the coreference marker can either be the A or P participant (Bickel 1991: 159).

reconstructed coreference markers for proto-Tupí-Guaraní (the largest subbranch of Tupian) are given in Table 2 (Jensen 1997).

Table 2. reconstructed coreference forms of proto-Tupí-Guaraní

1SG	*wi-
2SG	*e-
3	*o-
1INCL	*jere-
1EXCL	*oro-
2PL	*peje-

The fourth-person systems as discussed in the previous paragraphs are in a number of ways reminiscent of systems of **obviation**. In fact, the same term 'fourth person' is sometimes used to refer to these systems as well. In obviative systems the values of the feature person can also be said to include two types of third person: an obviative and a proximate type. In Ojibwa this is, among other things, indicated by pronominal affixes on the verb.

(20) Ojibwa (central dialect) [ALGONQUIAN], Mithun 1999: 76

ogii-biindoomon-an	*iniw*	*anishnaabe-n*	*ahaw*	*misaabe*
3-carry.in.garment-3OBV	those.OBV	people-OBV	that	giant

'Giant (proximate) carried people (obviative) in the fold of his garment.'

Although, like SR, obviation contributes to reference tracking, there are a number of clear differences as well. First, obviation, in Algonquian languages at least, is marked on nouns and demonstratives as well, whereas one of the special things about SR is its 'misplaced' marking on the verb rather than on the referential elements themselves (see Haiman 1983). Obviation does not necessarily apply to complex sentences. As can be seen in (24) obviation is marked for simple sentences as well. Moreover, prototypically, proximate and obviate status of participant is a discourse-level matter entirely, determined by the relative centrality of the participants in the discourse. Nevertheless, a recurring critique on Haiman and Munro's (1983b) syntactic definition of SR is that it downplays the discourse dimensions of SR while in fact there is abundant evidence of the interaction between larger discourse structure and SR. I come back to the discourse perspective on SR in Section 4.3.

Echo-referent or echo-subject systems, finally, seem to be confined to a group of Oceanic languages in Southern Vanuatu. These systems have a single special form for coreferential arguments that appears in clause chains, which replaces person cross-reference markers. The coreferentiality marker in these systems simply indicates that the subject of the reference clause should be copied to the marked clause. Non-coreferential

clauses are encoded in the same way an independent clause would in terms of person marking. This is shown by the following pair of examples from Lenakel.

(21) Lenakel [Austronesian], Lynch 1983: 211

a. *i-ɨm-vɨn (kani) r-ɨm-apul*
1excl-pst-go (and) 3sg-pst-sleep
'I went and he slept.'

b. *i-ɨm-vɨn (kani) m-ɨm-apul*
1excl-pst-go (and) es-pst-sleep
'I went and slept.'

Echo-referent systems are compatible with the basic principles of canonical SR as outlined in Section 1 above, except that, at least in Lenakel, some flexibility with respect to the antecedent is possible. When no ambiguities arise the echo-referent marker may also have the object as its antecedent Lynch (1983: 215–6), which is a deviation from characteristic II. This is, however, not true for the related language Whitesands (Hammond 2014: 276, see also Hammond, this volume), so it seems that, at least some echo-referent systems can be classified as canonical SR systems. Nevertheless, echo-referent systems have some empirically unusual properties, which make them look slightly exotic from the point of view of other SR systems. First, it is the coreferent rather than the non-coreferent situation that is morphologically flagged. This does occur in other languages, especially in the broader Papuan area e.g. in Kâte (Haiman & Munro 1983a; Bickel 1991), Savosavo (Wegener 2012: 290), and Banaro (Roberts 1997, forthcoming a). Another relatively uncommon characteristic in comparison to most known cases of canonical SR is that the coreference marker is prefixed to the verb stem, and the reference clause generally precedes the marked clause.[15] Moreover, number marking is separate from coreferentiality marking, but number is taken into account when determining whether a participant is coreferent or not. Finally, Apart from these differences, echo-referent systems also share a number of the hallmarks of SR, especially the systems found in Papuan languages. Like in those systems, echo-referent marking is found in syntactically 'flat' chaining constructions that may stretch over large chunks of narrative, ignoring daughter-subordination constructions like relativization and complementation (Hammond 2014).

Even on the basis of this brief and non-exhaustive overview it is clear that, although a theoretical core can be established for SR, in practice it may be problematic to clearly distinguish SR from other types of linguistic phenomena that share certain functionalities. Perhaps one can distinguish prototypical instances of these different phenomena,

15. This fact was presented as correlating cross-linguistically with the order of reference and marked clause in coordinated clauses in Haiman and Munro (1983b).

but the existence of non-canonical, intermediate linguistic systems prevents a clear delimitation (see e.g. De Sousa, this volume). It is also not my intention to draw any sharp borders around SR. In fact, the fuzzy boundaries highlight the importance of considering a wider range of constructions, because that will further our understanding of how SR systems evolve, and what they can evolve into. This book, therefore, contains a number of descriptions of systems that some people would hesitate to call SR or at most they would be classified as non-canonical instances of SR. I come back to the diachronic aspect of SR systems in Section 5, and discuss the variation between different SR systems in the next section.

3.2 The internal dimensions of SR: Typological variables and their values

In the opening Section, I indicated four basic contour principles of (canonical) SR. They are repeated for convenience:

1. *SR systems encode mutually exclusive (paradigmatically opposed) values whose semantics include referential identity versus non-identity*
2. *SR systems track a particular, generalized role*
3. *The domain of application of SR is one level above the clause, below the entire discourse*
4. *SR systems are morphologically marked*

It has often been observed that SR is a multivariate phenomenon (see e.g. Haiman & Munro 1983b; Comrie 1983; Stirling 1993; Bickel 2010, see also e.g. the contributions to this volume by van Gijn and Hill). In this subsection I try to give an overview of the most important variables and their possible values, thus creating infrastructure for a refined comparison between SR systems. I start by giving the basic ingredients of a SR construction on the basis of the four principles given above in Figure 1.

Before going into the sub-parts and the variables they introduce, I dwell briefly on terminology. Following Munro (1980b) and Haiman and Munro (1983b) I distinguish between marked clauses and reference clauses. Marked clauses are associated with an SR marking pattern, indicating interpretational dependence on some other clause, which I term the reference clause. However, a reference clause may in turn also be a marked clause, for instance in a chain of clauses. Therefore I think it is useful to additionally distinguish the *anchor clause*, which is a reference clause but not a marked clause by definition, as it is the (usually) finite[16] clause of the construction where all

16. Roberts (forthcoming b) notes that anchor clauses in Amele do not need to be finite, as shown in the following example, where the anchor clause *qoc* of the chain *ho bubusaleb qocnu* is nominalized (see for another example Schmalz this volume).

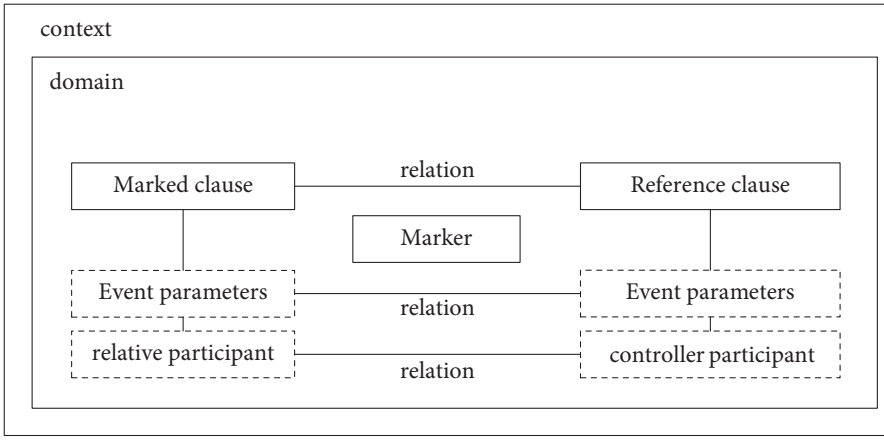

Figure 1. The sub-parts of an SR construction

dependencies find their resolution. The "marker" in Figure 1 is meant in a broad sense: it can be an affix, a free form, a non-linear operation, and also a zero realization. I broadly distinguish identity markers and non-identity markers, which may have quite an extended functionality, but among their functions must be that they mark referential (dis)continuity between the relative participant and the controller participant. For the same reason as I distinguish reference clauses and anchor clauses, I distinguish between controller participants and anchor participants. Finally, of importance are the event parameters, which include aspects like place, time, reality status etc. of the events. It has been shown that these parameters are of importance for distinguishing between identity and non-identity situations in at least some SR systems around the world. I come back to these parameters in Section 4.3 below and will not discuss them in this section.

The context

On the widest level, the variable context refers to the situations in which SR is used. Although to my knowledge no systematic research has been carried out on this topic, it seems that SR is more prototypically found in narratives rather than in conversations.

---

ho bu~busal-eb
pig DUR~run.out-3SG.NOMAGR.NONID.SIM.IRR
q-oc=nu h-oig-a
hit-INF=for come-3PL.NOMAGR-PST
'They came to kill the pig as it runs out.'

That is, the expectation would be that, if a language uses SR in conversations, it will probably also use it in narratives, though not necessarily the other way around. The context in which SR occurs is also important to account for the different ways in which SR interacts with the wider discourse structure, for instance the interaction with e.g. referential activation status and resolution of potential referential conflicts (see e.g. Kibrik 2011) and the role of tail-head linkage (see e.g. De Vries 2005). I come back to some of these discourse factors in more detail in the Section 4.3, and restrict myself here to the variables at the level of the domain and below.

The domain

The domain of SR refers to the stretch of text required for the resolution of the dependent participant reference. A SR construction prototypically contains at most one anchor clause, and at least one marked clause. The domain for SR is the complex sentence (conceived of as a syntactic unit that can contain more than one clause – see above), but the term 'sentence' masks the fact that it may refer to a rather diverse set of constructions. One dimension that seems to be rather important for SR is the opposition of clause chains versus (predominantly) biclausal structures. In particular Papuan languages have a preference for long, paragraph-level chains that contain a number of marked clauses before the sequence is closed off with an anchor clause (the chain may also start with an anchor clause followed by several marked clauses). In North America, on the other hand, as Jacobsen (1983) reports, the structures seem to be predominantly biclausal, and in South America, both types occur. This variable is rather hard to capture formally, because in chaining languages, shorter chains may occur, and in the more biclausally inclined languages, longer clause combinations may occur. There is no natural cut-off point beyond which one would speak of a chain. Nevertheless, chaining constructions raise a number of issues that do not arise (or not as prominently) in biclausal structures, in particular the fact that distinctions between the levels of the sentence, paragraph, and in some cases even the entire discourse are blurred or even irrelevant in some chaining languages (Longacre 2007).[17] Another issue, to which I come back shortly, is that in long chains necessarily consist of relatively flat (non-hierarchical) structures, because it would reasonably asking too much of the human mind to process multiple embeddings the length of those chains. This is in principle not a problem in biclausal structures. Perhaps as a consequence, SR shows

17. Longacre (2007) regards SR to be a defining criterion of a clause chain. However, chains do not have to be marked for SR. In fact, it is possible to create a chain in English with participial forms. What makes the combination clause chains with SR special, however, is that it allows for subject switches in chains, whereas chains in English would have to be same-subject chains.

up in different types of environments in North America (like e.g. in logical adverbial, complementation and relative clauses – see e.g. Jacobsen 1983).

One type of system usually discussed under the heading of switch-reference involving medial verbs does not seem to involve any additional marking at all: the so-called implicit chain in the Tucanoan language Kotiria, also called Guanano (Waltz 1976; Longacre 1983) and in the Chibchan language Tunebo (Headland & Levinsohn 1977). For these languages it is claimed that a combination of same subject and temporal succession as well as of different subject and simultaneity are unmarked in the language.

(22) Kotiria (Guanano) [Tucanoan], Waltz 1976: 25 and 38

a. *waha* *süre*
go.MED arrive.PST
'Having gone, he arrived there.'

b. *tina* *chü* *tiro* *cjuri* *ñaca* *taha* *jüna*
they eat.MED he turtle character come.PST finally
'While they were eating, that turtle character finally came.'

Stenzel (this volume) casts doubt on whether this is in fact a grammaticalized pattern in Guanano. However, it is a conceivable pattern that raises the question whether such a system should be classified as an SR system or rather as an instance of a reduction strategy.

There is a further issue that relates to clause chains. In longer chains, marked clauses may either refer directly to the finite reference clause, whether or not adjacent to it, or it may refer to the adjacent clause, whether or not it is the finite verb. This variable may be termed local versus long-distance (or focal) controller scope. Some languages display both types of scope relations. Zariquiey (2011, see also this volume) reports two types of SR constructions in the Peruvian Panoan language Kashibo-Kakataibo, which differ from each other in this respect. Likewise, Weber (1980) proposes two possible scope relations for SR controllers in Quechuan languages, either to the directly superordinate clause (whether adjacent or not) or – in case of non-subordination – to the adjacent clause (though see Steward 1988 for a critique). Another pattern that may occur in chaining languages is clause skipping. In clause skipping, one of the subclauses is ignored by the SR system, illustrated in (23).

(23) Usan [Nuclear Trans-New-Guinea], Reesink 2014: 242

a. *igam-a*
stay-2/3SG.NONID

b. *munon* *eng* *is* *ibi* *eng* *g-ab*
man that descend feces that see-IDENT

c. *to-at* *qiter* *asi*
follow-IDENT lift.up.head.IDENT look.IDENT

d. [*mani* ***eng*** *erer* *y-ab* *bug-ab* *igam-a*]
snake **that** on.top curled.up-IDENT sit-IDENT stay-2/3SG.NONID

e. *g-arei*
see-3SG.REM.PST
'It was (= the situation was such)[a] (and) the man went down, saw the feces[b] (and) following (the track) he looked up[c] (and) saw[e] the snake sitting curled up there (in the tree)[d].'

The events in (23d), which have their own internal SR logic, are ignored (skipped) by the identity chain in the entire structure in (23) which is resolved in the anchor clause in (23e).[18]

Relations between marked and reference clause

Between the marked clause and the reference clause various different types of relations may exist. One way to classify the relations between the clauses is in terms of nexus. There has been a lot of debate about the distinction between coordination and subordination, and it is unclear whether they can easily be separated in all cases, although they do seem to form natural clusters (see Bickel 2010). Foley and Van Valin (1984) argue for a third type of nexus that has properties of both coordination and subordination called cosubordination. There is an overall preference for SR to appear in relatively flat and loosely organized nexus types, in particular ad-subordinate and co-subordinate constructions. There is also an explicit (and controversial) claim that SR does not appear in fully coordinate clauses (see Finer 1984, 1985, see also Weisser 2012, this volume, see also Section 4.1 of this chapter). It is not immediately clear why SR, even in non-chaining areas, is less common in daughter-subordination.

A further subclassification of the type of relationship between the marked clause and reference clause is a semantic one. Different semantic characterizations of complex sentences are given in a number of the chapters in Shopen (2007), such as different semantic types of coordination (Haspelmath 2007), complementation (Noonan 2007), and adverbial relations (Thompson et al. 2007). For relativization (Andrews 2007) a distinction can be made between restrictive and non-restrictive clauses, as well as between the different positions that are relativized. The major subtypes for coordination, complementation (in terms of predicate types), adverbialization and

18. Reesink (ibid.) mentions that this is not a case of subordination "but the result of the speaker's evaluation of what he considers his topic". Subordinate constructions in Usan have different TAM and negation scope conditions.

Table 3. Semantic sub-classifications of major clause combination types

Coordination	Complementation	Adverbialization	Relativization
Conjunctive	Utterance	Time	Subject
Disjunctive	Propositional attitude	Location	Direct object
Adversative	Pretence	Manner	Indirect object
	Commentative (factive)	Purpose	Oblique
	Knowledge	Reason	Genitive
	Fear	Circumstantial	Object of comparison
	Desire	Simultaneous	
	Manipulation	Conditional	
	Modality	Concessive	
	Achievement	Substitutive	
	Phasality	Additive	
	Perception	Absolutive	
	Negation		
	Conjunction		

relativization (in terms of relativized arguments)[19] given in the aforementioned sources are shown in Table 3.

As mentioned above, SR is probably most common in adverbial clauses and within that group arguably for temporal clauses, although no worldwide survey has ever been carried out to confirm this.

A final characterization of the relation between marked clause and reference clause is one of linearity. Haiman and Munro (1983b) note that there seems to be a correlation between the position of the SR marker (as a prefix or a suffix) and the order of clauses for coordinating relations. There seems to be a general preference for iconic ordering especially in terms of time sequence, leading to marked clause-reference clause order for temporal clauses, and the opposite pattern for purpose clauses. It also seems to be true for most languages that they allow for some flexibility in linear patterns: although there might be a dominant order, many languages allow for minority

19. This is, strictly speaking, not a semantic subclassification, but it is nevertheless taken up here because it does represent different ways in which the relative clause relates to a main clause. The classification follows the accessibility hierarchy (Keenan & Comrie 1977).

patterns of alternative orderings. One of those alternative orderings is center embedding, a pattern where the marked clause is positioned inside the reference clause

(24) Maricopa [Yuman], Gordon 1983: 88
hat *['ii-sh* *anoq-m]* *nym-aaham-m*
dog [wood-SUBJ small-NONID] DEM+ASC-hit-ASP
'He hit the dog with a small stick.'

The marked clause and the reference clause

Since marked clauses are typically dependent clauses, one set of variables relates to what form the verb takes, in particular with regard to inflection. Can the verb of the marked clause take any inflection that an independent verb can take, or is there a reduction in the number of categories that can be marked? Some SR markers, moreover, seem to have a nominalizing effect (e.g. in Quechuan languages – see van Gijn, this volume, Floyd & Norcliffe this volume and Jivaroan languages – see Overall this volume), so dependent verbs may also acquire nominal characteristics in their inflection. Inflectional potential is a variable in general for dependent or subordinate verbs (see e.g. Lehmann 1988; Cristofaro 2003; Malchukov 2006; van Gijn & Hammarström forthcoming) but of special interest from the perspective of SR is obviously whether and how agreement with the relative participant is expressed. There are five major possibilities.[20]

Expression of relative participant agreement

i. With verbal inflection as in independent clause
ii. With nominal (possessor) inflection
iii. With a different paradigm than the one in the independent clause
iv. Not expressed, unlike independent clause
v. Not expressed, as in independent clause

A special form of (iii) occurs in many highland Papuan languages, where identity clauses are marked with an anticipatory subject person marker, referring to the subject of the reference clause, and non-identity clauses with an anticipatory marker as well as a local person marker, referring to the subject of the marked clause, as is the case in Hua:

20. Note that, since SR constructions may also be intertwined with other inflectional categories, e.g. tense, modality, aspect, it may reduce or alter the inflectional potential in other areas than agreement as well.

(25) Hua [Nuclear Trans-New Guinea], Roberts 1997: 130

a. *ebgi-ø-na* *korihie.*
hit-IDENT-3SG.ANTSUBJ ran.away.3SG
'He$_i$ hit him$_j$ and he$_i$ ran away.'

b. *ebgi-ga-na* *korihie.*
hit-3SG.NONID-3SG.ANTSUBJ ran.away.3SG
'He$_i$ hit him$_j$ and he$_j$ ran away.'

Beyond inflection, the main other set of variables relates to the internal syntax of the marked clause and the reference clause, in particular what the rules for the expression of the NP argument are whose reference is being tracked. So given a minimal SR construction consisting of a marked clause and a reference clause, three values for the expression of the tracked argument in either clause may be postulated: obligatorily expressed, optionally expressed, or obligatorily gapped. In case of optional expression, the conditions under which the argument may or may not be expressed should be made explicit (e.g. not expressed under coreferentiality, not expressed when topical, not expressed when the clause is final, etc.).

The relative and controller categories

Much has been said about the factors that trigger identity or non-identity markers. In Haiman and Munro's (1983b) assessment, the all-important category is the subject, but as mentioned above, this claim has met with a lot of criticism. Givón (1983) argued that systems that track subjects started out as systems that track topics. In a broader survey, Foley & Van Valin (1984) argued for the fact that there are languages with semantic pivots, where agents rather than subjects are tracked, and for languages that have a pragmatically-influenced syntactic pivotal category.[21] An example of a semantic relative-controller relation, sensitive to agentivity rather than subjecthood was given above in (3) for Eastern Pomo. In (26), an example of a pragmatically influenced SR system is given from Barai (Olson 1978, 1981), cited in Foley & Van Valin (1984).

(26) Barai [Koiarian], Foley & Van Valin 1984: 350

a. *fu* *miane* *sak-i-na* *barone*
3SG firestick bite-3SG-IDENT die
'A firestick bit him and he died.'

---

21. Stirling (1993) takes it one step further, claiming that SR is about event continuity, of which referential continuity is a part, but it also appears from here comparative work that, whereas systems may differ from each other in terms of the factors that influence the appearance of identity or non-identity markers, referential (dis)continuity is present as a factor in all of the systems surveyed by her. Therefore I treated issues relating to event continuity separately in relation to context, see above.

b. *miane* *ije* *fu* *sak-i-mo* *fu* *barone*
firestick DEF 3SG bite-3SG-NONID 3SG die
'The firestick bit him and he died.'

In the example from Barai the determining factor for either the identity or the non-identity marker to appear is the referential status of *miane* 'firestick'. In (26a) firestick is not topical and so the coreference that is marked is between the topical object and the subject of the final clause. In (26b) on the other hand, the firestick is topical and therefore it takes preference over the object in determining SR marking, resulting in non-identity marking. A related but slightly different type of pragmatic influence on the relation between the controller and relative participant is discussed by Cole (1983) for Imbabura Quechua subjunctive clauses, where the marked clause carries an identity marker if the subject of reference clause is non-referential and the subject of the marked clause a speech act participant (a similar pattern is reported for Amele in Roberts 1988).

(27) Imbabura Quechua [QUECHUAN], Cole 1983: 6–7
ali-mi *Ø/ñuka/kan/*pay* *Juzi-wan* *parla-ngapaj*
good-EVID one/I/you/*he José-COM speak-IDENT
'It is good that one/I/you/*he speaks with José.'

As was mentioned for Tsafiki in example (4) above and as will be argued for other languages in Section 4.3 a number of SR systems are also sensitive to other event-related parameters such as unity of place and/or time or thematic coherence between events, represented by the relation between event parameters in Figure 1. It is probably fair to say that we are only scratching the surface of the ways in which pragmatic or discursive elements may or may not influence the appearance of (non-)identity markers. One of the goals of this volume is to increase our knowledge on this point.

Another important point to make in reference to the relative and controller categories is that a distinction should be made between the categorical restrictions for the anchor participant and those for the relative participant, as they might differ from each other. This becomes especially clear from reports on Panoan languages. Consider for instance the system of Matís (Ferreira 2005, identity markers only) in Table 4.

As can be seen, the categories of the relative and reference clause participant are not equivalent. For an even more complex system, see Zariquiey (2011) and this volume.

Relation between the relative and controller participant: The nature of identity.

One repeated observation made with respect to switch reference systems, even when the relevant category is the syntactic subject for both the marked and the controller clause, is that there may be a certain degree of flexibility when it comes to what counts as referential identity. It was already shown above that in Diyari in (5) above, subjects

Table 4. identity markers of Matis [Panoan]

Marker	Relative time	relative argument	reference argument
ash	sequential	S/A	S
shun	sequential	S/A	A
ak	sequential	P	S/A
ek	simultaneous	S/A	S
kin	simultaneous	S/A	A
sho	simultaneous	S/A	P
nush	posterior	S/A	S
nun	posterior	S/A	A
ek	posterior (PoM)	S/A	S

of reference clauses are considered identical to the reference clause subject if the reference set of the former includes the one of the latter. Because the opposite situation does not yield identity marking, this can be called an asymmetrical system (Comrie 1983). Other languages may have a more symmetrical system, such as Huichol.

(28) Huichol [Uto-Aztecan], Comrie 1983: 26–27

a. *taame te-haataʔazɨa-ka nee ne-petɨa*
we 1pl-arrive-ident I 1sg-leave
'When we arrived, I left.'

b. *nee ne-haataʔa-ka tanaitɨ te-pekɨɨ*
I 1sg-arrive-ident together 1pl-leave
'When I arrived, we left together.'

Further differences between languages in terms of what identity entails are that some systems seem to be sensitive only to whether or not the person value changes, and are indifferent to differences in number value. Schmalz, this volume, discusses related facts for Yukaghir languages, emphasizing that interaction of (non-)inclusion of one participant set into the other also works the other way as well, leading to "unexpected" non-identity marking. For instance, a clause combination with two first person plural participants can still trigger different subject marking if the sets of participants are different.

The markers

A number of variables relate to the morphological marking, or flagging of the SR construction. In the first place, there are three theoretical possibilities in terms of markedness patterns, as indicated in Figure 2, where a grey colored box represents a

morphological marker of phonetic substance and the white boxes represent no identifiable marker. There is an overwhelming preference for the two options to the left.

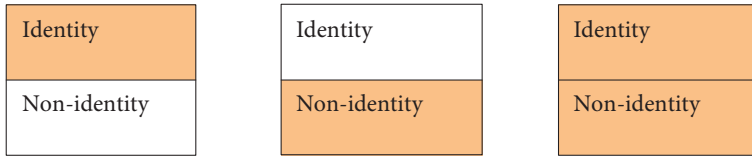

Figure 2. Major morphological markedness patterns

Apart from this general characterization, SR markers are subject to general variables of morphological marking (Bickel & Nichols 2007):

Fusion refers to the degree to which a morpheme is integrated with its host. Values, from least to most fused, are free, bound, and nonlinear. Most SR markers seem to be bound markers, though phonologically free forms (especially in North American languages – see Jacobsen 1983) and nonlinear markers (like nasalization of the final vowel in Jivaroan languages – see e.g. Overall 2007 for Aguaruna) also occur.

Flexivity indicates whether a morphological marker has lexically determined (item-based) allomorphs. Values are flexive, and nonflexive. Flexive SR markers seem to be very rare, although it does seem to occur in some Uto-Aztecan languages, like Cupeño, which has three phonologically unrelated markers for different subject clauses, *-qali*, *-weni*, and *-lee*. The first two have different functions (singular and plural subjects, respectively) but the third has a very restricted item-based distribution, occurring only with the verb *qal* 'be, dwell, sit in a place' (Hill 2005: 408, see also Hill, this volume).

(29) Cupeño [Uto-Aztecan], Hill 2005: 410
puy-lya'a-ch-i *te~tew-qa'* *pe-qal-lee.*
dine-INS-NPN-OC DUP~see-PRES 3SG-be.there-NONID
'I see the table where it was left.'

Exponence refers to the degree to which different categories are grouped together in a single morpheme, with values cumulative or separative). Cumulative exponence is relatively common for SR markers, for instance with person agreement (e.g. some Trans-New-Guinean languages, Jivaroan languages), with gender and number (e.g. Tucanoan languages), with relative time marking (e.g. Panoan languages), or with mood (e.g. Yurakaré – van Gijn 2006), the latter type of cumulative exponence is exemplified in (30), contrasting realis (30a), marked with *-ja*, with irrealis (30b) marked with *-ya*.[22]

22. In addition, the irrealis forms are not marked for subject, whereas the realis forms are.

(30) Yurakaré [Isolate], van Gijn 2014: 295 & 303

a. *ti-bëjta-ø-ja* *ti-la-mala-ø* *samu*
1sg-see-3=ident.rea 1sg-mal-go.sg-3 jaguar
'When the jaguar saw me, it ran away from me.'

b. *tëshshu* *bëjta-ya* *bobo-ishti*
weasel see-ident.irr kill-fut:1sg
'If I see the weasel, I'll kill it.'

Parameters relating to larger structures are position, referring to the relative position with respect to its host of a morpheme (values: prae, post, in, simul). SR markers overwhelmingly more commonly follow their hosts, although it was discussed above that Whitesands, which arguably has a SR system, employs prefixes. A final parameter refers to locus of marking. This parameter is traditionally not applied to SR, but it could if one considers the reference clause to be the head, and the marked clause the dependent. It seems to be a universal of SR (cf. Bickel 2010) that it is marked on the dependent.

Apart from this, markers may differ in the host they attach to. In Haiman and Munro's (1983b) definition, SR markers are inflectional categories of the verb, but this is not necessarily so. SR markers may be free forms (as in Maxakalí discussed above), or clitics that attach to larger strings than just the verb, for instance the clause, or a group of words associated with the verb.

(31) Kiowa [Kiowa-Tanoan], McKenzie 2012: 56

a. *John* *é* *zón* *cútǎ́-dàu=chè̱*
John 3sg:3in pull-out.pfv pencil-in=when.ident
é *têm*
3sg:3in break.pfv
'When John pulled it out, the pencil broke (in two).'

b. *John* *cútǎ́-dàu* *é* *zón=chè̱*
John pencil-in 3sg:3in pull-out.pfv=when.ident
é *têm*
3sg:3in break.pfv
'When John pulled out the pencil, he broke it (in two).'

The identity marker *=chè̱* attaches to the last element of the clause, which is 'pencil' in (31a) because of right-dislocation, or the clause-final verb in (31b).

Of course, one may argue that some of the variable values discussed in this section represent non-SR forms, but I think in general that a more insightful picture can be obtained when all these different possible configurations are regarded as typological variables. Only in this way can we hope to understand the diachronic paths associated with the rise and/or decay of SR systems.

The next section discusses SR from different theoretical perspectives, focusing in particular on the question what the function of SR is.

4. Theoretical perspectives on SR

Differences between theoretical approaches to SR mostly revolve around two related issues: the function and the nature of SR. With regard to the first, there is a basic three-way opposition between those who defend the idea that the function of SR is to track reference, a second strand of research argues that SR is about event continuity, and a third approach advocates the fact that SR is part of a family of constructions that relate to binding and control, and that they have no, or only secondarily, pragmatic functionality. With respect to the second issue there are two opposite poles (as well as intermediate positions): one that emphasizes the syntactic nature of SR, the other that defends the pragmatic nature of SR.

There are some obvious correlations between the positions taken by authors on these two issues: the advocates of switch reference as marking event continuity regard SR as pragmatic in nature, those that see it as a specific instance of syntactic binding analyze SR as a syntactic phenomenon; in the reference-tracking group of approaches, there is more variation with respect to the nature of SR. In the next subsections I give concise overviews of the different theoretical positions. I start with SR as a syntactic binding phenomenon (Section 4.1) to SR as a reference-tracking device (Section 4.2) and finally to SR as a system for signaling event-continuity (Section 4.3), going from the most syntactic to the most discourse-oriented approach.

4.1 SR as a binding phenomenon

A radically syntactic approach to SR is taken by Finer (1984, 1985). In the first place, Finer argues against SR having any pragmatic functionality. For SR to have a reference-tracking (disambiguating) functionality, one would expect systems where only third persons are marked for same/different reference, and in fact most systems include first and second persons as well, where from the point of reference tracking SR has no functionality. He argues against a discourse cohesion (processing aid) account where continuations or changes of topical participants are signaled, on the basis that one would expect cataphoric SR marking only, forewarning the hearer that a topic shift or continuation is to be expected in the next clause. Finally, Finer notes that pragmatic approaches to SR cannot explain why SR does not occur in coordinate clauses (an observation that is not shared by everybody).

On the other hand, a number of further observations lead Finer to the suspicion that SR is a syntactic phenomenon which, moreover, is connected to syntactic binding. He summarizes these observations as follows (1985: 53):

(32) a. SS signals obligatory coreference between subject NPs of hierarchically adjacent clauses.
b. DS signals obligatory non-coreference between subject NPs of hierarchically adjacent clauses.
c. The same-subject or different-subject relation is determined strictly locally.
d. Switch-reference involves subjects only.

The above four observations (which are all controversial) lead Finer to connect SR to Binding Theory as proposed by Chomsky (1981: 188):[23]

(33) Binding Theory
Principle A: An anaphor is bound in its governing category
Principle B: A pronominal is free in its governing category
Principle C: An R-expression is free everywhere

These three principles regard A-positions (potential theta positions) and regulate the (non-)coreference behavior of reflexives, non-reflexive pronouns and NP expressions. Finer argues that SR is part of a more generalized version of the Binding Theory, which also includes A′-positions (non-A-positions). A' Positions can also be bound by either A positions or by A′-positions, leading to four potential binding relations.

(34) Binding relations in an extended binding theory
a. A bound/free with respect to A (the classic Binding Theory)
b. A bound/free with respect to A' (Wh-movement)
c. A' bound/free with respect to A (binding of e.g. Romance reflexive clitics)
d. A' bound/free with respect to A' (Cyclic Wh-movement)

SR markers, in Finer's approach, are A′-positions that occupy the COMP position. Identity markers are A′-anaphors, whereas non-identity markers are A′-pronominals. Because they are in COMP position, their governing category includes the immediately superordinate verb and its subject, meaning that the subject of the superordinate must be coreferential with the SS marker or non-coreferential with the DS marker. Situation (c) applies when the immediately superordinate clause has an SR marker that itself refers to a higher clause, so that a binding chain arises until its resolution in the highest clause.

---

23. An anaphor in Government & Binding and subsequent generative approaches to language refers to reflexives and reciprocals; pronominals are pronouns which are not reflexive or reciprocal; an R-expression (referential expression) is a full NP expression that is inherently referential. Governing category refers to the minimal domain that contains the anaphor/pronominal/R-expression, its governor, and an accessible subject.

Later work that builds on Finer (1984, 1985), like Broadwell (1997), Watanabe (2000), Camacho (2010), and Georgi (2012) offers refinements, incorporation into newer theoretical (sub)models of the Minimalist Program (Chomsky 1995), and analyses that connect SR to even more general principles, like agreement (Camacho 2010) and control (Borer 1989; Georgi 2012).[24] Nevertheless, the core idea of a chain of dependencies between clauses in an asymmetrical relation for identity clauses and the absence of these dependencies for non-identity clauses remains intact.

An interesting deviation from this general line of thinking comes from Keine (2013). Keine's proposal starts from the same observation as Stirling (see Section 4.3), that there seem to be so many cross-linguistic deviations from a general pattern of referential (non-)identity of subjects that we should perhaps consider the possibility that referential continuity is not a central part of SR at all. Keine proposes to regard SR as the instantiations of a coordination head. The crucial difference between non-identity markers and identity markers in this approach is that the former involve *v*P (or high) coordination (i.e. coordination of the lexical verb with its arguments, including the agentive argument), whereas identity marking is underspecified for what type of equivalent elements it conjoins, and can be used for VP (or low) coordination, where the external agent argument is not involved in the coordination.[25] In this way, identity marking is in principle compatible with a structure of two clauses with distinct subjects, and non-identity with clauses with identical subjects. Unexpected (i.e. from a reference-tracking perspective) non-identity marking may occur if the events in the clause are considered distinct – correlating with the fact that *v*P conjunction in some languages involves two structures each with their own event variable. Unexpected identity marking may occur with *v*P coordination that involves a so-called defective *v* (i.e. a verb that cannot assign an agent role, like unaccusative verbs). Whether and when unexpected (i.e. from a reference tracking perspective) occurs is subject to cross-linguistic differences of how the difference between high and low coordination is interpreted, as well as to how the morphosyntactic functions of identity and non-identity markers are specified (see Keine 2013 for details). This proposal moves away from accounts based on binding, and is in many ways closer to the event-based approach advocated by, among others, Stirling (1993) which is discussed in Section 4.3.

---

24. In fact, Georgi (2012) analyzes identity constructions as situation b in Finer's list: there is only one argument there, but it is moved to the superordinate clause.

25. Keine also distinguishes coordination of TPs which, at least in the languages that he considers, are non-SR coordination, which is in complementary distribution with SR marking, at least in the languages that he considers.

4.2 SR as a functional reference tracking device

Haiman and Munro (1983b) regard switch reference as a syntactic phenomenon in the sense that it canonically indicates (non-)coreference of the syntactic category of subject. With respect to the function of SR, however, they regard SR as a more pragmatically oriented device "to avoid ambiguity of reference" (Ibid. xi). On the basis of this functionality they predict that no language should exist that marks SR for first and second, but not for third persons, since disambiguation for first and second persons is redundant, but not for third persons. They do allow for languages that have SR systems that are "generalized beyond the call of functional duty". SR, in other words, is regarded as a reference tracking device in Haiman and Munro's view.

The perspective on the functionality of SR as a reference tracking mechanism is elaborated in more detail by Foley and Van Valin (1984) who contrast switch-reference systems with switch-function systems, in which "a particular participant is tracked across clauses, and the verbal morphology in each clause signals the semantic function of that participant in that clause" (Ibid: 354).[26] In a typical switch-function system, reference tracking takes place by keeping a topical participant in subject position, with voice morphology indicating the role of the tracked participant in the different events. In contrast, switch-reference systems track a particular (syntactic or semantic) function, and signal continuities or changes in the participant fulfilling that function. To illustrate the difference between these tracking devices, consider (35):

(35) John rushed to work, Ø crossed the street in a hurry, and Ø was run over by a car.

In (35), the participant John is tracked across three events, the semantic role of John in the first two events is agent, in the last event it is patient. The passive construction signals this latter fact, while allowing for the tracked participant to remain in the privileged subject position.

A SR language would deal with (35) in quite a different way: they would simply track whether there is a switch of participant for a particular function. Languages with a switch-reference system, in the approach advocated by Foley and Van Valin may track different types of functions. The monitored function may be invariably syntactic (subject) which corresponds to Haiman and Munro's canonical SR, but they may also be semantic in nature, as was discussed for Eastern Pomo above. The tracked functions may furthermore be pragmatic in nature (or perhaps they are more accurately called pragmatically influenced syntactic functions – see Matić et al. 2014), described as variable

26. Foley and Van Valin (1984) distinguish further possible reference tracking systems (see Van Valin & LaPolla 1997 for a more recent and elaborate account), but they are not relevant to the topic of the present paper.

syntactic pivots "in which the selection of the argument to function as pivot of a transitive verb is not predictable from its semantic role and may be influenced by discourse-pragmatic considerations, in particular the topicality and activation status of its referent" (Van Valin & LaPolla 1997: 291), like the Barai case discussed in example (26) above.

A different, but compatible approach to SR is proposed by Kibrik (2011), who regards SR within a broader context of reference in discourse, and general principles of human cognition. In his approach, SR markers are part of a system of attending to a referent (reference), in which referential choice depends on working memory. The more activated a referent in the discourse, the more likely it is referred to by reduced referential devices such as pronouns, bound person markers). The process of referential choice can be represented schematically as in Figure 3 (Ibid: 64).

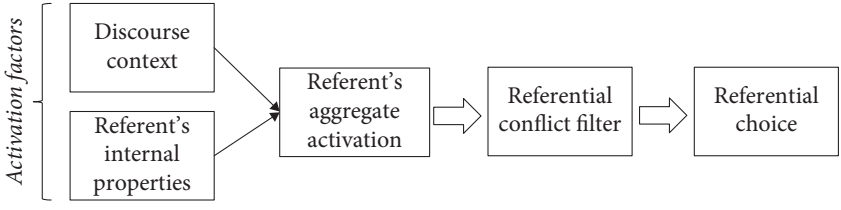

Figure 3. The cognitive multi-factorial model of referential choice

SR markers in this view are referential aids, which help distinguish between two or more activated referents. In other words, their functionality lies in the referential conflict filter. Switch-reference, like e.g. logophoricity, is considered to be a current sorting (i.e. it does not rely in any inherent property of the referent) with a narrow domain (below the discourse level). Kibrik is aware that SR markers often have functionalities that go beyond disambiguation, but he stresses that this "does not negate the observation that switch-reference markers are often instrumental as a referent sorting" (Ibid: 341).

4.3 SR as a marker of event (dis-)continuity

As mentioned, in many languages, identity markers or non-identity markers pop up in "unexpected" contexts, i.e. going counter their assumed referential interpretations. Some researchers have proposed that the way to deal with these "discrepancies" is to consider the possibility that SR is primarily not about referential continuity, but rather about broader principle.

Tsafiki was mentioned as a languages where "unexpected" SR marking may occur, see example (4) here repeated as (36) for convenience:

(36) Tsafiki [Barbacoan], Dickinson 2002: 137

junni	*man=ja-na-sa*	*wata=te*	*aman*
then	again=come-PROG-NONID	year=LOC	now

chide la-ri-bi man=ji-man-ti-e
bone come.out-CAUS-PURP again=go-SIT-REP-DECL
'They say then, coming back, after one year he went to take out the bones.'

The fact that a non-identity marker appears, in spite of the identity of the two subjects is dues to the fact that the events are temporally separated.

Another type of pragmatic influence on the SR system is presented by Amele, where "unexpected" non-identity marking is determined by changes in the situation other than a referential switch. The non-identity marker *-co* in (37) is claimed by Roberts (1988) to indicate a change of place.

(37) Amele [TRANS-NEW-GUINEA], Roberts 1988: 61
age ceta guldo-co-bil l–i bahim na tac-ein
3PL yam carry-NONID-3PL go-IDENT floor on fill-3PL-REM.PST
'They carried the yams on their shoulders and went and filled up the yam store.'

In (38) from Central Pomo, the identity marker *-hi* is used in spite of distinct subject referents, due to the fact that the events form a thematically coherent sequence.

(38) Central Pomo [POMOAN], Mithun 1993: 126
ʔá· mk^{h}e k^{h}čé=ʔel dó-č-hi mí=·li ma
1A 2A bridge=the make-SML-IDENT that=with 2PAT
ʔdí-m=ʔk^{h}e
take.PL-across=FUT
'I will build the bridge for you and on that you'll take them (across)' = 'I will build you a bridge to take them across on.'

A line of inquiry to deal with cases such as (36)–(38) is proposed by Stirling (1993), who argues for a broader functionality of switch reference. In her perspective, switch reference is about congruence between eventualities, of which reference tracking forms a sub-function. Nevertheless, she also notes that referential (dis)continuity always forms a part of SR systems. She identifies six pivots of switch reference systems (1993: 150–151):

- referential (dis)continuity: this includes the 'classic' or 'canonical' form of SR systems as defined by Haiman and Munro, even though the data that Stirling discusses call for a more liberal approach than the strict syntactic subject approach.
- agentivity value of important protagonist: unexpected DS marking may occur when the reference remains constant, but the agentivity value of that participant changes. Unexpected SS marking may occur when the syntactic subjects are not coreferent, but the subject of the reference clause does not introduce a new agentive participant (e.g. in the case of impersonal constructions).

- tense/time of the event: this pivot mainly concerns that the events agree in time, i.e. they take place in what is considered to be the same moment or stretch of time.
- location of the event: in some languages, DS marking may occur under identity of subjects if the two events take place at different locations
- mood of the clause. In some languages, there is a basic opposition between agreement between realized or non-realized events which is marked by the switch reference system.
- continuance or shift out of a cohesive sequence of events: Stirling reports of languages (Amele, Yankunytjatjara) where DS markers may be used to indicate an unexpected, surprise change in the expected course of events.

In Stirling's approach, identity is about agreement between aspects of eventualities, non-identity is about disagreeing in at least one of the eventuality parameters.

Based on Stirling's work Huang (2000) outlines a possibility that principles of SR systems can possibly be reduced to more general, neo-Gricean principles. In this approach, cooperative communicative behavior requires that continuity of eventualities be encoded by identity constructions. If a non-identity encoding strategy is used, this leads to a Q-implicature (the continuity cannot be maintained). Consistent with the cross-linguistic dominance of referential continuity in SR systems, the preferred I-interpretation (the I Principle is the maxim of minimization) is a referential switch. If this is not the case, the non-identity construction is taken to mark some other discontinuity between eventualities, like time (as in Tsafiki) place (as in Amele). The precise interpretational scheme is language specific (Ibid. 301).

McKenzie (2012) offers an alternative account of SR as (potentially) marking (shifts in) a topic situation, which he defines as "a silent pronoun that refers to the part of the world that the sentence is about, and on which its truth depends" (Ibid: 1). This silent pronoun may refers to the spatio-temporal or thematic contexts against which a proposition is evaluated. In SR (sub)systems that are sensitive to topic situations, identity clauses must contain two clauses whose propositions are evaluated against the same topic situational context. In this way, scene-shifting effects occur, leading to "unexpected" non-identity marking, and "unexpected" identity marking may occur when the topic situation for the two propositions is identical in spite of the fact that there are different subjects. McKenzie furthermore claims that topic-situation tracking takes preference over subject tracking (whenever a topic situation can be tracked it will be tracked in a SR system). Since all matrix clauses have a referential topic situation, and since coordination is the combining of two matrix clauses, it follows that SR in coordinate clauses always tracks topic situations. In subordinate clauses, subjects are tracked.

5. Diachronic development of SR systems

The diachronic development of SR systems is still an understudied topic, and there is no clear overview yet of the ways in which SR systems emerge and develop. In this section I discuss a number of proposals that have been made with respect to emergence scenarios of SR systems (5.1), and in Section 5.2, because contact-induced accounts of SR have been a recurring topic in SR-related research, I give a concise characterization of a number of "SR areas" in the world.

5.1 Origins of SR

Haiman (1983), focusing on Papuan languages, discusses two types of SR systems: (i) systems where the main difference between identity and non-identity medial clauses consists of the lack of (local) person marking in identity clauses (reduction strategy – see Matić et al. 2014), and (ii) systems in which the main difference between identity and non-identity medial clauses is that the latter is marked by some additional morpheme (addition strategy – see Matić et al. 2014).

Haiman's diachronic argument for the reductionist systems that he discusses is that they have their origins in conjunction reduction strategies, where shared participants may be gapped. A system that comes close to the purest form of the gapping scenario is from Ono, where non-identity verbs are inflected for person (with different forms than found in reference clauses)[27] and identity verbs carry no person inflection.

(39) Ono [Trans-New-Guinea], Haiman 1983: 108, based on Wacke 1931

a. *ngauk* *ne-ki* *ari-mai-ke*
tobacco smoke-3sg.nonid go-prog-3sg
'He$_i$ had a smoke and he$_j$ left.'

b. *ngauk* *ne-ø* *ari-mai-ke*
tobacco smoke-ident go-prog-3sg
'He had a smoke and left.'

Haiman mentions several different variations on this theme, which may involve additional marking for both the identity and non-identity clause, but where the main difference is still that the identity clause has no person marking (except in some instances anticipatory person marking which agrees with the reference clause) whereas the non-identity clause does.

27. Haiman does not specify the origins of these medial person markers, but suggests that there may be a variety of origins in different languages.

In languages of this type, Haiman argues, this situation applies in coordinate constructions[28] only, and the position of the 'gap' is dependent on whether the person markers are prefixes or not. He connects this to the fact that in gapping, these two requirements also apply (coordination requirement and the branching-dependent position of the gap), thus arguing for gapping as one of the constructions that may give rise to a SR system.[29]

In languages of the second type, the non-identity clause differs from the identity clause in that it contains a (usually invariable) additional marker that is absent in identity constructions. An example of this type of language is Maring.

(40) Maring [Trans-New-Guinea], Haiman 1983: 115, based on Woodward 1973

a. pee-ba
go-3sg
'He went and…'

b. pee-ba-k
go-3sg-nonid
'He went and (another)…'

The diachronic scenario that may give rise to languages of this type is a conjunction marker or nominalizing particle which in principle has open reference, but which specializes into marking non-identity, in Haiman's words (Ibid.: 107): "the portion of the meaning of a category that is unique to it".

A slightly different though not unrelated diachronic perspective is offered by Givón (1983) who insists on viewing SR from the wider functional angle of topic continuity, and also has a more liberal interpretation of what constitutes a SR system than Haiman and also than the present chapter. He reviews five coding strategies that can be connected to topic (dis)continuity cross-linguistically, given in Table 5 (Ibid. 69).

Givón argues that each of the five coding contrasts in Table 5 has a certain degree of potential to develop into more grammaticalized systems such as SR. The top coding strategy, unstressed/zero versus stressed pronouns, can be connected to Haiman's first

---

28. Haiman defines coordination on the basis of the number of features the two subclauses have in common: the more features they share the more coordinate the construction. This differs from the conception of coordination in e.g. Finer (1984, 1985) discussed above.

29. Note that, in the approach to SR described here, pure reduction strategies, where the only difference between identity and non-identity is the lack of person expression in the former, are not considered canonical SR systems since they do not involve any additional flagging. Ono qualifies as an SR language because the person markers of the non-identity clauses differ from those in an independent clause.

Table 5. Topic (dis)continuity coding strategies with grammaticalization potential (Givón 1983)

Continuity coding devices	Discontinuity coding devices
unstressed/bound/zero pronouns	stressed/independent pronouns
non-finite/participial/nominalized clauses	finite or other subject-marked clauses
comment-topic order	topic-comment order
deictic proximity	deictic remoteness
pronominal first person	pronominal third person

scenario. An example of a grammaticalized system on this basis given by Givón is from Lango, on the basis of a personal comment by Michael Noonan.[30]

(41) Lango [Nilotic], Givón 1983: 70

a. *lócà ò-támó ní ò-nẹ̀ɲò gwók*
man he-think that he-saw dog
'The man$_i$ thought he$_i$ saw the dog.'

b. *lócà ò-támó ní ẹ̀-nẹ̀ɲò gwók*
man he-think that he-saw dog
'The man$_i$ thought he$_j$ saw the dog.'

The difference in form between the two types of third person markers can be traced back to the bound versus free pronouns of Lango, the former having developed into identity markers, and the latter in to non-identity markers.

The second coding principle is not unlike the first in that finite structures. or structures in which the subject participant is marked in some way, are more informative than non-finite structures and the principle of economy will predict that you will find the less informative structures in situations where this does not lead to interpretative difficulties. In addition, as was also pointed out by Haiman, the specific markers of dependency, be they nominalizers or conjunction markers, can develop into identity and non-identity markers.

The bottom three contrasts are, in Givón's view, less likely to give rise to grammaticalized reference-tracking systems. Word order differences are contrastive as markers of relative prominence, but not as contrastive as the more powerful zero versus non-zero contrast, which form the more extreme points on the continuum of treatment of

30. Givón classifies the Lango system as a SR system, but it is rather a logophoric system. Nevertheless, the general point remains that the opposition mentioned by Givón can lead to a more grammaticalized reference tracking device.

topic and comment structures, and are therefore more likely to grammaticalize than the word order contrasts, see Figure 4 (Givón 1983: 72).

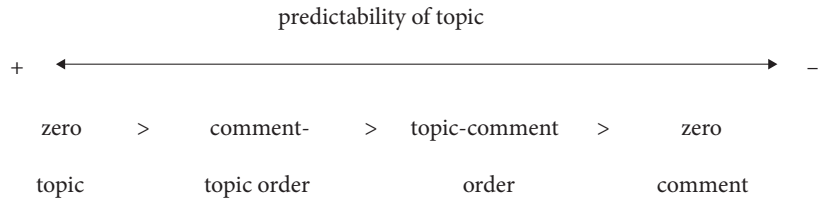

Figure 4. Grammatical treatment of topic and comment

The proximate versus distal oppositions in deictic expressions (corresponding to given/definite versus new/indefinite information) is not expected to give rise to systems where (dis)continuity of subjects is at stake, since subjects tend to be overwhelmingly definite. Nevertheless, Givón gives an example from Persian, where topic continuity marking (which, in Givón's view, belongs to the same functional domain as SR marking) is based on the distal versus proximate distinction.

Givón's final coding strategy is restricted to the Tibetan language Sherpa, where subject agreement (limited to perfect aspect) contrasts speaker versus non-speaker. When these perfect structures form complements of verba dicendi, they may give rise to SR-like systems (on the basis of a personal communication by Konchcchok J. Lama).

(42) Sherpa [Sino-Tibetan], Givón 1983: 76

a. *ti-gi* *si-kyaa-sung* *cenyi* *caax-yin*
he-ERG say-AUX-PERF.2/3 cup break-PERF.1
'He said: "I broke the cup"' >> 'He$_i$ said he$_i$ broke the cup.'

b. *ti-gi* *si-kyaa-sung* *cenyi* *caax-sung*
he-ERG say-AUX-PERF.2/3 cup break-PERF.2/3
'He said: "He broke the cup"' >> 'He$_i$ said he$_j$ broke the cup.'

A further often mentioned source for SR markers are case markers, in particular with respect to contact-induced diffusion of SR systems, through a process of exaptation. The first to draw attention to this in a systematic way was Austin (1980, 1981). Austin (1981) discusses various Australian languages with a switch-reference system and argues for an account of the distribution of SR languages in terms of contact-induced diffusion. One of his arguments is that areal patterns can be discerned on the basis of correspondences between nominal case markers and SR markers in relative clauses. Three contiguous geographical areas can be distinguished: one where there is a correspondence between locative case and non-identity markers, one where there is a correspondence between locative case and identity markers, and a third where there is a correspondence both between locative case marking and identity marking and

between allative case and non-identity markers. The connection between case markers and SR markers has been reported for other, unrelated languages or language families, like the Tacanan (e.g. Guillaume 2011; Vuillermet 2014), Panoan (e.g. Valenzuela 2003; Zariquiey 2011) and Jivaroan (Overall 2007) families in South America. In North America the case-SR connection is discussed for, among others, the Muskogean (but see McKenzie 2012 for a critique, and for a detailed analysis of the relation between the case markers and switch reference markers of Chickasaw see Munro, this volume), Yuman, Uto-Aztecan families (see Jacobsen 1983 and McKenzie 2015 for overviews). An important issue in the potential paths of emergence of SR systems is the type of clauses for which a SR system grammaticalizes. As mentioned above, the gapping source was considered by Haiman to be indicative of a grammaticalization path through coordinate-like clauses. Austin emphasizes the role of (nominalized locational) relative clauses in the development of the locative cases into SR markers, while Jacobsen regards case marker origins to point to paratactic structures. An interesting observation is made in Bickel (1999) who hypothesizes that many synchronic SR systems have evolved from absolute constructions. In fact, classical absolute constructions as in Ancient Greek (as well as other languages) come close to SR systems because they are in "pragmatic competition with conjunct participles (*participia coniuncta*) that show case agreement with a coreferential argument of the matrix, occupy roughly the same adsentential position as absolutes, and fulfill a similar discourse function" (ibid.: 46). Example (43) shows an absolute construction (43a) and a conjunct participle construction (43b) in Ancient Greek.

(43) Ancient Greek [Indo-European, Graeco-Phrygian], Bickel 1999: 46

a. *[ek dè toútou thâtton proïó-nt-ōn*
out PRT DEM:GEN.SG.M faster proceed-IP-GEN.PL.M
sún kraug-ê̱] apò toû automátou
with shout-DAT.SG from ART:GEN.SG.M spontaneity:GEN.SG
drómos e-géne-to
run:NOM.SG PST-become-3SG.IMPERF.MID
toîs stratiṓt-ais. ⟨Xen. Anab. I, 2, 17⟩
ART:DAT.PL.M soldier-DAT.PL
'But afterwards, as they (the leaders) proceeded faster and with a loud shout, the soldiers took to a running pace by themselves.'

b. [*hoû dè̱ tòn aítio-n*
where thus ART:ACC.SG.M responsible:ACC.SG.M
theò-n humnoû-nt-es]
god:ACC.SG praise-IP-NOM.PL.M
dikaíōs àn humn-oî-men Érōt-a. ⟨Pl. Symp. 193d⟩
rightly PRT praise-OPT-1PL Eros-ACC.SG
'If we thus praise the responsible god, we may rightly praise Eros.'

This constellation, whereby the absolute construction is roughly associated with participant discontinuity, and the conjunct participle construction with referential continuity, can grammaticalize into a switch-reference system. Bickel argues that the SR systems of languages in the Yuman, Muskogean, and Uto-Aztecan families followed this path.

A final origin that has been mentioned for several languages are modal markers, like realis/irrealis or related markers (e.g. Roberts 1997: 121 for Dami, Gordon 1983 for Maricopa, van Gijn 2011 for Yurakaré). In the following example from Yurakaré, both functions (identity-irrealis and reportative/uncertainty) of the marker *ya*, which ultimately probably derives from the verb *-ya-* 'to answer' can be seen.

(44) Yurakaré [ISOLATE], van Gijn 2014: 294

kummë	*otto-ø-ti*	*aramba-**ya***	*ana-ja-lë*
tree	go.out-3-NONID	break.off-**IDENT.IRR**	DEM-MEA-AUG
ti-ja-mala-cha-m		*mi-shansha=y*	*ku-ta-ø-**ya***
1SG-3SG-go.SG-JUS-2SG.S		2SG-tooth=LOC	3SG.VC-say-3-**REP**

'"If there is a tree that has come out, break a twig of and bring it to me in your beak", they say that he [Noah] said to him [the parrot].'

McKenzie (2012), although he rejects any direct connections between SR systems and other systems in languages, draws attention to the importance of the process of *exaptation* to the study of SR, which he describes as "the co-opting of morphemes from one module of grammar to another, without changing phonetic form, in order to serve a different function" (Ibid. 71). For McKenzie, exaptation is often triggered by language contact, and a resulting pattern replication (i.e. the borrowing of abstract patterns or subsystems without the transfer of any phonetic substance from one language to another). This scenario still leaves some questions unanswered, in particular why pattern replication is more common for SR systems than morpheme borrowing, and why certain morphological sources of SR markers are more common than others.

5.2 SR areas

As mentioned above, SR tends to occur in geographical clusters, and often across genealogical boundaries. It is therefore not surprising that people have regarded the distribution of SR systems to be influenced heavily by language contact. I briefly characterize a few of these "SR areas" in this section.

Western North America

According to the survey in McKenzie (2015), 68 North American languages have an SR system, spread over 12 families and 4 isolates. The presence of SR systems is clearly geographically skewed, with the bulk of the SR systems found in a contiguous area

in the (south) west of the United States and adjacent areas in north-western Mexico. Compared to other SR areas, SR in North American languages is found in a relatively large range of clause types: coordinate, relative, and complement clauses, as well as in semantically underspecified clause chains. Jacobsen (1983) translates this into a division into two types of languages, those which have SR only in adverbial clauses, and those that have SR in adverbial clauses as well as in other clause types, which could be translated in the form of an implication: if a NA language has SR in non-adverbial clauses, it has SR in adverbial clauses. McKenzie (2015) proposes another implication for North American SR: although a number of reports on individual North American languages have revealed that there are quite some deviations from the "canonical" subject pivot, in favour of marking inter-event coherence. Nevertheless, McKenzie observes that canonical SR is always part of the function of SR markers in North American languages, yielding the implication that if a language has non-canonical SR, it also has canonical SR (in McKenzie's approach meaning tracking subject reference). In terms of their morphology, most SR systems in North America have two opposed values (identity and non-identity) and the marker function independently from agreement paradigms. None of the SR markers is a proclitic or prefix, but SR markers can be suffixes, enclitics, or root forms, generally "found near the edges of the pivot clause [i.e. the marked clause – RG & JH], though not exclusively" (McKenzie 2015: 444). Also, in a number of cases the identity and non-identity markers are asymmetrical in terms of their morphological categories.

Jacobsen (1983) is careful in drawing any conclusions about diffusion as a possible reason for the distribution of SR systems in North America, saying that "the centrally located Yuman and nearby Uto-Aztecan languages (Hopi and Papago) may be a prime source of this influence [i.e. contact-induced diffusion of SR – RG & JH]", based on the fact that as one moves away from this central area, SR is less prominently present in the languages.

Western South America

SR systems are particularly common in Western South America, both in the Andean mountain range (Quechuan, Uru, Chipaya, formerly also Aymaran) and the adjacent upper Amazon area (e.g. Tacanan, Panoan, Barbacoan, Tucanoan, Jivaroan). SR has also been reported for Eastern Macro-Jê languages (Rodrigues 1999) and a SR-like system is found in a number of Tupian languages, which are spread over the entire northern half of the continent.

The SR systems found in western South America have a number of traits in common. First, in almost all cases, both identity and non-identity situations are morphologically marked, almost invariably by a suffix, in some cases by an enclitic. The most common clause type where SR is found is a (co-)subordinate adverbial clause, usually

with temporal meaning; other common interclausal semantics are conditional, reason, concession, and purpose. In a few language families (Panoan, Jivaroan) longer clause chains are common, and in most SR languages tail-head linkage seems to be frequent. In terms of the controller and target categories, most languages have syntactically defined subject pivots, but Panoan languages in particular allow for different types of coreference pivots, involving intransitive subjects (S), transitive subjects (A), and objects (P). An understudied part of South-American SR is its usage patterns. For a few languages, a number of factors have been identified that interfere or override the automatic application of SR based on the pivot categories, to do with accessibility, focus, referentiality, and event coherence.

In spite of the similarities between some of the systems in South America, the SR systems in most families show coherent family-internal patterns, with peculiarities that are specific to SR in that language family, e.g. with respect to cumulative exponence of the SR markers, controller and target categories, and interclausal semantics. This suggests that SR has been a part of those families at the time the languages started to diverge. For more information, see the contributions by van Gijn and Floyd & Norcliffe in this volume.

West and central Australia

Austin (1981) reports the occurrence of SR in a number of unrelated languages in a large continuous area in central and south-western Australia. Austin surveys 6 language groups with SR systems: Arabana-Wangganguru, Nyungic, (Western Desert, Mantharta, Kanyara, Ngarrka), Arandic, Wagaya, Garawa-Wanyi, and Djingili. The Nyungic and Mantharta groups belong to the Pama-Nyungan family.

Australian SR systems display a good deal of overlap. SR occurs between subordinate and main clauses, and is marked by a suffix on the subordinate verb. The pivot is defined syntactically as the subject (S and A) both for the controller and the target, and most systems work with a binary contrast of identity versus non-identity, although there are exceptions to this pattern, for instance in systems where the number of markers is increased by the fact that the identity marker also expresses the syntactic function of the coreferential main clause NP (Warlpiri and Warlmanpa). SR marking is found in relative clauses (with a sometimes wide range of semantics) and in purpose clauses. Perhaps most strikingly from a contact perspective, the distribution of clause types with SR follows a clear areal and non-genealogical pattern. The languages to the north and south of the SR area display SR in relative clauses only, while the ones in the middle and to the west tend to have SR in both relative and purpose clauses. The other areal phenomenon, mentioned above, is the source of some of the SR markers from spatial case markers. If these facts are coupled with the fact that the phonetic form of the markers does not suggest direct borrowing, the situation in Australia, at least for some of the markers, seems to be most elegantly explained by contact-induced exaptation as discussed above.

New Guinea and Oceania

According to Roberts (1997: 102) in his survey of SR systems in Papua New Guinea, SR "occurs in more languages that are geographically adjacent than anywhere else in the world". In his sample of 169 languages, Roberts (Ibid. 122) reports that 122 (70%) have a SR system. The SR languages of Papua New Guinea are by and large spoken in the large geographically contiguous highland area covering the central, north-eastern and south-eastern part of the mainland, as well as some non-contiguous areas particularly on Bougainville Island. Further removed, the Austronesian languages spoken on Vanuatu display a (rather different type of) SR. The area may be larger, but Roberts only surveys PNG. Because of ongoing discussions about the genealogical relatedness between the different PNG languages, it is difficult to discern the genealogical and areal contributions to the current situation, although it is clear that genealogy alone cannot explain the distribution, suggesting an important role for contact.

Papuan SR structures are characterized by potentially large strings of medial verbs and a finite anchor clause. In most languages these medial verbs are semantically rather vague or unspecified and their interpretation derives from context. There are also a handful of languages that have more than one type of medial verb depending on the interclausal semantics. There is quite some variation in terms of the formal encoding of SR between the languages. Roberts (1997: 136) distinguishes seven strategies, the most common of which is a morphological opposition between two dedicated morphemes, another common way to mark non-identity is by marking its subject (often with a special set of person markers). A special feature of the Vanuatu languages is the marking of the anticipatory subject, as briefly discussed above under the heading of echo subjects. Finally, an important feature of some PNG languages is that their SR systems do not track the syntactic subject category, but rather the semantic category of agent (like Alamblak), topicality (like Barai) or spatio-temporal cohesion (Amele).

Ethiopia

Africa does not belong to the traditionally recognized SR areas and is highly understudied in this respect. A recent paper by Yvonne Treis (2012) argues for a *bona fide* SR area in south-western Ethiopia, where a number of East Cushitic languages have developed SR systems under the influence of North Omotic languages.

In the Cushitic languages Kambaata, Alaaba, Hadiyya, and Sidaama, SR is marked for a subset of the available converbs – verb forms that are reduced in inflectional potential used to encode mostly adverbial functions. The SR converbs generally precede the controller clause and they may express a variety of semantic relations to the controller clause. The Cushitic languages differ in the extent to which SR applies and the way in which it is marked. In Kambaata, SR seems to be most grammaticalized. Subject switches are obligatorily marked on perfective and imperfective contexts,