

## **CLIPP**

### **Christiani Lehmanni inedita, publicanda, publicata**

#### **titulus**

Partial coreference  
(Beate Hampe coauctrice)

#### **huius textus situs retis mundialis**

<http://www.christianlehmann.eu/publ/coreference.pdf>

#### **dies manuscripti postremum modificati**

11.06.2013

#### **occasio orationis habitae**

-

#### **volumen publicationem continens**

Bakker, Dik & Haspelmath, Martin (eds.), *Languages across boundaries: Studies in memory of Anna Siewierska*. Berlin: De Gruyter Mouton

#### **annus publicationis**

2013

#### **paginae**

171-208

# Partial coreference

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## Abstract

This study investigates clauses with two kinds of person forms (pronouns, cross-reference or agreement markers) in a quasi-reflexive constellation which have identical non-third person, but different number. Corresponding real-world scenarios are infrequent, but do occur. The issue is approached in two complementary ways: from a typological perspective, we investigate grammaticalization in paradigms of cross-reference markers; from a usage perspective, expressions with partially coreferential pronouns are studied in English and German corpora. Instead of syntactic rules which exclude such expressions categorially, a set of implicational hierarchies with associated principles emerges, which renders them more or less acceptable.

## 1. Introduction

Let us assume a two-place predicate, such as 'exploit', both of whose arguments may be human. Let us further pursue the question of what constellations of participants are possible in its two argument positions – or, syntactically speaking, what kinds of subjects can be combined with what kinds of direct objects. Selection restrictions or the entire extension of the empathy hierarchy do not matter here, because that parameter is already set to the value 'human'. The most relevant subdivisions inside this subcategory are provided by person and number. The question is thus which person and number values of the subject can be combined with which person and number values of the direct object and, analogously, of other syntactic functions of two- and three-place predicates.

Before we elaborate on the theoretical side of the issue, let us consider Table 1, which provides an illustrative English example in order to clarify the nature and relevance of the issue. Concerning the forms in the second person, we have made visible the number differences for demonstrative purposes by using Early Modern English.

As can be read off from the blue cells of Table 1, subject-object combinations with identical first or second person and identical number automatically yield coreference between these arguments, which generally makes the use of a reflexive construction obligatory.<sup>2</sup> We have stipulated coreference for the third person, too, so as to complete the picture. However, the blue cells will not occupy us any further. The white cells of Table 1 display cases with disjoint pronominal references and are thus of no concern to this study either.

<sup>1</sup> The names of the authors appear in alphabetical order. We thank Balthasar Bickel, Volker Gast, Martin Haspelmath and Ekkehard König for helpful discussion of the typological data presented at the Leipzig Workshop in memory of Anna Siewierska.

<sup>2</sup> Quirk et al. (1985: 375, 6.2.4, note [c]) remark that the use of personal pronouns in this context is occasionally found, esp. in colloquial American English.

Table 1: Person-number combinations for subject and direct object in English

object subject \ person	person	1		2		3	
person	number	sg	Pl	sg	pl	sg	pl
1	sg	I exploit myself	I exploit us	I exploit thee	I exploit you	I exploit him	I exploit them
	pl	we exploit me	we exploit ourselves	we exploit thee	we exploit you	we exploit him	we exploit them
2	sg	thou exploitest me	thou exploitest us	thou exploitest thyself	thou exploitest you	thou exploitest him	thou exploitest them
	pl	you exploit me	you exploit us	you exploit thee	you exploit yourselves	you exploit him	you exploit them
3	sg	he exploits me	he exploits us	he exploits thee	he exploits you	he exploits himself	he exploits them
	pl	they exploit me	they exploit us	they exploit thee	they exploit you	they exploit him	they exploit themselves

The problem at issue appears in the red cells, where subject and direct object exhibit the same person, but different number specifications. These examples seem odd, i.e. English speakers are in doubt about whether and to what degree such sentences are acceptable. Note, however, that these sentences are by no means strange in denotational terms. States of affairs designated by them are quite possible, and there is no *prima facie* reason why they should be designated by anything else than these sentences. In that respect, the examples under investigation here differ from such constellations as 'we beget me', which incur a denotational problem.

Analyzing the reference relations between subject and object in the red cells, we see that the plural pronoun appearing in one argument position refers to a set of persons which properly includes the referent of the singular pronoun in the respective other argument position. That is to say, the reference relation includes a coreference, so that this particular aspect of the expression fulfills the condition for reflexivity. Any attempt to try and improve these sentences by the use of a reflexive pronoun in their object position, however, only seems to make matters worse: *I exploit ourselves*, *we exploit myself*. The oddness of the expressions in the red cells of Table 1 can therefore be ascribed to the fact that the reference relation they exhibit is neither a case of coreference nor a case of disjoint reference, but somehow both and neither.

Though structurally analogous to the red cells, the yellow ones are quite unobjectionable. On their most natural readings, these sentences are completely inconspicuous and involve disjoint references for subject and object. It is, in fact, not easy to get the readings corresponding to the red cells, where 'he' is an element of the set designated by *they/them*. Forcing that interpretation, the same kind of 'anomaly' as in the red cells arises. Note, however, that these sentences cannot as easily be discarded as ungrammatical or unacceptable as may be the case with the examples in the first and second person (see the examples in (17), section 4.2 below).

In what follows, we shall focus on the existence of constructions which necessarily involve incomplete, or *partial*, coreference, and therefore exclude third-person constructions from further consideration. As a starting point, let us thus define partial coreference in general and precise

terms:<sup>3</sup>

*Proposition 1:* Partial coreference

Nominal expression A is partially coreferential with nominal expression B iff the sets of referents  $R_A$  and  $R_B$  designated by the two expressions overlap in such a way that there is a set  $R_C$  which is included in both  $R_A$  and  $R_B$  and properly included in at least one of them (i.e.,  $R_A$  and  $R_B$  are neither identical nor totally disjoint).

Partial coreference between A and B is syntactically relevant if it occurs inside a clause or, more precisely, if nominal expression A functions as or cross-references the subject of a clause and B functions as or cross-references another dependent (complement or adjunct) of the main-clause predicate of the same clause. Under such conditions, the question arises whether A and B can be represented by simple person forms (pronouns, cross-reference or agreement markers). We are interested in simple forms, because any ‘deficiency’ supposedly or actually associated with a sentence such as (1.a) can in principle be avoided by a reformulation along the lines of (1.b).

- (1)    a. *I exploit us.*
- b. *I exploit myself and you.*

The constellation of syntactic functions described in the syntactic-relevance condition underlies reflexivity in many languages, viz. (counter to Proposition 1) in case A and B are fully coreferential. The clearest case of the type of construction delineated by the syntactic-relevance condition is the transitive-verb construction, illustrated in (1) and (2.a), though the BNC examples in (2.b-f) suggest that other syntactic contexts should not be excluded from investigation:

- (2)    a. *I embarrass us both.* (BNC-CDA)
- b. *I could send us both to prison.* (BNC-HTT)
- c. *I gave us both an enormous gin and tonic.* (BNC-CL2)
- d. *I never cook for us and we don't have dinner parties.* (BNC-CH5)
- e. *I certainly want us all to enjoy this rare journey, my dear.* (BNC-FU8)
- f. *Let me get us some crusty bread.* (BNC-KD7)

The problem to be investigated is an empirical one: To what degree are constructions with partially coreferential pronominal complements of the verb acceptable in languages?<sup>4</sup> As will be

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<sup>3</sup> As becomes clear from the definition, partial coreference has nothing to do with “split self” sentences of the type *If I were you, I would hate me/myself*. The most recent treatment of the latter is Kamholz (2012), with references to earlier work.

<sup>4</sup> A few words of explanation seem at place. Apparently, the problem of partial coreference has been attended to once in the preceding literature (Cysouw & Fernández 2012). In fact, we came across that paper only after our own article was half finished. Our paper shares with Cysouw & Fernández’s work the major research question, parts of the methods and the results. We have not reacted to that discovery by renouncing our own work, but try

shown, the issue takes on typological interest because in some languages, the construction schemata underlying Table 1 are codified in personal agreement paradigms of transitive verbs. The question is thus what the red cells look like in those paradigms. For the time being (and in line with what was said above), it suffices to anticipate that the sort of paradigm gap that we are confronted with in the first and second persons does not occur in the third person. Apart from typological interest, the problem has also stirred some theoretical discussion in generative grammar (Postal 1966, Cooper 1976), esp. binding theory (Rooryck 2006), concerning the grammaticality of expressions with partially coreferential pronouns. Especially examples like those illustrated in (2.a.b) were declared ungrammatical in English by generative treatments from Postal (1966) to Lasnik (2011).

Given that language users need to be able to refer to situations with partially overlapping sets of participants (no matter how infrequent these may be), we hypothetically see expressions with partially coreferential pronominal complements of the verb as the language user's response to a very particular communicative need, which grammars usually do not provide a conventionalized means of expressions for. In other words, we assume that expressions with partially coreferential personal pronouns present compromises, or makeshift solutions, as it were, to the verbalization problem posed by such rare scenarios.

From this, a number of further (likewise empirical) questions follow all of which are related to potential asymmetries in the occurrence of the feature values of the categories of the person forms involved, i.e. person, number and case (if applicable)/syntactic function. Several of these questions have been raised as well as tentatively answered in the preceding literature (cf. Cysouw & Fernández 2012, §2). With respect to the values of the category person, it seems that first-person expressions lend themselves more easily to partial coreference contexts than second-person ones. With respect to the category number (i.e. the question of whether it matters which set of referents includes which), expressions with singular subjects seem to adapt to situations with partial coreference more easily than expressions with plural subjects.<sup>5</sup> With respect to syntactic function, it is assumed here that partial-coreference constellations will be the more readily acceptable the lower the syntactic function of the non-subject complement is in the syntactic hierarchy. Finally, and in close conjunction with the previous assumption, we hypothesize that the acceptability of partial-coreference constellations decreases with increasing degrees of the grammaticalization of the person forms involved.

As a large-scale typological investigation is not feasible at this point, we will approach the issue by combining two complementary methodologies to make up for any potential shortcomings of such an abridged procedure. In section 2, we will take a look at the agreement paradigms of a number of languages in order to check whether and how the space corresponding to the red cells of Table 1 may be filled. It goes without saying that other languages have different person/number categories than English, so the structure of the tables to be analyzed in section 2 below will not simply replicate Table 1. Section 3 will present the results of a systematic corpus study of all first-person pronominal expressions with partial coreference in the BNC World Edition (BNC Consortium 2000), backed up by additional German data from the MECOLB archive of COSMAS II (IDS 2012). In section 4, finally, we will discuss our findings

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to broaden the empirical basis to both validate and get beyond their theoretical insights.

<sup>5</sup> Asymmetries between the various person- and numbers specifications were first postulated in Rooryck (2006), where the respective dispreferred values were declared ungrammatical in English and French.

with a special view to the asymmetry issues alluded to above. To anticipate one aspect of our argument in section 5 below, it is no coincidence that we rely on grammars for the investigation of clitic or affixal paradigms, while we do corpus research for the study of free pronouns – it could not be the other way round.

## 2. Typological case study: Defective agreement paradigms

As announced above, we firstly apply our research question to a convenience sample of languages which possess cross-reference or agreement of the verb with both subject and object in person and number. In doing so, we have to allow for different sets of values for both the person and the number parameter. Importantly, our question is aggravated if a language possesses more numbers, e.g. a dual or different first-person non-singular forms (1+2, 1+3 and the like).

The three languages chosen use free pronouns only for emphasis; the linguistic representation of situations of partial co-reference is thus essentially a question of the paradigm of agreement or cross-reference markers on transitive verbs.

Regarding the method employed in this case study, two remarks are at place: On the one hand, text corpora of these languages are either small or unavailable, and since constellations of partial coreference are rare, anyway, they would not be likely to appear in these corpora. On the other hand, adequate grammars are available, and they are sufficiently explicit about the question at issue.

### 2.1 Mangarayi

Mangarayi (Merlan 1982, esp. ch. 2.1.3.6.2.2) has agreement of the transitive verb with subject and direct object. There are, in principle, two prefix slots for agreement with each of these dependents. These, however, are occupied following complex rules, and several of the morphs are portemanteau, so that Table 2 follows Merlan's (1982) account in showing one (complex) prefix position.

Table 2: Person agreement in Mangarayi

object subject	person	1							2			3		
person	number	sg.	excl.du.	excl.pl.	incl.du.	incl.pl.	trial	singular	dual	plural	sg.	dual	plural	
1	sg.	[refl]	-	-	-	-	-	ñan-	nuran-	ñuyan-	ŋa-	ŋawuran-	ŋawuyan-	
	excl.du.	-	[refl]	-	-	-	-	ŋir-	nuran-	ñuyan-	ŋir-	ŋirwuran-	ŋirwuyan-	
	excl.pl.	-	-	[refl]	-	-	-	ŋila	nuran-	ñuyan-	ŋila-	ŋilawuran-	ŋilawuyan-	
	incl.du.	-	-	-	[refl]	-	-	-	-	-	ŋi-	ŋiwuran-	ŋiwuyan-	
	incl.pl.	-	-	-	-	[refl]	-	-	-	-	ŋala-	ŋalawuran-	ŋalawuyan-	
	trial	-	-	-	-	-	[refl]	-	-	-	ŋar-	ŋarwuran-	ŋarwuyan-	
2	sg.	ŋan-	ŋiran-	ŋiyán-	-	-	-	[refl]	-	-	ña-	ñawuran-	ñawuyan-	
	du.	ŋanbur-	ŋiranbur-	ŋiyánbur-	-	-	-	-	[refl]	-	ŋur-	lawyan-	lawyan-	
	pl.	ŋanba-	ŋiranba-	ŋiyánba-	-	-	-	-	-	[refl]	la-	lawyan-	lawyan-	
3	sg.	ŋan-	ŋiran-	ŋiyán-	ŋin-	ŋayan-	ŋaran-	ñan-	nuran-	ñuyan-	[refl]	wuran-	wuyan-	
	du.	ŋanbur-	ŋiranbur-	ŋiyánbur-	ŋinbur-	ŋayanbur-	ŋaranbur-	ñanbur-	nuranbur-	ñuyanbur-	wur-	[refl]	wuyanba-	
	pl.	ŋanba-	ŋiranba-	ŋiyánba-	ŋinba-	ŋayanba-	ŋaranba-	ñanba-	nuranba-	ñuyanba-	wuļa-	wuyanba-	[refl]	

Just as in Table 1, we stipulate coreference for third-person cells lying on the diagonal, and cells in which special reflexive forms are used appear in blue, while yellow cells refer to situations in which third persons act on other third persons. Gaps in the paradigm are marked by red. They are constituted by the cases which fulfill the conditions of Proposition 1, i.e. which exhibit less than complete coreference between the two sets of referents involved. Merlan (1982: 162) speaks of “logical and pragmatic incongruities in the subject-object relation”. What strikes the eye is the perfect symmetry along the blue diagonal with respect to filled vs. empty paradigm cells. For the coding of partial coreference in this language, this implies that it does not matter which set of referents includes which; for whenever there is partial coreference, the subject-object relation cannot be coded on the verb at all.

## 2.2 Hixkaryana

Just like Mangarayi, Hixkaryana (Derbyshire 1979, esp. ch. 2.1.3.6) has agreement of the transitive verb with subject and direct object. The verb has only one prefix slot for these morphs, which thus largely amalgamate the categories of these two actants. Table 3 provides a survey of the paradigm.

Table 3: Person agreement in Hixkaryana

object subject \ person	1	2		3				
person	number	sg.	excl.	incl.	sg.	coll.	sg.	coll.
1	sg.	[refl.]	-	-	ki-	ki-V-yatxhe	i-	i-V-yatxhe
	excl.	-	[refl.]	-	amna o-	amna o-V-yatxhe	amna ni-	amna ni-V-yatxhe
	incl.	-	-	[refl.]	-	-	ti-	ti-V-yatxhe
2	sg.	uro mi-	amna	-	[refl.]	-	mi-	mi-V-yatxhe
	coll.	uro mi-V-yatxhe	amna V-yatxhe	-	-	[refl.]	mi-V-yatxhe	mi-V-yatxhe
3	sg.	ro-	amna	ki-V(-yatxhe)	o-	o-V-yatxhe	[refl.]	ni-V-yatxhe
	coll.	ro-V-yatxhe	amna V-yatxhe	ki-V-yatxhe	o-V-yatxhe	o-V-yatxhe	ni-V-yatxhe	[refl.]

As can be seen, there is no plural as such, but instead a collective feature. It is marked by the suffix *-yatxhe* for either subject or object or both alike. There are three first-person values: singular, including hearer (incl.), including third person while excluding hearer (excl.). The value ‘incl.’ combines with the collective suffix just like the other person values; but this is not shown in Table 3. For the constellations of the blue cells, Hixkaryana has a special reflexive prefix which remains out of consideration, too. What matters is the filling of the red paradigm positions. The paradigm in Derbyshire (1979:146) presents empty cells for these, nor can any pertinent examples be found in the grammar. It is particularly noteworthy that none of the nine logical combinations of first-person forms are morphologically instantiated. Moreover, the paradigm lacks forms for the combination of a first-person inclusive actant with a second-person actant. Derbyshire (1979:148) ascribes these lacunae to Postal’s (1966) “universal ‘inclusion constraint’”.

### **2.3 Yucatec Maya**

Yucatec Maya has two paradigms of cross-reference morphemes. One of these basically takes the form of enclitics that precede their syntactic head (which is not their phonological host) and cross-reference the subject of verbs and the possessor of nouns. They are therefore called ‘subject clitics’. The other paradigm takes the form of suffixes on the (nominal or verbal) predicate which cross-reference the subject of nominal and intransitive predicates and the direct object of transitive predicates. They are therefore called ‘absolutive suffixes’. This leads to the combination of clitics with suffixes on transitive verbs and possessed nouns, the former cross-referencing the subject or possessor, the latter the direct object or “referential argument” of the noun, resp. The subject indexes are discontinuous in the second and third person plural, where the clitic is supplemented by a suffixed morph identical in shape with the absolutive suffixes for these values. For the respective combinations of subject/possessor with object/referential argument, the transitive verb and the possessed noun then have two suffixed positions. The full paradigm is shown in Table 4. X is either a transitive verb or a possessed noun.

Table 4: Person cross-reference in Yucatec Maya

object subject \ person	1	2		3			
person	number	sg	pl	sg	pl	sg	pl
1	sg	[refl.]	in X-o'n	in X-ech	in X-e'x	in X	in X-o'b
	pl	k X-en	[refl.]	k X-ech	k X-e'x	k X	k X-o'b
2	sg	a X-en	a X-o'n	[refl.]	a X-e'x	a X	a X-o'b
	pl	a X-en-e'x	a X-o'n-e'x	a X-ech-e'x	[refl.]	a X-e'x	a X-e'x-o'b
3	sg	u X-en	u X-o'n	u X-ech	u X-e'x	[refl.]	u X-o'b
	pl	u X-en-o'b	u X-o'n-o'b	u X-ech-o'b	u X-e'x-o'b	u X-o'b	[refl.]

Since the two paradigms are essentially mutually independent morphologically, the combinations are highly regular. It is perfectly predictable how the red cells would have to behave. However, they do not appear in the grammars, and available texts contain no fully pertinent example. The closest hits found involve the hortative construction, as in (3):<sup>6</sup>

(3) Yucatec

Ba'le'	ko'x	a	bo't	a	p'aax!
however	go.HORT	SBJ.2	pay	POSS.2	debt
'However, come on, pay your debt!'					

The auxiliary *ko'x* is hortative for the speaker and one hearer. It is normally followed by a full verb in first person plural. Instead, (3) features the second person singular as the subject of the full verb. (4) is unique in showing the two subsets of referents addressed by the hortative distributed over subject and direct-object function of the full verb.

(4) Yucatec

Ko'x	a	láak'int-en!
go.HORT	SBJ.2	accompany-ABS.1.SG
'Come on, accompany me!'		

As it is probably no coincidence that the only examples from the available texts which exhibit partial coreference involve a hortative construction, it will be checked whether hortative constructions facilitate partial coreference in the two European languages investigated, too. Apart from such cases, the red cells of Table 4 might as well be marked by a hyphen, as in the preceding tables.

While we cannot hope to enumerate here the languages exhibiting the same type of gap in the personal agreement or cross-reference paradigms of their transitive verbs, there are certainly more such languages. Another one that we came across is Tapirapé (Tupí-Guaraní; Leite 1987).

### 3. Corpus study: Partial coreference in the BNC and COSMAS

As initially announced, the principal goal of the corpus-based part of this investigation is to study expressions like the ones appearing in the red cells of Table 1 in actual usage in a systematic way and thus to accumulate evidence to complement insights from the typological approach. Data displaying partial coreference of pronouns mainly come from English, viz. the World Edition of the British National Corpus (BNC Consortium 2000), which contains about 100 million words and is tagged for word-class. Additional evidence is brought in from German, viz. the MECOLB archive of the COSMAS II corpora (IDS 2012), which contains about 30 million words, which are morpho-syntactically annotated. For obvious reasons (recall the use of Early Modern English forms in Table 1), the BNC study is restricted to first-person expressions. COSMAS II, however, was searched for both first- and second-person expressions.<sup>7</sup>

<sup>6</sup> Abbreviations in the glosses are found at the end.

<sup>7</sup> A few examples of third-person partial coreference are briefly discussed in section 4.2.

### 3.1 Hypotheses

Following from the preceding literature as well as an initial investigation of our own data, we hypothesize that expressions with partial coreference (i) do not generally tend to exhibit reflexive pronouns, which mark full referential identity, making expressions with partial identity, like *I made ourselves a cup of coffee*, generally unacceptable (cf. Introduction). It is furthermore assumed that (ii) expressions with partially coreferential pronouns prefer singular subjects, i.e. occur with singular subjects more frequently than other clauses do, and (iii) become more acceptable the lower the post-verbal NP is located in the syntactic hierarchy, such that expressions with direct objects are least frequent (and also least acceptable or most doubtful) and expressions with raised objects most frequent. It is furthermore tentatively assumed that (iv) hortative constructions facilitate the use of partially coreferential pronouns.

A few remarks are at place concerning a number of corollaries of hypothesis (iii), which responds in part to the sort of observations that originally inspired principle A of the binding theory in GB-style generative grammar, stating that a post-verbal non-reflexive pronoun (serving as the direct object in a mono-transitive structure) may not be coreferential with the subject-NP. As indirect objects were treated differently in those models (showing lexical as opposed to structural case) and as they do not refer to entities directly affected by the situation, but typically to entities with recipient, beneficiary or source roles, they are expected to be more frequent and acceptable than direct objects when partially coreferential with the subject-NP. The same goes for prepositional objects. Under the assumption that, semantically, the objects of raising constructions are not the complements of the matrix verb at all and not necessarily a part of the matrix at that, such structures should be most readily acceptable with partially coreferential NPs. In this context, it would be interesting to see whether expressions with direct objects from “complex-transitive” structures of the sort of *they drove him out of town*, *they consider him a genius* or *they call him Fred* (cf., e.g., Quirk et al. 1985:56) occur more frequently than expressions with direct objects from mono-transitive argument structures. This hypothesis rests on the well-known fact that, analogously to raising constructions, these expressions exhibit instances of what has been called “secondary predication”, i.e. their direct objects are often not the arguments of their matrix verbs, but so-called “fake objects” (note the change of meaning incurred in the deletion of the predicative complement: *they drove him/they consider him/they call him*) and simultaneously serve as the subject of a secondary predication (‘he is out of town’, ‘he is a genius’, ‘he is Fred’), which is why they have received “small-clause” analyses (cf. e.g., Aarts 1992).

### 3.2 Methods

Concerning the English data, an exhaustive sample of non-negated first-person expressions exhibiting partial coreference was retrieved from the BNC World Edition, i.e. all instances of the constellation *I-VERB-us* and *we-VERB-me* were retrieved from the entire BNC. All possible morpho-syntactic contexts were included in the investigation, i.e. the queries asked for all expressions with up to two auxiliary or modal verbs, both with and without intervening adverbials. The expressions were retrieved from the tagged files of the BNC by using the regular-expression (REGEX) option of the free-ware concordancer ANTCONEC 3.2.1. The most complex REGEX employed in the query for expressions with 2 modal/auxiliary verbs and an intervening adverbial (see Appendix I.a) was progressively reduced to retrieve expressions with

one or no modal/auxiliary verb and without intervening adverbial.<sup>8</sup> Expressions with prepositional objects were retrieved separately, but along the same lines (see Appendix I.b).<sup>9</sup> In addition, the corpus was searched for non-negated hortative constructions of the forms *let's/let us* VERB *me* and *let me* VERB *us*, including again both intervening adverbials and prepositional objects (see Appendix I.c). By means of a set of queries analogous to those employed for the target expressions with personal pronouns, the corpus was finally also checked for any non-negated clauses showing the constellations *I*-VERB-*ourselves* or *we*-VERB-*myself* (see Appendix I.d/e). It goes without saying that the output of all queries was manually checked for false hits.

In order to provide baselines which the corpus results for expressions with partial coreference can be measured against, three data sets were retrieved as controls. The first presents a random sample of 200 non-negated first-person expressions with regular reflexive pronouns. This sample consists of the first 200 true hits of the randomized output of the query to the entire BNC, from which clauses with emphatic/appositive uses of these pronouns had been manually weeded out (for the REGEX of the most complex string, see Appendix I.f). The sample was coded for singular vs. plural subjects. The second sample consists of 200 non-negated third-person expressions with personal pronouns, again created from the first 200 true hits of the randomized output of the query to the entire BNC. Here, clauses with generic uses of *they*, non-referential uses of *it* and expressions with partial coreference had to be manually discarded (for the REGEX of the most complex string, see Appendix I.g). The sample was again coded for singular vs. plural subjects. Finally, a second, larger third-person sample was created from the same query output and coded for syntactic function, finally comprising 510 expressions with disjoint pronominal references. For reasons of feasibility, expressions with prepositional objects were not included in any of the control samples, such that these needed to be excluded from some parts of the quantitative analyses below.

The study of the German web-based MECOLB archive of COSMAS II is meant to complement our investigations of the BNC, rather than present a full-blown corpus study in its own right, for two main reasons. The first lies in the limitations of the COSMAS archives themselves. Unlike the BNC, the MECOLB archive is not a general, balanced corpus, but provides newspaper material only. The second reason concerns sheer feasibility. The query syntax, determined by the options offered at the user interface of the COSMAS website, retrieved all sentences (unfortunately not clauses!) that contained *ich* ('I': subject case: nominative) and *uns* ('us': object cases: dative and accusative) with 1-5 intervening words as well as a lexical or auxiliary/modal verb in concordance with the former.<sup>10</sup> Analogical queries were carried out for the following pairs of pronouns: *wir* ('we': nominative, pl.) – *mich/mir* ('me': accusative/dative, sg.), *du* ('you': nominative, sg.) – *euch* ('you': dative/accusative, pl.), *ihr* ('you': nominative, pl.) – *dich/dir* ('you': accusative/dative, sg.). While it was possible to inspect the entire output for the second persons, first-person examples with partially coreferential pronouns were not retrieved from the two query outputs exhaustively, as the corpus output was not only huge for these queries, but also consisted largely of false hits (e.g. from complex sentences where the target pronouns belong to different clauses). Instead, the first 1.000 hits of the randomized corpus

<sup>8</sup> Importantly, these strings are also able to detect any occurrences of coreferential expressions without reflexive pronouns: *I* VERB *me* and *we* VERB *us*.

<sup>9</sup> Not all prepositional objects occur adjacent to the matrix verb, the queries thus searched for *I*-VERB-PREP-*us* and *we*-VERB-PREP-*me* as well as *I*-VERB-X-PREP-*us* and *we*-VERB-X-PREP-*me*, with X being an intervening phrase that can take on a number of forms.

<sup>10</sup> The following query syntax was employed: ((*ich* /w1-5 *uns*)#OV (*ich* /s0 *uns*))#OV (*ich* /s0 (MORPH(VRB sg P1) oder MORPH(AUX sg P1))). We thank Christian Lehmann's research assistant, Tina König, for retrieving the German raw data from the MECOLB archive.

output were inspected for true hits, thus creating representative samples of the target expressions. In one respect, the query went beyond what was done in the BNC study: not depending on the sequence of the elements in the sentence, the query syntax also retrieved adjuncts containing the dative/accusative pronouns: *mich/mir, uns, dich/dir, euch*.

### 3.3 Results and discussion of the BNC study

The queries for non-negated first-person expressions with partial coreference resulted in 167 true hits. Given the corpus frequencies of *I* and *we* (about 850.000 and 350.000, respectively), the referential constellation under investigation is a very rare one, indeed: Even under the assumption that about a third of these occurrences of the pronouns do not actually serve as clausal subjects (due to repeats, sentence fragments, non-clausal utterances, etc., in the spoken part of the corpus) – so that 750.000 would be taken as an extremely rough estimation of the number of clauses with these two pronouns – 167 expressions amount to no more than 0.02% of these.

To anticipate the general tendencies of the corpus results: With the possible exception of hypothesis (iv), the BNC study confirms all of the above hypotheses. The details will be presented for each of these in turn.

#### 3.3.1 Reflexive vs. personal pronouns

As remarked in section 1, partial coreference might provide the grammatical precondition for both a reflexive and a non-reflexive construction. Given that partial coreference expressions present a kind of makeshift response to a highly specific communicative need, speakers' solutions to this problem must be expected to vary to some degree, both within single languages and across them.<sup>11</sup>

However, our corpus results show that English strongly prefers non-reflexive constructions. In view of the size of the BNC (100 million words), the facts that the queries did not return a single valid instance with a reflexive pronoun, but a sizeable number of pertinent expressions with personal pronouns provide evidence beyond any doubt. The handful or even dozen of expressions with reflexive pronouns that can be found on the web (cf. Appendix II, a.-d.), do for a number of reasons not constitute counter-evidence to this finding: (i) the relative frequency of such examples cannot be assessed, but is incredibly low – given the nearly infinite size of the web as a corpus; (ii) there is no guarantee that these examples were produced by or would at all be acceptable to native speakers, and (iii) instances tend to show similar lexical realizations (esp. ditransitive and complex-transitive uses of the verb to *save*) so that it is not even entirely absurd to assume the existence of isolated lexical chunks/formulae.

#### 3.3.2 Singular versus plural subjects

Despite the fact that expressions with plural subjects, especially with the verbs *elect* and *save*, can occasionally be found on the web (ex 5, see also Appendix II.l-r), the BNC results clearly confirm hypothesis (ii) in that they show an overwhelming tendency of clausal expressions with partially coreferential pronouns towards singular subjects (cf. Figure 1).

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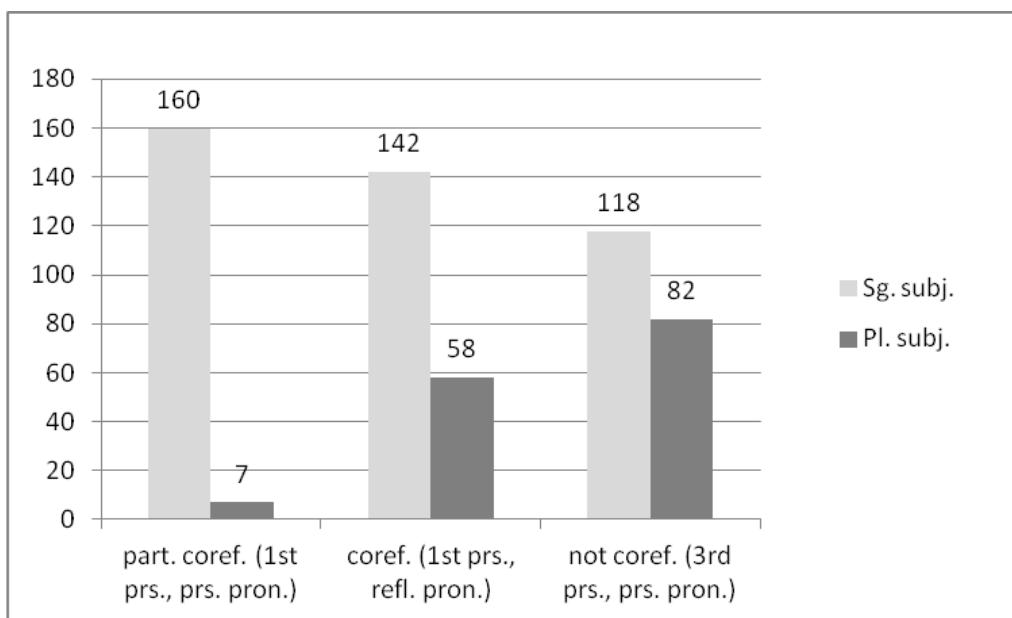
<sup>11</sup> In fact, Cysouw & Fernández (2012, §3) adduce an example each from Tungusic and Lezgian to show that the constellation in question may be coded as reflexive in some languages.

(5) *Wait! I know who we forgot. We forgot me!* (cf. Appendix II.1)

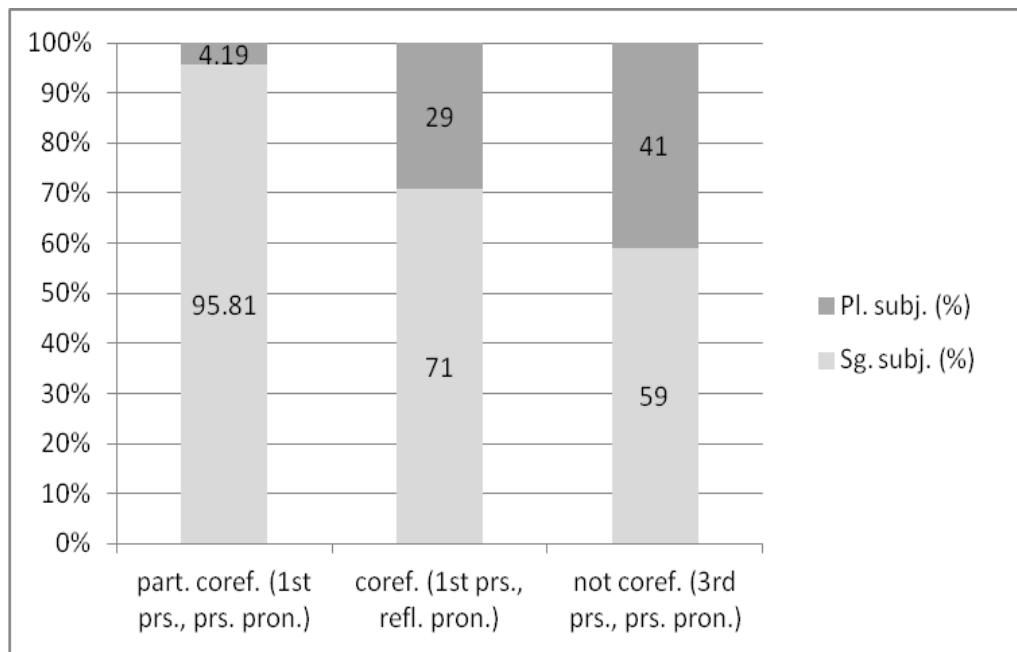
The basis of this assessment, as an approximation of what would generally be expected “elsewhere” in the grammar, was provided by the proportions of singular and plural subjects in the third-person control sample with disjoint references of the pronouns involved (see the right-most column of Figures 1.a,b). From this baseline, the distribution of singular and plural subjects in expressions with partial coreference in the BNC diverges significantly ( $p_{(\text{Chi}^2)} = 3.99\text{E}-22^{***}$ ).

On the basis of a further comparison with the other control sample (see the middle column of Figures 1.a,b), it can furthermore be excluded that the element of semantic reflexivity found in partial-coreference examples is in any way responsible for this, as the number of singular subjects is still significantly higher than in first-person expressions with reflexive pronouns ( $p_{(\text{Chi}^2)} = 1.60\text{E}-12^{***}$ ).

As indicated at the beginning of section 3, the corpus frequencies of *I* and *we* provide an alternative, but very rough way to assess the frequencies of expressions with singular vs. plural objects, which additionally confirms the assessment reached by means of the comparison with the two control samples. Taking two thirds of all of the occurrences of the two pronouns as a (conservative) approximation of the number of clauses with first-person subjects (*I*= 530.000, *we*=230.000), the 160 expressions with singular subjects account for less than 0.05% of all clauses exhibiting *I* as a subject, while the 7 expressions with plural subjects present less than 0.005% of all clauses exhibiting *we* as a subject.



*Figure 1.a:* Sg. vs. pl. subjects in expressions with partial coreference and two control samples (absolute frequencies)



*Figure 1.b:* Sg. vs. pl. subjects in expressions with partial coreference and two control samples (relative frequencies)

### 3.3.3 Syntactic functions of partially coreferential pronouns

The corpus results strongly confirm hypothesis (iii), too. Firstly, it can be read off directly from Table 5 and Figure 2.a that syntactic functions that are lower in the syntactic hierarchy account for dramatically larger portions of our data set. All syntactic functions included in this part of the investigation are illustrated with pertinent corpus examples below: ex (6): direct objects in mono-transitive argument structures,<sup>12</sup> ex (7): direct objects in complex-transitive argument structures, ex (8): indirect objects in ditransitive structures, ex (9): prepositional objects, ex (10): “raised” objects in ACI-constructions.<sup>13</sup>

- (6)    a. *I embarrass us both.* (BNC-CDA)
- b. *But thinking I could orchestrate us like that was pretty high-handed.* (BNC-JY9)
- (7)    a. *I got us out of the alleyway.* (BNC-HTU)
- b. *I drove us there.* (BNC-B1Y)
- c. *I could send us both to prison.* (BNC-HTT)
- d. *I propel us straight to a Vintage Horror All-Nighter.* (BNC-HGN)
- e. *I shall book us into a lodge for 2 nights.* (BNC, HPP)
- f. *I called us Murphy.* (BNC, HTS)

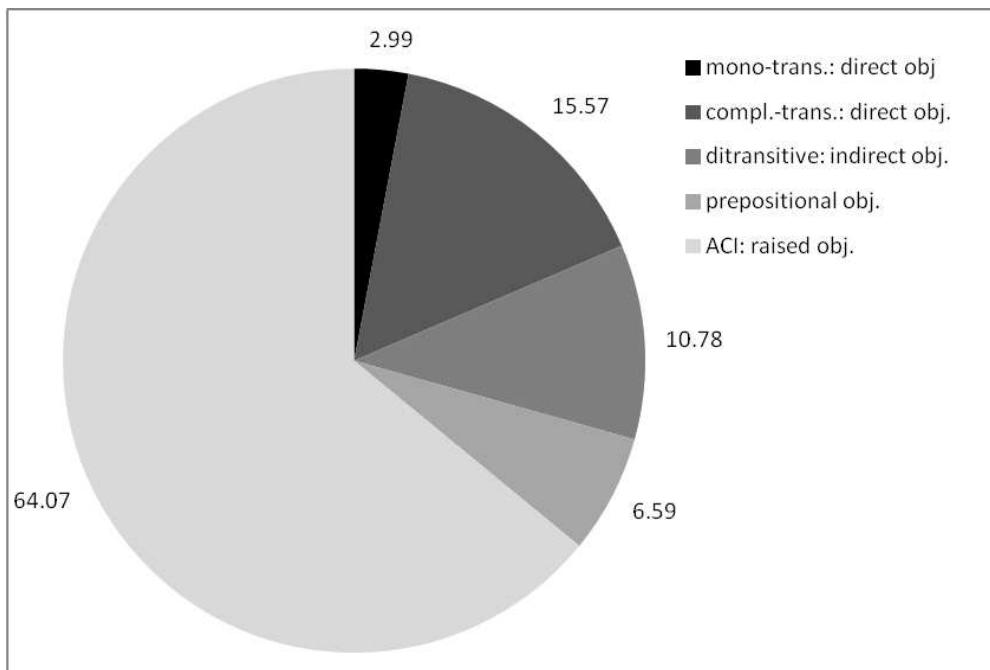
<sup>12</sup> Note that several of the verbs appearing in (7), esp. #b and c, would hardly be used reflexively.

<sup>13</sup> Examples of the type illustrated in (8.b-d) are treated as proper instances of the English “Ditransitive Construction” (cf. Goldberg 1995), in which an indirect object precedes a direct one. In this respect, these examples contrast with their alternations, which exhibit benefactive adjuncts in the form of prepositional phrases: *I will get some tea for us. I could buy a house for us.*

- g. *I remind us that it was only ... a few months ago.* (BNC-JJ9)
- h. *Can I ask us to move the amendment ... ?* (BNC-KGX)
- (8) a. *I gave us both an enormous gin and tonic.* (BNC-CL2)
- b. *We gave him a drink, we gave him some chocolate buttons, we gave me a big [unintelligible item].* (BNC-KC2)
- c. *I will get us some tea.* (BNC-AD1)
- d. *I could buy us a house.* (BNC-FPM)
- (9) a. *I was listening to us* (BNC-KCE)
- b. *I shall tell Donna about us today, said Juliet.* (BNC-JY0)
- (10) a. *Now what I want us to do is to look at these questions.* (BNC-JSU)
- b. *I would envisage us looking critically at what we're doing.* (BNC-FUL)
- c. *If we wish to progress up the football ladder, I can only see us doing so by winning promotion.* (BNC-FR9)
- d. *... and we always plan for me to run a personal best every season.* (BNC-BMM)

Table 5: Kinds of post-verbal arguments in first-person expressions with partial coreference

<b>type of post-verbal argument</b>	<b><i>I</i> VERB <i>us</i></b>	<b><i>we</i> VERB <i>me</i></b>	<b>ALL</b>
mono-trans.: direct object (ex 6)	<b>5</b> (3.12%)	0	<b>5</b> (2.99%)
complex-trans.: direct object (ex 7)	<b>26</b> (16.25%)	0	<b>26</b> (15.57%)
ditrans.: indirect object (ex 8)	<b>16</b> (10%)	<b>2</b> (28.57%)	<b>18</b> (10.78%)
prepositional object (ex 9)	<b>9</b> (5.6%)	<b>2</b> (28.57%)	<b>11</b> (6.59%)
ACI: raised object (ex 10)	<b>104</b> (65%)	<b>3</b> (42.86%)	<b>107</b> (64.07%)
<b>TOTAL</b>	<b>160</b>	<b>7</b>	<b>167</b>



*Figure 2.a:* Relative frequencies (per cent) of post-verbal arguments in first-person expressions with partial coreference

To further corroborate this finding, the distribution of the syntactic functions in 156 expressions with partially coreferential pronouns was again compared with what happens “elsewhere in the grammar”.<sup>14</sup> The baseline was provided by the proportions in the second third-person control sample of 510 expressions with disjoint pronominal references. While the two data sets contrast sharply – the difference being highly significant ( $p_{(\text{Chi}^2)} = 4.12E-134***$ ), it is worth noting in which respects the distribution of syntactic functions in the data set with partial coreference diverges from that in the control sample (cf. Figure 2.b):

- (i) With the exception of raised objects, all kinds of objects occur less frequently than would be expected on the basis of the control sample (though not significantly so for indirect objects).
- (ii) Raised objects (ex 10) are by far more frequent than all other kinds of objects together and about 6 times more frequent than in the control sample, while expressions with direct objects in mono-transitive argument structures (ex 6) are excessively rare, with the control sample showing more than ten times as many of these structures.
- (iii) As expected, indirect objects (ex 8) are more frequent than direct ones in mono-transitive argument structures (but, interestingly, not more frequent than direct objects in complex-transitive argument structures).
- (iv) Expressions with direct objects in complex-transitive argument structures (ex 7), finally, are by far more frequent than those with direct objects in mono-transitive argument structures.

<sup>14</sup> Recall that prepositional objects were excluded from this part of the analysis, due to their exclusion from the control sample, thus the reduction of the data set to 156 expressions.

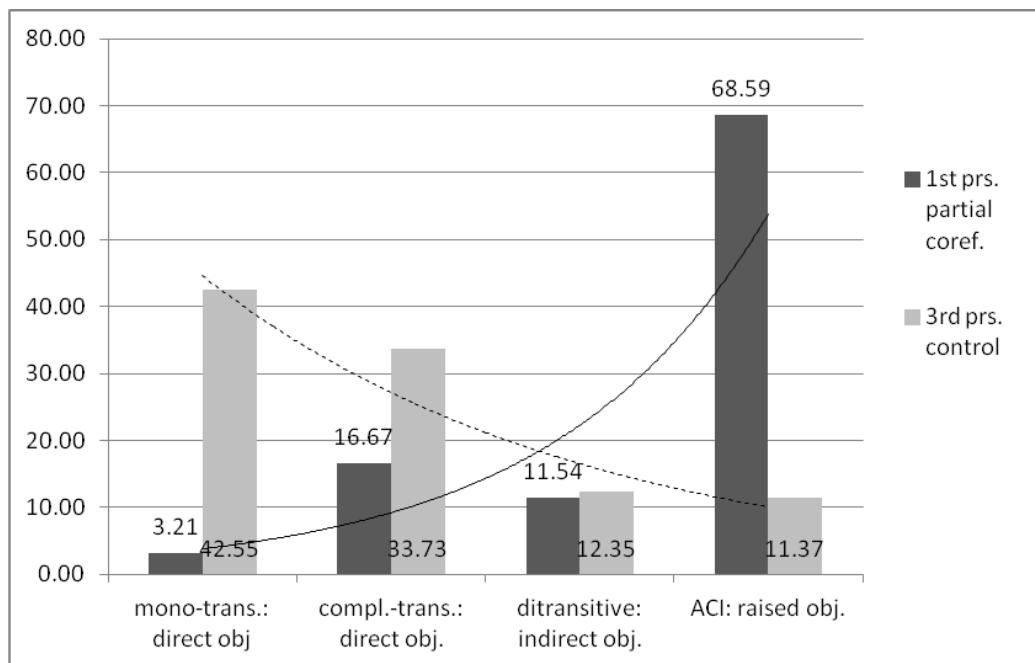


Figure 2.b: Relative frequencies of syntactic functions in 156 first-person expressions with partially coreferential pronominal arguments (vs. in the third-person control sample)

### 3.3.4 Hortative constructions

The BNC search for non-negated first-person hortative constructions with *let* exhibiting partial coreference yielded only a single true hit (ex 2.e, here repeated as ex 11), although hortative constructions are not particularly rare, otherwise:

- (11) *Let me get us some crusty bread.* (BNC-KD7)

While this does not rule out that expressions with partial coreference are facilitated by hortative constructions (the single example accounting for 0.6% of the entire set of 167+1 true hits), the issue cannot be followed up any further for reasons of data sparsity.

It should not go entirely unmentioned, however, that hortative constructions in English do, in fact, provide a type of expression with partially coreferential pronouns. As the pronouns involved here diverge in both number and person, however, these expressions remain beyond the scope of the present investigation. It must thus suffice to remark that they can be found with some frequency in the BNC (17 non-negated instances) and would certainly not be considered as odd or anomalous in any way (in that respect, they resemble third-person expressions with partial coreference). Note that, as with other partially coreferential constructions, post-verbal arguments realizing lower syntactic functions dominate (in fact, none of the partially coreferential pronouns involved is a direct object from a mono-transitive argument structure).

- (12) a. *Let's just show you something.* (BNC-F8S)  
 b. *Let us talk about you.* (BNC-JYF)  
 c. *Let's put to you the three questions.* (BNC-KS7)  
 d. *Let us just reinforce that for you.* (BNC-F8D)  
 e. *Let's just remind you what second messengers are.* (BNC-J8K)

- f. *Then let us see you pass a spell.* (BNC-HA3).

### 3.4 Results of the COSMAS study

The query to the MECOLB archive of COSMAS II for partial-coreference examples with first-person pronouns did yield true hits. In particular, the query for the constellation with singular subjects (*ich-VERB-uns*) produced 54 true hits in the first 1,000 lines of the query output. While these contained only one example with a direct object from a mono-transitive structure (ex 13.a) as well as one with a direct object from a complex-transitive one (ex 13.b) and one with an indirect object (ex 13.c), 36 of them were adjuncts (ex 13.d,e):

- (13) a. *Als ich uns anmeldete...* (COSMAS II: Mecolb, SOZ07)  
       ‘When I registered us...’
- b. *Ich habe uns sofort zur Fortbildung geschickt.* (COSMAS II: Mecolb BRZ05)  
       ‘I sent us to further training immediately...’
- c. *Während Katharina ihren Kaffee trank, machte ich uns ein gediegenes Frühstück.*  
       (COSMAS II: Mecolb BRZ09)  
       ‘While Katharina had her coffee, I made us a solid breakfast.’
- d. *Für uns rechne ich mit etwa fünf Prozent.* (COSMAS II: Mecolb NUN08)  
       ‘For us, I expect about 5 per cent.’
- e. *Bei uns habe ich schon viel erreicht.* (COSMAS II: Mecolb NON09)  
       ‘For [literally: at] us, I have achieved quite a lot.’

Additional examples can of course be found elsewhere, amongst which there are also more mono-transitive expressions, even such involving verbs that cannot be used reflexively at all (ex 14.a), as well as ditransitive ones (ex 14.b):

- (14) a. *In diesem Sinne möchte ich uns ermutigen.* (COSMAS II: A99/APR.28690)  
       ‘In that sense, I wish to encourage us.’
- b. *Ich wünsche uns allen ein friedvolles neues Jahr!* (cf. Appendix II.u)  
       ‘I wish us all a peaceful new year!’

In contrast, the first 1,000 lines of the MECOLB query for examples with plural subjects (*wir-VERB-mich/mir*) did not yield a single true hit. While relevant examples can of course be found elsewhere in the COSMAS archives (ex 15), this result suffices to support the claim that in German, like in English, partial-coreference examples with singular subjects are by far more frequent than those with plural subjects. Note, by the way, that some of our chance findings with plural subjects appear in the hortative construction:

- (15) a. *Wir haben den typischen Macho, wir haben den Alleswisser, wir haben mich.*  
       (COSMAS II: RHZ11/AUG.31135)  
       ‘We have the typical macho, we have the know-it-all, we have me.’
- b. *Meinen Namen kann ich nicht offenbaren, nennen wir mich Nummer vier.* (COSMAS II: BRZ11/APR.06316)  
       ‘I cannot reveal my name, let us call me Number 4.’
- c. *Nehmen wir nur mich.* (COSMAS II: E98/OKT.25822)

'Let us take only me.'

- d. *Nehmen wir mich als Beispiel.* (COSMAS II: NUN04/AUG.02960)  
 'Let us take me as an example.'

Furthermore, the search for clauses containing the second-person constellations *du-VERB-euch* and *ihr-VERB-dich/dir* did not produce a single true hit in the entire (much smaller) output from the MECOLB archive, though the web again yields very few pertinent examples (ex 16):<sup>15</sup>

- (16) *Er hat deinen Freund geschlagen und du hast euch verteidigt.* (cf. Appendix II.v)  
 'He beat your friend and you [sg.] defended you both.'

So far, the (somewhat preliminary) German results support hypotheses (i) and (ii) relating to the preference of first-person over second-person constructions and to the preference of singular over plural subjects. The German data also support hypothesis (iii), concerning the tendency towards lower syntactic functions (cf. Table 6). The large majority of our examples exhibit adjuncts rather than complements. Within the group of examples with coreferential pronouns that are elements of the verb complementation, indirect objects as well as objects from complex-transitive argument structures are by far more frequent than direct objects from mono-transitive argument structures. Raised objects are missing, which does not come as a surprise, as many English raising structures do not have a direct German equivalent.

*Table 6:* Distribution of syntactic functions in German first-person expressions with singular subjects exhibiting partial-coreference constellations

type of post-verbal argument	ich VERB uns
mono-trans.: direct object (ex 13.a)	1
complex-trans.: direct object (ex 13.b)	8
ditrans.: indirect object (ex 13.c)	9
prepositional object	0
adjunct (ex 13.d,e)	36
ACI: raised object	0
<b>TOTAL</b>	<b>54</b>

In addition, the corpus results can also be roughly assessed in the following way: Given that the MECOLB archive is about a third of the size of the BNC and considering that only about a third of the randomized corpus output for expressions with first-person subjects was inspected, it can be stated that first-person expressions with partial coreference in German are about as frequent as those in English, namely just below 2 expressions per million words. Factoring in that the German dataset also contains a majority of examples where the partially coreferential pronoun is part of an adjunct, while the English data set does not, we can furthermore tentatively assume that German is less open than English to partially coreferential pronouns that are arguments of the verb.

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<sup>15</sup> Cysouw & Fernández (2012, §2) also quote one example from the web.

## 4. Discussion: Asymmetries in expressions with partial coreference

Though most of our findings do in fact confirm the claims made by Cysouw & Fernández (2012, §2), the combination of complementary methods employed in our study has clearly managed to put these claims on a much firmer empirical footing.

While clauses involving partially coreferential pronouns are possible in principle in both English and German, the results have demonstrated that pertinent examples may be classified by a variety of parameters such that partial coreference becomes more acceptable with certain parameter settings. Such asymmetries are formulated below in terms of implicational hierarchies. In language use, these hierarchies manifest themselves in the form of the relative frequencies and corresponding degrees of acceptability of their subtypes. In the extreme and most clear-cut case, they can surface in the impossibility of the *implicans* as opposed to the possibility of the *implicatum*.<sup>16</sup>

### 4.1 Asymmetry in the values of the number parameter

In accordance with previous claims (cf. Cooper 1976: 213, Cysouw & Fernández 2012, §2), both of our corpus studies show that partial coreference expressions prefer constellations where singular acts on plural over the reverse case.<sup>17</sup> This asymmetry may be represented by the implicational hierarchy of numbers, where ‘>’ is to be read as ‘acting on’, combined with Proposition 2. In this hierarchy and the following ones, left-right order symbolizes top-down order, and the arrow is the replication arrow, i.e. a given element implies the element to its left.

*Proposition 2:* Partial coreference and the hierarchy of numbers

singular > plural ← plural > singular

If partial coreference between arguments occurs at the lower position of the above hierarchy, then it occurs at its higher position.

It must be emphasized here that the BNC study provides quantitative evidence that this hierarchy cannot be reduced to a consequence of the fact that singular subjects act on plural objects more frequently than plural subjects do on singular objects (cf. Figures 1.a,b), as the differences in frequency observed for expressions with partial coreference go far beyond this general number

<sup>16</sup> Recall that Rooryck (2006) postulated the asymmetries between the various person and number values, declaring the respective *implicantia ungrammatical* in English and French, which most likely they are not.

<sup>17</sup> Concerning the possible reasons for the direction of this asymmetry, it could be tentatively argued that, in terms of their respective distances to situations in which either a personal or a reflexive pronoun would be adequately used, the two constellations are not the exact mirror images of one another, as reflexivity needs to be marked on a verbal complement that is not the subject. Loosely speaking, constellations with singular subjects are somewhat closer to contexts allowing for the use of personal pronouns than those with plural subjects, for in the former case the action of the single referent of the subject NP affects a set of other participants, of which at least half are actually *not* referentially identical with it. In contrast, constellations with plural subjects are more akin to contexts requiring a reflexive pronoun, as the single referent of the object-NP is always identical with a member of the set of referents specified by the subject-NP. On the basis of such considerations, expressions with singular subjects should be expected to lend themselves more easily to partial-coreference contexts than expressions with plural subjects.

difference.

#### 4.2 Asymmetry in the values of the person parameter

The data presently available to us also suffice to put forward an implicational hierarchy for the person parameter. While both English and German clearly allow for partial-coreference constellations in the first person, these are technically impossible with second-person expressions in present-day English (due to the loss of the number distinction), and are obviously also extremely rare with second-person expressions in German. The implicational hierarchy is formulated as Proposition 3.

*Proposition 3:* Partial coreference and the hierarchy of persons

first person ← second person
If partial coreference between arguments occurs at the lower position of the hierarchy, then it occurs at its higher position.

Note that, despite the argument put forward by Cysouw and Fernández (2012, §2), we think it highly unlikely that the lower frequency of partial coreference in the second person as opposed to the first person presents a logical consequence of the overall lower text frequency of the second as against the first person. Analogously to what was said concerning the number parameter, the absence of second-person expressions with partial coreference from a corpus of 30 million words indicates that they are rare to an extent that goes well beyond the differences in the text frequencies of first- and second-person pronouns in German. At the same time, the presence of very few isolated examples on the web (as a corpus of nearly unlimited size) only serves to demonstrate that such expressions do in principle exist (though that does not necessarily say anything about their acceptability). We thus do not expect the hierarchy postulated here to merely reflect the frequency effect generally found for first- vs. second-person pronouns.

Finally, a few remarks on third-person expressions with partial coreference are also at place. Although it is practically unfeasible to retrieve expressions with partial coreference exhaustively from a large sample of third-person expressions (as these can only be identified by studying in close detail the larger textual environment of each single case), the few expressions identified during the creation of the third-person control samples suffice to ascertain the existence as well as indisputable well-formedness of these expressions in English (ex 17).

- (17) a. *She embraced him with her eyes, pleased, and as she poured them both more wine, rewarded him with a view of her leg.* (BNC-H84);
- b. *As much as I can, she laughed as she poured them both a cup of coffee.* (BNC-JYF)
  - c. *She... called Rachel to come ... while she found them both some clothes.* (BNC-A6J)
  - d. *Taking care not to panic her, he persuaded [the leopardess] to carry her cub into the boat. Then he ferried them across.* (BNC-CK2)
  - e. *And what things did he want them both to forget?* (BNC-JXU)
  - f. *She wanted them to go on being friends.* (BNC-JXU)

As mentioned above, third-person expressions with partial coreference are inconspicuous, as the respective constellations of pronouns (*he/she/it*-VERB-*them*, *they*-VERB-*him/her/it*) are in no way formally different from expressions where these pronouns are used with disjoint reference.

It can thus be assumed that, if the implicational hierarchy presented above were extended to include third person, it would be highly likely to figure at the left-hand pole of the hierarchy.

### 4.3 Asymmetry in the values for the syntactic-function parameter

The results of both corpus studies provide clear evidence that functions that are lower in the syntactic hierarchy (Proposition 4 below) occur more frequently in expressions with partial coreference than higher ones. In addition, the BNC study shows that this distribution contrasts sharply with the distribution of syntactic functions in expressions with disjoint reference. In this section, the results of the corpus studies will be discussed in the broader context of the entire syntactic hierarchy. In the following, we will move down this hierarchy, illustrating and discussing each of the constellations with partial coreference between the subject and another dependent lower in the hierarchy, with a special focus on those parts of the hierarchy that (one of) the corpus studies did not cover. Although strictly speaking outside the scope of the clause, the lowest level of the hierarchy has to be included, not just to complete the picture, but also for the reasons discussed below.

While direct objects do not need much further comment, except to emphasize their near-absence from expressions with partially coreferential pronouns, a number of remarks about the lower categories in the hierarchy are certainly at place. “Other complements” are mainly constituted by prepositional objects in both English and German (cf. ex 11), whereby the border between these and some kinds of adjuncts is not always entirely clear-cut. Consider (18), for example: the adverbial of direction is sometimes treated as a complement of the verb denoting goal-oriented movement:

- (18) *Then we come back to me in the studio.* (BNC-G12)

Concerning indirect objects and adjuncts, it needs to be stated that, for the purposes of the corpus studies and in line with much work in construction grammar on the Ditransitive Construction (cf. Goldberg 1995), the first NP of a “ditransitive” pattern in English, and the dative NP from a double-object pattern in German are treated here as proper instances of indirect objects, rather than as benefactive adjuncts, even if carrying the semantic role of beneficiary (ex 8.c,d; 13.c). If formally realized as prepositional phrases, however, benefactive adjuncts that are partly coreferential with the subject, are rather frequent in the BNC. The corpus search for prepositional objects also uprooted 7 benefactive adjuncts (which were not included in the English data set, which was restricted to pronouns serving as verbal complements). Four of these examples are presented in (19).<sup>18</sup>

- (19) a. *I never cook for us and we don't have dinner parties.* (BNC-CH5).  
 b. *I get those little ones for us.* (BNC-KB2)  
 c. *Tremayne vaguely suggested coffee, and I made a mug of instant for us each.* (BNC-ADY)  
 d. *I prayed for us both before the altar.* (BNC-AC6)

The study of the MECOLB archive of COSMAS II also brought to light the strongly increased

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<sup>18</sup> A re-categorisation of (the sizeable number of) indirect objects with beneficiary roles in our data sets as “benefactive adjuncts” would only increase the number of adjuncts, thus lending additional support to the hypothesis presented here.

frequency of benefactive and other adjuncts in German expressions exhibiting partially coreferential pronouns (ex 13.d,e), which made up nearly two thirds of the data.

When talking about the subjects of dependent clauses, as the lowest syntactic function in the hierarchy, two kinds of constructions deserve further discussion, as they show an exceptionally high degree of clausal integration, where the formal object of the matrix verb simultaneously serves as the logical subject of a second(ary) proposition. The first construction exhibits a complex-transitive argument structure and involves what has been called a “small clause” (ex 20, 21).

- (20) a. *I shall book us into a lodge for 2 nights.* (BNC-HPP)
  - b. *I called us Murphy.* (BNC-HTS)
  - c. *We elected me captain once the lieutenants had been decided on.* (cf. Appendix II.n)
- (21) a. *Uns sehe ich ganz vorne.* (COSMAS II: Mecolb M08)  
‘I see us right in front’
  - b. *Denn ich halte uns nach wie vor nicht für eine Riesenmannschaft.* (COSMAS II: A98/OKT.61837)  
‘For I still don’t consider us a huge team.’

Both our English and our German data have confirmed that expressions with direct objects in mono-transitive structures are extremely rare (or near-unacceptable) in these languages, while expressions with objects from complex-transitive frames, which can be said to function as the logical subjects of a secondary predication, are not.

The other construction is syntactically more complex in that it involves an ACI-construction, i.e. some kind of non-finite subordinate clause whose subject is coded like a direct object of the main predicate, thus “raised” (ex 22, cf. also ex 10).

- (22) *I should like us to be friends.* (BNC-BNT)

Partially coreferential pronouns can freely appear in these constructions, whose high acceptability is mirrored by their extremely high relative frequency in the BNC data. Their absence from the German data is mainly due to the fact that German prefers control structures and generally exhibits fewer raising constructions than English.

Concerning adnominal functions (and thus moving entirely beyond the corpus studies), finally, the two cross-linguistically most important subclasses of relational nouns, viz. body-part and kinship terms, might appear to be good candidates for nominal constructions involving partial coreference at face value, but drop out upon closer inspection. The former do not take persons as their first (i.e. their referential) argument (at least in their literal reading), and the latter do not naturally allow for reflexivity. While some constellations like *I am our knee* or *I am our daughter* are obviously impossible on denotational grounds (with sentences such as *I am our youngest sibling* seeming extremely far-fetched at best), there are certainly relevant examples with certain suitable relational nouns. (23) is one of more than a dozen independent occurrences of *I am our leader* on the web.<sup>19</sup>

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<sup>19</sup> We thank the editors for making us aware of examples like *We cut my hair. I cut our hair. We visited my aunt, I visited our daughter.* We wish to stress that these do not fall under the scope of Proposition 1 because the partially coreferential elements involved are not the arguments of one verb or noun. It is thus not surprising that these examples are entirely acceptable.

- (23) *I am teaching the people I work with how to get things done. Which is something I barely know about myself, yet I am our leader in figuring it out.* (cf. Appendix II.s)

There are also a few suitable relational adjectives, such as *proud*. (24.a) is attested a couple of times on the web. Though (24.b) is not, it does not sound implausible. The construction can be found in the COSMAS II corpus and also seems quite natural with comparatives and superlatives, although no authentic English data were uncovered (ex 25, 26). Note, again, that these examples, too, are in no way unacceptable or odd.

- (24) a. *I am proud of us.* (cf. Appendix II.t)  
 b. *We should be proud of me.*

- (25) *I am the richest of us all.*

- (26) a. *Ich bin der Bessere von uns.* (COSMAS 2, M99/DEZ.84498)  
 ‘I am the better one of us.’  
 b. *Ich bin der Jüngste von uns.* (COSMAS 2, HMP07/JAN.00851)  
 ‘I am the youngest of us.’  
 c. *Du bist der Erste von euch fünf!* (COSMAS 2, DIV/APR.00001)  
 ‘You are the first one of the five of you.’

In sum, it is safe to say that the hierarchy of syntactic functions, which underlies so many laws of syntax, appears to play its role in expressions with partially coreferential pronouns, too. In our context, its effect is the one specified by Proposition 4.

*Proposition 4:* Partial coreference and the hierarchy of syntactic functions

subject ← direct object ← indirect object ~ adnominal complement ← other complement ← adjunct ← subject of dependent clause
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If partial coreference with the subject occurs for a pronominal dependent at a given position of the hierarchy, then it occurs for all dependents lower on the hierarchy.
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Note, by the way, that this implicational hierarchy is the exact mirror image of the principle underlying reflexivization, which roughly states: If coreference between the subject and a dependent at a given position of the syntactic-function hierarchy is coded as reflexive, then coreference between the subject and all dependents higher up on it is coded as reflexive (cf. Siewierska 2004, ch. 5.3.2).

#### 4.4 Asymmetry in the degree of grammaticalization

We found that partial coreference does not exist in Hixkaryana and Mangarayi, the two languages where it would have to be coded by affixal person forms. It is barely existent in Yucatec, where it would partly be coded by clitics, partly by affixes. Though subject to the constraints discussed above, it does exist in English and German, two languages which code partial coreference by free pronouns. These findings thus confirm Cysouw & Fernández’s (2012, §4) hypothesis that partial-coreference constructions are sometimes possible with free pronouns, but are not grammaticalized into verb forms exhibiting bivalent personal agreement or

morphological cross-reference marking.

The relevant parts of the grammaticalization scale of person forms (Lehmann 2002:49) are reproduced below. This scale is, of course, independently motivated. The role played by it in partial coreference is expressed as Proposition 5:

*Proposition 5:* Partial coreference and grammaticalization

degree of grammaticalization	weak	strong
person form	independent personal pronoun > clitic personal pronoun > separate cross-refer ence marker > separate agreement affix > amalgamated agreement affix	

If partial coreference is possible for a person form at a given position of the scale, then it is possible for person forms at all positions to the left of it.

While a number of languages have been found whose paradigm of person indexes on transitive verbs is defective (see section 2), no language has been found with a paradigm which would be complete to the level of partial coreference. It is clear, however, that Proposition 5 has not been demonstrated. For the time being, it remains a hypothesis, but a hypothesis that is entirely compatible with the data available to us and with the theoretical framework of grammaticalization.

#### 4.5 Underlying motivations

We have identified four implicational hierarchies that are operative in the coding of a partial coreference relationship by person forms: the person hierarchy, the number hierarchy, the hierarchy of syntactic functions and the grammaticalization scale of person forms. The associated Propositions relate to the cross-linguistic level, where they are to be taken as typological hypotheses. Moreover, they relate to the intralingual level in that they predict the relative frequencies of constructions that are admissible in the language.

The hierarchy of syntactic functions and the grammaticalization scale operate in parallel: constructions higher up on the hierarchy of syntactic functions are syntactically tighter, and tighter constructions tend to display symptoms of heightened grammaticalization. Consequently, the locus of person forms occupying positions near the right pole of Proposition 5 is in constructions at the higher levels of the hierarchy of proposition 4. We have seen that the constraints on partial coreference are tighter both for constructions at the top of the syntactic-functions hierarchy and at the right pole of Proposition 5.<sup>20</sup> If we rephrase the question of codability as one of accessibility of certain functions to certain pronominal expressions, then these results are fully compatible with the assertion that “the syntactic constraints on the distribution of anaphors and pronominals are indeed grammaticalized accessibility preferences” (Siewierska 2004: 192).

<sup>20</sup> This correlation is explicitly recognized for Mangarayi: “Of course, it is possible to express other types of relations (e.g. benefactive) between such categories [i.e. the person-number values of subject and object which represent partial coreference in Table 2] by using the system of independent pronouns to express the indirect object relation.” (Merlan 1982:162)

The question remains why partial coreference should be subject to any constraints at all, i.e., why, even granting all those grammatical constraints, (some of) the English and German sentences feel odd. As emphasized from the start, the situations designated by them do occur in principle, and the respective sentences seem to be the ‘regular’ (though somewhat provisional) way of coding them. Taking recourse to the rarity of the situations in question (Cysouw & Fernández 2012) as the only explanation will probably not suffice, given the nature of many of our corpus examples. A few more precise remarks are thus at place. For instance, the situations described by the English examples (7.b), (8.b,c), (10) and the German examples (13.a, c), (14.a,b) or (16), to single out but a few, represent recurring types of every-day situations. As speakers do not regularly encounter different situations that naturally give rise to partial-coreference expressions, they may be doubtful about the acceptability of any constructed and decontextualized example that does not clearly relate to such a situation (see Table 1).

Apart from this, it seems that there is a conspiracy of semantic and grammatical factors working in the same direction which render such sentences unusual or odd.

The semantic irregularity results from the way in which a relation coded by a transitive verb is made concrete, if its argument positions are filled by different kinds of participants. It is well-known that verbs can change their meaning considerably if combined with noun phrases of different categories; and this effect is made use of in the rhetorical figure of syllepsis, illustrated by example (27).

- (27) *Here Thou, great Anna! whom three Realms obey, Dost sometimes Counsel take – and sometimes Tea.* (Alexander Pope, *The Rape of the Lock*)

The effect is less dramatic, but still perceptible if a reflexive and a non-reflexive NP are conjoined to form the direct object of one verb, as in (28).

- (28) *I sacrificed myself and all the others.*

The point is that the action designated is not quite the same if applied to any person or to oneself. In constructions of partial coreference, this generates a sylleptic effect, which may render them semantically incoherent (example 29), though that does not always need to be the case.

- (29) *I sacrificed us.*

The semantic difference alluded to is reflected in grammar in the form of reflexive constructions: In many languages, the reflexive counterpart to a certain two-argument construction is not just the construction in question plus a mark of reflexivity, but a special one-argument construction. Thus, instead of converting *he shaved him* into *he shaved himself* in cases of coreference, many languages would have a closer counterpart to *he shaved*, possibly with some reflexive mark on the verb. That is the case, for instance, for Mangarayi and Hixkaryana, where the verb form to be inserted in the blue cells of Tables 2 and 3 would be a special reflexive form of the intransitive verb. In such a language, the constructions for disjoint reference and coreference would differ syntactically. Consequently, in situations of partial coreference, the general (transitive) construction would not fit the coreferential part of the constellation, while the reflexive construction would not fit its non-coreferential part. At lower levels of grammaticalization, this may lead to variation between the two types of construction. With advanced grammaticalization, however, either alternative is just ungrammatical.

## 5. Conclusion

By way of coming to a close, we will briefly survey the results of this study. We hope to have provided abundant evidence to show that constructions of partial coreference are not in general ungrammatical. Instead, their possibility in language systems and in texts is conditioned by four implicational hierarchies:

- (i) *the person hierarchy*, by which partial coreference is easier for first person than for second person;
- (ii) *the number hierarchy*, by which singular acting on plural is easier than plural acting on singular;
- (iii) *the hierarchy of syntactic functions*, by which partial coreference with the subject is the easier for a pronominal form the lower its position on that hierarchy; as well as
- (iv) *the grammaticalization scale of person forms*, by which partial coreference is easier for a person form the less grammaticalized it is.

While (iii) and (iv) are clearly grammatical constraints, the results of the corpus studies can with some certainty be taken to suggest that the former two of these are not mere frequency effects, but deserve further research into their motivations.

As emphasized from the beginning, partial coreference is a constellation not foreseen, in general, by grammatical systems. Partial-coreference expressions thus present makeshift responses to a very specific communicative need. If coreference is coded in areas of the grammatical system where rules are less strict – viz. if either person forms of low grammaticality or syntactic functions low on the hierarchy are involved – solving the referential problem by those means normally used for constellations of clear-cut reference does not attract much attention. It is when person forms are highly grammaticalized or syntactic functions high on the hierarchy are involved that rules of grammar are stricter, and constructions incompatible with them become less acceptable or entirely unacceptable, i.e. downright ungrammatical.

Given a bivalent predicate, the coreference of the dependent argument with its prime argument – as opposed to disjoint reference – often affects the interpretation of the predicate itself. Grammars reflect this semantic difference in the distinction between reflexive and non-reflexive constructions. Our claim is that constraints (iii) and (iv) become more active, the further advanced the degree of the grammaticalization of this contrast is. In the extreme, this may lead to the ungrammaticality of constructions exhibiting partial coreference no matter whether they follow the reflexive or the non-reflexive model.

To end on a methodological note, the corpus studies have doubtlessly demonstrated that partial-coreference constructions are exceptionally rare in both English and German. However, these studies have also uncovered highly systematic usage patterns which cannot be considered a chance finding and which diverge dramatically from what occurs “elsewhere” in the grammar of the languages investigated. In particular, there is clear evidence that not all partial-coreference constructions are “on a par” – with some being a lot more frequent (hence: acceptable) than others. Though we have related the frequency of particular types of partial-coreference constructions to their degree of acceptability when postulating four implicational hierarchies, we must stress again that the overall scarcity of relevant data is not due to any predetermined “unacceptability” of these constructions in the first place; they are just as frequent as the need for denoting such situations actually arises.

## Abbreviations

1 first person, 2 second person, 3 third person, ABS absolutive, COLL collective, DU dual, EXCL exclusive, HORT hortative, INCL inclusive, PL plural, POSS possessive, REFL reflexive, SBJ subject, SG singular

## References

- Aarts, Bas. 1992. *Small clauses in English*. Berlin/New York: Mouton de Gruyter.
- Cooper, William E. 1976. Inclusions. *Lingua* 40. 203–222.
- Cysouw, Michael & Javies Fernández Landaluce. 2012. On the (im)possibility of partial argument coreference. *Linguistics* 50. 765–782.
- Derbyshire, Desmond C. 1979. *Hixkaryana*. Amsterdam: North-Holland (Lingua Descriptive Studies, 1).
- Goldberg, Adele. 1995. *Constructions. A Construction-Grammar Approach to Argument Structure*. Chicago: The University of Chicago Press.
- Kamholz, David. 2012. How do languages keep their selves straight?. Unpublished manuscript at the Max-Planck-Institute of Evolutionary Anthropology, Leipzig, June 15, 2012, available from <<http://linguistics.berkeley.edu/~kamholz/research>>.
- Lasnik, Howard. 2011. The syntax of pronoun interpretation: some recurrent themes . Paper presented at the UMD MayFest, May 6, 2011. [http://ling.umd.edu/~lasnik/Handouts/Lasnik\\_Pronouns\\_MayFest\\_HO.pdf](http://ling.umd.edu/~lasnik/Handouts/Lasnik_Pronouns_MayFest_HO.pdf); accessed 22/04/2012.
- Lehmann, Christian. 2002. *Thoughts on grammaticalization*. Erfurt: Seminar für Sprachwissenschaft der Universität (ASSidUE, 9) (2nd revised edition).
- Leite, Yonne. 1987. As cisões no sistema referencial de pessoa em Tapirapé. Paper presented at the Working Conference on Amazonian Languages, Eugene, Oregon. Rio de Janeiro: [s.ed.].
- Merlan, Francesca. 1982. *Mangarayi*. Amsterdam: North-Holland (Lingua Descriptive Studies, 4).
- Postal, Paul M. 1966. A note on 'understood transitively'. *International Journal of American Linguistics* 32. 90–93.
- Quirk, Randolph, S. Greenbaum, G. Leech, & J. Svartvik. 1985. *A comprehensive grammar of the English language*. London: Longman.
- Rooryck, Johan. 2006. Binding into pronouns. *Lingua* 10(116). 1561–1579.
- Siewierska, Anna. 2004. *Person*. Cambridge: Cambridge University Press.

## Corpora

- BNC Consortium 2000, *British National Corpus. World Edition*. Humanities Computing Unit of Oxford University <<http://www.hcu.ox.ac.uk/BNC>>
- IDS (Institut für Deutsche Sprache) 2012, *COSMAS II, Version 1.8*, <<https://cosmas2.ids-mannheim.de/cosmas2-web/>>

## Appendix I

Regular Expressions (REGEX) employed in the BNC corpus study:

- a. <w PNP>(I|(W|w)e)\s<w (V(B|M|H)>[a-z|A-Z]\*\s<w A..>[a-z]\*\s <w V(B|M|H)> [a-z|A-Z]\*\s<w (VV.|VV.-...)>[a-z|A-Z|-]\*\s<w PNP>(me|us)\s
- b. Identical string, but instead of the last element “<w PNP>(me|us)\s” the following sequences were employed: “(<w ([AV]..[^V]...-...)>[a-z|A-Z|-]\*\s){1,5}<w PRP>[a-z|-|\s]\*\s<w PNP>(me|us)\s” and “<w PRP>[a-z|-|\s]\*\s<w PNP>(me|us)\s”
- c. <w VM0>(L|l)et's\s<w AV0>[a-z|A-Z|-]{2,10}\s(<w VV.>|<w VV.-...>)[a-z|A-Z|-]\*\s<w PNP>me\s Instead of the initial element “<w VM0>(L|l)et's\s” the alternative beginnings “<w VV.>(L|l)et\s<w PNP>us\s” and “<w VV.>(L|l)et\s<w PNP>me\s” were used, the latter with the final pronoun in the search string specified as “us\s”. For constructions with prepositional objects, the end of the string was manipulated analogously to b. above.
- d. <w PNP>I\s<w V(B|M|H)>[a-z|A-Z]\*\s<w A..>[a-z]\*\s<w V(B|M|H)>[a-z|A-Z]\*\s<w (VV.|VV.-...)>[a-z|A-Z|-]\*\s<w PNX>ourselves\s
- e. <w PNP>(w|W)e\s<w V(B|M|H)>[a-z|A-Z]\*\s<w A..>[a-z]\*\s<w V(B|M|H)>[a-z|A-Z]\*\s<w (VV.|VV.-...)>[a-z|A-Z|-]\*\s<w PNX>myself\s
- f. <w PNP>(I|(w|W)e)\s<w V(B|M|H)>[a-z|A-Z]\*\s<w A..>[a-z]\*\s<w V(B|M|H)>[a-z|A-Z]\*\s<w (VV.|VV.-...)>[a-z|A-Z|-]\*\s<w PNX>(myself|ourselves)\s
- g. <w PNP>((H|h)e|(S|s)he|(I|i)t|(T|t)hey)\s<w V(B|M|H)>[a-z|A-Z]\*\s<w A..>[a-z]\*\s<w V(B|M|H)>[a-z|A-Z]\*\s<w (VV.|VV.-...)>[a-z|A-Z|-]\*\s<w PNP>(him|her|it|them)\s

## Appendix II

Collection of examples with partially coreferential pronouns taken from the world-wide web:

- a. Thanks to a *Pinterest* idea, *I saved ourselves* from buying a crazy number of stocking holders <<http://missingolivia.blogspot.de/2012/01/best-christmas-ever.html>>, consulted 25/04/2012
- b. I am proud to say that *I saved ourselves* from the hassle of waiting in a long queue. <<http://kaloka.livejournal.com/87139.html>>, consulted 25/04/2012
- c. *I saved ourselves* 1000 Rs <<http://www.bmcindia.org/travelogue/scuba-diving.htm>>
- d. *We saved myself* a lot of money by not using a lawyer. <[http://www.immigration.ca/discussion2/topic.asp?TOPIC\\_ID=25007](http://www.immigration.ca/discussion2/topic.asp?TOPIC_ID=25007)>, consulted 25/04/2012
- e. Oh, yeah, *I forgot us*, wow, that's terrible. <[http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture\\_Case\\_in\\_Point\\_US\\_Departm ent\\_of\\_Health\\_and\\_Human\\_Services\\_Transcript.pdf](http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture_Case_in_Point_US_Departm_ent_of_Health_and_Human_Services_Transcript.pdf)>; accessed 25/04/2012>
- f. how can *I defend us* in the matter? <<http://www.avvo.com/legal-answers/how-can-i-get-a-lawsuit-against-my-wife-transferre-100024.html>>; accessed 22/04/2012>
- g. *I wish us* good luck <<http://www.tumblr.com/tagged/i-wish-us-good-luck-lol>>, consulted 24/07/2012)
- h. *I can get us* out of here tonight. title of a song, <<http://lucerotabs.blogspot.de/2008/05/i-can-get-us-out-of-here-tonight.html>>, accessed 22/04/2012
- i. *I vote for Us!* Halston and Casey <<http://www.wedoweddingphotographyblog.com/best-of-2011-canvas-contest/>>, consulted 25/04/2012
- j. It wasn't an easy start for us in terms of games this season, ... but *I fancied us* to get something. <<http://au.fourfourtwo.com/news/112427,ref-sent-scholes-off-on-reputation- ferguson.aspx>>, accessed 22/04/2012)
- k. *I vote for us* doing the same <<http://lauramappin.com/TPD/pages/bhutanizeUs.php>>, consulted 25/04/2012)
- l. Wait! I know who we forgot. *We forgot me!* <[http://www.census.gov/schools/pdf/materials/cis\\_lesson\\_k4US.pdf](http://www.census.gov/schools/pdf/materials/cis_lesson_k4US.pdf)>; accessed 25/04/2012>
- m. It was never going to be done just because *we elected me*. <<http://www.freerepublic.com/f-news/2412777/posts>>, accessed 20/04/2012; attributed to B. Obama)
- n. *We elected me* captain once the lieutenants had been decided on. <<http://>

- www.litmir.net/br/?b=127970&p=46>
- o. I fell in love with my brother when *we saved me* for some school bullies.  
<[http://www.fanfiction.net/s/7942053/2/the\\_copy\\_twins\\_naruto\\_and\\_naruko\\_namikaze](http://www.fanfiction.net/s/7942053/2/the_copy_twins_naruto_and_naruko_namikaze), consulted 25/04/2012>
  - p. *we saved me* from picking pine needles out of the carpet in March.  
<<http://www.myblogisboring.com/2011/12/christmas-you-say-okay-fine.html>, consulted 25/04/2012>
  - q. *In me we trust* <[www.kullin.net/2006/01/in-me-we-trust/](http://www.kullin.net/2006/01/in-me-we-trust/)>, accessed 22/04/2012
  - r. either we vote for a career politician ... or *we vote for me*, a hard-working student officer activist  
<[http://www.nusconnect.or asset event 6001 bsc\\_2012\\_cd8\\_manifestos.pdf](http://www.nusconnect.or asset event 6001 bsc_2012_cd8_manifestos.pdf)>
  - s. I am teaching the people I work with how to get things done. Which is something I barely know about myself, yet *I am our leader* in figuring it out.  
<[http://peacecorpsjournals.com/?Journal&journal\\_id=11164](http://peacecorpsjournals.com/?Journal&journal_id=11164)>, consulted 21/02/2013
  - t. *I am proud of us.* <<http://simplyhorse-crazy.blogspot.de/2011/11/i-am-proud-of-us.html>; accessed 22/04/2012>
  - u. *Ich wünsche uns allen ein friedvolles neues Jahr!* <<https://nohoearmy.wordpress.com/2012/01/01/ich-wuensche-uns-allen-ein-friedvolles-neues-jahr/>>
  - v. Er hat deinen Freund geschlagen und *du hast euch verteidigt*. <<http://archiv.raid-rush.ws/t-328896.html>; accessed 22/04/2012>