Ditransitive alignment splits and inverse alignment

MARTIN HASPELMATH
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1. Asymmetries in ditransitive constructions, description, and explanation

In this paper, I propose functional explanations for a range of perhaps unexpected asymmetries in ditransitive constructions (i.e. constructions with a Recipient and a Theme argument, prototypically with the verb 'give'). I claim that ultimately the observed grammatical patterns are due to patterns of language use, i.e. they provide further evidence for Hawkins's (2004) Performance-Grammar Correspondence Hypothesis.

The patterns to be explained will be characterized in more detail below, but they include the following well-known patterns from English and French: Both English and French have two different ditansitive constructions, which are often called **double-object construction** (DOC) and (perepositional) **indirect-object construction** (IOC). The two constructions can sometimes be used side by side with no difference in meaning (apart from a more or less obvious information-structure difference), as in (1a-b), (1c-d), (2a-b), and (2e-f). However, in other cases only the indirect-object construction can be used, but the conditions are quite different in English and French. The ungrammatical sentences are printed in boldface. In (1e), English shows variation: Some speakers allow the double-object construction here, others do not (very roughly, it seems that British English speakers accept (1e), while American English speakers only accept (1f)).[1]

(1) English

a. *She gave me the book.*	b. *She gave the book to me.*
c. *She gave Kim the book.*	d. *She gave the book to Kim.*
e. ***%She gave me it./%She gave it me.***	f. *She gave it to me.*
g. ****She gave Kim it./ *She gave it Kim.***	h. *She gave it to Kim.*

(2) French (glosses as in 1a-h)

a. *Elle me donna le livre.*	b. *Elle donna le livre à moi.*
c. ****Elle donna Kim le livre.***	d. *Elle donna le livre à Kim.*
e. *Elle me le donna.*	f. *Elle le donna à moi.*
g. ****Elle le donna Kim.***	h. *Elle le donna à Kim.*

These facts are easy to describe in language-particular terms (see 3a-c), but what does it take to understand or explain the patterns?

(3) a. American English allows only the IOC when the Theme is a pronoun, and the IOC or the DOC otherwise.
b. British English allows only the IOC when the Theme is a pronoun and the Recipient is a full NP, and the IOC or the DOC otherwise
c. French allows only the IOC when the Recipient is a full NP, and the IOC or the DOC otherwise.

[1] The different word orders in (1e) correspond to different regional varieties of British English (see Siewierska & Hollmann 2005), but I will not differentiate between them here. I have nothing to say about word order in this paper.

In a weak sense of the term "explanation", the descriptions in (3) provide explanations, because speaker behavior can be explained on the basis of these general statements. But linguists are typically more ambitious. There are currently two main approaches to explanation of grammatical patterns on the market, the generative approach and the functional-typological approach. Since the differences between the two approaches are often misunderstood, I will briefly outline them as I understand them.

In the generative approach, the linguist (i) constructs a formal metalanguage (=theoretical framework) for describing mental grammars, (ii) formulates a description of the facts using the metalanguage (="an analysis") that contains (="captures") all noticeable generalizations, (iii) argues that this description is minimally idiosyncratic (="stipulative"), i.e. that the facts/generalizations maximally follow (="fall out") from the metalanguage, and (iv) claims that the description is mentally real, and that the metalanguage represents the innate cognitive code (="Universal Grammar").

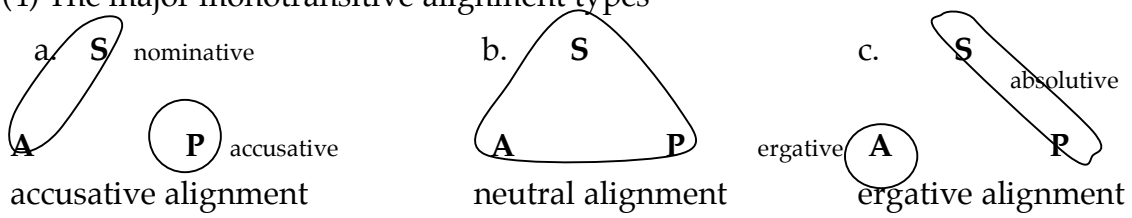
In the functional-typological approach followed here, by contrast, the linguist (i) adopts a widely understood and transparent metalanguage for describing grammars (e.g. Payne 1997, "Basic Linguistic Theory", Dixon 1997), (ii) formulates a description of the facts that contains the minimal generalizations that speakers must make (= a "phenomenological description", Haspelmath 2004e), (iii) conducts a cross-linguistic study of the relevant semantic domain and formulates universals of form-function correspondences, and (iv) shows how these universals follow from principles of language use and diachronic change. To the extent that language-particular facts instantiate universals, the language-particular facts are also explained by the explanations for the universals.

With this in mind, let us now approach ditransitive constructions in a broader perspective. I will first briefly explain the notion of **alignment** in the context of ditransitive constructions, pointing out the parallels between monotransitive (accusative/ergative) alignment and ditransitive alignment (§2). Then I will discuss two types of asymmetries in ditransitive alignment: alignment splits (§3) and inverse alignment (§4). Alignment splits are quite parallel to the much better-known monotransitive alignment splits (differential object marking, split ergativity). The parallels between what I call "ditransitive inverse alignment" and the well-known monotransitive inverse patterns are perhaps less obvious, but I will argue that they are due to the same sorts of explanatory factors. The discussion of one type of inverse alignment will also bring us back to the surprising contrasts seen in (1)-(2), and we will seen that they receive a natural explanation in the present approach.

2. The major alignment types, monotransitive and ditransitive

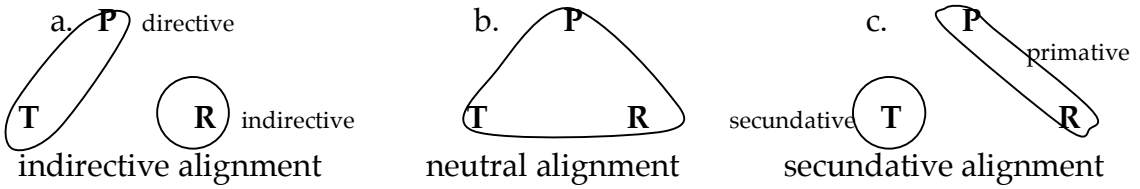
In syntactic typology, the monotransitive alignment types, in particular accusativity and ergativity, have been a major issue in recent decades. The picture that is shown in (4) has become standard textbook wisdom (e.g. Song 2001: ch. 3). If we use the well-known role-prototypes S (single argument of intransitive verb), A (agent-like argument of transitive verb) and P (patient-like argument of transitive verb), we can say that if S and A are treated alike as opposed to P, we get **accusative alignment** (as in 4a); if all three are treated alike, we get **neutral alignment** (as in 4b); and if S and P are treated alike as opposed to A, we get **ergative alignment** (as in 4c).

(4) The major monotransitive alignment types



Now as Dryer (1986) first pointed out (and see Croft (1990:100-108), Dryer 2006), the relationship between the two object arguments in ditransitive clauses can be conceptualized in exactly the same way. The role-prototypes in ditransitive clauses are R for recipient-like argument and T for theme-like argument. Depending on whether it is T or R that is treated like the monotransitive P, we get two different non-neutral alignment patterns and a neutral pattern, shown in (5a-c). In Dryer's (1986) terminology, when T is treated like the monotransitive P, we have a **direct-object/indirect-object** distinction. Renaming it to **directive/indirective**, as in (5a), makes the parallel to monotransitive alignment even clearer. (Usually the terms *nominative/accusative* and the terms *ergative/absolutive* are thought of as terms for linking patterns, not as terms for grammatical relations themselves.) And when R is treated like the monotransitive P, we have a **primary-object/secondary-object** distinction. Again, for terminological convenience this has been renamed to **primative/secundative** in (5c).[2] We can now talk about **indirectivity** and **secundativity** in exactly the same way as we talk about accusativity and ergativity.

(5) The major ditransitive alignment types



Ditransitive alignment has received very little attention after Dryer (1986) in the typological literature, but I believe that it is quite instructive to study ditransitive alignment in the same general perspective in which monotransitive alignment has been studied (see also Siewierska 2004:57-63, Haspelmath 2005a, 2005b).

3. Ditransitive alignment splits

In monotransitive constructions, alignment splits are well-known (e.g. Silverstein 1976, Comrie 1989, Dixon 1994, Bossong 1998, Aissen 2003, Filimonova 2005). The two most widely occurring types depend on the arguments' position on the salience scales (animacy, definiteness, person):

(6) **Differential Object (= P) Marking:**
Special ("accusative") P-marking is the more likely, the higher the P is on the animacy, definiteness and person scales.

[2] These should be pronounced ['praimətiv] and [si'kʌndətiv], respectively. This terminology was proposed in Haspelmath (2005a) (originally presented in 2001) and adopted by Siewierska (2004: ch. 2).

(7) **Differential Subject (=A) Marking:**
Special ("ergative") A-marking is the more likely, the lower the A is on the animacy, definiteness, and person scales.

It seems to be widely recognized that the explanation for these universals of monotransitive argument marking lies in the frequency with which P and A are animate and definite. The most frequent and therefore most expected monotransitive associations are: animate/definite A and inanimate/indefinite P. Deviations from this expectation need special marking (Comrie 1989:128; see Jäger 2004 for relevant frequency figures).[3]

It has only recently been noticed that very similar splits are also found in ditransitive constructions. I call them "Differential Recipient Marking" and "Differential Theme Marking" (see also Kittilä to appear).

3.1. Differential Recipient Marking

3.1.1. The universal and its explanation. It appears that the following statement holds generally across languages:

(8) **Universal 1**:
Special ("indirective" or "dative") R-marking is the more likely, the lower the R is on the animacy, definiteness, and person scales.

Note that this universal is parallel to Differential Subject Marking in (7) in that the special case-marking is favored when the Recipient is low on the scales. This is as one would expect because while the P tends to be low on these scales in discourse, both the A and the R tend to be high on these scales. The explanation for the universal is thus completely parallel to the explanation of the universals in (6) and (7): The most frequent and therefore most expected ditransitive associations are: animate/definite R and inanimate/indefinite T. Deviations from this expectation need special marking.

Following much of the previous literature, I take the relevant three scales to be as follows:

(9) Animacy scale: human > animate non-human > inanimate
Definiteness scale: proper > definite > specific indefinite > nonspecific
Person scale: 1st/2nd > 3rd

My data in support of this universal are not very systematic yet, and so far I only have evidence for the following conflated scale (which has sometimes been called "individuation scale" or "empathy scale"):

(10) 1st/2nd > 3rd > proper noun > human > non-human

Figure 1 shows some languages that exemplify different cut-off points on this scale.

[3] Aissen (2003) offers an Optimality-theoretic reconstruction of this old insight, which has no official role for frequency. However, she has to rely on the concepts of markedness and iconicity, which can be dispensed with if frequency and expectedess are made the cornerstone of the explanation (see Haspelmath 2006). Moreover, as she admits in her note 12 (2003:447-48), even with all her machinery, she fails to make the right predictions if no further functional factors are appealed to.

1st/2nd	3rd	proper	human	non-human	
●	●	●	●	●	Latin, Lezgian
	●	●	●	●	French, Yimas, Georgian
		●	●	●	Pero
			●	●	Drehu
				●	English

Figure 1: ***Attested cut-off points for differential R marking***

Many languages are like Latin or Lezgian (Haspelmath 1993) and use a special dative case form for any R, regardless of its place on the scale. There is no need to illustrate this non-split type here, and in the following I will concentrate on the various types of split.

3.1.2. No special marking for 1st/2nd person pronouns. The first split is between 1st/2nd person pronouns and all other R types. This split is exemplified by French, as shown in (11). Third-person forms make a dative-accusative distinction, whereas 1st/2nd person pronouns have a single non-differentiated form. Non-pronominal NPs (and independent pronouns) always use the special indirective preposition *à*.

(11) French person clitics

		T ARGUMENT	R ARGUMENT
SG	1	*me*	*me*
	2	*te*	*te*
	3M	***le***	***lui***
	3F	***la***	***lui***
PL	1	*nous*	*nous*
	2	*vous*	*vous*
	3	***les***	***leur***

Of course, a possible and widely adopted description of French would say that all clitic pronouns have both accusative and dative forms, but that the first and second person forms happen to show syncretism. This description is not inconsistent with the universal as formulated in (8): "Special R-marking" does not refer to abstract case-values, but to overt forms. It is clear that the 1st and 2nd person clitic pronouns have no distinct T and R forms, whatever one wants to say about abstract case values.[4]

According to Siewierska (2004:66), "person-determined splits in ditransitive alignment are less common than those in monotransitive alignment", but I have found further systems of bound pronouns that are similar to the French system. In (12)-(13), we see the systems of Tangale (a West Chadic language of Nigeria) and Yimas (a Lower Sepik-Ramu language of Papua New Guinea).

[4] Note that the situation is parallel to the situation with differential object and subject marking. Especially for Australian languages, there is no agreement on what to call the P case when it has no overt marking, *accusative* (using the same abstract case value as for the overtly accusative-marked pronouns) or *absolutive* (using a case label that emphasizes its identity to the equally zero-marked form used in intransitive clauses; see Goddard 1982). Fortunately, the universals in (6) are unaffected by these debates.

(12) Tangale (bound) object pronouns (Jungraithmayr 1991:36)

		DIRECT-OBJECT PRONOUN	INDIRECT-OBJECT PRONOUN
SG	1	*-no/-nọ, -n-*	*-no/-nọ, -n-*
	2	*-ko/-kọ, -k-*	*-ko/-kọ, -k-*
	3M	***mbẹ́ę̣ndâm***	***-ni/-nị***
	3F	***mbáastâm***	***-to/-tọ***
PL	1	*-mu/-mụ, -m-*	*-mu/-mụ, -m-*
	2	*-ku/-kụ, -k-*	*-ku/-kụ, -k-*
	3	***mbíindâm***	***-wu/-wụ***

(13) Yimas bound object pronouns (Foley 1991:200-211)

		"O-pronouns"	"D-pronouns"
SG	1	*a-*	*a-*
	2	*nan-*	*nan-*
	3	***na-***	***-(n)akn***
DL	1	*kra-*	*kra-*
	2	*kul-*	*kul-*
	3	***impa-***	***-mpn***
PL	1	*kra-*	*kra-*
	2	*kul-*	*kul-*
	3	***pu-***	***-mpun***

Other languages that behave similarly are Georgian (a Kartvelian language), Abkhaz (an Abkhaz-Adyghean language of Georgia), and Amele (a Trans-New Guinea language of Papua New Guinea; Roberts 1987).

Krongo (a Kadugli language of Sudan) is similar but has only independent pronouns. Its 1st/2nd person (independent) pronouns have the same shape for R and T (and A as well), but for 3rd person pronouns there are special forms with the dative-case prefix *à-* that is also used for full NPs:

(14) Krongo independent pronouns (Reh 1985:144, 166)

		OBJECT FORM	DATIVE FORM
SG	1	*àʔàŋ*	*àʔàŋ*
	2	*ʊ̀ʔʊ̀ŋ*	*ʊ̀ʔʊ̀ŋ*
	3M	***ì ʔì ŋ***	***à-níŋ***
	3F	***àakù***	***à-náakù***
	3n	***àay***	***à-náày***
PL	1INCL	*àŋŋá*	*àŋŋá*
	1excl	*óow*	*óow*
	2	*àakà*	*àakà*
	3	***àay***	***à-náày***

I know of no languages that (contrary to Universal 1) have different T/R forms only in 1st/2nd person pronouns, but not in 3rd person pronouns.

3.1.3. No special marking for pronouns. A language that has special marking of R only for full NPs, but lacks special marking for all pronouns is Pero (another West Chadic language of Nigeria, closely related to Tangale). The bound object suffixes do not distinguish between Patient/Theme and Recipient:

(15) Pero (Frajzyngier 1989:109, 166-7)

a. *À-múntée-nò-té-m.*
NEG-give-1SG.OBJ-3SG.F.OBJ-NEG
'He didn't give her to me.'

b. *À-múntée-té-nò-m.*
NEG-give-3SG.F.OBJ-1SG.OBJ-NEG
'He didn't give me to her.'

But full NPs require the preposition *tí* when they occur as Recipients:

(16) *Músà mún-kò júrà tí Ɗíllà.*
Musa give-COMPL peanuts to Dilla
'Musa gave peanuts to Dilla.'

3.1.3. No special marking for pronouns and proper nouns. In Drehu (Oceanic; Loyalty Islands), pronouns and proper nouns may show zero-marking if they are Recipient:

(17) Drehu (Moyse-Faurie 1983:161-2)
a. *Eni a hamëë angeic la itus.*
I PRES give him the book
'I give him the book.'
b. *Eni a hamëë Wasinemu la itus.*
I PRES give Wasinemu the book
'I give Wasinemu the book.'

But other NPs must appear with the preposition *kowe* 'to':

(18) *Eni a hamëën la itus* ***kowe*** *la nekönatr.*
I PRES give the book to the child
'I give the book to the child.'

3.1.4. No special marking for all human NPs. My example for this split comes from English, where with some verbs non-human NPs must appear with the preposition *to*:

(19) a. *I sent the letter to Masha./I sent Masha the letter.*
b. *I sent the letter to Warsaw./*I sent Warsaw the letter.*

This is not as clearly a case of a split based on inherent properties, because the split is not found with all verbs, and one could say that Masha is a true recipient in (19a), while Warsaw is just a destination in (19b). But it comes at least close to exemplifying a human/nonhuman contrast that fits well with the universal in (8).

3.2. Differential Theme Marking

There is much less evidence for the opposite type of differential marking. This seems to be again parallel to the situation in monotransitive constructions, which show much less evidence for the Differential Subject Marking universal. Moreover, special case marking on the Theme of a ditransitive construction is quite rare to begin with (see Haspelmath 2005a). So the universal hypothesis of (20) is primarily motivated by the parallelism with the universals in (6)-(8).

(20) **Universal 2**:
Special ("secundative") T-marking is the more likely, the higher the T is on the animacy, definiteness, and person scales.

The explanation again is that the most frequent and expected ditransitive association is animate/definite R and inanimate/indefinite T. Deviations from

the expectation need special marking, and one kind of special marking is special T marking.

The only example of differential theme marking that I have at the moment comes from Akan (a Niger-Congo language belonging to the Kwa subfamily, spoken in Ghana). In this language, the Theme argument in a double-object construction must be indefinite, as in (14a). (14b) with the definite article on the Theme is ungrammatical, and a construction with a special T-marking serial verb must be used instead (*dè* lit. 'take') (data from Sáàh & Ézè 1997:143-44).

(21) a. *Ámá màà mè sìká.*
Ama give 1SG money
'Ama gave me money.'

b. **Ámá màà mè sìká nó.*
Ama give 1SG money the
'Ama gave me the money.'

c. *Ámá dè sìká nó màà mè.*
Ama take money the give 1SG
'Ama gave me the money.' (Lit. 'Ama took the money gave me.')

4. Inverse ditransitive patterns

It has been observed in various languages that argument coding may depend not only on the intrinsic properties of the arguments (their semantic role, syntactic function, and position on the salience scales), but also on the relation between the salience positions of two co-occurring arguments. Such patterns will be called "inverse alignment patterns" here (corresponding to Nichols's (1992:66) and Siewierska's (2004:51-55) "hierarchical alignment").[5] Again I begin the presentation with monotransitive inverses, before moving on to ditransitive inverses.

4.1. Monotransitive inverse patterns

A monotransitive coding pattern is generally called "(direct/) inverse" if the coding of the A and P arguments (and of the verb) depends on their relative position on the person scale (1st/2nd > 3rd). A good way of thinking about such pattterns is in terms of a mapping between two scales (A > P, and 1st/2nd > 3rd), as visualized in (22i-iv).[6]

(22)
(i) Canonical ("maximally harmonic") association of role and person:

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A      P
|      |
1st/2nd  3rd
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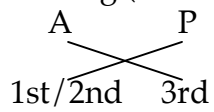
[5] I prefer the older term "inverse" (which was coined in Algonquian linguistics) to "hierarchical" because the term "hierarchy", which is often used instead of "scale", is not very satisfactory (the term "hierarchy" would be more appropriate for structures that have the form of a tree, whereas implicational scales and salience scales are purely linear).

[6] The representation in (22) is taken from Zúñiga (2002:25). The conceptualization in terms of a mapping between two scales ("harmonic alignment") was recently highlighted by Aissen (1999).

(ii)-(iii) Clustering ("less harmonic") associations of role and person:

(iv) Crossing ("disharmonic") association of role and person:



These four mappings form a scale of decreasing harmony of person-role association (Canonical (i) > Clustering (ii)/(iii) > Crossing (iv)). Given the mappings and this harmony scale, we can formulate the universal in (23):

(23) **Monotransitive Inverse Marking Universal:**
If a language shows any inverse patterns in monotransitive clauses, then on the scale of decreasing harmony of person-role association, the upper end is expressed by a simpler construction, and the lower end is expressed by a more complex construction.

For example, in the Kiowa-Tanoan language Picurís, the canonical association (i) and the first clustering association (ii) are obligatorily expressed in the simple ("active") construction (24a-b), whereas the crossing association is obligatorily expressed by the complex ("passive") construction (24c). With the second clustering association (iii), either the simple or the complex construction may occur, as seen in (24d-e) (Zaharlick 1982:45; cited here after Klaiman 1991:211-18, Mithun 1999:2226-28).

(24) Picurís (= Northern Tiwa) (Zaharlick 1982:35-41)

a. (2>3) *Sənene ʔa-mǫn-ʔąn.*
man 2SG-see-PST
'You saw the man.'

b. (2>1) *May-mǫn-ʔąn.*
2>1-see-PST
'You saw me.'

c. (3>2) *ʔa-mǫn-mia-ʔąn sənene-pa.*
2SG-see-PASS-PST man-OBL
'The man saw you.' ("You were seen by the man.")

d. (3>3) *Sənene Ø-mǫn-ʔąn.*
man 3SG-see-PST
'The man saw him.'

e. (3>3) *Mǫn-mia-ʔąn sənene-pa.*
see-PASS-PST man-OBL
'He was seen by the man.'

The simple and complex constructions are called "active" and "passive" (rather than "direct" and "inverse") by Zaharlick, but the pattern is one of inverse alignment because the "passive" is obligatory for the crossing association.

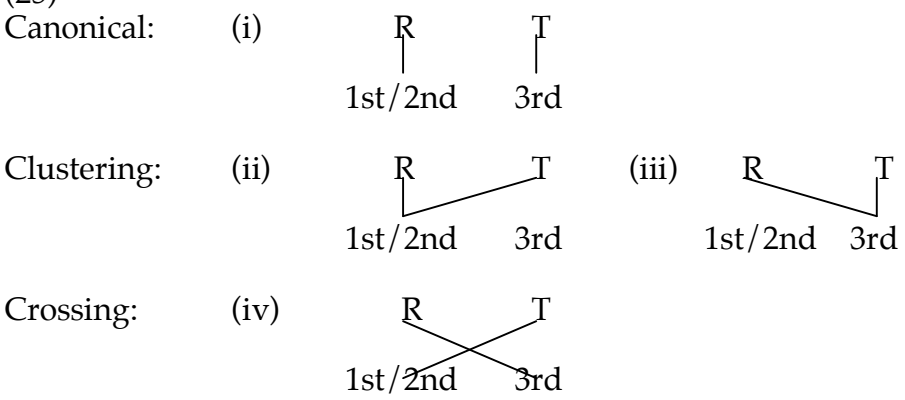
The explanation for the universal in (23) is parallel to the explanation of the alignment splits in §3: The canonical person-role associations occur more

frequently than the non-canonical person-role associations, and the crossing association is the rarest (see Zúñiga 2002:222-23 for discussion).

4.2. Ditransitive person-role inverses

In ditransitive constructions, the relevant role types are R and T, and they can be thought of as forming a role scale R > T (corresponding to A > P). The possible types of association of person and role are completely analogous to the monotransitive association types (cf. Haspelmath 2004d, which is the source of much of the material in this subsection):

(25)



The predicted universal is also completely analogous to the universal in (23).

(26) **Universal 3**: If a language shows any ditransitive inverse patterns, on the scale of decreasing harmony of person-role association ("Canonical (i) > Clustering (ii/iii) > Crossing (iv)"), the upper end is expressed by a simpler construction, and the lower end is expressed by a more complex construction.

The explanation also appeals to frequency: The less harmonic the association, the less frequent the pattern. More frequent patterns are more expected and therefore need less coding. Some frequency data supporting this claim are cited in Haspelmath 2004d.

The primary difference between monotransitive and ditransitive inverses is that in the ditransitive inverses that have come to my attention so far, the greater complexity of the inverse pattern resides not in the verbal marking (as in the classical monotransitive inverses, exemplified by Picurís), but in the form of the personal pronouns expressing the R and T arguments.

For example, in French, Modern Greek, and Shambala, the (longer) independent pronouns are used instead of bound (affixal or clitic) pronouns in the crossing association:

(27) French (e.g. Grevisse 1986:§657 (b) 1°)

a. (1>3) *Agnès me la présentera.*
Agnès 1SG.REC 3SG.F.THM present.FUT.3SG
'Agnès will introduce her to me.'

b. (3>1) **Agnès me lui présentera.*
Agnès 1SG.THM 3SG.F.REC present.FUT.3SG
'Agnès will introduce me to her.'

c. *Agnès me présentera* ***à elle.***
Agnès 1SG.THM present.FUT.3SG to her
'Agnès will introduce me to her.'

(28) Modern Greek (Anagnostopoulou 2003:252-53)

a. (2>3) *Tha su ton stílune.*
FUT 2SG.REC 3SG.M.THM send.PF.3PL
'They will send him to you.'

b. (3>2) **Tha tu se stílune.*
FUT 3SG.M.REC 2SG.THM send.PF.3PL
'They will send you to him.'

c. *Tha tu stílune* ***eséna.***
FUT 3SG.M.REC send.PF.3PL you.OBL
'They will send you to him.'

(29) Shambala (Bantu-G, Tanzania; Duranti 1979:36)

a. (1>3) *A-za-m-ni-et-ea.*
3SG.SUBJ-PAST-3SG.THM-1SG.REC-bring-APPL
'S/he has brought him/her to me.'

b. (3>1) **A-za-ni-mw-et-ea.*
3SG.SUBJ-PAST-1SG.THM-3SG.REC-bring-APPL
'S/he has brought me to him/her.'

c. *A-za-ni-eta* ***kwa yeye.***
3SG.SUBJ-PAST-1SG.THM-bring to him/her
'S/he has brought me to him/her.'

French and Modern Greek also forbid bound pronouns in one of the clustering associations:

(27) d. (2>1) **Agnès me te présentera.*
Agnès 1SG.THM 2SG.REC present.FUT.3SG
'Agnès will introduce me to you.'

(28) d. (1>2) **Tha mu se stílune.*
FUT 3SG.M.REC 2SG.THM send.PF.3PL
'They will send you to me.'

But Catalan allows these associations, prohibiting only the crossing associations:

(30) Catalan (Bonet 1994:41)
Te m' ha venut el mercador mès important.
you me has sold the merchant more important
'The most important merchant has sold you to me.' (or: '... me to you')

And Kambera (Central Malayo-Polynesian, eastern Indonesia) allows only the canonical association:

(31) Kambera (Klamer 1997: 903-4)

a. *Na-wua-ngga-nya.*
3SG.AG-give-1SG.REC-3SG.THM
'He gives it to me.'

b. *Na-wua-nggau-nja.*
3SG.AG-give-2SG.REC-3PL.THM
'He gives them to you (e.g. apples).'

c. **Na-wua-nja-nya.*
3SG.AG-give-3PL.REC-3SG.THM
'He gives it to them.'

d. **Na-wua-ngga-nggau.*
3SG.AG-give-1SG.REC-2SG.THM
'He gives you to me.'

These three language types can be represented as in Figure 1-3, where the range of applicability of the simple ("direct") pattern is indicated by a line. Recall that Universal 3 predicts that all simple patterns express at least the canonical association, and that if a language has a direct pattern for the crossing association, it also has a direct pattern for the clustering associations.

I have no good explanation for the fact that verb-marked person-role inverses of the type seen in §4.1 have not been found in ditransitive constructions. Maybe it has to do with the fact that languages generally have far fewer ditransitive verbs than monotransitive verbs, so that it is more difficult for a verb-marking pattern to become productive.[7]

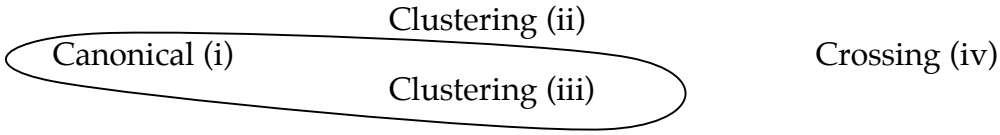


Figure 2. *French and Greek direct (bound-pronoun) ditransitive patterns (person-role)*

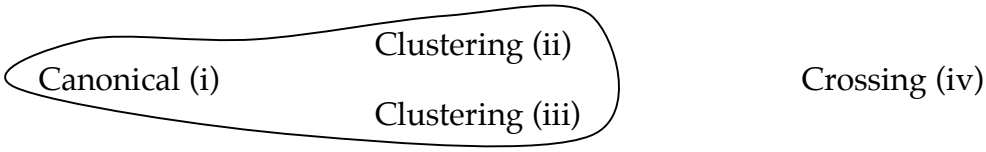


Figure 3. *Catalan direct (bound-pronoun) ditransitive patterns (person-role)*

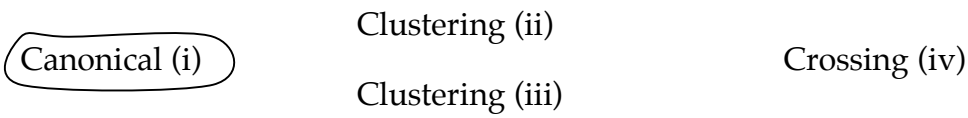


Figure 4. *Kambera direct (bound-pronoun) ditransitive patterns (person-role)*

I have not yet found an example of a language that has the direct pattern only for the canonical and the first clustering association (i.e. the mirror image of French), but I assume that this is an accidental gap.

Siewierska (2004:60) discusses ditransitive person marking in Jamul Tiipay (Yuman), where according to Miller's (2001:162-163) description, only the object that is higher on the person scale is expressed as a bound form on the verb (cf. 32a-b). Siewierska thus regards this as an example of inverse ("hierarchical") alignment.

(32) Jamul Tiipay (Miller 2001:162)
a. *Xiikay ny-iny-ma.*
some 1>2-give-FUT
'I'll give you some.'

---

[7] Conversely, direct/inverse patterns reflected in a bound-pronoun vs. independent-pronoun contrast do exist in monotransitive constructions, although they have not been treated as inverses in the literature. For example, Hungarian allows affixal coding of 1>2 as in (i), but not of 2>1 as in (ii), where the first person must be expressed as an independent pronoun.

(i) *kér-lek* [ask-1SG>2SG] 'I ask you (singular)'
(ii) *engem kér-sz* [I.ACC ask-2SG] 'you ask me'

b. *Nyaach maap Goodwill ny-iny-x.*
I.SUBJ you Goodwill 1>2-give-IRR
'I'm going to give you to Goodwill.'

As seen in (32b), in Jamul Tiipay the crossing association uses the bound form, which is unexpected in view of Universal 3. However, Jamul Tiipay makes no difference between a simpler and a more complex form, so that Universal 3 is not applicable. Moreover, it is not clear that the Jamul Tiipay construction falls under the definition of "inverse" that was given in §4.1 ("a coding pattern is called "(direct/) inverse" if the coding of the R and T arguments depends on their relative positions on the person scale (1st/2nd > 3rd)"). In Jamul Tiipay, the rule seems to be that any 1st or 2nd person object (whether R or T) is indexed on the verb, while no 3rd person object is indexed on the verb. Thus, no reference to the relative positions of the two arguments is necessary in this case.

4.3. Ditransitive pronoun-full NP inverses

While the classical cases of inverse patterns make reference to the position of an argument on the person scale, other salience scales may be relevant as well. In Lummi (a dialect of Straits Salish), for example, the position of an argument on the scale "pronoun > full NP" determines whether the simple/direct construction is possible in monotransitive clauses: If the A is a full NP and the P is a pronoun, the direct construction is impossible (see 33b), and a "passive" construction must be used.

(33) Lummi (Jelinek & Demers 1983:168)

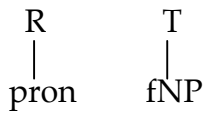
a. (pron>fNP) *ẋči-t-s* *cə* *swəyʔqəʔ*
know-TR-3SG.SUBJ the man
'He knows the man.'

b. (fNP>pron) **ẋči-t-s* *cə* *swəyʔqəʔ*
know-TR-3SG.SUBJ the man
'The man knows him.'

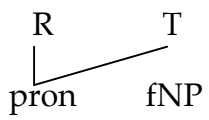
Pronoun-full NP inverses are also found in ditransitive constructions. Again four mapping patterns are possible:

(34)

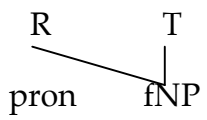
Canonical: (i)



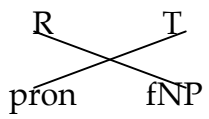
Clustering: (ii)



(iii)



Crossing: (iv)



The predicted universal is again parallel to the universals in (23) and (26), and it receives an analogous frequency-based explanation:

(35) **Universal 4**: If a language shows any ditransitive inverse patterns, on the scale of decreasing harmony of pronoun-NP association ("Canonical (i) > Clustering (ii/iii) > Crossing (iv)"), the upper end is expressed by a simpler construction, and the lower end is expressed by a more complex construction.

Pronoun-NP inverses show up in three different ways: (A) as a contrast in the form of the personal pronoun (bound vs. independent, as with the examples of person-role inverses); (B) as a contrast in verb marking; and (C) as a contrast between a construction with no adpositional marking and a construction with adpositional marking. These three manifestations of inverse patterns are quite different in their morphosyntactic structure, but they all share the difference between simpler and more complex coding. The explanatory factor of economy only predicts simplicity/complexity, so this structural diversity is not unexpected.

The first examples are pronoun-NP inverses manifested in the form of the personal pronoun. In Capeverdean Creole (a Portuguese-based creole), for example, the clitic pronouns are only used in the canonical pattern (i), cf. (36a-b). If both the R and the T are pronominal (i.e. in the clustering pattern (ii)), they cannot be both expressed as clitics, and the T must be expressed as an independent pronoun, cf. (36c-d). This is also the case if T is a pronoun and R is a full NP, cf. (36e-f) ("crossing pattern"). (However, the second clustering pattern, (iii), which does not involve pronouns, is not a problem.)

(35) Capeverdean Creole (Baptista 2002, Marlyse Baptista, p.c.)

a. *El da=bu libru.*
she give=you book
'She gave you a book.'

b. *El da=l libru.*
she give=him book
'She gave him a book.'

c. **El da=bu=l.*
she give=you=him
'She gave you him=She gave him to you.'

d. *El da=bu* ***el****.*
she give=you he
'She gave you him=She gave him to you.'

e. **El da João=l.*
she give João=her
'She gave her to João.'

f. *El da João* ***el****.*
she give João her
'She gave her to João.'

The Capeverdean situation can be summarized as in Figure 5.

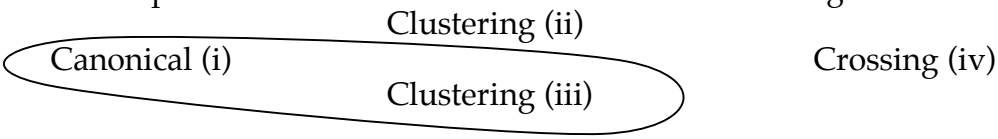


Figure 5. *Capeverdean direct (bound-pronoun) ditransitive patterns (pronoun-NP)*

The situation in Hausa (West Chadic) is completely analogous to the situation in Capeverdean Creole:[8]

(37) Hausa (Kraft & Kirk-Greene 1973:75-76)

a. *Naa* *báà=shì* *aikìi.*
I.PFV give=him work.
'I gave him work.'

b. *Naa* *báà=tà* *aikìi.*
I.PFV give=her work.
'I gave her work.'

c. **Naa* *báà=shì=tà.*
I.PFV give=him=her
'I gave him her=I gave her to him.'

d. *Naa* *báà=shì* ***ita.***
I.PFV give=him her
'I gave him her=I gave her to him.'

The next example is a pronoun-NP inverse manifested in the form of the verb. In Lillooet (Salishan) the crossing pattern (iv) is impossible, and a "passive" construction must be used instead. The Lillooet pattern is shown by Figure 6.

(38) Lillooet (van Eijk 1997: 229)

a. *ʔúm'n-as-Ø* *kʷ˅s-Sam* *ti˅c'qáxʔ˅a*
give-3SG.SUBJ-3SG.OBJ ART-NMLZ-Sam ART-horse-ART
'He gave Sam a horse.'

b. **ʔúm'n-as-Ø* *kʷ˅s-Sam*
give-3SG.SUBJ-3SG.OBJ ART-NMLZ-Sam
'He gave it to Sam.'

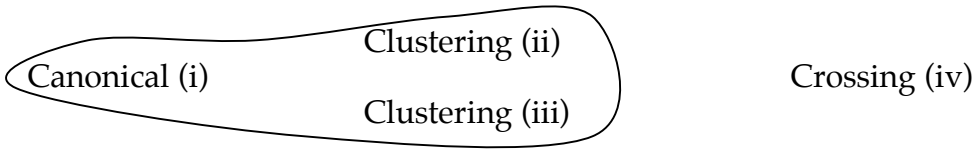


Figure 6. *Lillooet direct (non-verb-marking) ditransitive patterns (pronoun-NP)*

Finally, we return to the examples from English and French that were cited in the first section of this paper. In English and French, pronoun-NP inverses are manifested in a contrast between a prepositional construction and a construction with no preposition. British English is like Lillooet in that only the crossing pattern (iv) is excluded with the simplest construction, the double-object construction (**She gave Kim it*/**She gave it Kim*). Instead, a more complex construction with the preposition *to* must be used instead (*She gave it* ***to*** *Kim*). In the other mapping patterns (i)-(iii), the prepositional construction is also possible, but not obligatory. (Canonical: *She gave me the book*/*She gave the book to me*; clustering (ii): *She gave me it*/*She gave it to me*; clustering (iii): *She gave Kim the book*/*She gave the book to Kim*.)

American English also excludes the clustering pattern (ii) (**She gave me it*/**She gave it me*), requiring a more complex prepositional construction here, too (*She gave it* ***to*** *me*.). Thus, the simple double-object construction is allowed only in the mapping patterns (i) and (iii), as depicted in Figure 7.

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[8] Gensler (2003:217-18) mentions the Hausa facts in the context of a cross-linguistic study of ordering of R and T person affixes, and finds them "unexpected".

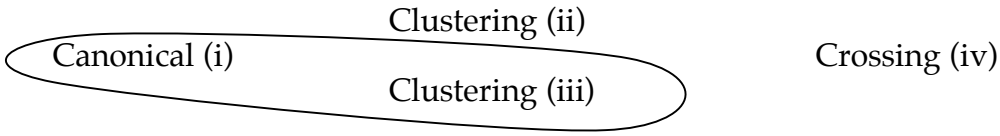

Figure 7. *American English direct (prepositionless) ditransitive patterns (pronoun-NP)*

French is like English in that it excludes the crossing pattern (**Elle le donna Kim* '*She gave it Kim'), and it is like British English in that it allows the clustering pattern (ii) (*Elle me le donna* 'She gave me it'). However, the clustering pattern (iii) (**Elle donna Kim le livre* 'She gave Kim the book') is not possible without a preposition. The construction with the preposition is always possible in French, though it is only used under special discourse conditions when the prepositionless construction would be possible as well. The French situation is depicted in Figure 8.

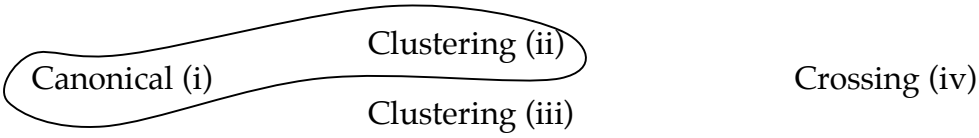

Figure 8. *French direct (prepositionless) ditransitive patterns (pronoun-NP)*

Thus, all the inverse patterns that we have seen in this section fall under the inverse universals 3 and 4. These have a straightforward functional explanation and constrain the cross-linguistic diversity considerably. In each case, no language is attested in which only the crossing mapping is expressed simply, while one of the clustering mappings or the canonical mapping must be expressed in some complex way. There is also no language where one of the clustering mappings, but not the canonical mapping is expressed with the simple pattern.

5. Conclusion

In this paper I have advanced four universals of ditransitive marking, two of them concerning split alignment patterns (differential R marking and differential T marking), and two of them concerning inverse alignment patterns (person-role inverses and pronoun-full NP inverses). The universals make predictions about the distribution of asymmetrical marking patterns in the world's languages. Examples of asymmetrical marking patterns from a variety of languages that conform to the universals have been cited.

I have proposed functional explanations of these universals that appeal to economy effects resulting from differences in frequency distributions. I have not been able in this paper to back these up with full statistical data from cross-linguistic corpora. This is a matter for future research. To the extent that the statistical evidence is needed to support the functional explanations, these explanations thus remain somewhat incomplete at the present moment.

However, the virtues of the present functional-typological approach should have become apparent:

(i) I have not made use of any highly specific formal metalanguage for describing the relevant grammatical structures. This paper can be understood by any linguist without learning a complicated formal framework.

(ii) I have not made any bold speculative claims about the mental grammars of speakers. While linguists are generally happy to take notice of such claims

made by their colleagues in research papers, few of the claims made over the last couple of decades have been universally (or even widely) accepted and adopted. In view of this, I regard it as a virtue of the approach that it can make do with purely phenomenological descriptions that make no claims about cognitive states.

(iii) Likewise, I have not made any claims about the genetically determined cognitive code for language ("Universal Grammar"). Again, while many linguists are interested in UG, there is no agreement about its actual makeup, and claims about UG are not readily testable.

(iv) The universals are easily falsifiable by data from further languages because they have a very low degree of abstractness. No "deep analysis" is required to find counterevidence.

(v) The part of the explanation that refers to frequency of use in discourse is very easily testable, by simply examining texts in any language. The discourse frequency asymmetries are said to lie at the root of the universal asymmetries in coding patterns, so it goes without saying that they have to be universal, too.

The initially surprising coding asymmetries in English and French that we saw in §1 have been shown to find a natural explanation in the current approach. It was not necessary to consider competing explanations here, because it seems that at least for English, no serious competing explanation has been proposed (a surprising fact, given that English has been studied so thoroughly). Of course, one might still hope for an explanation that is still stronger in that it explains, say, why British English has the pattern in Figure 6 and American English has the pattern in Figure 7, rather than vice versa. Such an explanation would be possible only if we found some factor that makes this state of affairs necessary, most likely some other correlating property of the grammar. Until such a correlation is found, we have to be content with an explanation that shows that the English and French asymmetries conform to universal constraints on such asymmetries, which themselves make perfect sense on a view of grammatical structure that takes the effect of usage on grammar into account.

References

Aissen, Judith. 1999. "Markedness and subject choice in Optimality Theory." *Natural Language and Linguistic Theory* 17: 673-711.

Aissen, Judith. 2003. "Differential object marking: Iconicity vs. economy." *Natural Language and Linguistic Theory* 21.3: 435-483.

Anagnostopoulou, Elena. 2003. *The syntax of distransitives: evidence from clitics* (Studies in generative grammar, 54.) Berlin: Mouton de Gruyter.

Baptista, Marlyse. 2002. *The syntax of Capeverdean Creole: The Sotavento varieties.* Amsterdam: Benjamins.

Bonet, Eulalia. 1994. "The Person-Case constraint: A morphological approach". In: Harley, Heidi & Phillips, Colin (eds.) *The morphology-syntax connection* (MIT WPL, 22.), 33-52.

Bossong, Georg. 1998. "Le marquage différentiel de l'objet dans les langues d'Europe". In: Feuillet, Jack (ed.*) Actance et valence dans les langues de l'Europe.* Berlin: Mouton de Gruyter, 193-258.

Comrie, Bernard. 1978. "Ergativity." In: Lehmann, Winfred P. (ed.) *Syntactic typology.* Austin: University of Texas Press, 329-94.

Comrie, Bernard. 1989. *Language Universals and Linguistic Typology.* 2nd ed. Oxford: Blackwell.

Croft, William. 1990. *Typology and universals.* Cambridge: Cambridge University Press.
Dixon, R.M.W. 1994. *Ergativity*. Cambridge: Cambridge University Press.
Dixon, R.M.W. 1997. *The rise and fall of languages.* Cambridge: Cambridge University Press.
Dryer, Matthew. 1986. "Primary objects, secondary objects, and antidative." *Language* 62: 808-45.
Dryer, Matthew. 2006. "Clause types." To appear in: Shopen, Timothy (ed.) *Language typology and syntactic description, 2nd ed*. Cambridge: Cambridge University Press.
Duranti, Alessandro. 1979. "Object clitic pronouns in Bantu and the topicality hierarchy." *Studies in African Linguistics* 10.1:31-45.
Filimonova, Elena. 2005. "The noun phrase hierarchy and relational marking: problems and counterevidence." *Linguistic Typology* 9.1: 77-113.
Foley, William A. 1991. *The Yimas language of New Guinea.* Stanford: Stanford University Press.
Frajzyngier, Zygmunt. 1989. *A Grammar of Pero.* Berlin: Dietrich Reimer.
Gensler, Orin. 2003. "Object ordering in verbs marking two pronominal objects: Nonexplanation and explanation." *Linguistic Typology* 7.2: 187-231.
Givón, Talmy. 1976. "Topic, pronoun and grammatical agreement." In: Li, Charles N. (ed.) *Subject and topic.* NewYork: Academic Press, 149-89.
Givón, Talmy. 1979. *On Understanding Grammar.* New York: Academic Press.
Givón, T. 1984. "Direct object and dative shifting: the semantics and pragmatics of case." In: Plank, Frans (ed.) *Objects*. New York: Academic Press.
Goddard, Cliff. 1982. "Case systems and case marking in Australian languages: a new interpretation." *Australian Journal of Linguistics* 2.2:167-196.
Grevisse, Maurice. 1986. *Le bon usage.* 12ème édition. Paris: Duculot.
Haspelmath, Martin. 1993. *A grammar of Lezgian*. (Mouton Grammar Library, 9.) Berlin: Mouton de Gruyter.
Haspelmath, Martin. 2004d. Explaining the Ditransitive Person-Role Constraint: a usage-based account. *Constructions* 2004/2, 49 pp. [free online journal, www.constructions-online.de]
Haspelmath, Martin. 2004e. Does linguistic explanation presuppose linguistic description? *Studies in Language* 28.3. 554-579
Haspelmath, Martin. 2005a. "Argument marking in ditransitive alignment types." *Linguistic Discovery* 3 [free online journal, linguistic-discovery.dartmouth.edu]
Haspelmath, Martin. 2005b. "Ditransitive Constructions: The Verb 'Give'." In: Martin Haspelmath & Matthew S. Dryer & David Gil & Bernard Comrie (eds.) *The World Atlas of Language Structures*. Oxford: Oxford University Press, 426-429.
Haspelmath, Martin. 2006. "Against markedness (and what to replace it with)". To appear in *Journal of Linguistics* 42.1
Hawkins, John A. 2004. *Efficiency and complexity in grammars.* Oxford: Oxford University Press.
Jäger, Gerhard. 2004. "Learning constraint sub-hierarchies: The Bidirectional Gradual Learning Algorithm." In R. Blutner & H. Zeevat (eds.), *Pragmatics in OT.* Palgrave MacMillan, 251-287.
Jelinek, Eloise & Demers, Richard. 1983. "The agent hierarchy and voice in some Coast Salish languages." *International Journal of American Linguistics* 49: 167-185.
Jungraithmayr, Herrmann. 1991. *A dictionary of the Tangale language.* Berlin: Reimer.
Kittilä, Seppo. To appear. "Differential Goal Marking: On the encoding of animate and inanimate goals." Ms., University of Turku.

Klaiman, M.H. 1991. *Grammatical voice.* Cambridge: Cambridge University Press.

Klamer, Marian. 1997. "Spelling out clitics in Kambera." *Linguistics* 35: 895-927.

Miller, Amy. 2001. *A grammar of Jamul Tiipay.* (Mouton Grammar Library, 23.) Berlin: Mouton de Gruyter.

Mithun, Marianne. 1999. *The languages of Native North America.* Cambridge: Cambridge University Press.

Moravcsik, E. 1974. "Object-verb agreement." *Working Papers in Language Universals* 15:25-140.

Moyse-Faurie, Claire. 1983. *Le drehu, langue de Lifou (Iles Loyauté).* Paris: SELAF.

Newman, Paul. 2000. The Hausa Language: An Encyclopedic Reference Grammar. New Haven: Yale University Press.

Payne, Thomas E. 1997. *Describing morphosyntax: a guide for field linguists*. Cambridge: Cambridge University Press.

Reh, Mechthild. 1985. *Die Krongo-Sprache (nìino mó-dì). Beschreibung, Texte, Wörterverzeichnis.* (Kölner Beiträge zur Afrikanistik, 12.) Berlin: Reimer.

Roberts, John. 1987. *Amele*. (Descriptive grammars) London: Croom Helm.

Rude, Noel. 1997. "Dative shifting and double objects in Sahaptin." In: Givón, T. (ed.) *Grammatical relations: A functionalist perspective.* Amsterdam: Benjamins, 323-349.

Sáàh, Kòfí K. & Ézè, Éjiké. 1997. "Double objects in Àkán and Ìgbo." In: Déchaine, R. & Manfredi, Victor (eds.) *Object positions in Benue-Kwa*. The Hague: Holland Academic Graphics, 139-51.

Siewierska, Anna. 2004. *Person*. Cambridge: Cambridge University Press.

Siewierska, Anna & Willem Hollmann. 2005. "Ditransitive clauses in English with special reference to Lancashire dialect." In: Mike Hannay & Gerard J. Steen (eds.) *The English clause: usage and structure.* Amsterdam: Benjamins

Silverstein, Michael. 1976. "Hierarchy of features and ergativity." In: Dixon, R.M.W. (ed.), *Grammatical categories in Australian languages*, 112-171. Canberra: Australian Institute of Aboriginal Studies.

Song, Jae Jung. 2001. *Linguistic typology: Morphology and syntax*. Harlow & London: Pearson Education.

van Eijk, Jan. 1997. *The Lillooet language: phonology, morphology, syntax.* Vancouver: University of British Columbia.

Zaharlick, Ann Marie. 1982. "Tanoan studies: passive sentences in Picuris." *Ohio State University Working Papers in Linguistics* 26: 34-48.

Zúñiga, Fernando. 2002. *Inverse systems in indigenous languages of the Americas.* Ph.D. dissertation, University of Zurich.