Argument Marking in Ditransitive Alignment Types

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This paper discusses the patterns of case-marking/adpositional marking and indexing of ditransitive clauses in the world's languages, i.e. clauses with an Agent, a Recipient and a Theme argument. It distinguishes three major alignment types, indirective, secundative, and neutral, corresponding to accusative, ergative and neutral in monotransitive constructions. The alignment and coding patterns are recorded for a sample of 100 languages from around the world. Ditransitive alignment is compared with monotransitive alignment, alignment of case-marking/adpositional marking is compared to alignment of indexing, and the various coding types are distinguished, depending on the occurrence of zero-coding and overt coding. Seven cross-linguistic generalizations emerging from the data are proposed as valid tendencies, and possible functional explanations for these tendencies are discussed.

1. The major alignment types, monotransitive and ditransitive

In syntactic typology, the monotransitive alignment types, in particular accusativity and ergativity, have been a major topic of research in recent decades (see Dixon 1994 for an overview). The picture that is shown in (1) has become standard textbook wisdom. 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 1a); if all three are treated alike, we get neutral alignment (as in 1b); and if S and P are treated alike as opposed to A, we get ergative alignment (as in 1c).

(1) The major monotransitive alignment types

a. Accusative alignment

\[
\begin{array}{c}
S \\
A \\
P
\end{array}
\]

b. Neutral alignment

\[
\begin{array}{c}
S \\
A \\
P
\end{array}
\]

c. Ergative alignment

\[
\begin{array}{c}
S \\
A \\
P
\end{array}
\]

Now as Dryer (1986) first pointed out (and see Croft (1990:100-108), Dryer To appear), the relationship between the two object arguments in ditransitive clauses can be conceptualized in exactly the same way.¹ The role-prototypes in ditransitive clauses are R (recipient-like argument)

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¹An earlier version of this paper was presented at the Association of Linguistic Typology conference in Santa Barbara in July 2001. I am grateful to two Linguistic Discovery reviewers for comments that helped improve the paper.

¹The term ditransitive is here used for clauses with a recipient-like and a theme-like argument, i.e. it is purely semantically defined. Some authors prefer to reserve the term for constructions in which both objects are treated like the monotransitive direct object. However, other terms are readily available for this concept (e.g. neutral ditransitive alignment, as in (2b), or double-object construction), whereas there are no good alternative terms for the concept intended here (apart from the clumsy "Recipient-Theme construction"). In particular, "three-place predicate" is not...
and T (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 (2a-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 (2a), 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 primate/secundative in (2c). We can now talk about indirectivity and secundativity in exactly the same way as we talk about accusativity and ergativity.

(2) The major ditransitive alignment types

\[ \text{a. } P \text{ directive} \]
\[ \text{b. } P \]
\[ \text{c. } P \text{ primative} \]

Ditransitive alignment has received relatively 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.

In this paper, I will confine myself to overt argument marking, ignoring constituent order and more complex syntactic behavior. Argument marking is of two types: flagging on the arguments (= coding by case affixes and adpositions), and indexing on or near the verb (= cross-referencing or agreement).

Some examples of different ditransitive alignment types are shown in (3)-(7). In these example pairs, the monontransitive example is preceded by "(m)", the ditransitive example is preceded by "(d)".

The first example is German, a typical Indo-European language with case-marking but lacking any object indexing. Thus, German shows indirective alignment of flagging (Dative case-marking of R as opposed to Accusative case-marking of T and P) and neutral alignment of indexing.

(3) German: indirective flagging, neutral indexing

(m) \textit{Der Junge füttert den Teddy}_{ACC}.
'The boy is feeding the teddy bear.'

(d) \textit{Der Junge gibt dem Teddy}_{DAT} etwas}_{ACC} zu trinken.
'The boy is giving the teddy bear something to drink.'

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2 The term alignment seems to be due to Plank (1979:4). It has been widely used only for the monotransitive accusative/ergative contrast of (1), but its extension to ditransitive alignment in this paper seems to be unproblematic.

3 These should be pronounced ['praimətiv] and [si'kʌndativ], respectively.
In the richly head-marking Choctaw (Muskogean; United States), by contrast, there is no flagging of objects, but the person-number indices for the R argument differ from those for the T and P. Thus, Choctaw shows neutral alignment of flagging and indirective alignment of indexing.

(4) Choctaw: neutral flagging, indirective indexing

(m) \textit{ofi-yat katos $\emptyset$-kopoli-tok}
dog-NOM cat 3.ACC-bite-PAST.3SG.NOM
'The dog bit the cat.'

(d) \textit{alla iskali im-a:-li-tok}
child money 3.DAT-give-1.NOM-PAST
'I gave money to the child.' (Davies 1986:16, 40)

Yoruba is a well-known case of a language with secundative alignment of flagging: It has a special preposition for secondary objects ($l'$ in 5d), while the R and P are unmarked. There is no indexing, so the alignment is neutral.

(5) Yoruba: secundative flagging, neutral indexing

(m) \textit{$\bar{\circ}$ pa mi}
he kill me
'He killed me.'

(d) \textit{$\bar{\circ}$ f\textsuperscript{u}m mi $l'$ \text{$\bar{o}$}wó}
he give me SEC money
'He gave me money.' (Rowlands 1969:21)

An example of a language with secundative indexing is Huichol (Uto-Aztecan; Mexico). In (6m), the object prefix \textit{wa-} indexes the P, while in (6d) it indexes the R. There is no (i.e. neutral) flagging.

(6) Huichol: neutral flagging, secundative indexing

(m) \textit{Uukaraawiciizi tiri me-wa-zeiya.}
women children 3PL.NOM-3PL.PRIM-see
'The women see the children.'

(d) \textit{Nee tumiini uukari ne-wa-ruzeiyast\={i}.}
I money girls 1SG.NOM-3PL.PRIM-show
'I showed the money to the girls.' (Comrie 1982:99, 108)

In Hyow (Tibeto-Burman; Bangladesh) we find indirective flagging (the locative case-clitic $=a$ that is found only on the R) and secundative indexing: We see that the verb indexes the R (in 7d) in the same way as it indexes the P in (7m). ($\bar{\theta}$- and $\bar{\phi}$- are morphophonological variants of each other).

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\footnote{4 I use the term \textit{index} for a dependent person marker, following Lazard (1994).}
In addition to the three major alignment types, there is a fourth simple type, tripartite alignment, in which all three role prototypes are treated differently from each other. This type also occurs in both monotransitive and ditransitive constructions, but it is very rare and will not be discussed further here (it is distinguished in Tables 1 and 3-6 below). Furthermore, monotransitive alignment studies usually distinguish a "(stative)-active" (or "semantically aligned") type, in which the S role is not treated uniformly: Some instances of S ("S_A") pattern with the A, while others ("S_P") pattern with the P. Siewierska (2004:59) discusses the possibility of making an analogous distinction in ditransitive constructions. For the sake of simplicity, semantic alignment is disregarded for this study.

2. The cross-linguistic study

I will now present the results of a systematic study of ditransitive alignment patterns (both flagging and indexing) in a sample of 100 languages from all over the world (see the big table in the Appendix for a list of these languages). Each language is from a different genus (see Dryer 2005 for a list of genera), i.e. a genealogical group that is roughly at the same level of time depth as the subfamilies of Indo-European (perhaps 3500-4000 years). If ditransitive constructions are not older than that, each genus represents an independent case from the point of view of genealogical relatedness (admittedly we do not know whether this is really the case). From the point of view of areal relatedness, we know that many genera are not independent, because ditransitive alignment shows clear world-wide geographical patterns (see Haspelmath 2005). For example, in most of Eurasia (except for Southeast Asia), the indirective alignment type is the only attested type. When there are large linguistic areas of this kind, it is not possible to define a sample of languages that is truly representative (see Dryer 1989). This means that we have to be careful in drawing conclusions from any numbers that result from the world-wide study. But it still seems to me that such a study is of value, if only because it gives us an overview of the kinds of phenomena that we find in the world's languages. I will succumb to the temptation of suggesting further possible conclusions in the following sections, but the reader should be aware that these conclusions cannot be more than tentative.

In some languages, different ditransitive verbs are used with different flagging and indexing constructions. In order to make the cross-linguistic data comparable, I restrict my attention to the construction of the verb 'give'. Grammars usually contain information on a verb that is glossed as 'give', and this meaning seems to be fairly easy to identify across languages (see Newman 1996). 'Give' also seems to be the most frequent ditransitive verb in most languages.
Moreover, I mostly focused on the patterning of full noun phrases and independent pronouns, rather than dependent pronouns (which often behave differently). Dependent person forms are considered here only if they cooccur with full noun phrases/independent pronouns.

In Table 1A-B, I give some figures showing the distribution of the ditransitive alignment types in the sample.

<table>
<thead>
<tr>
<th>Table 1A. Flagging</th>
<th>Table 1B. Indexing</th>
</tr>
</thead>
<tbody>
<tr>
<td>alignment</td>
<td># of lgs.</td>
</tr>
<tr>
<td>indirective</td>
<td>58</td>
</tr>
<tr>
<td>secundative</td>
<td>6</td>
</tr>
<tr>
<td>neutral</td>
<td>45</td>
</tr>
<tr>
<td>tripartite</td>
<td>1</td>
</tr>
</tbody>
</table>

We see two striking differences between flagging and indexing. On the one hand, neutral alignment is much more frequent than nonneutral alignment in indexing, whereas neutral flagging is less common than nonneutral flagging. On the other hand, while indirective and secundative alignment are both common in indexing, in flagging only indirective alignment is at all common. Secundative flags (the type represented by Yoruba, see example (5)) are rare. The rarest type is the tripartite type. These asymmetries seem not to be accidental, and they call for an explanation. But first let us look at possible correlations between monotransitive and ditransitive alignment.

3. On possible monotransitive/ditransitive correlations

From the way in which the diagrams in (1) and (2) have been presented, one might expect that accusative alignment should go together with indirective alignment, and secundative alignment should go together with ergative alignment. I should stress that the left-to-right arrangement of A and P in (1) and T and R in (2) is not intended to have any significance. Still, Siewierska (2004:57) suggests that T is semantically closer to P than R is, just as A is semantically closer to S than P is. From this point of view, a correlation between accusativity and indirectivity on the one hand, and between ergativity and secundativity on the other, would make sense.

I looked at both ditransitive and monotransitive argument marking (flagging and indexing) in the 100 languages of the sample, so we can examine possible correlations between monotransitive alignment and ditransitive alignment. The resulting figures (together with one exemplifying language for each combination) are given in Table 2A-B, where I have again listed flagging and indexing separately. The rare tripartite type is omitted from this table.

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5 Full NPs sometimes show splits, too. The most common instance of such a split (and the only one relevant for the sample) is differential object marking, i.e. an accusative pattern with certain salient NPs in P role (animates, definites) and a neutral pattern with all other NPs. Such cases were classified as accusative here (thus minimizing the occurrence of neutral patterns). However, for determining ditransitive alignment, I decided to compare the coding of T and R to the coding of non-salient Ps, because these are the most typical Ps.

6 The numbers add up to 110 because 10 languages have two different ditransitive constructions and were counted twice.
<table>
<thead>
<tr>
<th>Table 2A. Flagging</th>
<th>Table 2B. Indexing</th>
</tr>
</thead>
<tbody>
<tr>
<td>mono-tr.</td>
<td>di-trans.</td>
</tr>
<tr>
<td>ACC</td>
<td>IND</td>
</tr>
<tr>
<td>ACC</td>
<td>SEC</td>
</tr>
<tr>
<td>ACC</td>
<td>NEUT</td>
</tr>
<tr>
<td>ERG</td>
<td>IND</td>
</tr>
<tr>
<td>ERG</td>
<td>SEC</td>
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<tr>
<td>ERG</td>
<td>NEUT</td>
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<tr>
<td>NEUT</td>
<td>IND</td>
</tr>
<tr>
<td>NEUT</td>
<td>SEC</td>
</tr>
<tr>
<td>NEUT</td>
<td>NEUT</td>
</tr>
</tbody>
</table>

The figures are mostly quite close to what one would expect by chance. The only clear deviation from the expected frequencies is in neutral indexing, where languages with neutral monotransitive alignment always also have neutral ditransitive alignment (see the last three lines of Table 2B).\(^7\) Indirective or secundative indexing is not found at all in these languages. The explanation is that neutral indexing almost always means absence of indexing, and it is not surprising that when there is no indexing in monotransitive clauses, there is no indexing in ditransitive clauses either. It has long been known that "object agreement" by and large implies "subject agreement" (Moravcsik 1974, Givón 1976; see Siewierska 2004:133ff. for discussion), and if this is true, then \textit{a fortiori} one would not expect languages that lack indexing in monotransitive clauses to show indexing for the R or T argument of ditransitive clauses.

There are two other empty cells in the table, but it is doubtful that they are significant. First, the sample includes languages with accusative monotransitive flagging and secundative ditransitive flagging, but this is expected since secundative flagging is rare anyway. And I am aware of two languages of this type that happened not to make it into my sample, Kunama and Yokuts. The other zero in Table 2, representing the absence of a language with ergative monotransitive and secundative ditransitive indexing, might just possibly represent a real tendency for ergative indexing to correlate with indirective indexing. But since there are only seven languages with ergative indexing in the sample, this could be an accidental gap as well.

Thus, by and large it appears that the ditransitive alignment type a language chooses is independent of its monotransitive alignment type.

4. Flagging/indexing asymmetries

Let us now go on to compare alignment in flagging with alignment in indexing, and we will do this both for monotransitive and for ditransitive alignment. The basic data are given in Table 3A-B and Table 4A-B. We already saw Table 4A-B, which is identical to Table 1A-B. Here it is repeated for better comparison with the data on monotransitive alignment in Table 3A-B.

\(^7\) Siewierska (2003:357) and (2004:137) discusses possible exceptions to this generalization.
The comparison leads to two rather striking observations concerning a difference between monotransitive and ditransitive constructions that would not be immediately expected. They are expressed in the following two generalizations, which are mirror images of each other.

**Generalization 1:**
In monotransitive constructions, flagging shows no strong alignment preference (29 ACC: 19 ERG), but indexing strongly prefers accusative alignment (48 ACC: 7 ERG).

**Generalization 2:**
In ditransitive constructions, indexing shows no strong alignment preference (16 IND: 22 SEC), but flagging strongly prefers indirective alignment (58 IND: 6 SEC).

Even though we said above that in view of the non-representativeness of the sample and the lack of independence of the individual cases we cannot draw firm conclusions from the numbers, it seems plausible that the preponderance of accusative indexing and the preponderance of indirective flagging is not an accident. We probably cannot assign much significance to the difference between 29 cases of accusative flagging and 19 cases of ergative flagging, but the difference between 48 cases of accusative indexing and 7 cases of ergative indexing is on a different order of magnitude. So in the following I will propose explanations for these observations. These explanations all appeal to regularities of language change, in the spirit of Bybee (1988, 2003).

The easiest to explain is Generalization 1, the preference for accusative over ergative indexing: When case-marked personal pronouns become verbal indices, this generally results in accusative alignment because personal pronouns tend to have accusative alignment even in languages whose flagging is otherwise aligned ergatively (this is known as NP split ergativity, cf. Dixon 1994:ch. 4). And when personal pronouns with no case-marking become verbal indices, there is also a very strong tendency for the resulting indexing patterns to be aligned accusatively, because agreement markers arise in topicalization constructions (see Givón 1976), and the S and the A are the most topicworthy role-types.

This explanation also extends to ditransitive indexing, as Givón (1976) already pointed out: The Recipient is more topicworthy than the Theme, so we expect secundative indexing to be much more common than indirective indexing. This is perhaps confirmed by the data (we find 22 languages with secundative indexing, as against 16 languages with indirective indexing), but at most we have a weak preference here. Why should this be the case? Why is ditransitive indexing roughly symmetrical (as stated in Generalization 2), and why are there so many languages with indirective indexing?

I would like to suggest that there is again a diachronic explanation for this. It seems that ditransitive constructions are often innovated, that they are much less conservative on the whole than monotransitive constructions. This is not surprising, because all languages have far fewer
ditransitive verbs than monotransitive verbs, so it is easier for a new pattern to spread across the whole domain. By far the most important source for new ditransitive constructions seems to be metaphorical modeling on the spatial transfer situation, where in general the theme is treated as the P and the directional argument is some kind of oblique argument.

A new ditransitive construction of this type will therefore show a strong tendency to have both indirective flagging and indirective indexing. We can observe a change of this kind happening in Lango at the moment. Lango has subject and object agreement in monotransitive constructions, and in the old ditransitive construction in (8b) the object agreement is with the Recipient, i.e. this construction is aligned secundatively. In the new ditransitive construction in (8c), which marks the recipient with the oblique preposition *bòt*, the indexing and flagging alignment is indirective.

(8) Lango (Noonan 1992:120-121, 149)

a. monotransitive object indexing

\[ lócə \quad ò-nèn-á \quad án \]

man 3SG.A-see.PFV-1SG.P me

'The man saw me.'

b. old ditransitive construction, with P = R indexing

\[ lócə \quad ò-míy-á \quad búk \]

man 3SG.A-give.PFV-1SG.R book

'The man gave me the book.'

c. new ditransitive construction, with P = T indexing

\[ lócə \quad ò-míy-é \quad bòt-á \]

man 3SG.A-give.PFV-3SG.P to-1SG

'The man gave him (e.g. a slave) to me.'

This diachronic explanation also accounts for the fact that indirective flagging is so common (Generalization 2; recall that 58 languages have indirective flagging as opposed to just 6 languages with secundative flagging). An additional reason for the rarity of secundative flagging, compared to the high frequency of accusative flagging, is probably the absence of other diachronic sources for secundative flagging. It seems that accusative flagging often arises from the generalization of differential case-marking of animate and definite direct objects (Lehmann 1995:110). However, ditransitive Themes are very rarely animate or definite and hence would hardly ever show differential case-marking. So again this is a diachronic explanation that presupposes that one type of change is more frequent than another type of change, and although I have no direct evidence for this claim, I believe that it is a plausible hypothesis.

So far we have only looked at asymmetries in the non-neutral alignment types. but neutral alignment also shows interesting asymmetries:

**Generalization 3:**

In monotransitive constructions, neutral flagging is more common than neutral indexing (49:33).
Generalization 4: 
In ditransitive constructions, neutral indexing is more common than neutral flagging (71:45).

Why should we find such an asymmetry of neutral alignment? First of all, we must note that neutral flagging and neutral indexing is always zero in monotransitive clauses, and it is zero in the great majority of ditransitive clauses (see Tables 5-6 in the next section).

Let us first look at Generalization 3 about neutral flagging, which implies that A and P are much more often zero-coded than R and T. One explanation would simply say that the argument types that occur in monotransitive clauses are much more frequent than those that occur in ditransitive clauses, so they are more predictable and overt coding is more dispensable (see Haspelmath (to appear) for the pervasive role of frequency and predictability in shaping grammatical asymmetries). An additional reason might be that flagging is often redundant in monotransitive clauses because word order can unambiguously signal semantic roles: In verb-medial languages, if we just hear a verb and an argument, we can immediately identify the argument's role (cf. Greenberg 1963, Siewierska 1996). This is much more rarely the case in ditransitive alignment because there are very few languages where Recipient and Theme occur on different sides of the verb, so this, too, favors unique marking and hence flagging in ditransitive clauses.

The explanation for Generalization 4 (which derives from the predominance of zero indexing in ditransitives) is quite straightforward: Because indexing is linked to topicworthiness, as Givón 1976 has shown, it is far more common with subjects than with objects, and hence far more common in monotransitive clauses.

5. Overt coding vs. zero-coding of arguments: Coding types

5.1. Coding types

So far we have primarily examined the abstract alignment patterns and have said little about ways of overtly coding arguments. In this section, we look at coding types, i.e. the distribution of overt markers vs. the absence of markers. Each alignment type corresponds to several different coding types. In the following, I use schematic representations for coding types in which "m" stands for "marked, overtly coded", and "0" stands for "zero-coded". Accusative alignment can have the coding types S=0, A=0, P=m (where S/A is zero-coded and there is an overt accusative case), S=m, A=m, P=0 (where P is zero-coded, contrasting with an overtly "marked nominative"), and S=m, A=m, P=m (where both the nominative and the accusative are overtly, but differently, coded). The three types are shown in tabular format and with pseudo-English examples in (9). "00m" is short for "S=0, A=0, P=m", and so on.
(9) accusative monotransitive coding types

a. **00m** = S zero-coded (0)        Guest-Ø arrived.
    A zero-coded (0)        Girl-Ø saw boy-M.
    P overtly coded (m)

("economical pattern", e.g. Hungarian)

b. **mm0** = S overtly coded (m)        Guest-M arrived.
    A overtly coded (m)        Girl-M saw boy-Ø.
    P zero-coded (0)

("marked-nominative pattern", e.g. Maricopa)

c. **mmm** = S overtly coded (m)        Guest-M arrived
    A overtly coded (m)        Girl-M saw boy-M.
    P overtly coded (m)

("explicit pattern", e.g. Japanese)

I use an analogous schematic representation pattern for ditransitive coding types. "00m" stands for "P=0, T=0, R=m", and so on. Two exemplary coding types are shown in tabular format in (10).

(10) ditransitive (P-T-R):

a. **00m** = P zero-coded (0)        X saw boy-Ø.
    T zero-coded (0)        X gave book-Ø girl-M.
    R overtly coded (m)

("economical pattern", e.g. English)

b. **mmm** = P overtly coded (m)        X saw boy-M.
    T overtly coded (m)        X gave book-M girl-M.
    R overtly coded (m)

("explicit pattern", e.g. Japanese)

Let us now look at the distribution of the coding types in the languages of the sample.

5.2. Coding types in flagging

Table 5 shows the distribution of the distribution of the above coding types over the alignment types in the languages of the sample.
Table 5. Coding types in flagging

<table>
<thead>
<tr>
<th>A. Monotransitive</th>
<th>B. Ditransitive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>alignment</strong></td>
<td><strong>coding type</strong></td>
</tr>
<tr>
<td>ACC (29)</td>
<td>00m</td>
</tr>
<tr>
<td></td>
<td>mm0</td>
</tr>
<tr>
<td></td>
<td>mmm</td>
</tr>
<tr>
<td>ERG (19)</td>
<td>0m0</td>
</tr>
<tr>
<td></td>
<td>m0m</td>
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<tr>
<td></td>
<td>mmm</td>
</tr>
<tr>
<td></td>
<td>000</td>
</tr>
<tr>
<td></td>
<td>mmm</td>
</tr>
</tbody>
</table>

The first generalization that emerges from these figures is one that has often been observed for monotransitive alignment, less often for ditransitive alignment:

**Generalization 5: Economical Flagging**

In non-neutral alignment, the overwhelming preference in flagging is for the specially treated role to be overtly coded, and for the two equally treated roles to be zero-coded. The opposite case (specially treated role zero-coded, equally treated role overtly coded) is very rare.

Let us take a closer look at the individual figures, beginning with flagging in monotransitive structures. In accusative alignment, there are 21 languages with coding type 00m (the "economical" type), where the specially treated role (the P) is overtly coded, and the S and A are zero-coded. The opposite coding type mm0, with overt ("marked nominative") coding of the equally treated roles, occurs only three times in my sample (Maricopa, Berber, and Oromo).

In ergative alignment, the corresponding figures are 15 and 0. Out of the 19 languages with ergative flagging, 15 have the preferred coding type in which the A is overtly coded and S/P are zero-coded. There are no "marked absolutive" languages in the sample. Dixon (1994:67) stated that such constructions appear not to occur, and in any event they are very rare.8

In ditransitive structures, the situation is completely parallel: In indirective alignment, 39 languages have the coding type 00m, where the R is overtly coded and the T and P are zero-coded. An example is (7) from Hyow, and also the English prepositional to construction. However, no language has the opposite coding type (there are no "unmarked-dative" languages). This may be an absolute universal, as I am not aware of any language outside the sample with this coding type.

Similarly, in secundative alignment, there are four 0m0 languages which like Yoruba have an overtly coded T, with zero-coded P/R, while only one language, Sahaptin, has the opposite pattern (with a zero-coded T and overtly coded P and R), which can be called "marked primative".

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8 Two languages that have recently been described as "marked absolutive" are Nias, a Western Austronesian language (Brown 2005), and Tlapanec, an Otomanguean language (Wichmann 2005).

*Linguistic Discovery 3.1:1-21*
(11) Marked primitive in Sahaptin (Rude 1997:324, 334)

(m) i-q’ínun-a ṭwinš ńiit-na
3_NOM-see-PAST man house-PRIM
'The man saw the house.'

(d) pa-ni-ya k’úsi miyúux-na
3PL_NOM-give-PAST horse chief-PRIM
'They gave the horse to the chief.'

The quantitative asymmetries of coding types are summarized in (12).

(12) monotransitive flagging/accusative alignment: 21:3 (00m:mm0)
monotransitive flagging/ergative alignment: 15:0 (0m0:m0m)
ditransitive flagging/indirective alignment: 39:0 (00m:mm0)
ditransitive flagging/secundative alignment: 4:1 (0m0:m0m)

The explanation for this striking observation is obvious and was pointed out by Comrie (1978) for ergative alignment: The coding types in which the specially treated role is overtly coded are more economical than all others, because the two equally treated roles will always be more frequent and hence should be zero-coded. Thus, a very simple economy consideration explains the coding types of flagging not only in monotransitive structures, but also in ditransitive structures.

5.3. Coding types in indexing

Table 6 shows the distribution of the distribution of the above coding types over the alignment types in the languages of the sample.

<table>
<thead>
<tr>
<th>A. Monotransitive</th>
<th>B. Ditransitive</th>
</tr>
</thead>
<tbody>
<tr>
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<td>TRIP (12)</td>
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Two generalizations about the coding patterns of ditransitive indexing emerge from this table.
Generalization 6:
Indirective indexing is never achieved by indexing of the R alone (only by indexing of P and T alone, or by differential indexing of R).

So we have indirectly indexing languages like Choctaw (see example 4 above), where there is a special "dative" person prefix, and languages like Tzutujil, where only the directive argument (P and T), but not the indirective argument (R), is indexed on the verb (the index is zero in both sentences in 13):

(13) Tzutujil

(m) $X\cdot\bar{O}\cdot$ uu-ch'ey junixoq jar aachi.
COMPL-3SG.ABS-3SG.ERG-hit a woman the man
'The man hit a woman.'

(d) $X\cdot\bar{O}\cdot$ in-ya' jun kotoon chee Aa Xwaan.
COMPL-3SG.ABS-1SG.ERG a huipil to young Juan
'I gave a huipil to Juan.' (Dayley 1985:305, 313)

As we saw in §4, the R is more topicworthy than the T, and indexing typically arises in topicalization constructions. Thus, one might expect the "00m" pattern, with indexing of the R alone, to come up. However, there are always at least some Ps that are also animate and hence topicworthy, so it seems that at least some indexing of P is always found when R is indexed. A language that comes close to being an exception to Generalization 6 is Spanish, where indexing by preverbal person clitics is generally found with full NP Recipients (11a), but is not used with Patients (11b) (in 11a, le is optional but strongly preferred):

(14) Spanish (Parodi 1998:86-89)
   a. (Le) doy la carta a un vecino.
      'I give the letter to a neighbor.'

   b. (*La) veo a la mujer.
      'I see the woman.'

   c. La veo a ella.       (*Veo a ella.)
      'I see HER.'

   d. Le doy la carta a él. (*Doy la carta a él.)
      'I give the letter to him.'

However, Spanish requires indexing with the most salient P and R arguments, independent person forms, as shown in (11c-d). Thus, since such splits were ignored for the classification in Table 6, Spanish would count as "mmm" (the Choctaw type), but its pattern is unusual (though it should be noted that non-standard varieties of Spanish often extend the indexing of P to full NPs and allow La veo a la mujer; see Parodi 1998).

The second generalization about ditransitive indexing patterns in Table 6 is the following:
Generalization 7:
Secundative indexing is always achieved by indexing of the P and R alone, never by indexing of T alone or by differential indexing of T.

Thus, all languages with secundative indexing are like Huichol and Hyow (examples 6 and 7) in indexing only the primative argument (P and R), lacking any indexing of the secundative argument (the T). The reason for this is again the low prominence (and lack of topicworthiness) of the T argument: Indexing of T alone is of course excluded, and differential indexing of T is unlikely for the same reason.

6. Conclusions

This paper has examined certain aspects of ditransitive alignment types and their coding in a sample of 100 languages, comparing them with monotransitive alignment types. While no correlations between monotransitive alignment types and ditransitive alignment types are found, a number of asymmetries in cross-linguistic frequency distribution can be observed that seem to call for explanations. I have provided such tentative explanations, often based on greater or lesser likelihood of certain diachronic changes. These explanations are not particularly surprising, and some of them have been known for three decades or more. What is new here is primarily the systematic comparison of ditransitive and monotransitive alignment types, as well as the fairly thorough documentation (for indexing, Siewierska (2004: ch. 4) is based on a significantly larger sample, but she does not document it in detail).

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<td>CONCL</td>
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### Appendix:
**Ditransitive and Monotransitive alignment types and coding types in 100 languages**

<table>
<thead>
<tr>
<th>Language</th>
<th>Genus (and family)</th>
<th>Ditransitive</th>
<th>Monotransitive</th>
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References for the table


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Fabian, Grace, Edmund Fabian, and Bruce Waters. 1998. Morphology, syntax and cohesion in Nabak, Papua New Guinea. Pacific Linguistics, Series C-144. Canberra: ANU.


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References


WALS: see Haspelmath et al. 2005.

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