A typological gap in ditransitive constructions: No secundative case and indirective agreement

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1. Introduction

The aim of this paper is to present preliminary findings of a syntactic and typological study dealing with the interaction of (morphological) case and agreement in ditransitive constructions in (spoken) languages in which the verb shows one instance of object marking. Classifying different patterns of case-marking in ditransitive constructions (cf. the English "double object" and "prepositional dative" constructions) and cross-checking with object agreement, the generalisation in (1) appears to hold.

(1) **No secundative/neutral case and indirective alignment**
Among languages with one instance of object agreement, no language with secundative or neutral case-marking alignment allows object agreement exclusively with the theme argument in a ditransitive construction (indirective agreement alignment).

This observation is based on a sample that currently consists of 99 languages from 77 distinct genera from all linguistic macroareas. The lack of languages with secundative or neutral case alignment and indirective agreement is all the more striking as all other combinations are attested robustly.

The main theoretical and syntactic claims of this paper are that widely accepted and independently motivated assumptions about the syntax of agreement, ditransitive constructions, and the interaction of (morphological) case and agreement derive exactly the empirical generalisation in (1): with secundative and neutral case-marking, the recipient or benefactive in a ditransitive construction is more local to the agreeing head and must be accessible for it—ruling out agreement with the theme past it (in the absence of other factors). A typologically well-grounded empirical observation therefore finds a straightforward explanation in the theoretical modelling of the syntax of ditransitive constructions and agreement.

The paper is structured as follows. In Section 2, I introduce the terminology and data used in the rest of this paper. In Section 3, I discuss my assumptions and their motivation and show how (1) follows from a syntactic analysis of agreement in ditransitive constructions. In Section 4 I highlight patterns that seem exceptional but involve independent factors that allow maintaining the typological generalisation.

2. Ditransitive alignment types

The alignment type of a ditransitive construction is determined by comparing the morphological expression of the two object arguments in the ditransitive to the single object of a monotransitive in the same language (Dryer 1986, Haspelmath 2005, Malchukov et al. 2010). Each of these arguments have labels: "R" refers to the recipient-like argument of a ditransitive, "T" to the patient-like argument of a ditransitive and "P" to the single argument of a monotransitive (as familiar from the labels S/A/P used to classify languages into ergative–absolutive and nominative–accusative alignment types).

In (2), for example, the single argument of the monotransitive, P in (2a), bears accusative case, just like the T argument in the ditransitive in (2b). The R argument in (2b) appears in dative case.

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(2) Hungarian[1]

a. *Lát-**ja*** [$_{P}$ ***a*** ***kutyá-t***].
see-3SG.SBJ>3.OBJ the dog-ACC
'S/he sees the dog.'

b. [$_{R}$ *Neked*] *ad-**ja*** [$_{T}$ ***a*** ***kutyá-t***].
you.SG.DAT give-3SG.SBJ>3.OBJ the dog-ACC
'S/he gives you the dog.'

In (2), the P and the T arguments are expressed alike, while the R argument gets a different morphological exponent. This type of alignment is referred to as "indirective" by Haspelmath (2005) and Malchukov et al. (2010) and "direct object" alignment by Dryer (1986); it is shown schematically in Figure 1.

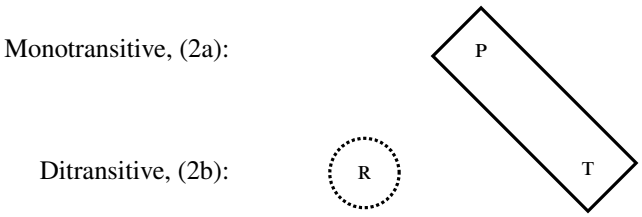


Figure 1: Indirective (or direct object) alignment: P = T ≠ R

The alignment of agreement can be classified in the same manner as that of case-marking. In the Hungarian examples in (2), the verb agrees not only with the (third person) subject, but also with the (third person) accusative object. Crucially, the dative *neked* in (2b) does not control object agreement. Object agreement in Hungarian thus tracks the P and the T arguments, also showing indirective alignment (see Bartos 2001, Coppock 2013, Bárány 2017 for more on Hungarian object agreement).

Nez Perce (see e.g. Deal 2010, 2013, 2019) shows secundative alignment in both case-marking and agreement. In this type, it is the P and the R arguments that are marked identically. Dryer (1986) refers to such objects as "primary objects" (in contrast to P–T "direct objects" in indirective alignment) and to the remaining T argument as a "secondary object" (in contrast to the lone "indirect object" R in indirective alignment). This alignment type is illustrated in (3) and Figure 2.

(3) Nez Perce (Deal 2013: 396, 2019: 393)

a. *Ciq'aamqal-nim* ***pee****-tw'ehke'yk-se-Ø* [$_{P}$ ***picpic-ne***].
dog-ERG 3/3-chase-IPFV-PRS cat-ACC
'The dog is chasing the cat.'

b. *Beth-nim hi-**neec**-'ni-∅-ye* [$_{R}$ ***lepit picaloo-na***] [$_{T}$ *hipt*].
Beth-ERG 3.SBJ-OBJ.PL-give-PFV-REM.PST two kitten-ACC food.NOM
'Beth gave the two kittens food.'

In Nez Perce, the P and R arguments are accusative, while the T argument is nominative.[2] Object agreement tracks the accusative arguments in both monotransitives and ditransitives. In (3b), this is clearly shown by the OBJ.PL marker *-neec-* on the verb.

[1] Abbreviations: 1 = first person, 2 = second person, 3 = third person, A = agent-like argument of a canonical transitive verb, ABS = absolutive, ACC = accusative, DAT = dative, DEF = definite, ERG = ergative, F = feminine, HOD = hodiernal past, IA = indirective agreement, IC = indirective case, INS = instrumental, IPFV = imperfective, M = masculine, NC = neutral case, NOM = nominative, OBJ = object, OBL = oblique, P = patient-like argument of a canonical transitive verb, PFV = perfective, PL = plural, PRS = present, PST = past, R = recipient-like argument of a ditransitive verb, REM = remote, S = single argument of a canonical intransitive verb, SA = secundative agreement, SBJ = subject, SC = secundative case, SG = singular, T = theme- or patient-like argument of a ditransitive verb, TOP = topic.

[2] In other languages with secundative case-marking, the T argument is often more oblique than the R, for example bearing instrumental case (INS) in Kalaallisut (or West Greenlandic, see Fortescue 1984).

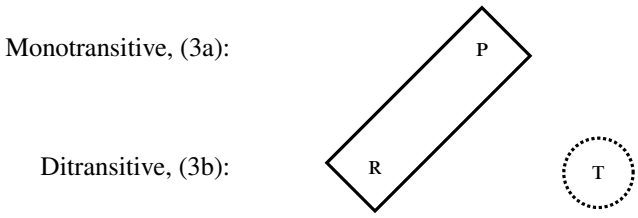


Figure 2: Secundative (or primary object) alignment: P = R ≠ T

Case and agreement alignment do not have to vary together, however. The following examples illustrate this for Amharic which shows different case alignment types with secundative object agreement alignment. (4a) is the monotransitive baseline: the P argument is accusative and controls (masculine) object agreement. (4b,c) illustrate neutral and indirective case, respectively. In neutral alignment, the P, R and T arguments all get the same morphological expression, accusative in (4b), but frequently no case-marking at all in my sample. Case alignment in (4c) is indirective, like in Hungarian.

(4) Amharic (Baker 2012: 261, 258, 261)

a. *Ləmma* [$_{P}$ ***gənzəb-u-n***] *sərrək'-ə-**w***.
Lemma.M money.M-DEF-ACC rob-3.M.SBJ-3.M.OBJ
'Lemma stole the money.'

b. *Ləmma* [$_{R}$ ***Aster-in***] [$_{T}$ *his'an-u-n*] *asaj-**at***.
Lemma.M Aster.F-ACC baby-DEF-ACC show.3.M.SBJ-3.F.OBJ
'Lemma showed Aster the baby.'

c. *Ləmma* [$_{R}$ ***l-Almaz***] [$_{T}$ *tarik-u-n*] *nəggər-**at***.
Lemma.M DAT-Almaz.F story.M-DEF-ACC tell.3.M.SBJ-3.F.OBJ
'Lemma told Almaz the story.'

Even though case alignment varies, agreement alignment is secundative in both (4b,c) (see also Figures 3 and 4). Amharic differs from Hungarian in this respect, which has indirective alignment in both case and agreement. Note that neutral and secundative alignment have in common that the case of the P and R arguments is expressed identically. Since the scope of this paper is on languages in which the verb can agree with *one* of its objects (never both in a ditransitive), I conflate secundative and neutral case-marking from now on. In light of the assumptions described in more detail in Section 3, this is a valid move that does not take away from the empirical generalisation developed here.

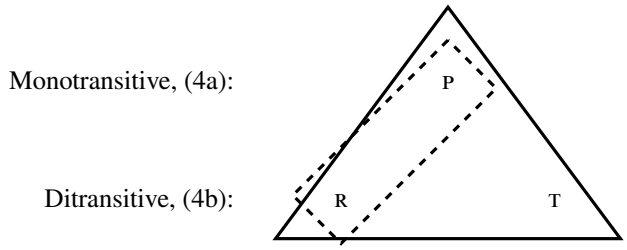


Figure 3: Neutral case-marking (P = R = T) and secundative agreement

2.1. A typological gap

From the data presented above, it is clear that languages with indirective and secundative alignment in both case and agreement are attested, as is mixed alignment of certain types, namely neutral or indirective case and secundative agreement. By combining indirective and secundative/neutral case, on the one hand,

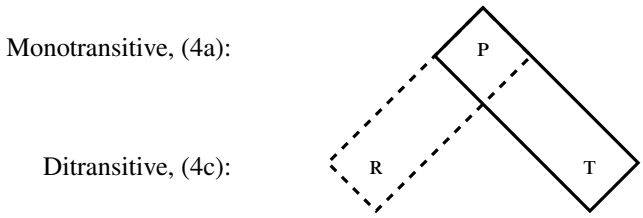


Figure 4: Indirective case-marking and secundative agreement

with indirective and secundative agreement,[3] on the other, there should be four logically possible alignment types in ditransitive constructions. These are shown in Table 1, including the numbers of languages in each type in the current sample (16 languages with secundative case and agreement and 54 languages with neutral case and secundative agreement, for a total of 70 languages in the top left cell of Table 1). For reasons of space, the complete list of languages in the sample, as well as an annotated map, are not included in this paper, but made available as supplementary materials in Bárány (2020).

	Secundative/neutral case	Indirective case
Secundative agreement	✔ (70 languages, e.g. Nez Perce)	✔ (19 languages, e.g. Amharic)
Indirective agreement	✖	✔ (10 languages, e.g. Hungarian)

Table 1: Distribution of attested an unattested combinations of alignment types

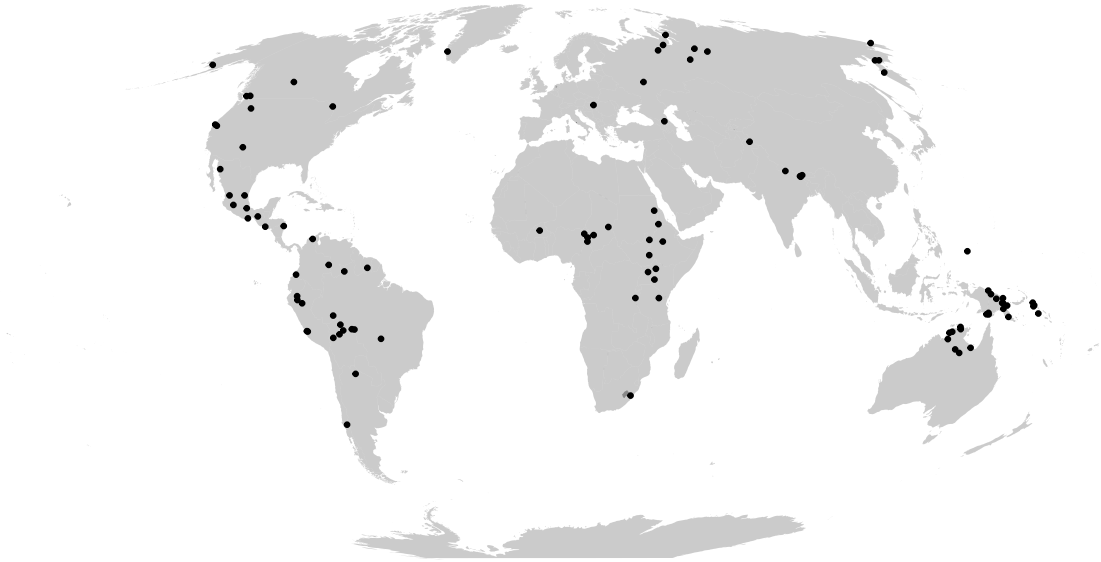


Figure 5: Areal distribution of languages in the sample (n=99; map created using `ggmap` by Kahle & Wickham 2013)

As far as I am aware, Bárány (2015, 2017) is the first to spell out this typological gap explicitly, although tendencies and preferences for agreement controllers in ditransitives are discussed by Faltz (1978), Dryer (1986), and Haspelmath (2005, 2008, 2019). The following section presents an analysis that derives the gap based on independently motivated assumptions about the syntax of ditransitive constructions.

[3] Neutral agreement falls outside the scope of this paper because it either means a lack of agreement in ditransitives or agreement with both objects. I am only considering languages in which the verb agrees with one of its objects.

3. Analysis

In this section, I argue that the typological gap shown in Table 1, namely the absence of languages with secundative or neutral case marking and exclusively indirective agreement, follows from three independently motivated syntactic assumptions, which I will discuss in turn. To make structural representations clearer, I will use DP_R and DP_T to refer to R and T arguments from now on.

1. The agreeing head c-commands both DP_R and DP_T in ditransitive constructions (see (5)).
2. DP_R c-commands DP_T (see (5)).
3. Morphological case and agreement interact as described by a case hierarchy such as (6).

First, it is widely assumed in syntactic work following Chomsky (2000, 2001) that the head responsible for object agreement is *v*. I take this is as the null hypothesis for the languages in my sample. Being the head introducing the external argument, *v* c-commands both DP_R and DP_T in ditransitives.

Second, it has been argued that DP_R c-commands DP_T in ditransitives in many languages (see e.g. Barss & Lasnik 1986, Harley 2002, Pylkkänen 2008, Bruening 2010, Stegovec 2020). In line with this assumption, I exclude languages from the sample that involve clearly prepositional arguments, such as the recipient in the English prepositional dative construction. Concretely, I will assume that the structures represented in my sample can be represented as in (5) (see e.g. Marantz 1993, Pylkkänen 2008).

(5) $[_{v'}\ v\ [_{\text{ApplP}}\ DP_R\ [_{\text{Appl}'}\ \text{Appl}\ [_{\text{VP}}\ \text{V}\ DP_T\ ]]]]$

Third, I am following both typological and theoretical work that has established a hierarchy along the lines of (6). Effects of (6) are visible in different domains in the grammar, for example in the morphological expression of case systems (see e.g. Caha 2009, 2013, Harðarson 2016, Smith et al. 2019). What is relevant for present purposes is that (6) also models the "accessibility" of noun phrases with a particular case for agreement (Moravcsik 1978, Bobaljik 2008, Keine 2010, Rezac 2011, Preminger 2014). Generally, when a noun phrase with, say, DAT case can control agreement in a language, noun phrases with cases higher on the hierarchy in (6), for example NOM and ACC, will also be able to control agreement. In other words, agreement systems across languages can be described by a contiguous stretch on (6), starting with the morphologically unmarked cases NOM or ABS (see Bárány 2017: 170–175 for discussion of Semelai and Coast Tsimshian, claimed to be counterexamples by Baker 2015a; see also Forbes 2018 for Tsimshianic).

(6) Case hierarchy (cf. Blake 2001, Caha 2009, Smith et al. 2019, Zompì 2019)
NOM/ABS > ACC/ERG > DAT > OBL > …

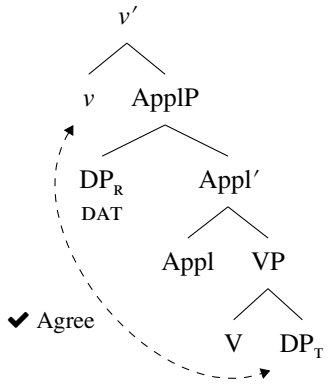
The relevant cases in (6) for present purposes are NOM/ABS, ACC/ERG and DAT. The empirical fact that languages differ in which morphological cases render a noun phrase accessible for agreement accounts for the different between Hungarian and Amharic in terms of their agreement alignment: both have indirective case alignment, but Hungarian has indirective agreement while Amharic has secundative agreement. This difference is due to a different cut-off point on (6). More generally, indirective case alignment by definition involves distinct morphological coding of DP_R in contrast to DP_P and DP_T; this is often DAT. Indirective case is found with both indirective and secundative agreement because languages differ in whether DAT noun phrases can control agreement or not. Thus, both cells in the right column of Table 1 are filled.

Consider now languages with neutral or secundative case alignment. In these, by definition, DP_R argument has the same case as the single argument of a monotransitive, DP_P. This means that DP_R argument in a secundative alignment will be ABS or ACC. In languages with object agreement, noun phrases with these cases must be accessible for agreement, since otherwise object agreement would be impossible. These assumptions derive the typological gap (see also Bárány 2015: 247–249, 2017: 179–181).

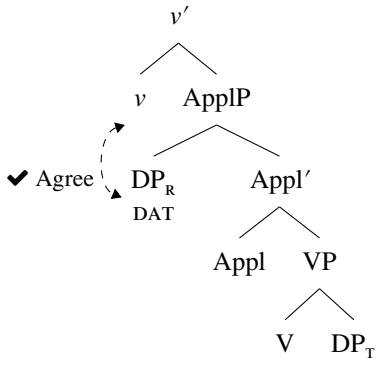
Examples (7)–(10) illustrate how. In all structures, DP_R is the closest argument to *v* and thus should be its goal (assuming syntactic locality). In (7), Hungarian, for example, noun phrases with DAT are inaccessible and *v* therefore agrees with DP_T, past DP_R. (8) represents languages like Amharic, in which DAT noun phrases are accessible for agreement; DP_R can thus control agreement.

When case is secundative or neutral, DP_R's case must be accessible. Thus, as (9) shows, *v* agrees with DP_R. However, agreement with DP_T past an accessible DP_R, as in (10) is ruled out by syntactic locality: everything else being equal, deriving (10) should be impossible. (10) represents exactly the gap in Table 1.

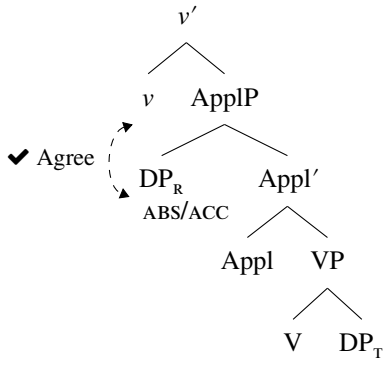
(7) ICIA: DP_R inaccessible, agreement with DP_T



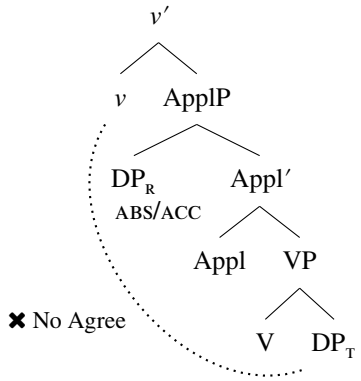
(8) ICSA: DP_R accessible, agreement with DP_R



(9) SC/NCSA: DP_R accessible, agr. with DP_R



(10) *SC/NCIA: DP_R accessible and local



The structures in (7)–(10) provide a syntactic explanation for the typological gap described in (1) based on independent assumptions. Note, however, that (1) includes the adverb "exclusively": in some languages, it is possible that an accessible DP_R is skipped and the verb agrees with DP_T instead. I discuss such scenarios and why they are not true counterexamples to the generalisation in (1) in the next section.

4. "Exceptions" and further issues

It is common for ditransitive constructions to alternate between different alignment types, as in the Amharic examples in (4). Amharic alternates between two otherwise robustly attested types. Some languages, however, have the pattern (10) among their alternants or allow agreement with DP_T when a DAT DP_R should be accessible. At first glance, such examples appear to be counterexamples to the assumptions discussed in Section 3 and to (1) as they involve non-local agreement when there is a more local agreement controller. In this section, I suggest that exceptional patterns of actually involve independent factors that can make the DP_R argument inaccessible for agreement. This occurs in 17 of 99 languages (13 of 77 genera) in my current sample (see Bárány 2020), independently of case-marking alignment.

The first type of unexpected agreement pattern involves alternations in agreement alignment, but not case alignment. In Ngkolmpu (Yam; Carroll 2016), for example, the verbs *omaei* 'to give' and *armaekai* 'to show' can have a DAT agreement controller (see (11a,b); pattern (8)). The verb *orei* 'to send', in contrast, only allows its ABS argument to control agreement (see (11c); pattern (7)).

(11) Ngkolmpu (Carroll 2016: 149)

a. *Markus-w* [$_T$ *pr kati*] [$_R$ ***Jon-en***] ***s-mae****-y.*
Markus-ERG tree leaf.ABS John-DAT 3SG.OBJ-give-SG.SBJ.HOD
'Markus gave John the money (earlier today).'

b. *Markus-w* [$_T$ *pr kati*] [$_R$ ***nson***] ***b-mae****-y.*
Markus-ERG tree leaf.ABS 1SG.DAT 1SG.OBJ-give-SG.SBJ.HOD
'Markus gave me the money (earlier today).'

c. *Markus-w* [$_T$ ***ngko***] [$_R$ *Jon-en*] ***b-re****-y.*
Markus-ERG 1SG.ABS John-DAT 1SG.OBJ-send-SG.SBJ.HOD
'Markus sent me to John (earlier today).'

Similar patterns are reported by (Rezac 2011) for Basque and Baker (2015b) for Burushaski. Both suggest that this kind of variation is due non-agreeing datives being embedded in a PP structure making them inaccessible (or "opaque") for agreement. It is thus possible that DAT arguments of *omaei* 'to give' and DAT arguments of *orei* 'send' are syncretic but have different syntactic structures and presumably behaviour. Currently lacking the data to test this, I will leave confirmation of this case to future work.

In the second major pattern found in my sample, agreement in ditransitive constructions shows hierarchy effects in person and information structure. In certain configurations in Chukchi and Alutor (Northern Chukotko-Kamchatkan; Mel'čuk 1988), for example, the agreement controller is determined hierarchically, such that first person outranks second and third, independently of the argument's position or role (other factors are discussed below). In Itelmen (Southern Chukotko-Kamchatkan; Bobaljik & Wurmbrand 2002), in contrast, the agreement controller is arguably the object that is more salient in discourse, again independently of the argument's position or role. Bembe (Bantu; Iorio 2015) is arguably another language of this type, although Bembe lacks case-marking and thus alternates between patterns (9) and (10).

To account for this type of alternation, I assume that probes are sensitive to particular features; this is referred to as "relativized probing" (see e.g. Béjar 2003, Nevins 2007, Preminger 2011, Georgi 2012, 2013, Preminger 2014, Deal 2015). Concretely, I adopt Deal's (2015) "interaction and satisfaction" approach to Agree to sketch analyses of the Chukotko-Kamchatkan agreement patterns, starting with Itelmen.

The two utterances in (12) show that agreement can be controlled by DP$_R$ (in (12a)) or DP$_T$ (in (12b)). For each example, the context sets up a salient referent which ends up as the agreement controller: the brother in (12a) and the knife in (12b).

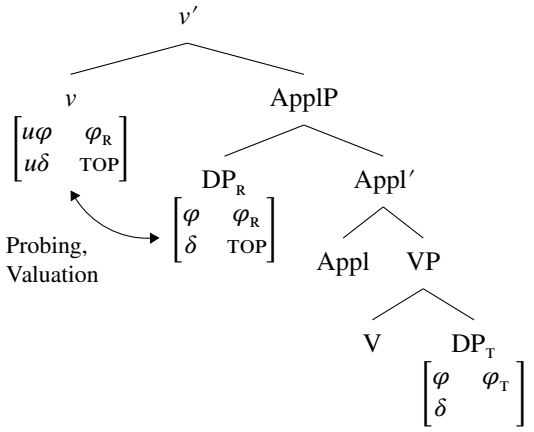
(12) Itelmen (Bobaljik & Wurmbrand 2002: 17)

a. Context: ***My brother*** *came.*
i kma [$_R$ ***ønna-nk***] [$_T$ *βałč*] *t-zəl-****nen****.*
and I him-DAT knife 1SG.SBJ-give-3SG.OBL
'And I gave the knife **to him**.'

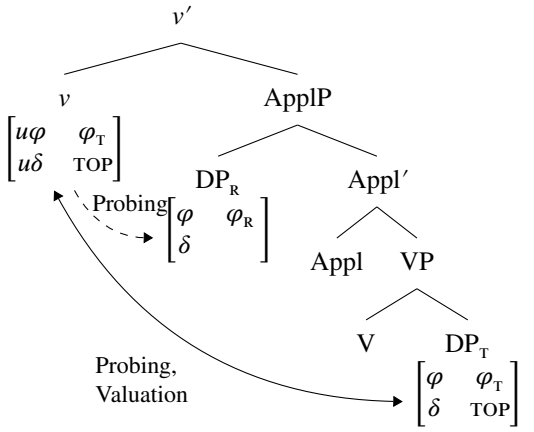
b. Context: *Where is* ***the knife****?*
qełnu [$_R$ *zlatumx-enk*] *t-zəl-****čen****?*
really brother-DAT 1SG.SBJ-give-1SG.SBJ>3SG.OBJ
'Didn't I give **it** to my brother?'

Deal (2015) proposes that probes have are sensitive two features in two different ways. First, a probe's interaction features specify the features whose values a probe can take on; second, a probe's satisfaction features halt the probe. For Itelmen, I propose that the (at least ditransitive) *v*'s interaction features include discourse-related (or A′) features to model the role of salience in determining agreement controllers. Invoking such features in the syntax of agreement is not universally accepted but well motivated across languages (see e.g. Bresnan & Mchombo 1987, van Urk 2015, Miyagawa 2017, Baier 2018, van der Wal to appear). I assume that salient referents have a δ-feature valued as "TOP". Ditransitive *v*'s set of interaction features is the union of δ- and φ-features and *v*'s set of satisfaction features is {δ}. This means that an argument with valued δ- *and* φ-features can value a probe and the probe will halt if it encounters a valued δ-feature. This can derive (12) as follows. In (13), corresponding to (12a), *v* probes and encounters a salient DP, namely DP$_R$, in SpecApplP. It takes on its values and is satisfied, thus stops probing. In (14), *v* probes DP$_R$ but does not encounter the features in its interaction set ($\{\delta\} \cup \{\varphi\}$) because DP$_R$ is not salient. *v* probes again and encounters DP$_T$ which values and satisfies *v*. A probe relativised to δ- and φ-features thus allows for an analysis of non-local agreement in a straightforward and principled way.

(13) Partial derivation of (12a)



(14) Partial derivation of (12b)



The Northern Chukotko-Kamchatkan languages Alutor, Chukchi, and Koryak show person hierarchy effects in ditransitive constructions. (15) illustrates this for Alutor. In (15a), the 1SG DAT DP_R controls agreement, while in (15b), the 1SG ABS DP_T controls agreement. When both objects are third person (of any number), DP_T controls agreement in all three languages, as shown in (15c) for Alutor.[4]

(15) Alutor (Mel′čuk 1988: 294–295)

a. *əlləɣ-a* *∅-**ina**-jəl-i* [$_R$ ***ɣəmək-əŋ***] [$_T$ *ɣəttə*]
father-ERG 3SG.SBJ-1SG.OBJ-give-3SG.SBJ 1SG-DAT 2SG.ABS
'Father gave you as a wife to me.'

b. *əlləɣ-a* *∅-**ina**-jəl-i* [$_R$ *ɣənək-əŋ*] [$_T$ ***ɣəmmə***]
father-ERG 3SG.SBJ-1SG.OBJ-give-3SG.SBJ 2SG-DAT 1SG.ABS
'Father gave me as a wife to you.'

c. *əlləɣ-a* *∅-jəl-**nina-wwi*** [$_R$ *ənək-əŋ*] [$_T$ ***ʂininkina-wwi*** ***ŋavakka-wwi***]
father-ERG 3SG.SBJ-give-3.OBJ-PL he-DAT his-PL.ABS daughter-PL.ABS
'Father gave his daughters as wives to him.'

Analysing (15a,b) is straightforward using Deal's (2015) system: the probe's interaction set is {φ} and its satisfaction set is {SPEAKER}. This allows *v* to interact with both objects; if it finds a first person DP, it is valued and stops. In case *v* agrees with both objects, the assumption that the strongest value wins is necessary (where 1 > 2 > 3). (15c) is more challenging, however. As both objects are third person, their features cannot determine one controller over the other. In addition, with respect to locality, it DP_R should be closer to DP_T, falsely predicting that in the case of feature parity, DP_R should control agreement.

Data from Koryak present a possible solution, however. Abramovitz (2020) shows that direct object wh-phrases trigger dependent case on arguments in a higher clause in long wh-movement. To trigger ERG on the subject of an intransitive matrix clause, the wh-phrase has to pass through a position from which it can trigger dependent ERG case on the subject. In this position, DP_T would c-command DP_R, thus reversing locality and making DP_T the first target *v* encounters when probing. This is shown in (16) (adapted from Abramovitz 2020 where DP_T moves to Spec*v*P and T probes instead).

(16) $[_{v'}\ v\ [_{\text{ApplP}}\ DP_T\ [_{\text{ApplP}}\ DP_R\ [_{\text{Appl}'}\ \text{Appl}\ [_{\text{VP}}\ \text{V}\ \langle DP_T \rangle\ ]]]]]$

If this movement takes place in all (di)transitive clauses with ERG subjects, there is a natural explanation for why DP_T controls agreement when it and DP_R have the same features, while person sensitivity

[4] The languages differ in details. Chukchi disallows two first or second person objects in ditransitives (Mel′čuk 1988: 301), while in Koryak, DP_T also controls agreement when both objects are first or second person (Abramovitz 2020).

for arguments with different features still works as sketched above. Given the similarities between Alutor, Chukchi, and Koryak, it is tempting to hypothesise that the Koryak situation extends to Alutor and Chukchi, too, although at this point, I have to leave this question open.

5. Conclusions and outlook

Independently motivated assumptions about the structure of ditransitive constructions and the interaction of morphological case and agreement predict a typological gap in the case and agreement alignment of ditransitive constructions. This prediction appears to be correct. Seemingly exceptional patterns might not be real counterexamples once independent factors like hierarchy effects with respect to person, information structure, the lexical properties of ditransitive predicates, and movement are taken into account. While it remains to be seen whether all exceptional patterns fall into these categories, the overwhelming majority of languages in the sample discussed here is compatible with a ditransitive structure such as (5), in which a head higher than both internal arguments is the locus of agreement and DP_R c-commands DP_T.

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