

When Dependent Case is not enough

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2 May 2019, CamCoS 8, University of Cambridge

Our claims

- Even if dependent case exists, we need Case-assignment via Agree (*contra* Levin & Preminger 2015)
- Dependent case theory makes wrong predictions about the absence of **transitivity-sensitive agreement** and languages with **split intransitive case**
- M. C. Baker's (2015) proposal that “the same constituents are subject to case theory both as undergoers of case marking and as triggers of dependent case marking” cannot be maintained
- Agreement-based case splits in Kashmiri, Wampis and elsewhere suggests a closer link between φ -features and case than in dependent case theory
- It is possible to adapt both Agree and dependent case to these patterns but we argue that **Agree is often more parsimonious**

1 The dependent case approach

In recent years analyses of case assignment along the lines of (1) have become increasingly influential. We refer to such approaches as **dependent case theory (DCT)**.

- (1) Morphologically marked cases (ACC/ERG/DAT) result from a **relationship between two DPs** rather than from a relationship between a head and a DP.

There are many different versions of this general approach, e.g. Anderson (1976), Yip, Maling & Jackendoff (1987), Marantz (1991), Bittner & Hale (1996), McFadden (2004), Baker & Vinokurova (2010), M. C. Baker (2015), Levin & Preminger (2015), Nash (2017).

According to M. C. Baker (2015), dependent cases are assigned at the transfer to spell-out.

- (2) Dependent case by c-command (M. C. Baker 2015: 48–49, our emphasis)
- a. If there are two distinct NPs in the same spell out domain such that NP1 c-commands NP2, then **value the case feature of NP2 as accusative** unless NP1 has already been marked for case.
 - b. If there are two distinct NPs in the same spell out domain such that NP1 c-commands NP2, then **value the case feature of NP1 as ergative** unless NP2 has already been marked for case.

In Sakha, the spell-out domain for dependent accusative is the vP phase (Baker & Vinokurova 2010).

- (3) Dependent case in Sakha (Baker & Vinokurova 2010: 602)

- a. [_{vP} *Masha salamaat-*(y) turgennik* [_{vP} *salamaat sie-te*]].
 Masha porridge-ACC quickly eat-PST.3SG.SBJ
 ‘Masha ate the porridge quickly.’
- b. [_{vP} *Masha turgennik* [_{vP} *salamaat-(#y) sie-te*]].
 Masha quickly porridge-ACC eat-PST.3SG.SBJ
 ‘Masha ate porridge quickly.’ (ACC on ‘porridge’ only if it has contrastive focus)

M. C. Baker leaves open the possibility that some cases, notably nominative, may be assigned by Agree. Baker & Vinokurova (2010) argue that this is the case for nominative and genitive case in Sakha, which always correlate with the presence of agreement.

Levin & Preminger (2015), however, note that a more parsimonious model would do away with case assigned under Agree completely. They propose that nominative and genitive in Sakha are not assigned under Agree, even though they correlate with agreement (“co-variation ... does not determine causation”, Levin & Preminger 2015: 236).

- Is Case ever assigned under Agree?

?

- Are there contexts where dependent case is not sufficient?

→ We suggest that **Agree is sometimes the most parsimonious source of case**

1.1 Empirical advantages of dependent case

DCT provides elegant analyses of a number of phenomena, including case-marking sensitive to transitivity and differential object marking, at least when it involves scrambling (see (3) in §1).

M. C. Baker (2015) shows that in Shipibo, (applied) benefactive arguments of can be added to unaccusatives (semi-productively): the original absolutive subject surfaces as ergative.

(4) Shipibo (M. C. Baker 2015: 55, citing Valenzuela 2003: 691, 694 for (4b))

- | | |
|---|---|
| <p>a. <i>Kotoki-ra joshin-ke.</i>
fruit-PTCL ripen-PFV
‘The fruit ripened.’</p> | <p>b. <i>Bimi-n-ra Rosa joshin-xon-ke.</i>
fruit-ERG-PTCL Rosa.ABS ripen-APPL-PFV
‘The fruit ripened for Rosa.’</p> |
|---|---|

(5) Nez Perce (Deal 2019: 390)

- | | |
|--|---|
| <p>a. <i>Ha-'aayat</i>
PL-woman.NOM
<i>hi-pa-pay-no'-kom.</i>
3.SBJ-SBJ.PL-come-FUT-CIS
‘The women will come.’</p> | <p>b. <i>Ha-'aayat-om nuun-e</i>
PL-woman-ERG 1PL-ACC
<i>hi-pa-naas-pay-noo-yo'-kom.</i>
3.SBJ-SBJ.PL-OBJ.PL-come-APPL-FUT-CIS
‘The women will come to us.’</p> |
|--|---|

Both of these advantages have been challenged in the existing literature.

- Deal (2019: 410–411) discusses an alternative analysis of unaccusative applicatives (in Nez Perce) that does not rely on DCT, but also treats ergative as structural — ERG indicates that the verb has agreed with both the object and the subject (see also Deal 2010, §4)
- Kalin & Weisser (2018) present evidence *against* a movement analysis of differential object marking (DOM) because objects with and without differential case-marking can be coordinated, even in languages in which the coordinate structure constraint (CSC) holds

In §§2–4 we present further empirical challenges for DCT.

2 Mismatches between alignment and transitivity

DCT predicts fundamentally different alignment patterns to emerge in languages with and without morphological case (see Levin & Preminger 2015, Baker & Bobaljik 2017).

Alignment and transitivity

DCT, in its strongest form, makes specific predictions about possible alignment types:

- No ergative agreement alignment without case
- No case-marking in the absence of a case competitor

We discuss two types of counterexamples to this view here:

- ! Languages without case-marking, in which agreement is sensitive to transitivity, for example Mayan, Jê and Cariban languages (Gildea & Castro Alves 2010), (6)
- ! Languages exhibiting some degree of *split intransitive case*, for example Basque, (7)–(9)

2.1 No case marking

Coon (2017) argues that for languages without morphological case which exhibit ergative agreement alignment, inherent ergative case is motivated empirically and theoretically.

Q'anjob'al lacks case morphology but displays transitivity-sensitive ergative agreement.

(6) Q'anjob'al (Coon, Mateo Pedro & Preminger 2014: 187)

- | | |
|--|--|
| <p>a. <i>Max-ach y-il-a'</i>
 ASP-2ABS 3ERG-see-TV
 'She saw you.'</p> | <p>b. <i>Max-ach way-i</i>
 ASP-2ABS sleep-ITV
 'You slept.'</p> |
|--|--|

2.2 Split intransitive case (in Basque)

Baker & Bobaljik (2017) argue that true split intransitive ABS/ERG splits do not exist and that aspectual splits and null cognate objects can account for them (but see J. Baker 2018)

Unergative predicates with ERG are said to be underlyingly transitive (Laka 1993, Baker & Bobaljik 2017), the cognate object feeding dependent ERG assignment.

(7) Basque light verb construction (Preminger 2012: 278)

- Jon-ek dantza egin d-∅-u-∅.*
 Jon-ERG dance do 3.ABS-SG.ABS-have-3SG.ERG
 'Jon danced.'

This is less clear for "simplex" unergatives (Preminger 2012) and cases of long-distance agreement (Etxepare 2006):

(8) Basque simplex unergative verb (Preminger 2012: 279)

- Jon-ek dantzatu d-∅-u-∅.*
 Jon-ERG dance.PRT 3.ABS-SG.ABS-have-3SG.ERG
 'Jon danced.'

(9) Basque long-distance agreement (Etxepare 2006: 333, Preminger's glosses)

- a. [*Harri horiek altxa-tze-n*] *probatu*
 stone those.PL.ABS lift-NMLZ-LOC attempted
d-u-te / d-it-u-zte.
 3.ABS-have-3PL.ERG 3.ABS-PL.ABS-have-3PL.ERG
 'They have attempted to lift those stones.'
- b. [*Harri horiek altxa-tze-n*] *proba egin*
 stone those.PL.ABS lift-NMLZ-LOC attempt do
*d-u-te / *d-it-u-zte.*
 3.ABS-have-3PL.ERG 3.ABS-PL.ABS-have-3PL.ERG
 'They have attempted to lift those stones.'

Alignment and transitivity: summary

The predictions of DCT with respect to alignment and transitivity are not always met.

- Mayan, Jê and Cariban show agreement sensitive to transitivity **in the absence of case**
 - If agreement tracks case, case must be represented abstractly in languages
 - This is not just syncretism: there is no morphological case in the system at all
- We need a more abstract representation of case, even on a dependent case approach
- The cognate object account of Basque unergative predicates with ERG SBJ is problematic

3 Clauses as case competitors

M. C. Baker (2015) notes the following about CP complements:



Without tinkering with the dependent case rule, we expect fully nominalized clauses to both undergo and trigger dependent case assignment, whereas true CPs should neither trigger dependent case nor undergo it. (M. C. Baker 2015: 197)

3.1 Romance causatives and dependent dative

Building on Marantz (1991), Folli & Harley (2007), Pitteroff & Campanini (2013) propose that dative is a dependent case in the Italian *faire*-infinitive. Both finite and non-finite CPs count as case competitors (see also Pineda, Schifano & Sheehan 2018). In Italian, French, and Catalan, ...

- ... causees associated with a transitive predicate are **dative** (cf. (10a)),
- while causees associated with an intransitive predicate are **accusative** (cf. (10b))

(10) French

a. *Il l' / *lui=a fait [partir]*.
 3SG.M 3SG.ACC 3SG.DAT=has made leave.INF
 'He made him/her leave.'

b. *Elle lui / *l'=a fait [manger les épinards]*
 3SG.F 3SG.DAT 3SG.ACC=has made eat.INF the.PL spinach.PL
 'She made him/her eat the spinach.'

Kayne (1975) shows that sentential complements trigger DAT on the causee (see Pineda, Schifano & Sheehan 2018 for further discussion of Romance languages).

(11) French (Kayne 1975: 210)

Elle a fait admettre à Jean [qu'il avait tort].
 3SG.F has made admit.INF DAT Jean that=3SG.M had wrong
 'She made Jean admit that he was wrong.'

Stowell (1981) mentions differences in the distribution of CPs and DPs; the same is true of finite CPs and DPs in French. For example, reflexive verbs such as *s'apercevoir* 'to realise', *se plaindre* 'to complain', *se méfier* 'to mistrust' can take nominal or CP complements.

- Nominal complements must be introduced by the preposition *de*
- Finite CP complements cannot be introduced by *de*

(12) French (examples from the internet)

a. *Il se plaint [de la musique trop forte].*
 3SG.M REFL complain.3SG **de** the music too loud.F
 'He complains about the music being too loud.'

b. *Il se plaint [que cet expert n'ait pas examiné des photographies ...]*
 3SG.M REFL complain.3SG **that** that expert NEG=has.SBJV.3SG NEG examined DET
 photos
 'He complains that that expert has not examined photographs ...'

CPs as case competitors: summary

CPs are a challenge for dependent case because ...

- They *do* interact with dependent case assignment, even when not nominal
 - Across Romance, finite and non-finite CPs are case competitors, too
 - Yet finite CPs and DPs are distributed differently
- This weakens DCT as the connection between undergoing and triggering case is lost
- This makes an analysis in terms of distinctness (Richards 2010) unlikely

4 Global case splits

Differential marking often involves *local* case splits: the properties of a single argument, say the object DP, determine its case-marking, e.g. in (13).

(13) Spanish

- | | |
|---|--|
| a. <i>Veo la mesa.</i>
see.1SG the table

'I see the table.' | b. <i>Veo a la mujer.</i>
see.1SG DOM the woman

'I see the woman.' |
|---|--|

In *global* case splits (Silverstein 1976, Malchukov 2008, Aissen 1999, Keine 2010, Georgi 2012, Bárányi 2015, 2017), the case-marking of an argument depends on **properties of more than one argument**, e.g. the subject *and* the object. Languages with global case splits include Sahaptin (Rigsby & Rude 1996), Awtuw (Feldman 1986), Yurok (Robins 1958), Wampis (Peña 2015), and Kashmiri (Wali & Koul 1997, Verbeke 2018).

4.1 Kashmiri

In Kashmiri, direct objects (DOs) can be NOM or DAT¹ in the imperfective.

- Person hierarchy: 1 > 2 > 3
- DAT appears when the person of the object matches or outranks the person of the subject
- The arguments are cross-referenced by agreement or clitics

→ It looks like agreement feeds Case assignment

(14) Kashmiri (Wali & Koul 1997: 155)

- a. **1st person SBJ, 2nd person OBJ → OBJ.NOM**

bi chu-s-ath tsi *parina:va:n*
I.NOM be.M.SG-1SG.SBJ-2SG.OBJ **you.NOM** teach.PTCP.PRS
'I am teaching you.'

- b. **2nd person SBJ, 1st person OBJ → OBJ.DAT**

tsi chu-kh *me* *parina:va:n*
you.NOM be.M.SG-2SG.SBJ **I.DAT** teach.PTCP.PRS
'You are teaching me.'

¹Both DOs and indirect objects (IOs) are marked with what is referred to as DAT here. On DOs, this is a structural ACC, arguably syncretic with DAT (Wali & Koul 1997, Béjar & Rezac 2009, Bárányi 2018).

(15) Kashmiri (Wali & Koul 1997: 156)

a. 2nd person SBJ, 3rd person OBJ → OBJ.NOM

tsi chi-h-an su parina:va:n
 you.NOM be-2SG.SBJ-3SG.OBJ he.NOM teach.PTCP.PRS
 ‘You are teaching him.’

b. 3rd person SBJ, 2nd person OBJ → OBJ.DAT

su chu-y tse parina:va:n
 he.NOM be.M.SG-2SG.OBJ you.DAT teach.PTCP.PRS
 ‘He is teaching you.’

▼ SBJ / ► OBJ	1	2	3
1		NOM	NOM
2	DAT		NOM
3	DAT	DAT	DAT

Table 1: Distribution of NOM and DAT on objects in the imperfective in Kashmiri

Deriving the case split The problem for a “classic” Agree analysis of Kashmiri data is that Case valuation and φ -valuation happen at the same time. To derive the split, φ -valuation must apply first and feed Case assignment (Béjar & Rezac 2009, Georgi 2012, Bárány 2015, 2017).

- Case assignment has to be “delayed” to after φ -agreement with several arguments
- We need a mechanism that chooses NOM, DAT or other allomorphs: syntax, morphology?

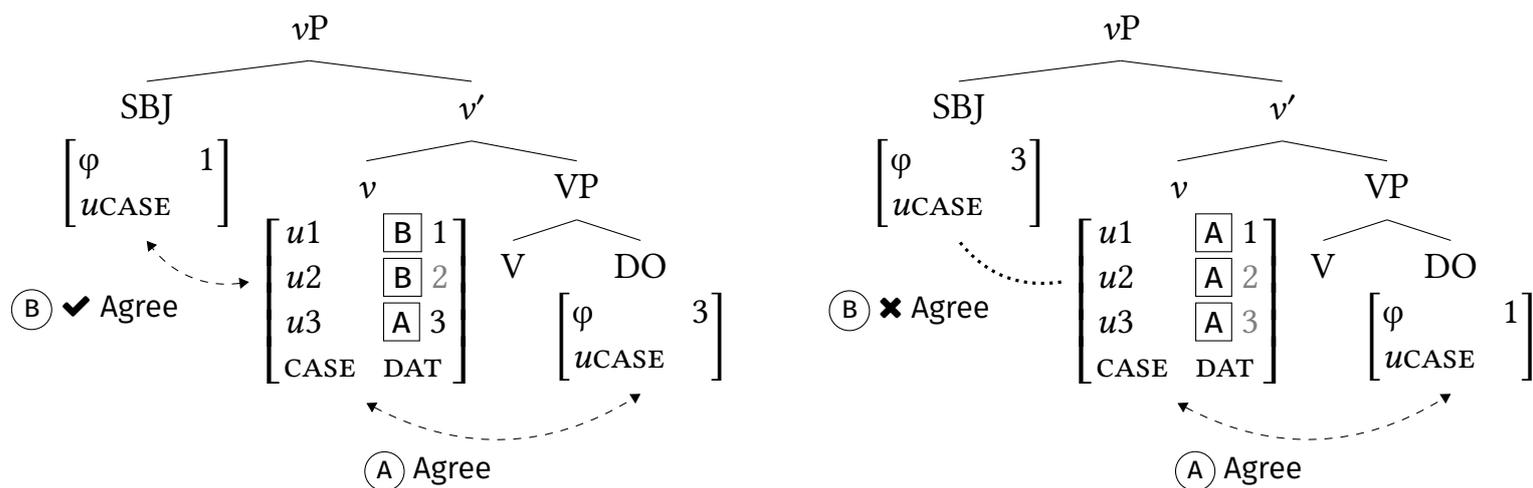
Assumptions

- φ - and Case valuation are separate processes (Keine 2010, Georgi 2014)
- If φ -valuation happens *before* Case assignment, φ -features can determine Case
 - Languages (and acquirers) choose between [Case < φ] and [φ < Case]
- Case and person are complex: *sets of features* (Harley & Ritter 2002, Caha 2009)
- Agree is cyclic (Béjar & Rezac 2009): a probe that is not fully valued will probe again
 - A probe stops probing if it is fully valued or cannot find a goal any more
- Impoverishment can apply *in syntax*, strictly locally (Keine 2010)

(16) Person features (Harley & Ritter 2002, Béjar & Rezac 2009)

$$[1] = \begin{Bmatrix} \text{SPEAKER,} \\ \text{PARTICIPANT,} \\ \pi \end{Bmatrix} \supset [2] = \begin{Bmatrix} \text{PARTICIPANT,} \\ \pi \end{Bmatrix} \supset [3] = \{\pi\}$$

(17) Cyclic Agree (Béjar & Rezac 2009)

a. ✓ [1] \supset [3]: v valued by SBJ and OBJ b. ✗ [3] \subset [1]: v valued by OBJ only**Derivations** Based on these assumptions, there are two types of derivations (Bárányi 2017):

- In **direct** configurations, v agrees with the subject *and* the object, cf. (17a)
 - This feeds impoverishment rule (19) which makes the verb assign NOM instead of DAT
- In **inverse** configurations, v agrees with the object only, cf. (17b)
 - The context for impoverishment rule (19) is not met, the verb assigns DAT

→ v assigns Case when its φ -probe cannot enter any Agree relations any more: $[\phi < \text{Case}]$

(18) (Relevant) Case features in Kashmiri

NOM: [A] DAT: [A, B]

(19) DAT impoverishment

CASE: [A, B] → CASE: [A] / $v[\alpha, \beta]$ (20) v in Kashmiri: $v[u\varphi, \text{CASE A, B}]$

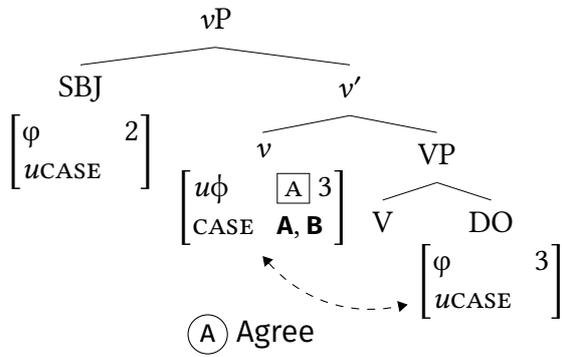
The impoverishment rule in (19) deletes v 's **B** feature and v assigns [A] (= NOM) iff v has been valued by two sets of person features (α, β), i.e. two arguments.

Direct configurations The relevant steps of the deriving (21) are shown in (22).^{2,3}

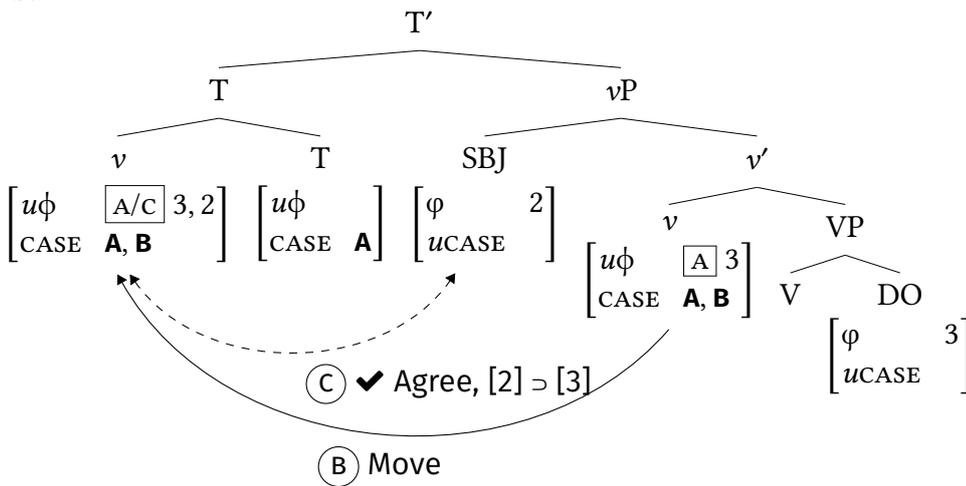
(21) 2nd person SBJ, 3rd person OBJ → OBJ.NOM

tsi chi-h-an su parina:va:n
 you.NOM be-2SG.SBJ-3SG.OBJ he.NOM teach.PTCP.PRS
 ‘You are teaching him.’

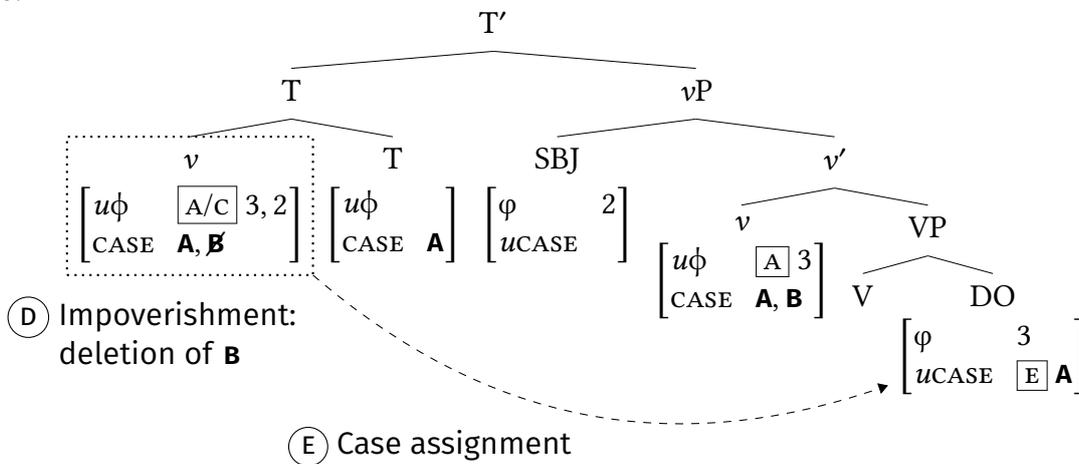
(22) a.



b.



c.



²Case assignment in (22c), (24c) is in accordance with the PIC2, discussed in Chomsky (2001: 14).

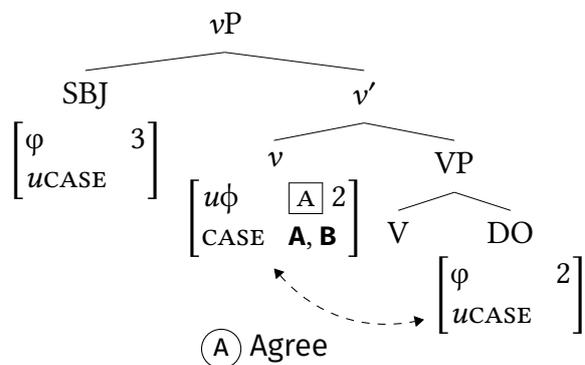
³v moves to T and on to C in Kashmiri (Bhatt 1999).

Inverse configurations The relevant steps of deriving (23) are shown in (24).

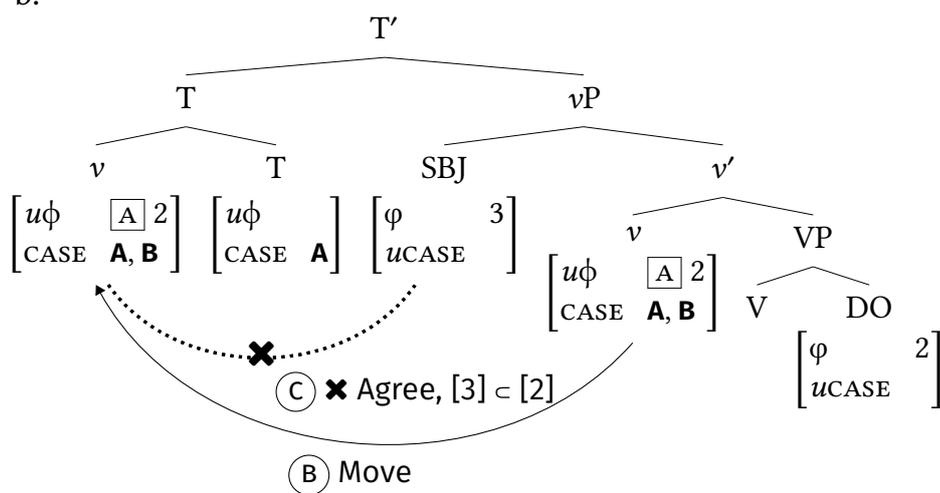
(23) 3rd person SBJ, 2nd person OBJ → OBJ.DAT

su chu-y tse parina:va:n
 he.NOM be.M.SG-2SG.OBJ **you.DAT** teach.PTCP.PRS
 ‘He is teaching you.’

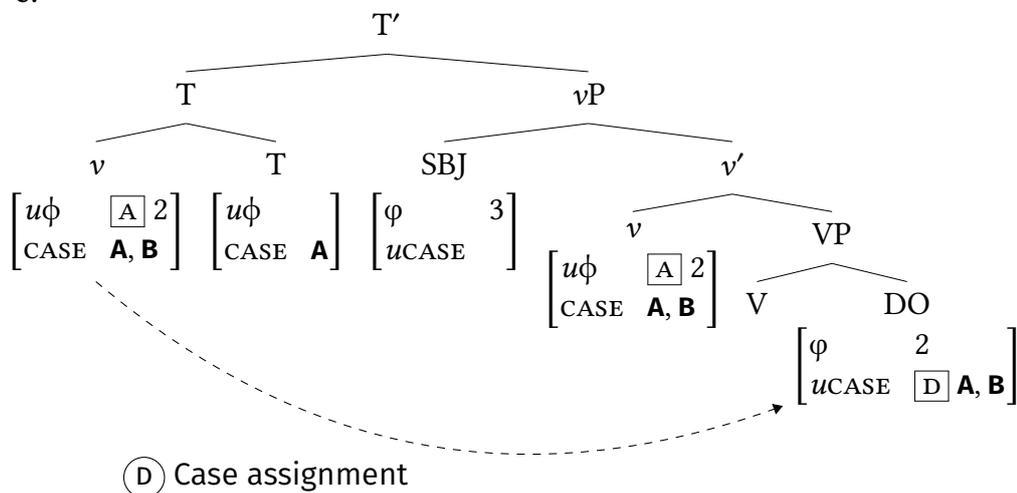
(24) a.



b.



c.



4.2 Dependent case and global case splits

How could dependent case handle languages with global case splits?

? **Movement:** Arguments move to a particular domain, so that their configuration or their order determines their Case⁴

Fine-grained c-command: C-command of layered φ -features determines Case

We suggest that neither of these approaches works (or is attractive).

4.2.1 Movement Kashmiri allows coordinating pronominal objects with different cases (“asymmetric DOM”, Kalin & Weisser 2018). If DAT, but not NOM objects, move, this is unexpected.

(25) Kashmiri (Atlamaz 2017: 24, 2018: 8)

- a. *tsi chu-kh* [_{&P} *yi ti me*] *tul-a:n*.
 2SG.NOM be.M.SG-2SG 3SG.PROX.NOM and 1SG.DAT lift.PTCP.PRS
 ‘You are lifting him and me.’
- b. *tsi chu-kh* [_{&P} *me ti yi*] *tul-a:n*.
 2SG.NOM be.M.SG-2SG 1SG.DAT and 3SG.PROX.NOM lift.PTCP.PRS
 ‘You are lifting him and me.’

4.2.2 Layered φ -features and fine-grained c-command Another DCT analysis was suggested to us by Thomas McFadden (p.c.). McFadden suggests that if φ -features are layers in the extended projection of the DP as in (26a–c), the Kashmiri pattern can be derived by rule (26d).

- (26) a. 1st person: [_{1P} 1 [_{2P} 2 [_{3P} 3 [DP]]]]]
 b. 2nd person: [_{2P} 2 [_{3P} 3 [DP]]]
 c. 3rd person: [_{3P} 3 [DP]]
 d. If person feature *N* on DP₁ c-commands person feature *N* on DP₂, assign DAT to DP₂.

If only the highest layer (i.e. the highest person feature) can c-command out, (26d) derives the correct pattern for Kashmiri:

- In (14a), SBJ’s 1P layer **does not c-command** 1P on 2.OBJ (because it does not have one)
- In (14b), SBJ’s 3P layer **does c-command** OBJ’s 3P layer → OBJ is assigned DAT

? This could arguably be formulated as the higher person phrase probing the lower one?

⁴See Jelinek & Carnie (2003), Merchant (2006), Coon & Preminger (2012). See Kalin & Weisser (2018) for arguments against movement analyses of DOM.

▼ SBJ / ► OBJ	1	2	3
1		NOM	NOM
2	DAT		NOM
3	DAT	DAT	DAT

(a) NOM and DAT on DOs in Kashmiri (IPFV)

▼ SBJ / ► OBJ	1SG	1PL	2	3
1SG		=na	=na	=na
1PL			=na	-∅
2	=na	=na		-∅
3	=na	=na	=na	=na

(b) Distribution of ACC =na in Wampis

Table 2: Distribution of NOM/ACC/DAT in Kashmiri (Table 2a) and Wampis (Table 2b)

Wampis Wampis (Jivaroan; Peru) has an accusative marker =na (Peña 2015: 715–720).

- The external and the internal argument agree with the verb
- Third person DOs do not get accusative if and only if the subject is 1PL or 2nd person

(27) Wampis (Peña 2015: 718)

- a. *iauãa=na mǎ-á-ma-ha-i*
 jaguar=ACC kill-HIAF-REC.PST-1SG.SBJ-DECL
 ‘I killed a jaguar.’
- b. *ami iauãa mǎ-á-ma-mi*
 2SG jaguar kill-HIAF-REC.PST-2SG.SBJ-DECL
 ‘You killed a jaguar.’
- c. *iauãa mǎ-á-ma-hi*
 jaguar kill-HIAF-REC.PST-1PL.SBJ-DECL
 ‘We killed a jaguar.’

Rule (26d) would derive ACC on third person objects with third person subjects, but not with 1SG subjects in Wampis – and it is not clear how layered ϕ -features could work in Wampis.

(28) a. Dependent case rule for Wampis

If a 1SG or 3rd person DP₁ c-commands a 3rd person DP₂, assign DP₂ ACC.

b. Impoverishment rules for Wampis

- CASE: [A, B] → CASE: [A] / $v[1PL, 3]$
- CASE: [A, B] → CASE: [A] / $v[2, 3]$

(28a) and (28b) derive the same patterns, but ...

- (28a) cannot be expressed purely in terms of c-command like (26d)
- (28b) is analogous to the impoverishment rules for Kashmiri in (19)

Global case splits and dependent case: summary

Global case splits are a challenge for dependent case because ...

- The relative person features of DPs determine case-marking, ...
- ... **not** just c-command or different positions
- Asymmetric DOM argues against movement
- Some mechanism must compare ϕ -features of DPs: Agree
- Dependent case rules that are sensitive to ϕ -features of DPs would be redundant
- GCSs are a dependent-marking analogue of inverse systems (Rezac 2011, Verbeke 2018)

5 Conclusions

We presented **empirical challenges to dependent case theory**:

- DCT makes wrong predictions about alignment and transitivity
 - There are languages with ergative agreement alignment, but no case
 - There are languages with split intransitive case
 - CPs can be case competitors without being case-marked themselves
 - Global case splits suggest that agreement feeds case-assignment
 - C-command is not enough for GCSs
- ?** How many modalities of Case assignment are there?

Acknowledgements

Many thanks to the audience at SyntaxLab, University of Cambridge for useful comments and critique, especially James Baker, Theresa Biberauer, Jamie Douglas and Ian Roberts. Thanks also to Anna Pineda and Norma Schifano, whose ongoing collaboration with the second author has contributed substantially to the ideas in §3. Thanks to Jaime Peña for help with Wampis, Shafi Shauq, Ümit Atlamaz, Doreen Georgi and Philipp Weisser for discussions of Kashmiri, and Rodrigo Ranero for helpful suggestions about Mayan languages. All errors are our own.

Abbreviations

1 = first person, 2 = second person, 3 = third person, ABS = absolutive, ACC = accusative, APPL = applicative, ASP = aspect, CIS = cislocative, CSC = coordinate structure constraint, DAT = dative, DCT = dependent case theory, DECL = declarative, DET = determiner, DO = direct object, DOM = differential object marking, ERG = ergative, F = feminine, FUT = future, GCS = global case split, HIAF = high affectedness aktionsart, INF = infinitive, IO = indirect object, IPFV = imperfective, ITV = intransitive verb, LOC = locative, M = masculine, NEG = negative, NMLZ = nominalizer, NOM = nominative, OBJ = object, PFV = perfective, PIC = phase impenetrability condition, PL = plural, PROX = proximal, PRS = present, PRT = preterite, PST = past, PTCL = particle, PTCP = participle, REC = recent, REFL = reflexive, SBJ = subject, SBJV = subjunctive, SG = singular, TV = transitive verb.

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