

What the structural/inherent case distinction can tell us about the implementation of dependent case

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Thomas McFadden

Leibniz-Zentrum Allgemeine Sprachwissenschaft, Berlin

mcfadden@leibniz-zas.de

1 Introduction

Decades of theoretical work have produced two rather distinct ideas about case that have emerged as alternatives to standard case theory:

CisM: Case is morphological, based on syntactic structure, but too late to affect the syntactic derivation (e.g. Marantz 1991, Harley 1995, McFadden 2004, Sigurðsson 2009).

KP: Cases are not just features on N or D, but represent their own syntactic projections (e.g. Bittner and Hale 1996, Neeleman and Weerman 1999, Caha 2009).

- ☞ CisM and KP would seem to be incompatible, but in this talk I'm going to explore the idea that the best theory would incorporate them both.
- ☞ The idea is to map them onto the divide between **structural** and **inherent** cases.
- ☞ If we do it right, we can handle phenomena that straddle the divide and get novel insight into certain comparative and diachronic patterns.

2 Crash course: structural vs. inherent case

There's a well-established distinction between two types of case (Haider 1985, Yip et al. 1987, Sigurðsson 1989, Freidin and Sprouse 1991, Bayer et al. 2001, etc.):

Structural case: determined by and sensitive to the configurational syntactic environment in which a DP appears and nothing else

Inherent case: determined by and sensitive to semantic and lexical factors, potentially in addition to configurational ones

Let's review the main empirical differences, based on examples from German.

1. Inherent case is thematically and lexically restricted, while structural case is assigned purely on the basis of structural configuration.
 - (Inherent) dative is assigned to the thematically restricted 'indirect object' of ditransitives, the object of specific transitives like *helfen* 'help', and the object of specific Ps like *mit* 'with'.
 - (Structural) accusative is assigned (roughly) to any argumental DP that is c-commanded by a distinct structural case-marked DP in the same clause.

This includes the (thematically unrestricted) object of the open class of transitive verbs...

- (1) Der Metallurge mag/bekommt/klaut/verbrennt **den Cricketschläger**.
 the metallurgist likes/receives/steals/burns the cricket-bat.ACC

... the (thematically unrestricted) 'direct object' of ditransitive verbs...

- (2) Der Metallurge gab/klaute/schnitzte/gönnte dem Dekan **den Cricketschläger**.
 the metallurgist gave/stole/whittled/allowed the dean the cricket-bat.ACC
 'The metallurgist gave the dean the cricket bat, stole it from him, whittled it for him, didn't begrudge him it'

... and the (thematically unrestricted) subject of any verb embedded under causative *lassen* 'let' or the perception verbs *hören* 'hear' and *sehen* 'see':

- (3) Der Dekan ließ **den M.en** verlieren/töten/den Cricketschläger klauen.
 the dean.NOM let the m.ACC lose/kill/the cricket-bat.ACC steal
 'The dean let the m. lose, had him killed, had him steal the cricket bat.'

2. When both could be assigned, inherent case takes precedence over structural.

- E.g. the accusative assigned under causative *lassen* that we just saw is superseded by the inherent dative assigned by *helfen*:

- (4) Der Dekan ließ **dem M.en/*den M.en** helfen.
 the dean.NOM let the m.DAT/*ACC help
 'The dean had someone help the metallurgist.'

3. Structural cases alternate under A-movement and when argument structure is modified, e.g. in the passive:

- (5) a. Der Metallurge hat **den Cricketschläger** geklaut.
 the metallurgist.NOM has the cricket-bat.ACC stolen
 'The metallurgist stole the cricket bat.'
 b. **Der Cricketschläger** wurde geklaut.
 the cricket-bat.NOM was stolen
 'The cricket bat was stolen.'

Inherent ones do not alternate in this way:

- (6) a. Der Metallurge hat **dem Dekan** nicht geholfen.
 the metallurgist.NOM has the dean.DAT not helped
 'The metallurgist didn't help the dean.'
 b. **Dem Dekan** ist nicht geholfen worden.
 the dean.DAT is not helped become
 'The dean was not helped.'

4. In some languages, inherent case blocks certain syntactic processes and relations associated with subjecthood (like being controlled PRO).

This happens e.g. in German...

- (7) Der M. hofft [PRO unterstützt zu werden]
 the m. hopes [PRO supported to become]
 'The metallurgist hopes to be supported.'
- (8) *Der M. hofft [PRO geholfen zu werden]
 the m. hopes [PRO.DAT helped to become]
 'The metallurgist hopes to be helped.'

... but not in Icelandic:

- (9) Henni leiðist bókin.
 her.DAT bores book.the.NOM
 'She finds the book boring.'
- (10) Hún vonast til [að PRO leiðast ekki bókin.]
 she.NOM hopes for [to PRO.DAT bore not book.the.NOM]
 'She hopes not to find the book boring.'

When blocking doesn't happen, we call it **quirky case**.

5. A nominal having inherent or structural case affects the case assigned to another nominal below it.
- Typically, if the higher argument of a dyadic verb gets structural case, the lower argument will get structural accusative, as in (11a).
 - But if the higher argument gets an inherent case, like the dative in (11b), the lower argument will get structural nominative.
- (11) a. Der M. verehrt **den Cricketschläger**.
 the m.NOM worships the cricket-bat.ACC
 'The metallurgist worships the cricket bat.'
- b. Dem M. gefällt **der Cricketschläger**.
 the m.DAT likes the cricket-bat.NOM
 'The metallurgist likes the cricket bat.'
6. Inherent case-marked nominals are often blocked from triggering agreement, while structural case-marked ones are generally not.
- (12) a. Den Metallurgen **wurde** geholfen.
 the metallurgists.DAT became.3SG helped
 'The metallurgists were helped.'
- b. Die M. **wurden** unterstützt.
 the m.NOM became.3PL supported
 'The metallurgists were supported.'

3 Two alternatives to standard Case theory

The standard view in GB and Minimalism has been that cases are **features**, assigned to (or checked on) DPs in the course of the **syntactic** derivation.

- These features can potentially influence the course of the derivation, and indeed case has been implicated in A-movement, passivization, control. . .

The two alternative ideas about case we'll be considering here move in different directions from this, each modifying a different **highlighted** bit from that definition:

CisM moves case from the syntax into the morphology, such that it interprets the structure output by the syntax rather than playing an active role in its derivation.

KP reifies cases more substantially in the syntax as (a series of) heads rather than just (a series of) features on other heads.

Let's begin with what led to the proposal of the two alternatives to standard Case theory (henceforth SCT).

3.1 The motivation for CisM

The big idea of SCT (going back to Vergnaud 1977):

- DPs need Case to be **licensed** to appear overtly. If a DP can't get Case in one position, it must move to another where it can, or remain silent (as PRO).
- Being able to trigger clearly syntactic operations like movement implies that Case must be active in the narrow syntactic component.

However, subsequent work has turned up a series of problems with tying the positional distribution of DPs to the determination of Case. . .

1. The relationship between final A-positions and morphological cases is not one-to-one, but many-to-many.

(13) Henni hefur alltaf þótt Ólafur leiðinlegur.
 her.DAT has always thought Olaf.NOM boring
 'She has always found Olaf boring.'

- Zaenen et al. (1985) demonstrate that *henni* is the subject in (13), yet it is marked dative, while the object is marked nominative.

2. Case can be assigned when no overt DP is licensed (Sigurðsson 1991):

(14) Að PRO/*barninu batna veikin einum er erfitt.
 to PRO.DAT/*the-child.DAT recover the-disease alone.DAT.MASC is difficult
 'To recover from the disease alone is difficult.'

- Sigurðsson (1991) shows that *einu* in (14) is agreeing with PRO, which thus must have been assigned dative case. Yet no overt DP is licit in that position.

3. DPs can be licensed where they are not assigned case (Schütze 2001):

- (15) Der/*Dem Hans, mit dem spreche ich nicht mehr.
 the-NOM/*DAT Hans with him-DAT speak I not more
 ‘Hans, I don’t speak with him anymore.’ (German)

- Nominative here is supplied by default. Something assigned by default can’t be involved in licensing, since it would make the Case Filter vacuous.

⇒ So contra Vergnaud (1977) we need to keep the positional distribution of overt DPs separate from the determination of morphological case.

On the one hand, this means we need a different approach to overt DP distribution.

- ☞ I think this should work not in terms of requirements associated with DPs, but requirements associated with A-positions.
- ☞ I.e. we need something like the EPP combined with referential restrictions (Marantz 1991, Sigurðsson 2010, Sundaesan and McFadden 2009).
- ☞ And we need to deal with the cross-modular weirdness of the EPP and how it interacts with things like *pro*-drop and COMP-trace (McFadden and Sundaesan 2018a,b).

On the other hand, if case assignment isn’t needed for DP licensing, we lose the strongest motivation for it being syntactic. And it gets worse!

1. The assignment of some cases involves a dependency with an additional DP, which is difficult to implement in terms of standard syntactic operations like Agree (see below and especially Baker 2015).
2. The determination of specific cases does not inform the semantics as we might expect it to if it occurs in the syntax and thus feeds into the LF branch (Sigurðsson 2012, a.o.).

Hence CisM:

- ☞ Moving case-assignment into the PF branch allows us to make sense of this cluster of facts.
- ☞ And it equally avoids making problematic predictions.

3.2 The motivation for KP

Several arguments for KP are out there (Lamontagne and Travis 1987, Bittner and Hale 1996, Neeleman and Weerman 1999, Asbury 2008, Levin 2015).

- Perhaps the most interesting are ones presented by Caha (2009), involving evidence reported by Blake (2001) for a hierarchy of cases, roughly as follows:

- (16) **Simplified Blake/Caha hierarchy** Nominative < Accusative < Genitive < Dative < Instrumental < Comitative

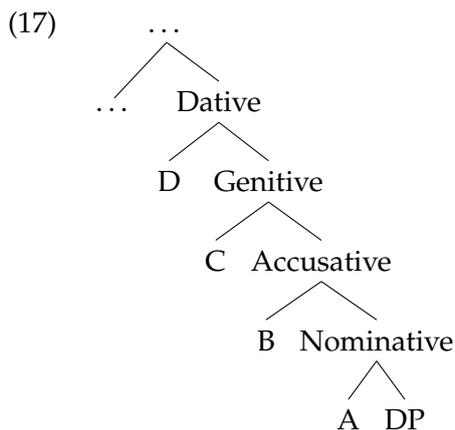
This hierarchy seems to be relevant for at least two sets of facts cross-linguistically:

1. If a language has a given morphological case, it will also have all of the cases to the left in (16).
2. Within a single language, syncretisms overwhelmingly involve contiguous regions of the hierarchy. Consider Modern Greek:

	'fighters'	'fighter'	'alpha'	[not attested]
Nom	maxités	maxitís	alfa	A
Acc	maxités	maxití	alfa	B
Gen	maxitón	maxití	alfa	A

Caha thus expands on KP:

- ☞ Case categories constitute hierarchical structures.
- ☞ The structure of each case crucially contains that of the next case down on the hierarchy.



These containment relationships encode markedness.

- With suitable assumptions about morphosyntax, this can be used to derive the inventory effects.
- And it explains syncretism. An underspecified item capable of spelling out both Dative and Accusative would automatically also cover Genitive (*ABA).

The argumentation here depends crucially on cases having hierarchical structure.

- ☞ The simplest assumption is thus that these structures are syntactic, built up out of a series of functional heads above D.
- ☞ Hence KP.

3.3 We want to have our case and eat it too

CisM and KP are each motivated by a set of facts that they can handle better than SCT. However, the two ideas are incompatible with each other:

- ☞ It is incoherent to say that a DP has no case in the syntax, and is embedded in an exploded KP which is the syntactic representation of its case.

On the other hand, we don't really want to adopt one of the two approaches to the exclusion of the other, since each one has non-trivial problems on its own...

CisM

- ☞ has limited ability to deal with the syncretism and inventory patterns (see McFadden 2007, for a failed attempt)
- ☞ has little to offer in dealing with the details of inherent cases, especially the more semantically ones

KP

- ☞ predicts that there should be some consistent semantic contribution from each case head, which is not supported, as least for the lower ones (Sigurðsson 2012, a.o.)
- ☞ suffers from the same difficulties as other syntactic approaches in accounting for the distribution of nominative and accusative case

4 Proposing a synthesis

We're left with a bit of a puzzle. But there's a clear angle from which to approach it.

- ☞ The areas where the two approaches do well and do poorly are (approximately) complementary, and follow the structural/inherent divide.

I thus propose to explore the following synthesis (henceforth **synth**):

- (18) The distinction between structural and inherent cases reflects a distinction in the size of the nominal phrases:
- i. Nominals bearing structural case are DPs in the narrow syntax, with distinctions among structural cases determined at or after Spellout.
 - ii. Nominals bearing inherent/oblique case are larger, articulated KPs in the narrow syntax, with distinct cases corresponding to distinct amounts of structure within KP.

This is not an entirely new idea:

- ☞ Emonds (1987), Nikanne (1993), Bittner and Hale (1996), Asbury (2008), Baker (2015), Levin (2015), Yuan (To appear) all propose that some but not all cases involve KP/PP.

The novel contribution I want to make here is to argue for the following points:

- Mapping CisM/KP onto the structural/inherent case divide, especially given recent advances in both approaches, lets us derive differences that previously had to be stipulated.
- It also gives us a way to talk about intermediate cases, shedding some light on the mechanics of dependent case assignment while we're at it.
- And it allows insightful approaches to certain comparative and diachronic issues.

For the inherent cases:

- We can simply adopt Caha (2009)'s proposals as a starting point, at least as regards their structures.
- We'll have more to say regarding 'assignment' of inherent case in a bit.

For the structural cases, we need a bit more background:

- ☞ I propose that this primarily (perhaps exclusively) involves instances of what have been called **dependent** case and **default** or **unmarked** case.

The basic idea of dependent case, which goes back to Marantz (1991), with antecedents in Yip et al. (1987) etc., is given in (19), from Baker (2015, ch. 5):

- (19) If a category XP bears c-command relationship R to another category ZP in domain W, then assign Case C to XP.

This parametrized template can characterize (many instances, in many languages, of) accusative, ergative, dative and other cases.

- One type of accusative is assigned to a DP c-commanded by another DP in the CP phase.
- One type of dative is assigned to a DP c-commanding another DP in the vP phase.
- One type of ergative is assigned to a DP c-commanding a DP in the CP phase.

See Preminger (To Appear) for insightful discussion related to this recurring "One type..." business.

Languages differ in which instantiations of (19) they use, but also in the types of A-movement they have which can feed or bleed them.

- (19) downward in CP will yield a consistent nominative-accusative pattern if objects obligatorily move out of the vP phase and get local to the subject.
 - If said movement is optional, a DOM pattern will result, as in Sakha (Baker and Vinokurova 2010):
- (20) Masha [türgennik salamaat] sie-te
 Masha [quickly porridge] eat-PST.3SG.S
 'Masha ate porridge quickly.'
- (21) Masha salamaat-y [türgennik t] sie-te
 Masha porridge-ACC [quickly t] eat-PST.3SG.S
 'Masha ate the porridge quickly.'

Yuan (2018, 2021) shows how variation in ergativity patterns across varieties of Inuit can be similarly derived.

- Again, assume (19) downward in CP.
- But in these languages A-movement of the object crosses the subject, as in (23).
- So it's the **subject** that gets dependent case — hence we call it ergative. And it doesn't get ergative when the object doesn't move, as in (22).
- Dialects differ in the conditions on the movement, hence differ in the conditions on ergative marking.
- Crucially, the ergative marking really tracks independent diagnostics for movement of object across subject as predicted.

(22) [_{CP} Subj [_{vP} Obj ...]]

(23) [_{CP} Obj Subj-**ERG** [_{vP} Obj ...]]

DPs that don't meet the criteria for any case receive default case (Schütze 2001).

- ☞ This may be better understood as the complete **lack** of case (Bittner and Hale 1996, McFadden and Sundaresan 2010, Preminger 2011, Kornfilt and Preminger 2015, McFadden 2018).

5 Applying the synthesis

I'll now go through the differences between structural and inherent case from the crash course at the beginning of the talk.

- ☞ I'll flesh out **synth** by showing how it can account for each in at least as insightful a way as other theories.

1. Inherent case is thematically and lexically restricted, while structural case is assigned purely on the basis of structural configuration.

synth gives a straightforward characterization of the difference between structural and inherent case, reducing it to something that we have need for elsewhere:

- Structural case-marked nominal phrases are just DPs, whereas inherent case-marked ones involve additional syntactic heads above the DP.
- We already need larger nominal extended projections to deal with prepositional phrases, so we apply that rather than positing structural or inherent case as theoretical primitives.

This automatically accommodates the semantic/thematic differences between the two types of case, due to the extra heads above the DP in inherent case:

- ☞ These heads can be expected make a consistent, if not entirely straightforward, contribution to the semantics.
- ☞ This yields their basic thematic restrictions, but also their ability to appear in contexts (e.g. adjuncts) more characteristic of traditional PPs than NPs.

Note then that inherent case is never really ‘assigned’, i.e. it isn’t determined in the course of the derivation, but really is inherent to the phrase on which it appears.

- Each inherent case corresponds to a different syntactic category, with a different head at the top.
- So the determination of inherent cases on argument nominals can just boil down to c-selection.

Say Y is the head that defines Datives, and X the head that defines Genitives. We then get the following, exemplified with some German verbs:

Verb	Gloss	‘Assigns’	Selects
<i>tragen</i>	‘carry’	Acc	DP
<i>helfen</i>	‘help’	Dat	YP
<i>gedenken</i>	‘commemorate’	Gen	XP

- ☞ This is a welcome result, since inherent case assignment seems to have the level of moderate predictability punctuated by exceptions and surprises that is characteristic of other instances of c-selection.

Structural case-marked nominals, lacking such heads, will be different:

- They have no consistent semantics beyond what all DPs have, hence the lack of generalizations about the meaning of the nominative or the accusative.
- They also have the distribution of DPs and not of PPs or any other category.
- Their specific cases will not be visible to selection, because they are all DPs. Hence there are e.g. no verbs that select for nominative objects.

2. When both could be assigned, inherent case takes precedence over structural.

Again, under **synth**, inherent case is not assigned, but characterizes how certain nominal structures are built up **before** merging into a larger context.

- ☞ In those contexts these larger structures are selected over the smaller structures of structural case.
- ☞ Since inherent case in a sense belongs to an earlier stage of the derivation, it gets first crack before structural case.

3. Structural cases alternate under A-movement and in argument structure alternations, while inherent ones do not.

The standard take on this since the 80s is definitional:

- Inherent case is assigned to a nominal in its first-merge position. Subsequent steps of the derivation cannot undo this, and are thus irrelevant.
- Structural case, on the other hand, can be assigned whenever a nominal gets into the right structural relationship with a case assigner.

This timing difference must simply be stipulated, since there is otherwise no inherent formal distinction in the nature of the two types of case.

We can do better under **synth**, because the difference between structural and inherent case has to do with the presence of syntactic structure on the relevant nominal.

- Syntactic heads can't be created or destroyed by movement, or affected by the presence or absence of DPs elsewhere (as in causatives or passives).
- We also don't expect that a DP would be able to move into a KP, since this would require internal Merge to a complement position.
- Movement out of a KP may be possible, but should be rare, since it would amount to something like preposition stranding.

The situation with structural case is quite different:

- Movement absolutely can affect c-command relationships between DPs, and move them into or out of particular locality domains.
- Since structural case is established on the basis of such factors, it will indeed be sensitive to A-movement, passivization, etc.

4. In some languages, inherent case blocks certain movement processes and relations associated with subjecthood. When it doesn't, we call it quirky case.

synth doesn't explain the quirky/inherent distinction, but it does provide a framework for understanding it.

- ☞ Structural and inherent nominals are distinct syntactic categories, but in the same extended projection.
- ☞ So we can expect them to have similar but distinct treatments by A-movement and other phenomena.
- ☞ And there is a good bit of room for variation and parametrization here.

Take movement to a derived subject position:

- If this is driven specifically by a D feature, then we only expect it to apply to structural case-marked nominals, not inherent ones.
- But it could apply to the latter if the K heads don't create locality boundaries, so that the DP contained within could be targeted, pied-piping the KP.
- Alternatively, in some languages the movement could be triggered not by a D feature, but by something that characterizes nominal extended projections, making the KPs equally good candidates.

- In the end, this is analogous to saying that languages can differ in the extent to which they will tolerate PPs in subject position, which we already know is correct.

5. Whether a nominal has inherent or structural case can be relevant for the structural case assigned to another nominal below it.

- Typically, when two DPs are in the same domain in a nom.-acc. language, the lower gets accusative, but only when **neither** bears inherent case.
- All non-inherent DPs which don't get accusative end up nominative. Thus we get the following patterns:

- a. [DP] → [DP_{NOM}]
 b. [DP DP] → [DP_{NOM} DP_{ACC}]
 c. [DP_{INH} DP] → [DP_{INH} DP_{NOM}]
 d. [DP DP_{INH}] → [DP_{NOM} DP_{INH}]
 e. [DP_{INH} DP_{INH}] → [DP_{INH} DP_{INH}]

? Why don't DPs with inherent case trigger dependent case on a lower DP?

Note that our explanation of this pattern in German and Icelandic had better not be **too** good. Faroese famously goes the other way:

- (24) Siggu dámar bókina/*bøkur
 Sigga.DAT likes.3s book-the.ACC/*NOM
 'Sigga likes the book.'

What's worse, Tamil shows both patterns, with the variation depending on the specific verb (Baker 2015).

- ☞ One set of verbs combines dative subjects with nominative objects, like German and Icelandic, (25).
- ☞ Another set combines dative subjects with accusative objects, like Faroese, (26).

- (25) En-akkü andæ pustagam/*pustagatt-æ irü-kk-ü.
 me-DAT that book.NOM/book-ACC be-PRES-3SN
 'I have that book.'

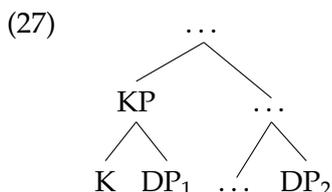
- (26) En-akkü andæ pustagatt-æ piđi-kk-üdü.
 me-DAT that book-ACC like-PRES-3SN
 'I like that book.'

Again, the assumption of heads above DP in inherent case-marked nominals provides a framework for dealing with this (largely following Richards 2010, Baker 2015):

- The simplest instantiation of the template in (19) for dependent accusative fixes the two relevant categories as DPs.
- I.e. accusative is assigned to a DP c-commanded by another DP within a local domain.
- This will apply straightforwardly when we have two DPs, neither of which has inherent case, assigning accusative to the lower.

But it will plausibly **not** apply when the higher nominal bears inherent case:

- ☞ The entire nominal will be a KP, not a DP, hence won't satisfy the input conditions itself.
- ☞ Of course that KP will contain a DP, but this won't actually c-command out of the containing structure.
- ☞ E.g. DP₁ contained within KP doesn't c-command DP₂ in (27), so no dependent accusative:



We can deal with Faroese with a different parametric instantiation of the template in (19):

- Assume e.g. that the bit specifying the properties of the c-commanding phrase does not restrict it to DPs, but to extended nominal projections more generally.

Tamil takes a bit more work, but also fits:

- Assume a dependent accusative rule like the Faroese one to take care of the DAT-ACC verbs.
- Then assume that there is something different about the argument structure of the DAT-NOM verbs that prevents the application of this rule.

6. Inherent case-marked nominals are often blocked from triggering agreement, while structural case-marked ones are not.

- The standard story about this is that agreement and case-assignment are parasitic – two sides of a single Agree relationship.
- Assignment of inherent case to a DP in its first-merge position renders it inactive for later Agree with the functional heads where verbal agreement is realized.

However, this co-dependency of case and agreement has come under serious attack:

- For several languages, evidence has accumulated that e.g. nominative case is **not** tied to agreement in the way that it should be.
- Let's consider arguments presented by McFadden and Sundaresan (2010). (See also Baker 2015 and references in both for more evidence.)

A Tamil example from Sundaresan and McFadden (2009):

- (28) [Naan puuri porikk-æ] Raman maavũ vaangi-n-aan
 I.NOM poori.ACC fry-INF raman.NOM flour.ACC buy-PST-M.3SG
 'Raman bought flour for me to fry pooris'

- ☞ The embedded clause is non-finite, with no agreement and no plausible case assigner (like a prepositional complementizer).

- ☞ And it's an adjunct clause, so case can't be coming from the matrix, and anyway the embedded subject differs in ϕ -features from the matrix agreement.

And an Icelandic paradigm from Boeckx (2000):

- (29) Jóni ?*virðist/virðast vera *talið/taldir líka hestarnir.
 John.DAT seem.SG/PL be believed.NT.SG/M.PL like horses.NOM.M.PL
 'John seems to be believed to like horses.'
- (30) Mér virðist/?*virðast Jóni líka hestarnir.
 me.DAT seem.SG/PL John.DAT like horses.NOM.M.PL
 'It seems to me that John likes horses.'

- ☞ You could say that *hestarnir* in (29) gets nominative via long-distance agreement with matrix T.
- ☞ But in (30), this agreement is clearly blocked due to defective intervention, yet *hestarnir* still shows up happily nominative.

Fortunately, **synth** allows an alternative explanation:

- ☞ Řezáč (2008) argues that additional structure above the DP in inherent case-marked nominals (he assumes they're PPs) creates a phase boundary.
- ☞ Thus the ϕ -features on the DP within are inaccessible to functional heads at the clause level.
- ☞ Structural case-marked DPs, on the other hand, will lack this structure and thus be accessible to Agree relations from outside.
- ⇒ See also Yuan (2018, To appear) for the idea that anaphors in Inuit project KP structure, which blocks agreement, as an AAE-avoidance strategy.

6 Challenges from intermediate cases

What **synth** proposes is a clear cut-off between structural and inherent cases, based on the presence of syntactic heads, with no room for intermediate categories.

- ☞ This runs into trouble with accusatives (and some other cases) in most familiar languages, which show some hybrid behavior.
- ☞ Figuring out what to do with these non-nominative structural cases is quite tricky, and at first looks like a big problem for **synth**.
- ☞ But I will try to convince you that what we end up with is an unexpected argument in favor of the approach.

6.1 The radical emptiness of the nominative

There is evidence from a completely different quarter about the presence or absence of syntactic heads corresponding to different cases.

- ☞ It's in partial agreement with what we've seen so far, but frustratingly at odds with it on some points.
- ☞ The argument starts with irregular morphological stem alternations sensitive to case.

Consider the following partial paradigms:

	<i>Tamil</i> 'tree'	<i>Latin</i> 'man'	<i>Icelandic</i> 'man'
Nom	mar- <i>am</i>	hom- <i>ō</i>	ma- <i>ð-ur</i>
Acc	mar- att -æ	hom- in -em	ma- nn
Gen	mar- att -oodæ	hom- in -is	ma- nn -s
Dat	mar- att -ökkü	hom- in -ī	ma- nn -i

- McFadden (2018) presents data of this type from several other languages, all repeating the same kind of weird pattern.

The empirical thrust is that, with a few principled caveats, you get this cross-linguistically consistent pattern:

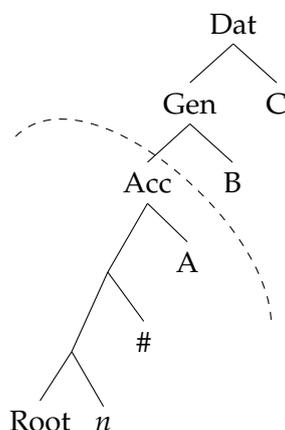
- (31) **Nominative stem-allomorphy generalization** When there is stem allomorphy based on case, it distinguishes the nominative from all other cases.

The theoretical takeaway is more complicated, but here's the basic idea:

- The stem alternation can be analyzed in terms of allomorphy of a stem-forming suffix, say little *n*.
- The nominative is literally empty, corresponding to the lack of case structure above the DP, while the other cases involve Caha-like KP structures.
- The stem alternations are sensitive to the presence of the first case head above the DP, which distinguishes all other cases from the nominative.
- This head — call it A — triggers the non-nominative forms of little *n*, **and** it demarcates a locality boundary.

Here's how it looks:

(32)



- ☞ The heads above A are not visible for allomorphy of little *n*, hence distinctions among the non-nominative cases can have no relevance for stem alternations.

This is just part of a wider constellation of considerations that single out the nominative (or absolutive) as being empty, the complete lack of case, distinct from all others.

- Again, the nominative is clearly the default, showing up in such a way that it is plausible to think it is never actually **assigned** (McFadden and Sundaresan 2010, Kornfilt and Preminger 2015, Levin 2015).
- And cross-linguistically, it also tends to be morphologically unmarked, lacking any overt suffix or adposition.

This brings us to the following situation:

- ☞ Both structural/inherent considerations and stem-allomorphy ones support a distinction between cases with heads above DP and ones without.
- ☞ Both agree that the nominative is structureless and that prototypically oblique cases like instrumental or locative are structure-full.
- ☞ But they disagree on the status of other ‘structural’ cases like the accusative, and arguably structural uses of the genitive, dative, ergative etc.

6.2 The double life of the accusative

Cases like accusative present further problems, even for the structural/inherent divide:

- In nominative-accusative languages, the accusative is the second central structural case alternating with the nominative and the prototypical dependent case.
- However, in many such languages, it also has at least some uses that are arguably or even quite clearly inherent/oblique.

Here’s some evidence for inherent accusative in German:

- There are a few verbs that assign a lexical accusative to their sole argument:

(33) Mich friert. Mich dürstet. Mich hungert. Mich schaudert.
 me.ACC freezes. me.ACC thirsts. me.ACC hungers. me.ACC shudders.
 ‘I’m cold. I’m thirsty. I’m hungry. I’m shuddering.’

- There is also a productive durational adverbial use of the accusative, e.g. *den ganzen Tag* in (34). Note that it doesn’t become nominative in the impersonal passive in (35).

(34) Der M. spielte den ganzen Tag.
 the M. played the whole day.ACC
 ‘The m. played the whole day.’

(35) Den ganzen Tag wurde gespielt.
 the whole day.ACC was played
 roughly ‘They/one played the whole day.’

We *could* try to claim that there are two different cases here and we're just mistaken in calling them both 'accusative'.

- But we're not dealing with a simple uniform suffix that attaches to all elements that can be marked for case, so we can't posit accidental homophony.
 - Instead, we have a whole series of distinct forms of nouns, pronouns, determiners, demonstratives and adjectives, each systematically used **both** for the structural instances **and** for the inherent ones.
- ⇒ I.e. we clearly have a unified morphological category accusative, which is sometimes structural and sometimes inherent.

The recognition that the accusative has some inherent/oblique uses is not new. But it's an especially tricky situation for **synth**:

- ☞ For me, the structural/inherent divide reflects how the cases are represented, such that inherent cases involve heads not present in structural ones.
- ☞ This would imply that structural uses of the accusative have to involve a distinct syntactic structure from inherent uses.
- ☞ This looks like a very bad result, making a straightforward account of their morphological identity difficult or even impossible.

And the accusative is just the case for which it is easiest to make this point. Other non-nominative structural cases show similar kinds of splits.

6.3 Phenomena that straddle the divide

A third problem comes from a closer look at certain details of the phenomena that motivated Caha (2009)'s proposal of containment structures for the various cases.

- There's no interruption in the phenomena determining the hierarchy of case categories to correspond to the structural/inherent divide.
- E.g. in Russian we find syncretisms for every adjacent pair of cases:

	window	teachers	two (m., n.)	book	100
Nom	okn-o	učitel-ja	dv-a	knig-a	st-o
Acc	okn-o	učitel-ej	dv-a	knig-u	st-o
Gen	okn-a	učitel-ej	dv-ux	knig-y	st-a
Prep	okn-e	učitel-jax	dv-ux	knig-e	st-a
Dat	okn-u	učitel-am	dv-um	knig-e	st-a
Ins	okn-om	učitel-ami	dv-umja	knig-oj	st-a

Again, this is difficult to square with the idea that the structural/inherent divide corresponds with a big difference in how the cases are represented.

- ☞ According to **synth**, the structural cases lack the kinds of syntactic heads required to make Caha's story about syncretism work.
- ☞ This means we have no way to account for syncretisms involving just one structural and one inherent case, because they should have nothing unique in common.
- ☞ So we incorrectly predict a break in syncretism **somewhere** in the inventory of cases, marking the structural/inherent divide.

7 What is dependent case assignment?

These three challenges for my account of the structural/inherent divide all involve the non-nominative structural cases. Here's the situation:

- ☞ We need not just a two-way distinction between structural and inherent, but a three-way one between nominative, other structural, and inherent.
- ☞ Everything points to absence of heads in the nominative and presence in the inherent cases, but the non-nominative structural cases are unclear.
- ☞ Traditional structural/inherent considerations suggest a bare DP, but morphological stem alternations, inherent uses of structural cases, and phenomena that cross the divide go the other way.

Here's a question that will take us toward a solution:

- ? What actually happens when a dependent case is assigned to a DP?

A simple assumption would be the assignment or valuation of special case features on the D head. But that actually doesn't make so much sense.

- ☞ It would be difficult (impossible?) to implement dependent case via Agree, the normal operation for feature valuation.
- ☞ Dependent case creates a **distinction** between two DPs, not a copying/sharing of values.
- ☞ Also, the featural idea runs into problems discussed above for dealing gracefully with syncretism etc. that led to the KP proposal.

So what is the alternative to implementing dependent case in terms of features?

- Our way of thinking about syntax boils down to features, the bundles of features we call heads, hierarchical structures built out of those heads, and operations on all of them.
- If we can't model something in terms of features or syntactic operations, we're left with additional heads.

⇒ We're led to suppose that the dependent accusative, e.g., involves some amount of structure added on top of the bare DP of the nominative.

? How do we maintain our account of the structural/inherent facts under this scenario?

? If structural accusative involves a head above DP, how is it different from an inherent case?

Again, we need a three-way distinction:

1. The nominative
2. Other structural cases beyond the nominative
3. Inherent cases

And this is where the synthesis of KP with CisM comes in:

(36) **An implementation of dependent case**

The assignment of a dependent case literally amounts to the addition of KP structure, on top of what was a simple DP, but late in the derivation.

Here's how that gets us our three-way distinction:

	Nom	DepAcc	InhAcc
1st Merge	DP	DP	[A DP]
Post-Spellout	DP	[A DP]	[A DP]

1. The nominative is what you get when a nominal enters the derivation as a DP and remains that way all the way to the end.
2. The other structural cases are what you get when a nominal enters the derivation as a DP but gets additional structure **added** on top due to the application of dependent case rules **at Spellout**.
3. Inherent case, including inherent accusative, is what you get when a nominal is **first-merged** in the larger structure with structure on top of the DP.

Let's walk through how this gives us what we want.

First the easy cases:

- The inherent cases involve structure throughout the syntactic derivation that can be selected for by specific verbs, carry non-trivial semantics, derive structured syncretism etc.
- The nominative lacks all such structure hence being unselectable and having no special semantics.

Now the more interesting other structural cases:

- They start out as DPs just like the nominative, hence
 - ☞ cannot be selected for
 - ☞ reach Spellout and then LF sill as DPs, so no interesting semantics
- But on the way to the PF branch they get additional structure added, so
 - ☞ behave morpho-phonologically more like the inherent cases
 - ☞ and can even be morphologically identical to them

The implementation of dependent case in (36) raises an important constellation of issues:

- ☞ It adds structure at a weird time in a weird place and in a weird way.

More specifically:

- Adding material after Spellout violates Inclusiveness.
- Adding new syntactic heads onto phrases that have already been Merged into the larger structure violates the Extension Condition and Cyclicity.
- And we still need a way to actually implement dependent case assignment using operations that fit with the rest of the theory.

I don't have answers, but I do have suggestions:

- ☞ Inclusiveness isn't really a concern if dependent case is a matter for the morphology:
 - Inclusiveness applies to the narrow syntax, not the post-Spellout PF branch (see: every realizational approach to morphology).
- ☞ Similar logic can plausibly be applied to the Extension Condition/Cyclicity.
 - E.g. Levin (2015) specifically proposes that KPs can be inserted above DPs in the post-syntactic component for independent reasons and similarly argues that this obviates problems with Extension and cyclicity.

Finally, if the case structures involved are KP sequences, there's a plausible independent mechanism for managing the addition of structure.

- Making a dependent accusative out of an unmarked nominative amounts to adding the next head in the nominal extended projection.
- So let's say that the KP addition of structural case is handled by the mechanism that implements extended projection.

Whatever this amounts to, something beyond simply Merge and Agree seems to be required (see Adger 2013, for discussion).

- Crucially, using it for structural case heavily restricts things.
- E.g. it means you can't add arbitrary structure anywhere you want at Spellout, but can only **extend** projections already present in the structure.

Even finallier, a quick aside relating to the structural conditions for the **triggering** of dependent case:

- Ongoing Edinburgh-Göttingen-ZAS project (LASER) with Kenyon Branan, Elise Newman, Sandhya Sundaresan, Rob Truswell and Hedde Zeijlstra on selective opacity, argument-adjunct distinctions etc.
- Exploring a theory of locality based on paths defined by selection and extended projection
- Branan (2021) argues that path-based locality can explain why, in some languages, adjuncts can get dependent case, but don't count as competitors for dependent case on other DPs.

8 Some comparative and diachronic issues

The approach developed here offers a productive basis to address some comparative and diachronic questions about case.

8.1 Inherent case, PPs and morphological variation

Syntactically speaking, the KP structures attributed to the inherent cases are essentially analogous to PPs.

- So the difference between adpositions and case markers is a (language-specific) matter of how syntactic structures are mapped onto morphophonology (McFadden 2004, Asbury 2008, Caha 2009, etc.).
- Much of the syntax underlying inherent case can thus be universal, across languages with and without rich case-marking systems.
- Since the structural cases exist only on the PF branch, however, they will be subject to greater variation, and languages may lack them entirely.

This also accords with common observations about the loss of morphological case:

- ☞ Oblique and inherent case marking are often replaced by PPs, while structural case marking is reduced or disappears entirely (Blake 2001).
- If inherent case involves actual syntactic content, there will be syntactic and semantic evidence for it in the PLD, even if, say, sound changes obscure its morphological realization.
- So new generations of speakers will continue to acquire the structure even as 'case morphology' is lost, and find new means to expone it.

- Since structural case is purely morphological, if its realization is lost, it just disappears from the PLD.
- So new generations of speakers will simply fail to acquire it, and it will be lost with no dire effects.

8.2 Intermediate inherent cases

The approach for cases that are intermediate between the structural and inherent ideals can also accommodate patterns like those analyzed by Anagnostopoulou and Sevdali (2015) in Ancient Greek (AG).

- AG dative and genitive on verbal arguments look in some ways like typical inherent/quirky cases, e.g. in their clear sensitivity to thematic and lexical factors.
- However, many of them can become nominative under passivization, a classic hallmark of structural cases.

Anagnostopoulou and Sevdali (2015) analyze this by distinguishing different types of datives and genitives:

- One type involves interpretable Case features, which makes them inactive for Agree, yielding standard inherent case behavior.
- Another type involves uninterpretable Case features, which are transparent for Agree, yielding something more like limited structural case behavior.

There is diachronic support for something like this:

- ☞ In earlier stages of Greek, the individual cases were associated with more consistent meanings. Not coincidentally, genitives and datives did not alternate with nominatives in the passive.
- ☞ Over time, oblique objects came to alternate with nominatives in a way that paralleled the loss of their particular semantics.
- ☞ This fits in with a development of the relevant Case features from being interpretable to uninterpretable, in line with a common diachronic pattern described by van Gelderen (2011) and others.

A crucial idea then is that the actual case of DPs with uninterpretable Case is determined by dependent case rules operating on top of and after syntactic Agree:

- Dative and genitive, like accusative, are dependent cases, in that they depend on another c-commanding DP with structural Case.
 - ☞ Hence they alternate with the nominative in the passive, where that c-commanding DP is suppressed.
- But they are crucially more specific than the accusative, in that they have contextual specifications for specific lexical verbs or applicative heads.

- ⇒ This is why they take precedence over the accusative when the conditions for both are met.

We can implement this under **synth** by recognizing a series of types of oblique case, with distinct but related structural analyses, connected by plausible diachronic development paths:

1. Properly semantic case, which involves an unselected nominal phrase (typically some kind of adjunct) in an elaborated KP structure
 - The KP layer will have to provide the semantic connection to the surrounding context since there is no selecting element to do so.
 - The KP will also ensure that rules of structural case assignment do not apply, hence these will not alternate with nominatives in the passive.
2. Traditional inherent case, which has essentially the same KP structure, but is c-selected in the syntax by a lexical predicate, applicative or similar
 - Still being syntactic KPs, they will not alternate with nominatives in the passive, and they will have some semi-regular semantics.
 - But they will also be subject to semantic irregularities due to the vagaries of selection — the KP won't bear all of the responsibility for the semantics due to the contribution of the selecting predicate.
 - They plausibly develop out of semantic cases in contexts where a particular type of adjunct is especially common with particular predicates in the PLD and is reinterpreted as an argument.
3. The structural genitives/datives of Anagnostopoulou and Sevdali (2015), which we can analyze as DPs in the syntax that are made into KPs in the morphology
 - This can develop out of type 2 if the original thematic patterns become obscured and their dependence on specific predicates increasingly arbitrary.
 - Learners would reanalyze the case marking as a morphological quirk required by the lexical predicate rather than a syntactic structure — with concomitant semantics — that fits with the predicate.
 - They are thus syntactic DPs, subject to structural case assignment in the morphology, and predictably alternate with the nominative in passives.
 - Directly translating Anagnostopoulou and Sevdali (2015), a language with such cases will have multiple versions of dependent case, some of which project extra structural layers due to lexical specifications.

8.3 The grammaticalization of case marking

The grammaticalization sources for **structural** case markers are typically inherent case markers.

- For us, shifting a marker from inherent to structural case amounts to having the same KP structure projected in the morphology instead of the syntax.

- This captures the observation that grammaticalization is often accompanied by semantic bleaching.
- And it explains why this pathway should be common, since the structural case is indistinguishable from an inherent one in the Morphology.

We also get an idea of why, as we have been led to propose, the Morphology should ever come to create what **looks like** syntactic structure.

- Odd bits of morphology come from generations of new language learners finding ways to accommodate the wreckage in the PLD of forms that have lost (some of) their syntactic/semantic motivation.
- Apparently, they deal with this mismatch fairly directly, by acquiring rules to project that structure in the Morphology, rather than the Narrow Syntax.

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