Improper case

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This paper argues that case assignment is impossible in configurations that parallel generalized improper-movement configurations. Thus, like improper movement, there is "improper case". The empirical motivation comes from (i) the interaction between case and movement and (ii) crossclausal case assignment in Finnish. I propose that improper case is ruled out by the *Ban on Improper Case*, according to which a DP in XP cannot license dependent case on another DP across YP if Y is higher than X in the functional sequence. I show that this constraint falls under a strong version of the *Williams Cycle* (Williams 1974, 2003, 2013; van Riemsdijk and Williams 1981) and is derived under Williams's (2003, 2013) analysis of embedding.

Keywords: case · Williams Cycle · locality · Finnish

1 Introduction

Some syntactic positions can be targeted by some movement types, but not by others. One classical example of this phenomenon is IMPROPER MOVEMENT, whereby $\bar{\text{A}}$-movement can leave a finite clause (1), but A-movement cannot (2). The traditional analysis of improper movement involves a conspiracy of two constraints: (i) movement out of a finite clause must proceed through the intermediate [Spec, CP] position (Chomsky 1973, 1977, 1981, 1986) and (ii) $\bar{\text{A}}$-movement but not A-movement may proceed from [Spec, CP] (May 1979; Chomsky 1981).

(1) Who does it seem [$_{\text{CP}}$ ___ has left]? ($\bar{\text{A}}$-mvt)

(2) *Alex seems [$_{\text{CP}}$ ___ has left]. (A-mvt)

Recent work has argued that improper movement is an instance of a broader generalization and is not restricted to the A/$\bar{\text{A}}$-distinction, and, as such, the traditional analysis is not sufficiently general (e.g. Williams 1974, 2003, 2013; Müller and Sternefeld 1993, 1996; Abels 2007, 2009, 2012a,b; Neeleman and van de Koot 2010; Müller 2014a,b; Keine 2016, to appear). One particularly general and therefore interesting account of these asymmetries stems from Williams (1974, 2003, 2013) and van Riemsdijk and Williams (1981); I will refer to it as the *Williams Cycle* (WC).[1] The core analytical intuition behind the WC is that one and the same node is a barrier to some movement types, but not to others, and that this distinction correlates with the structural height of the landing site in the functional sequence. A strong formulation of the WC is given in (3).

(3) **WILLIAMS CYCLE** *(strong version)*
An operation triggered in XP may not target an element across YP, where Y is higher than X in the functional sequence.

The WC accounts for improper movement as a prohibition on moving from inside a CP to [Spec, TP]. According to the WC, CP is a barrier for movement to TP, but not for movement to CP, as schematized in (4), because C is higher than T in the functional sequence.

(4) [$_{\text{CP}}$ ✓ [$_{\text{TP}}$ ✗ … [$_{\text{CP}}$ DP …

This account extends beyond improper movement to the other kinds of movement asymmetries that have been documented in the literature. In addition to the work by Williams and van Riemsdijk and Williams, various versions of the WC have been developed by Abels (2007, 2009), Müller (2014a,b), and Keine (2016, to appear), amongst others.

While the WC has traditionally been proposed on the basis of movement, Keine (2016, to appear) argues that analogous restrictions also govern agreement. This generalizing of the WC raises the question of whether other syntactic dependencies are also subject to the WC. This paper investigates the locality of case assignment and argues that it too is constrained

[1] For discussion of the other approaches and arguments in favor of the WC, see Müller (2014a).

by the WC. I show that case assignment exhibits a locality profile similar to "generalized" improper movement and that this locality falls under the scope of the WC. Therefore, in line with movement and agreement, there is IMPROPER CASE.

The paper is couched in terms of dependent-case theory (Marantz 1991; Bittner and Hale 1996; McFadden 2004; Baker 2015). The reason for this choice is that the paper draws heavily on Finnish, which I will argue requires the notion of dependent case (Poole 2015b; also Maling 1993; Anttila and Kim 2011, 2017). However, the main arguments in this paper equally apply to functional-head case theory (e.g. Chomsky 2000, 2001; Legate 2008); see fn. 12 and 28 in particular for discussion.

The support for the argument that case assignment is subject to the WC comes from two empirical domains that the previous literature has not investigated in depth. The first domain is the interaction between dependent case and movement, namely the puzzle that some movement may feed dependent-case assignment, but other movement crucially must not do so. The second domain is case assignment in Finnish, where a subject, but not an object may license dependent case on another DP across a nonfinite clause boundary. Both problems have the general shape of (5), where a dependent-case relationship cannot be established between two particular syntactic positions, the impossibility of which does not fall under the purview of phase theory. In (5), this is between [Spec, *v*P] and embedded [Spec, CP], where [Spec, CP] is not accessible, even though, as far as phase theory is concerned, it should be accessible because it is the phase-edge escape hatch.

(5) *[$_{vP}$ DP$_{\alpha}$ . . . [$_{CP}$ DP$_{\beta}$ C^0 ([$_{TP}$ . . . ⇝ *Not ruled out by phase theory*

phase complement

I argue that both problems receive a unified analysis if case assignment is subject to the WC, which I formulate for case as the *Ban on Improper Case* in (6).

(6) **BAN ON IMPROPER CASE**
DP$_{\alpha}$ in XP cannot license dependent case on DP$_{\beta}$ across YP, where Y is higher than X in the functional sequence.

According to the Ban on Improper Case, the heights of two DPs relative to one another on the functional sequence dictate whether they can establish a dependent-case relationship. For movement, (6) means that the height of a movement's landing site determines the range of positions from which another DP can license a dependent-case relationship with that moved DP. Because the DPs with which a relationship could in principle be established are generally introduced low in the functional sequence, e.g. DP$_{\alpha}$ in *v*P in (5), movement that lands high in the functional sequence is effectively invisible to dependent-case assignment; this is what rules out (5). For clausal embedding, (6) means that the size of an embedded clause dictates which DPs in higher clauses can establish a dependent-case relationship across that clause boundary.

Improper case has two important ramifications. The first ramification concerns the nature of case itself. As (i) movement occurs in the narrow syntax and (ii) movement is subject to the WC, the WC must be a constraint active in the narrow syntax. Therefore, because case is also subject to the WC, the simplest answer to where case resides in the grammar is that it resides in the narrow syntax (contra Marantz 1991; McFadden 2004; Bobaljik 2008; Baker 2015), which is what subjects it to the WC. Moreover, I will argue that in addition to obeying the WC, dependent-case assignment is cyclic in that it must be interspersed with structure building, which can only be achieved in the narrow syntax and not at PF. These arguments converge with independent arguments by Preminger (2011, 2014) that case is part of the narrow syntax.

The second ramification concerns the Williams Cycle. Improper case reveals that, in addition to movement and agreement, the WC applies to case. I will argue that this generality and the Ban on Improper Case together provide support for the strong formulation of the WC in (3). The question then is how to derive the WC. Recent proposals analyze the WC as the result of a constraint on either Agree or Merge (Abels 2007, 2009; Müller 2014a,b; Keine 2016, to appear), sometimes assuming different versions of the WC. For these operation-specific proposals to extend to case, one of these operations would need to underlie dependent-case assignment as well. I will give a proof of concept that reducing dependent-case assignment to Agree is in principle possible, but the resulting system is baroque. I will instead argue in favor of Williams's (2003) structure-building analysis of the WC in terms of the timing of embedding. Williams proposes that a ZP can only be embedded in a clause that has itself been built up to ZP, which he calls the *Level Embedding Conjecture*. The crucial consequence of this proposal is that a root XP containing an embedded YP, where Y is higher than X in the functional sequence (Y > X), never exists in the course of a derivation (7).

(7) *Williams's Level Embedding Conjecture*

a. $^*[_{XP}\ X^0 \ldots [_{YP} \ldots$ where Y > X

b. $^{\checkmark}[_{YP}\ Y^0 \ldots [_{XP} \ldots [_{YP} \ldots$ where Y > X

Any movement, agreement, or case assignment between XP and YP that would violate the WC is in turn impossible because the relevant structure where X and elements in XP would have access to YP—under the strict cycle—is simply not created by the grammar, as schematized in (7a). Because this constraint follows from the way that syntactic structures are built, the key consequence of this account is that *all* syntactic dependencies are subject to the WC, regardless of whether they share the same operational core or not.

The argumentation proceeds as follows: Section 2 briefly overviews dependent-case theory. In sections 3 and 4, I present two locality puzzles for dependent-case assignment: the interaction of case and movement and Finnish crossclausal case assignment. To account for these two seemingly disparate locality problems, in section 5, I propose that dependent-case assignment is subject to the Ban on Improper Case. This proposal brings the locality of case into line with other empirical domains. I then discuss the ramifications of these parallels for case and locality more generally in section 6.

2 Background on dependent case

In dependent-case theory, the calculus of case follows the algorithm in (8) (Marantz 1991; Bittner and Hale 1996; McFadden 2004; and its predecessor Yip et al. 1987).[2]

(8) *Case calculus in dependent-case theory*

1. Assign idiosyncratic lexical and inherent cases.
2. Take the remaining DPs. If DP_α c–commands DP_β, assign dependent case either to DP_α (= "ergative") or to DP_β (= "accusative"). This directionality is parameterized.
3. If a DP was not assigned case in the previous two steps, assign it unmarked case.

Ergative and accusative cases are collapsed into the unified notion of DEPENDENT CASE. Whenever two DPs presently unvalued for case stand in a c–command relationship in the same local domain, one of the DPs is assigned dependent case, though which one depends on the language's parameterization. When the c–command*ing* DP is assigned dependent case, this corresponds to what would traditionally be called "ergative". When the c–command*ed* DP is assigned dependent case, this corresponds to what would traditionally be called "accusative". I will refer to this process as establishing a DEPENDENT-CASE RELATIONSHIP and refer to the higher DP in the pair, i.e. the one that initiates the relationship, as the LICENSOR.

The algorithm in (8) is most often implemented as a postsyntactic procedure. In this paper, one of the arguments that I will make is that (8) must be implemented in the narrow syntax. As such, I adopt the syntactic implementation of dependent-case theory from Preminger (2011, 2014) throughout the paper for consistency: (i) DPs enter the derivation with an unvalued case feature, [CASE: □], which can be valued as either dependent case or a particular lexical case. (ii) Lexical cases are assigned locally by lexical heads, e.g. P^0 and V^0, to their sister upon first merge.[3,4] (iii) Dependent case is assigned whenever two DPs with unvalued case features ([CASE: □]) stand in a c–command relationship; the realization as "accusative" or "ergative" is handled in the morphology. (iv) If [CASE: □] is still unvalued when Spellout occurs, it is realized as unmarked case in the morphology; thus, "nominative" is effectively not having case (see Kornfilt and Preminger 2015). These detailed mechanics will be abstracted over when not relevant to the discussion at hand. One advantage of this syntactic case calculus is that the structure consisting of a lexical head and the DP that it c–selects is necessarily built before any larger structure containing that DP and another DP in a c–command relationship. Therefore, the precedence relations in (8) fall out extrinsically based on how structure is built, and do not need to be stipulated, as, e.g., Marantz (1991) does in his original implementation.

[2] The term "unmarked case" refers to cases like nominative and absolutive. Nothing in (8) requires unmarked case to be morphophonologically unmarked, although there is a strong tendency for that to be so.

[3] For the sake of simplicity, I collapse the distinction between lexical and inherent case (Woolford 2006).

[4] Following Bare Phrase Structure, where what projects is the head itself (Chomsky 1995a), lexical case can also be assigned in a specifier–head relation as sisterhood agreement (see also Rezac 2003).

An illustration of this case calculus is given in (9) for a ditransitive predicate. First, the theme is merged with the verb (9a). Second, the goal is merged with the preposition and is immediately assigned dative case (9b); the PP is then merged into the main structure (9c). Third, the agent is merged into the structure. Now there are two DPs with [CASE: □] that stand in a c–command relationship; therefore, one of them will be assigned dependent case (9d). Here and throughout the paper, I will use an underline to represent which DP in the dependent-case relationship is assigned dependent case. Last, at PF, [CASE: DEP] is realized as what would standardly be called "accusative" or "ergative", and [CASE: □] (unvalued case) is realized as nominative (9e).

(9) a. [*gave* the.cheesecake$_{[\text{CASE: }\square]}$]

b. [to **Dorothy**$_{[\text{CASE: DAT}]}$]

c. [[*gave* the.cheesecake$_{[\text{CASE: }\square]}$] [to Dorothy$_{[\text{CASE: DAT}]}$]]

d. [Rose$_{[\text{CASE: }\square]}$ [[*gave* **the.cheesecake**$_{[\text{CASE: DEP}]}$] [to Dorothy$_{[\text{CASE: DAT}]}$]]] —*or*—
[**Rose**$_{[\text{CASE: DEP}]}$ [[*gave* the.cheesecake$_{[\text{CASE: }\square]}$] [to Dorothy$_{[\text{CASE: DAT}]}$]]]

e. [Rose$_{\text{NOM}}$ [[*gave* the.cheesecake$_{\text{ACC}}$] [to Dorothy$_{\text{DAT}}$]]] —*or*—
[Rose$_{\text{ERG}}$ [[*gave* the.cheesecake$_{\text{NOM}}$] [to Dorothy$_{\text{DAT}}$]]]

The literature presents many arguments in favor of dependent-case theory, a few of which I will briefly mention here. First, there are various case patterns that follow straightforwardly in dependent-case theory, but not functional-head case theory. We will see two such patterns in this paper, one from Sakha and one from Finnish. Second, by collapsing ergative and accusative into a unified notion, we can make generalizations that encompass both, such as Bobaljik's (2008) reformulation of Burzio's Generalization. Third, Bobaljik (2008) shows that the algorithm underlying dependent-case theory is paralleled in the accessibility of arguments for φ-agreement (for similar arguments about movement, see Preminger 2011, 2014; Poole 2015b; Deal 2017).

3 Movement and case

This section shows that some movement may lead to dependent-case assignment, but other movement must not do so. This dichotomy will be shown not to follow from standard conceptions of locality, e.g. phases, and thus it presents a challenge for dependent-case theory.

3.1 Some movement can feed dependent case

Baker and Vinokurova (2010) show that raising-to-accusative constructions in Sakha, a Turkic language spoken in northern Siberia, involve movement that can feed dependent-case assignment on the raised subject. When the embedded subject undergoes movement into the matrix clause, it can receive accusative (= dependent) case from that position (10).[5] When the embedded subject remains in-situ, it receives nominative (= unmarked) case and cannot be accusative (11).[6] In (10) and (11), this movement is diagnosed by the embedded subject's placement with respect to an embedded temporal modifier.

(10) *Raised embedded subject → Accusative*

min **ehigi**(-**ni**)$_1$ [bügün ___$_1$ kyaj-yax-xyt dien] erem-mit-im
I.NOM you -ACC today win-FUT-2PL.SUBJ that hope-PAST-1SG.SUBJ
'I hoped that you would win today' [Baker and Vinokurova 2010:615]

(11) *In-situ embedded subject → Nominative*
min [sarsyn **ehigi**(*-**ni**) kel-iex-xit dien] ihit-ti-m
I.NOM tomorrow you -ACC come-FUT-2PL.SUBJ that hear-PAST-1SG.SUBJ
'I heard that tomorrow you will come' [Baker and Vinokurova 2010:616]

Evidence that the embedded subject indeed raises into the matrix clause, and is not, e.g., base-generated there, comes from NPIs: the raised subject may be an NPI that would only be licensed by negation inside of the embedded clause (12a). Crucially, embedded negation cannot take matrix scope in Sakha (12b).

(12) a. *Raised subject may be an NPI*

min [**kim-i** **daqany**]$_1$ [___$_1$ kyaj-**ba**-ta dien]
I.NOM who-ACC PCL win-NEG-PAST.3SG.SUBJ that
eren-e-bin
hope-AOR-1SG.SUBJ
'I hope that nobody won (the lottery)'

b. *Embedded negation cannot take matrix scope*
*min [**kim-ŋe** **daqany**] [kel-**bet** dien] et-ti-m
I.NOM who-DAT PCL come-NEG.AOR.3SG.SUBJ that tell-PAST-1SG.SUBJ
Intended: 'I told no one to come' [Baker and Vinokurova 2010:616–617]

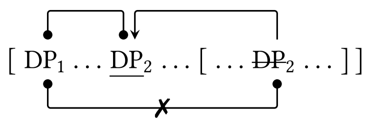
Baker and Vinokurova argue that this pattern necessitates treating accusative case in Sakha as dependent case. They propose that raising the embedded subject places it in the same local

5 Accusative case in Sakha is differential object marking. It only realizes on direct objects that are interpreted as definite/specific. For the sake of simplicity, I assume that accusative is always assigned in the syntax when it can be, but whether it realizes overtly is determined in the morphology (e.g. Woolford 2007). Baker and Vinokurova propose that only when objects move out of VP do they receive accusative case. Nothing that I say is incompatible with that analysis; the embedded subject could raise into the matrix clause and then optionally raise to a position outside the matrix VP. This analysis is just more complicated than what we need for the purposes of this paper.

6 I have simplified the glosses from Baker and Vinokurova (2010) in a few places and made them consistent.

case-assignment domain as another DP, namely the matrix subject, which it can then enter into a dependent-case relationship with, as schematized in (13).[7] Note that this movement step violates the strong version of the WC; I will set aside this issue until section 6.2.

(13) *Baker and Vinokurova's (2010) analysis of Sakha*



At first glance, it might appear that this case pattern is amenable to a standard analysis in terms of functional heads assigning case: the embedded subject raises to a position from where it is then accessible to the functional head responsible for accusative case, say v^0. Baker and Vinokurova, however, present two arguments against such an analysis. First, there are instances where there would be no functional head in the matrix clause that could plausibly be the source of accusative case. Such an instance is given in (14), where the embedded subject can still raise and receive accusative case even when the matrix predicate is unaccusative.

(14) *Matrix predicate may be unaccusative*

Masha	**Misha-ny**$_1$	[	___$_1$	yaldj-ya	dien]	*tönün-ne*
Masha.NOM	Misha-ACC			fall.sick-FUT.3SG.SUBJ	that	return-PAST.3SG.SUBJ

'Masha returned (for fear) that Misha would fall sick' [Baker and Vinokurova 2010:618]

The matrix verb in (14) belongs to a transitivity alternation in Sakha. The intransitive member of this alternation never allows its sole argument to be accusative, as shown in (15b).

(15) a. min **oloppoh-u** aldjat-ty-m
I.NOM chair-ACC break-PAST-1SG.SUBJ
'I broke the chair'

b. **caakky**(*-**ny**) aldjan-na
cup -ACC break-PAST.3SG.SUBJ
'The cup broke' [Vinokurova 2005:285]

Under standard assumptions, the v^0 head associated with unaccusative predicates would not be able to assign case. This would explain (15b), but it would not explain the raising-to-accusative construction in (14), where unaccusative v^0 would need to assign case. If the source of accusative case were some other functional head, there would be no principled reason why this head could occur in (14), but not in (15b).

[7] Baker and Vinokurova (2010) assume that the embedded subject raises to embedded [Spec, CP], while I assume that it raises into the matrix clause proper. This difference has no bearing on the dependent-case analysis of Sakha in (13). However, if we assume that the embedded subject moves to [Spec, CP] and remains there, then there will be no principled way to differentiate it from intermediate [Spec, CP] positions, which will be important in section 3.2.

The second argument against a functional-head analysis is that there are instances where the matrix predicate already has its own accusative-marked argument, as in (16).

(16) *Matrix predicate may have its own accusative argument*

Masha	**Misha**(-**ny**)$_1$	[	___$_1$	kel-ie	dien	]	**djie-ni**	xomuj-da
Masha	Misha -ACC			come-FUT.3SG.SUBJ	that		house-ACC	tidy-PAST.3SG.SUBJ

‘Masha tidied up the house (thinking) that Misha would come’ [Vinokurova 2005:368]

If the source of accusative case were a functional head, it would have to be able to assign accusative case to multiple DPs. However, this would in turn predict that transitive and ditransitive verbs in Sakha could surface with two accusative arguments, but Baker and Vinokurova point out that this pattern is not observed.

These problems are not faced by the dependent-case analysis in (13). The criterion for assigning dependent case is only to have another DP unvalued for case in the local case-assignment domain; it does not depend directly on properties of the matrix predicate. In (14) and (16), the embedded subject raises into a domain that contains another DP, thereby licensing dependent case (= accusative). In (15b), there is only one DP in the domain; this does not satisfy the criterion for dependent case, so it receives unmarked case (= nominative). Thus, from the raising-to-accusative pattern in Sakha, we can draw the generalization in (17).

(17) GENERALIZATION I
Some movement can feed dependent-case assignment.

3.2 Some movement must not feed dependent case

While Sakha raising-to-accusative constructions show that some movement may feed dependent-case assignment, it is also the case that other movement *must not* feed dependent-case assignment. I illustrate this fact using *wh*-movement, for which the problem is most apparent. Let us take the problem in two parts.

The first part of the problem is that dependent case cannot be assigned based on the surface structure alone. For example, the structure in (18a) with *wh*-movement must be mapped to the string in (18b) and cannot be mapped to (18c). Descriptively, dependent case needs to be calculated *before* *wh*-movement has occurred.

(18) a. Who$_1$ did she see ~~who~~$_1$?

b. **Who(m)**$_{\text{DEP}}$ did **she**$_{\text{NOM}}$ see?

c. ***Who**$_{\text{NOM}}$ did **her**$_{\text{DEP}}$ see?

One potential solution that can be immediately set aside is to assume that case is assigned at PF and that *wh*-movement ‘reconstructs’ for case at PF. This solution would face the problem that unlike LF reconstruction, this hypothetical PF reconstruction would have to be for case alone and not uniformly for all PF processes, in particular not for linearization. As such, it would be nothing more than a restatement of the empirical generalization that *wh*-movement does not affect case. Rather, I propose that dependent-case assignment is interspersed with structure building, so that dependent case is assigned as soon as possible in the derivation.[8,9] This cyclicity crucially forces dependent-case assignment to happen prior to *wh*-movement. Note that this analysis in turn requires case to be assigned in the narrow syntax (contra Marantz 1991; McFadden 2004; Bobaljik 2008; Baker 2015), as was laid out in section 2; this ramification will be discussed in section 6.1. The derivation of (18) under this analysis is illustrated in (19): First, a dependent-case relationship is established between *she* and *who* immediately upon first merge of *she* into the structure (19a). Second, *wh*-movement happens later in the derivation, after dependent case has been assigned (19b). Third, at PF, [CASE: DEP] is realized as "accusative" and [CASE: □] as "nominative" (19c).

(19) a. **she**$_{[\text{CASE: }\square]}$ saw **who**$_{[\text{CASE: DEP}]}$? *Assign dependent case*

b. **who**$_{[\text{CASE: DEP}]}$ did she$_{[\text{CASE: }\square]}$ see ~~**who**~~$_{[\text{CASE: DEP}]}$? *Move wh-expression*

c. who$_{\text{ACC}}$ did she$_{\text{NOM}}$ see ~~who~~$_{\text{ACC}}$? *PF: Realize case features*

It should also be emphasized that the case calculus as defined in section 2 is such that two DPs can enter into a dependent-case relationship only if they both presently have unvalued case features ([CASE: □]). This prevents the moved *wh*-expression that has itself been assigned dependent case from turning around and licensing dependent case on the subject from the higher position to which it has *wh*-moved (20).

(20) **who**$_{[\text{CASE: DEP}]}$ did **she**$_{[\text{CASE: }\square]}$ see ~~who~~$_{[\text{CASE: DEP}]}$?
✗

While assigning dependent case as early as possible is a necessary component to solving the problem imposed by *wh*-movement, it is not sufficient. This brings us to the second part of the problem: dependent-case assignment in the context of successive cyclic movement. When a *wh*-expression that is itself unvalued for case—and should surface with unmarked case at PF—moves successive cyclically, it passes through intermediate [Spec, CP] positions from where it *should* in principle affect the calculus of dependent case, but does not. (For the moment, let us set aside the possibility of successive-cyclic movement through [Spec, *v*P] until section 6.3.)

8 The pieces of this solution for local *wh*-movement in (19) and (20) can be found in Preminger (2011, 2014), though he does not propose them as a solution to this particular problem with movement.

9 I use derivational terms to discuss the cyclicity of dependent case, but the cyclicity could likely be recast in representational terms, albeit perhaps less straightforwardly. The point here is that the locality required for dependent-case assignment is the same run-of-the-mill locality that we are familiar with from syntax proper, and, that while such conditions could in principle be duplicated at PF, such an analysis would crucially be missing this connection.

To illustrate, consider (21), where *who* undergoes successive cyclic *wh*-movement to matrix [Spec, CP] and must surface with unmarked case.

(21) **Who(*m)** did Blanche say [$_{\text{CP}}$ ~~**who**~~ [Rose believed [$_{\text{CP}}$ ~~**who**~~ [~~**who**~~ saw Dorothy]]]]?

Sentences like (21) present two complications for dependent-case theory. For convenience, I will discuss these complications in terms of a nominative–accusative alignment, where the lower DP in a dependent-case pair is the one that is assigned dependent case. The first problem is that a *wh*-expression does not have its own case altered from its intermediate landing sites.[10, 11] From these intermediate positions, there may very well be another DP unvalued for case that c–commands the *wh*-expression. All else equal, the *wh*-expression should be assigned dependent case in such configurations—but it crucially is not. Descriptively, the moving *wh*-expression cannot have the case overwritten that would have been assigned to it if it had not moved. In terms of dependent-case theory, the *wh*-expression cannot be the *lower* DP in a dependent-case pair when it is in an intermediate landing site, as schematized in (22). As such, I will refer to this problem as the *Lower-DP Problem*.

(22) *Lower-DP Problem*
Who(*m) did Blanche say [$_{\text{CP}}$ ~~**who**~~ [Rose believed [$_{\text{CP}}$ ~~**who**~~ [~~**who**~~ saw Dorothy]]]]?

The second problem is that a *wh*-expression does not alter the case of other DPs from its intermediate or final landing sites. From these positions, the *wh*-expression may very well c–command another DP unvalued for case, and thus it should, all else equal, be able to license dependent case on it—but it cannot do so. In other words, the moving *wh*-expression cannot be the *higher* DP in a dependent-case pair (modulo from its base-generated position with, e.g., an object). As such, I will refer to this problem as the *Higher-DP Problem* (23).

(23) *Higher-DP Problem*
Who(*m) did Blanche say [$_{\text{CP}}$ ~~**who**~~ [Rose believed [$_{\text{CP}}$ ~~**who**~~ [~~**who**~~ saw Dorothy]]]]?

The standard dependent-case calculus does not offer an explanation for why successive-cyclic movement does not affect case in these two ways. Crucially, in light of the Sakha data, it would not suffice to simply stipulate that movement does not affect case assignment. Thus, a more nuanced account is called for.

[10] A *wh*-expression also cannot be assigned dependent case in its final landing site in an embedded question, but this instantiates the same relevant configuration as an intermediate landing site.

[11] This is not to imply that there cannot be a dedicated lexical case for moved *wh*-expressions, e.g. as is found in Dinka (van Urk 2015). Because the assignment of such case is not contingent on the presence of another DP, it does not qualify as dependent case and thus falls outside the purview of the present discussion. However, for discussion of movement and lexical case, see section 5.4.

Neither of the problems that successive-cyclic movement raises for dependent-case theory fall under the purview of phases (or its predecessor, subjacency). First, because phase edges remain accessible at the next highest phase, per the Phase Impenetrability Condition (Chomsky 2000, 2001), the locality enforced by phases permits precisely the configurations that give rise to the Lower-DP Problem, as schematized in (24). In other words, a DP unvalued for case may c–command the edge of the lower phase, thereby satisfying the criteria for establishing a dependent-case relationship with a DP in that edge position, if it too is unvalued for case.[12]

(24) *[$_{vP}$ DP$_{[\text{CASE: }\square]}$ . . . [$_{CP}$ DP$_{[\text{CASE: }\square]}$ C^0 ([$_{TP}$ . . . ⇝ *Not ruled out by phase theory*
phase complement

Second, because movement to [Spec, CP] takes place before phasal spellout, such movement should, all else equal, be able to affect the case of elements in the CP-phase domain. Otherwise, establishing any relation between the phase edge and the phase complement would be impossible, and such relations are minimally necessary for movement dependencies. Thus, the Higher-DP Problem is also not solved under the locality afforded by phases. Note that I am *not* claiming that these considerations provide evidence against phases; rather, the point is that they do not follow from phase theory itself.

In sum, successive-cyclic movement leads to the generalization in (25).

(25) **Generalization II**
Some movement must not feed dependent case assignment.

3.3 Section summary

Because some movement affects case, it is insufficient to simply assert that DPs reconstruct to their base positions for case assignment. Rather, the generalization that emerges from this section, given in (26), roughly reflects the traditional A/$\overline{\text{A}}$-distinction.[13] The raising-to-accusative construction in Sakha is representative of what would standardly be considered A-movement, while *wh*-movement is such for $\overline{\text{A}}$-movement.

(26) **Movement–Case Generalization**
A-movement can feed dependent case, but $\overline{\text{A}}$-movement cannot.

Explaining (26) requires a way of teasing apart movement types. In minimalist syntax, because there is only a single primitive movement operation (i.e. Merge), there is no principled way to

[12] The same problem is faced by functional-head case theory if caseless DPs are permitted to move through a phase edge or if one assumes that nominative is unvalued case or that there is case stacking. A v^0 head could then assign accusative case to a DP in a phase-edge position, e.g. an intermediate [Spec, CP] position, thereby making the same incorrect prediction that dependent-case theory does in (22).

[13] It should be noted that (26) is distinct from the traditional GB definition of A-movement as movement to receive case. In dependent-case theory, there is never a need to *move* to receive case; case can always be received in situ. Rather, (26) embodies a very different kind of interaction between movement and case, one particular to dependent case.

distinguish A-movement and $\overline{\text{A}}$-movement. A goal of this paper is thus to *derive* the locality constraint in (26) without reference to separate primitives for A-movement and $\overline{\text{A}}$-movement. In the next section, I show a pattern from Finnish crossclausal case assignment that also does not follow from any binary notion of locality, e.g. phases. Despite not involving movement, this pattern will be shown to parallel movement configurations that are accounted for under the Williams Cycle. I will argue that adopting the Williams Cycle as a constraint on dependent-case assignment, in the form of the Ban on Improper Case, provides a unified account of both crossclausal case assignment in Finnish and the Movement–Case Generalization in (26).

4 Finnish crossclausal case assignment

This section shows that in Finnish, dependent case may be licensed across a nonfinite clause boundary, but only by a subject and not by an object (or an adjunct). As with movement, this dichotomy will be shown not to fall under the purview of standard conceptions of locality, e.g. phases. The section begins in subsection 4.1 with some background on Finnish structural case and arguments that accusative is dependent case, and then continues in subsection 4.2 with the crucial case patterns in embedded nonfinite clauses.

4.1 Background on Finnish case

Finnish has three structural cases: nominative, accusative, and partitive.[14] For the sake of simplicity, I set aside partitive case and focus on the distribution of nominative and accusative.[15] In a simple transitive clause, the external argument is nominative and the internal argument is accusative (27). To simplify the exposition, let us refer to the external argument as the 'subject' and the internal argument as the 'object'. Whenever the subject is absent, e.g. in a passive (28a) or in an imperative (28b), or the subject bears lexical case (i.e. a quirky subject) (28c), the object is nominative.[16,17]

[14] The status of accusative case in Finnish is somewhat contentious. Under traditional analyses, accusative comprises three forms: one homophonous with genitive, one homophonous with nominative, and one distinct form for human pronouns. Kiparsky (2001) argues that only the form for human pronouns is a genuine accusative case (see also e.g. Penttilä 1963; Timberlake 1975; Milsark 1985; Taraldsen 1986; Mitchell 1991; Maling 1993; Toivainen 1993; Vainikka 1993; Nelson 1998). This paper assumes a simplified picture: the genitive-homophonous accusatives are referred to as "accusative", the nominative-homophonous accusatives are referred to as "nominative", and the pronouns are set aside. This is in line with what Kiparsky (2001) argues, but with the terminology shifted to parallel the standard nominative–accusative pattern. This choice has no bearing on the claims made in this paper; the dependent case in Finnish is marked with *-n* regardless of whether one calls that "accusative" or "genitive".

[15] For a more comprehensive dependent-case analysis of Finnish that includes partitive case, see Poole (2015a).

[16] Some notes on the Finnish data: Unless indicated otherwise, Finnish judgments are due to my informants. Glossing conventions have been unified across sources. To simplify examples, I do not gloss verbal agreement and have removed any instances of *pro*-drop (*pro* behaves just like an overt DP for the purposes of case assignment). The Finnish case patterns in this paper are all invariant (modulo that some of the objects can be partitive), e.g. if a DP is nominative in an example, it must be nominative in that position and cannot be accusative.

[17] For imperatives, this is only true if they are first and second person. See Nelson (1998:95-97) and Kiparsky (2001) for arguments that these imperatives do not have syntactically active subjects.

(27) **Pekka** osti **kirja-n** NOM–ACC
Pekka.NOM bought book-ACC
'Pekka bought the/a book'

(28) a. **Kirja** oste-ttiin NOM
book.NOM buy-PASS.PAST
'The book was bought' / 'People bought the book'

b. Osta **kirja**! NOM
buy.IMP book.NOM
'Buy the/a book!'

c. **Minu-n** täytyy osta-a **kirja** GEN–NOM
I-GEN need buy-INF/TA book.NOM
'I have to buy the/a book'

The case patterns exemplified in (27) and (28) receive a straightforward explanation under dependent-case theory. In (27), the subject licenses dependent case (= accusative) on the object; then, because there is no other DP that c–commands the subject, the subject remains unvalued for case throughout the derivation and is realized as having unmarked case (= nominative) at PF. In (28a) and (28b), there is no other DP that c–commands the object; as such, no dependent-case relationship is established, and the object is realized as having unmarked case. In (28c), although there is another DP that c–commands the object, it bears lexical genitive case. Recall from section 2 that only DPs unvalued for case factor into the calculus of dependent case. Lexically case-marked DPs are thus invisible to dependent-case assignment because their case will already have been assigned locally. Accordingly, because no other DP with *unvalued* case c–commands the object in (28c), the object remains unvalued for case and is realized as having unmarked case at PF. This analysis is summarized in (29).[18]

(29) *Finnish structural case*
Nominative is unmarked case ([CASE: □] ↔ NOM), and accusative is dependent case ([CASE: DEP] ↔ ACC).

The data in (27) and (28) could alternatively be analyzed in functional-head case theory: the variants of v^0 in (28) would lack the ability to assign accusative case, so that T^0 could assign nominative case to the object (e.g. Vainikka and Brattico 2014, though the identity of the heads differs on their account). Such an analysis would amount to a standard implementation of Burzio's Generalization. Evidence that such a functional-head analysis is insufficient comes from adjuncts. In Finnish, there is a special class of adjuncts that are structurally case-marked,

[18] The notion that DPs compete for nominative case also underlies the analyses of Finnish case in Maling (1993), Anttila and Kim (2011, 2017), and Poole (2015a), though the implementations differ considerably as a result of using different frameworks. The core insights about Finnish and improper case in this paper could in principle be expressed using any of these analyses.

akin to subjects and objects (Tuomikoski 1978; Maling 1993). These adjuncts include durational adjuncts (*for an hour*), spatial-measure adjuncts (*a kilometer*), and multiplicative adjuncts (*two times*). In dependent-case terminology, these adjuncts factor into the calculus of dependent case—i.e. they can license and be assigned dependent case—, and they are realized with unmarked case if their case remains unvalued in the derivation. To illustrate, in an intransitive clause with one of these adjuncts, the subject is nominative and the adjunct is accusative (30a). When the intransitive predicate is passivized (as some kind of impersonal passive), the adjunct becomes nominative (30b), the same case alternation that is observed for objects in passives (28a).[19]

(30) a. **Minä** opiskelin [**vuode-n**]$_{\text{ADJUNCT}}$ NOM–ACC
I.NOM studied year-ACC
'I studied for a year'

b. Opiskel-tiin [**vuosi**]$_{\text{ADJUNCT}}$ NOM
study-PASS.PAST year.NOM
'People studied for a year' [Kiparsky 2001:323]

With a transitive predicate, where the object does not bear lexical case, structurally case-marked adjuncts are always accusative (31).

(31) a. **Liisa** muisti **matka-n** [**vuode-n**]$_{\text{ADJUNCT}}$ NOM–ACC–ACC
Liisa.NOM remembered trip-ACC year-ACC
'Liisa remembered the trip for a year'

b. Liisa-n täytyy muista-a **matka** [**vuode-n**]$_{\text{ADJUNCT}}$ GEN–NOM–ACC
Liisa-GEN need remember-INF/TA trip.NOM year-ACC
'Liisa has to remember the trip for a year' [Maling 1993:57]

Following Lechner (2003), I will assume that the *v*P is right-branching, where adjuncts are c–commanded by the object (see also Csirmaz 2005:90–98, who proposes such an analysis specifically for Finnish). This is schematized in (32), where the possible dependent-case relationships are indicated. Accordingly, an object that is not assigned lexical case by the verb will invariably license dependent case on an adjunct, thereby accounting for the pattern in (31).[20]

[19] Further evidence that this class of adjuncts is structurally case-marked comes from the fact that they must be partitive when under the scope of negation, like subjects and objects (e.g. Heinämäki 1984; Kiparsky 2001).

[20] Given the *v*P-structure in (32), more needs to be said about how V^0 assigns lexical case to the object. Under Bare Phrase Structure, a head X reprojects and is a sister with its specifier, so the locality conditions of lexical-case assignment laid out in section 2 are still satisfied with the structure in (32). Nevertheless, there needs to be something preventing V^0 from assigning the lexical case to the adjunct instead of the object. As our concern in this paper is dependent case, I leave this problem for future research.

(32) *Right-branching vP structure in Finnish*

[$_{vP}$ Subj v^0 [$_{VP}$ Obj [V^0 Adjunct]]]

Crucially, clauses like (30b), where the adjunct is nominative, may contain *multiple* structurally case-marked adjuncts. In such configurations, the dependent-case analysis and the functional-head analysis make different predictions. The dependent-case analysis predicts that the highest adjunct is nominative and all the other adjuncts are accusative. The functional-head analysis, on the other hand, predicts that all of the adjuncts are nominative, because the functional head responsible for assigning accusative case is absent in clauses where the subject is absent; this is what accounted for the data in (28) under a functional-head analysis. The data bear out the prediction of the dependent-case analysis. This is shown in (33) with two structurally case-marked adjuncts and the verb *luottaa* 'trust', which assigns lexical illative case to its object, thereby removing it from the calculus of dependent case. When the subject is present, both of the adjuncts are accusative (33a). When the subject is absent, here in a passive, the higher adjunct is nominative and the lower adjunct is accusative (33b).[21] Finally, when the first adjunct is dropped, the only remaining adjunct becomes nominative (33c).

(33) a. *Subject → NOM, Durational → ACC, Multiplicative → ACC*

Minä luotin [Kekkose-en]$_{LEX}$ [**yhde-n** **vuode-n**] [**kolmanne-n** **kerra-n**]
I.NOM trusted Kekkonen-ILL one-ACC year-ACC third-ACC time-ACC
'I trusted Kekkonen for a year for a third time'

b. *Durational → NOM, Multiplicative → ACC*

[Kekkose-en]$_{LEX}$ luote-ttiin [**yksi** **vuosi**] [**kolmanne-n** **kerra-n**]
Kekkonen-ILL trust-PASS.PAST one.NOM year.NOM third-ACC time-ACC
'Kekkonen was trusted for a year for a third time'

[21] (33) raises the question of the hierarchical positions of structurally case-marked adjuncts with respect to one another. As might be expected, the linear order is unrevealing: the order of the two adjuncts in (33) can be reversed, and still the durational adjunct will be nominative and the multiplicative adjunct accusative. Maling (1993) reports the following preference amongst the adjuncts for being nominative: spatial-measure > durational > multiplicative. She captures this preference in terms of a grammatical-function hierarchy, but it can also be captured in terms of structure: multiplicative adjuncts are merged before durational adjuncts, which are merged before spatial-measure adjuncts. Because dependent case is assigned as soon as possible, the base-generated order of the adjuncts will correctly dictate their case assignment—all happening inside the vP—and any subsequent reordering of these adjuncts (via movement to vP-external positions) will not change the case assignment amongst the adjuncts (or with respect to the subject and object, which are introduced in vP in positions that c–command the adjuncts; see (32)).

c. *Multiplicative* → NOM
[Kekkose-en]$_{LEX}$ luote-ttiin [**kolmas** **kerta**]
Kekkonen-ILL trust-PASS.PAST third.NOM time.NOM
'Kekkonen was trusted for a third time' [Maling 1993:59]

The pattern in (33) follows in the dependent-case analysis without further ado. For example, in (33b), the first adjunct licenses dependent case on the second adjunct; then, because no relevant DP c–commands the first adjunct, it remains unvalued for case in the derivation and is realized with unmarked case at PF. The functional-head analysis, on the other hand, would need to make additional stipulations to account for (33), in particular to deal with (33b), in which accusative would have to be assigned in a passive, where the functional head responsible for accusative would not occur (similarly in (31b)). As far as I am aware, there is no functional-head analysis of Finnish case that extends to the case pattern in (33).[22] I take the fact that this adjunct pattern is entirely regular and productive in Finnish to indicate that Finnish *requires* the notion of dependent case in order to capture the distribution of accusative (Poole 2015a; see also Maling 1993; Anttila and Kim 2011, 2017). I will thus adopt such an account in what follows. Against this backdrop, let us now consider case assignment in nonfinite clauses.

4.2 Case in nonfinite clauses

Finnish has a number of nonfinite constructions (Vainikka 1989, 1995; Toivonen 1995; Koskinen 1998; also Hakulinen et al. 2004:§490). The nonfinite construction of interest in this paper is the MA-infinitive (traditionally called the "third" infinitive), though I will briefly discuss the other Finnish nonfinite clause types in section 5.3. The reason that MA-infinitives are interesting is because when they function as clausal complements, case assignment within the nonfinite clause interacts with the makeup of the clause of the embedding verb (e.g. Vainikka 1989). That is, the matrix (= embedding) and embedded clauses constitute a single coextensive domain for the purposes of dependent-case assignment.

The MA-infinitive requires the verb to bear an inner locative case marker (inessive, elative, or illative) after the infinitival morpheme *-mA* (34).[23] The case marker matches what a DP would bear in that same position, with the same 'directional' meaning (34). In this sense, the verb in a MA-infinitive is nominal-like, but unlike a genuine nominal, it cannot be modified by nominal modifiers, only verbal modifiers (35).

[22] This problem is true of the analyses in Vainikka (1989), Brattico (2012), and Vainikka and Brattico (2014). Nelson (1998) is able to account for the basic pattern in (33); she proposes that nominative case *must* be assigned in every finite clause, essentially the Inverse Case Filter of Bošković (1997, 2002). However, her analysis does not explain the possibility of impersonal passives of intransitive predicates, which have no arguments that could receive nominative case, e.g. *Tanssittiin* 'There was danced'. Her account also does not extend to nonfinite clauses; see section 5.3 for discussion. Space limitations unfortunately prevent giving an exposé of these alternative accounts.

[23] MA-infinitives can also occur with the essive case marker, but not when they function as clausal complements.

(34) *Occurs with a locative case marker*
Minä autoin Jukka-a {[TP **kirjoitta-ma-an** Marja-lle] / **bussi-in** }
I.NOM helped Jukka-PTV write-INF/MA-ILL Marja-ALL bus-ILL
'I helped Jukka { to write to Marja / onto the bus }' [based on Koskinen 1998:329]

(35) *Can only occur with verbal modifiers*
Minä autoin Jukka-a [TP **asettu-ma-an** { *mukavasti* /* *mukava* }
I.NOM helped Jukka-PTV settle-INF/MA-ILL comfortably comfortable
päivätorkui-lle aurinko-on]
afternoon.naps-ALL sun-ILL
'I helped Jukka to sleep comfortably in the sun' [based on Koskinen 1998:325]

When the matrix clause has an ordinary nominative subject, the embedded object is marked with accusative (36a). Then, when the matrix subject is absent or bears lexical case, the embedded object becomes nominative (36b).[24]

(36) a. **Hän** kävi [TP avaa-ma-ssa **ove-n**] NOM–ACC
s/he.NOM went open-INF/MA-INE door-ACC
'S/he went to open the door'

b. Käy [TP avaa-ma-ssa **ovi**]! NOM
go.IMP open-INF/MA-INE door.NOM
'Go open the door!'

This resembles the same pattern from monoclausal sentences in section 4.1. In (36a), the embedded object is c–commanded by another DP unvalued for case, i.e. the matrix subject, and thus is assigned dependent case (= accusative). In (36b), there is no other DP unvalued for case that c–commands the embedded object and thus it surfaces with unmarked case (= nominative) at PF.

Accordingly, the pattern in (36) can be accounted for under dependent-case theory by considering (i) the CP to be the relevant domain for dependent case and (ii) MA-infinitives to be projections smaller than CP, so that the domain over which dependent case is calculated includes both the matrix and embedded clauses. Following Koskinen (1998), I assume that MA-infinitives are TPs.[25]

[24] In this section, of the constructions that remove the subject from the dependent-case calculus, I only show imperatives, but all of the data can be replicated for passives and necessives.

[25] The analysis in section 5.3 is compatible with MA-infinitives being vPs as well; see fn. 33. There is reason to believe that -*mA* corresponds to a v^0 head: (i) it cannot cooccur with verbal inflection, such as passivization, and (ii) -*mA* is the morpheme used to form an agentive participle, which is in line with the argument-structure role of v^0. I assume that the case morphology that appears on the verb is assigned directly to the nonfinite clause, with no intervening nominal projections (roughly in line with Vainikka 1995), though this choice is relatively inconsequential. The choice is based on the fact that MA-infinitives do not allow nominal modification (35) and cannot occur with possessive suffixes, the latter of which is a hallmark of nominals in Finnish and is possible with other nonfinite clause types.

(36b) also reveals that PRO is either absent from these constructions or not relevant for the purposes of dependent-case assignment. Otherwise, there would be no principled way to explain why the embedded object's case is contingent on the presence of an argument in the matrix clause. Another DP like PRO inside the embedded clause that c–commands the object and is unvalued for case (for some portion of the derivation) would invariably license dependent case on the object, thereby negating any effect that the matrix clause could ever have. While either analysis in principle would account for the case pattern in (36b), I will adopt the first analysis that MA-infinitives lack a PRO. If PRO can only occur in CPs, as Landau (2000) argues, this absence would follow from MA-infinitives being TPs. This analysis also allows for a uniform treatment of PRO crosslinguistically with respect to dependent-case assignment, as PRO is generally considered to be able to license dependent case in other languages, e.g. in English. It has no effect on dependent case in MA-infinitives because it is not there.

The crucial pattern emerges when the embedding predicate has its own object.[26] As shown in (37), when the matrix subject is present, the matrix subject is nominative, the matrix object is accusative, and the embedded object is accusative; this is the pattern expected, given what we have seen so far.

(37) a. **Hän** pakotti **lapse-n** [$_{TP}$ avaa-ma-an **ove-n**] NOM–ACC–ACC
s/he.NOM forced child-ACC open-INF/MA-ILL door-ACC
'S/he forced the child to open the door' [Nelson 1998:238]

b. **Maija** pyysi **Juka-n** [$_{TP}$ luke-ma-an **kirja-n**] NOM–ACC–ACC
Maija.NOM asked Jukka-ACC read-INF/MA-ILL book-ACC
'Maija asked Jukka to read the book' [Vainikka 1989:267]

Under dependent-case theory, this pattern could be modelled in one of two ways: (i) a covariance derivation, where the matrix subject licenses dependent case on both objects (38), or (ii) a daisy chain (39), where the matrix object licenses dependent case on the embedded object and then the matrix subject licenses dependent case on the matrix object.

(38) *Covariance derivation*
[Subj V^0 Obj [$_{TP}$ V^0-MA Obj]]

(39) *Daisy-chain derivation*
[Subj V^0 Obj [$_{TP}$ V^0-MA Obj]]

However, in the absence of a matrix subject, *both* the matrix object and the embedded object surface with nominative case, as shown in (40). This rules out the daisy-chain derivation in (39). Rather, the case of the matrix and embedded objects covaries with the presence of the matrix subject, as predicted by the analysis in (38).

[26] Some of these predicates include *pakottaa* 'force', *taivuttaa* 'persuade', *pyytää* 'ask', and *kieltää* 'deny'. For a comprehensive list of predicates that embed MA-infinitives, see Vainikka (1989:330).

(40) *Both objects must be nominative when the matrix subject is absent*

a. Pakota {**lapsi** /***lapse-n**} [$_{TP}$ avaa-ma-an {**ovi** /***ove-n**}]!
force.IMP child.NOM child-ACC open-INF/MA-ILL door.NOM door-ACC
'Force the child to open the door!' [Nelson 1998:238]

b. Pyydä {**Jukka** /***Juka-n**} [$_{TP}$ luke-ma-an {**kirja** /***kirja-n**}]!
ask.IMP Jukka.NOM Jukka-ACC read-INF/MA-ILL book.NOM book-ACC
'Ask Jukka to read the book!' [Vainikka 1989:268]

Binding reveals that the matrix object nevertheless c–commands the embedded object. Finnish third-person possessive suffixes are subject to Condition A, as illustrated in (41a). Crucially, a third-person possessive suffix on the embedded object can be bound by the matrix object (in addition to the matrix subject), as shown in (41b). This shows that the matrix object does indeed c–command the embedded object. All else equal, the matrix object *should* then license dependent case on the embedded object. The fact that it does not thus needs to be explained.

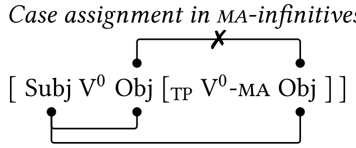
(41) *Matrix object c–commands the embedded object*

a. **Poika**$_1$ myi marsu-**nsa**$_{1/*2}$
boy.NOM sold guinea.pig.ACC-3.POSS
'The boy$_1$ sold his$_{1/*2}$ guinea pig' [Nelson 1998:187]

b. **Maija**$_1$ pyysi **Peka-n**$_2$ [$_{TP}$ tuo-ma-an levy-**nsä**$_{1,2,*3}$]
Maija.NOM asked Pekka-ACC bring-INF/MA-ILL record.ACC-3.POSS
'Maija$_1$ asked Pekka$_2$ to bring her/his$_{1,2,*3}$ record' [Vainikka 1989:270]

What (40) and (41) reveal is that a matrix subject, but not a matrix object can license dependent case across an embedded TP boundary into a MA-infinitive, as schematized in (42).

(42) *Case assignment in MA-infinitives*



Structurally case-marked adjuncts in the matrix clause are also unable to license dependent case across an embedded TP, and thus they pattern with matrix objects. This is shown in (43a), where the multiplicative adjunct has matrix scope and still both objects must be nominative. (43a) additionally shows that the matrix object has the *ability* to license dependent case, as it does so on the adjunct, making its inability to do so on the embedded object all the more striking. When the adjunct does have embedded scope, the embedded object licenses dependent case on the adjunct in an ordinary local configuration (43b).[27]

[27] The adjunct in (43a) also has an embedded reading, which is presumably derived from (43b) via movement; see fn. 21.

(43) *Adjuncts do not affect the case of the objects*

a. Pyydä **Jukka** [**kolmanne-n** **kerra-n**] [$_{TP}$ luke-ma-an **kirja**]
ask.IMP Jukka.NOM third-ACC time-ACC read-INF/MA-ILL book.NOM
'Ask Jukka for the third time to read the book!' [Maling 1993:69]

b. Pyydä **Jukka** [$_{TP}$ luke-ma-an **kirja** [**kolmanne-n** **kerra-n**]]
ask.IMP Jukka.NOM read-INF/MA-ILL book.NOM third-ACC time-ACC
'Ask Jukka to read the book for the third time!' [Maling 1993:66]

The overarching pattern to emerge from Finnish MA-infinitives is summarized in (44).[28]

(44) **Finnish Case Generalization**
In Finnish, a matrix subject can license dependent case across an embedded TP boundary, but a matrix object and a matrix adjunct cannot.

The Finnish Case Generalization crucially does not involve movement, which will prove important in the next two sections. Like the Movement–Case Generalization from section 3, it also does not fall under the purview of standard notions of locality, e.g. phases, where a domain is either opaque to all operations or transparent to all operations. Under these standard, binary notions of locality, it is unexpected for a domain (here, a TP) to be penetrable by a DP in one position (matrix-subject position), but not another position (matrix-object position, which is arguably more local than the matrix subject). As such, the Finnish Case Generalization must be the result of some other kind of locality, namely one that is *nonbinary*. In the next section, I will argue that this nonbinary notion of locality is the Williams Cycle.

5 Improper case

In this section, I propose that dependent-case assignment is constrained by the *Ban on Improper Case* in (45). This constraint rules out dependent-case assignment configurations like (46).

(45) **Ban on Improper Case**
DP_α in XP cannot license dependent case on DP_β across YP, where Y is higher than X in the functional sequence.

(46) $[_{YP}\ Y^0\ [_{XP}\ DP_1\ X^0 \ldots \boxed{[_{YP}} \ldots DP_2 \ldots]]]$ where Y > X

[28] Something like the Finnish Case Generalization in (44) would presumably need to hold under a functional-head analysis as well, because whatever conditions assigning accusative case to the embedded object can only be triggered by a matrix subject. This is notwithstanding the problem that structurally case-marked adjuncts pose for a functional-head analysis in the first place; see section 4.1.

The Ban on Improper Case is a constraint in the spirit of the Williams Cycle (WC) (Williams 1974, 2003, 2013; van Riemsdijk and Williams 1981), which in its original form is only a constraint on movement dependencies. In section 6.2, I will propose that the WC be generalized to encompass improper case, movement, *and* agreement and then take up how to derive this generalized WC.

I begin in subsection 5.1 by introducing the WC in its instantiation for movement, known as the Generalized Ban on Improper Movement, and illustrating how it accounts for improper movement. Subsection 5.2 proposes the Ban on Improper Case (45), an extension of the WC particularized to case. In subsections 5.3 and 5.4, I then apply the proposal to the Finnish Case Generalization and the Movement–Case Generalization respectively.

5.1 The Williams Cycle

The Williams Cycle (WC) is a size-based constraint on (movement) operations spanning two clauses, going back to Williams (1974) and van Riemsdijk and Williams (1981). The basic idea behind the WC is that movement from a specific domain in an embedded clause may move to the *same kind* of domain or a *higher* domain in the matrix clause. In Williams (2003), the WC is formulated as the *Generalized Ban on Improper Movement* (GBOIM) in (47), where domains are defined in terms of the functional sequence (*fseq*).[29] I will notate X being higher in *fseq* than Y as X > Y, and, for concreteness, I will assume the simple functional sequence in (48).

(47) **Generalized Ban on Improper Movement (GBOIM)**
Movement from XP cannot move to or across YP, where Y is lower than X in the functional sequence. [based on Williams 2003]

(48) *fseq* = $\langle \text{C} > \text{T} > v > \text{V} \rangle$

As its name suggests, the GBOIM is designed to account for the ungrammaticality of so-called improper movement: A-movement out of a finite clause (also known as hyperraising). While $\bar{\text{A}}$-movement may leave a finite clause (49a), A-movement may not (49b). This contrast, however, does not extend to nonfinite clauses, which allow both $\bar{\text{A}}$-movement (50a) and A-movement (50b) out of them alike.[30,31]

[29] Williams's (2003) original formulation of the GBOIM incorrectly allows movement *across* projections higher in the functional sequence than the launching site of movement because it is stated in terms of the landing site. This quirk appears to be unintentional, as his analysis of the GBOIM does not allow such derivations. I have reformulated the GBOIM in (47) to avoid this problem.

[30] For the sake of simplicity, I equate "finite" with CP and "nonfinite" with TP. English, of course, also has nonfinite CPs, which prohibit A-movement out of them, like finite clauses. Thus, the improper-movement pattern is genuinely about clause size, as the GBOIM encapsulates.

[31] In (49), I do not depict movement through [Spec, CP], but this would not change the movement derivations that are ruled out by the GBOIM. Intermediate movement through [Spec, CP] is required for the classical account of improper movement, where $\bar{\text{A}}$-movement may not feed A-movement (Chomsky 1973, 1981; Lasnik and Saito 1992). The classical account, however, does not generalize beyond the A/$\bar{\text{A}}$-distinction or beyond movement more generally.

(49) a. **Who** does it seem [$_{\text{CP}}$ ~~**who**~~ ate the nattoo]?
$\bar{\text{A}}$-mvt

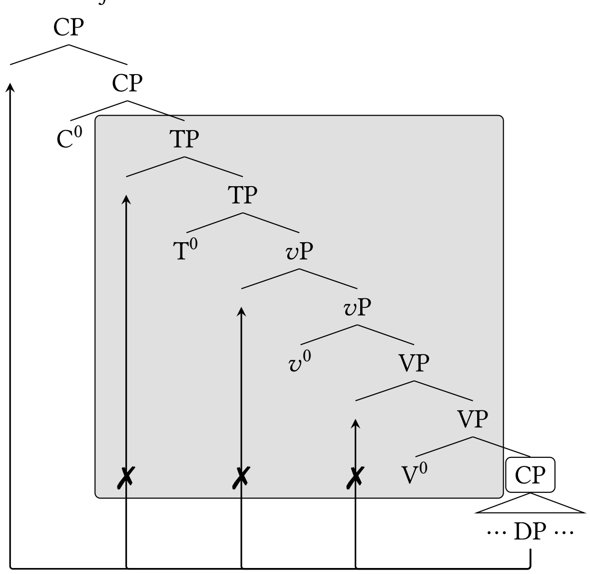
b. ***Alex** seems [$_{\text{CP}}$ ~~**Alex**~~ ate the nattoo].
A-mvt

(50) a. **What** did Kyle expect [$_{\text{TP}}$ Alex to eat ~~**what**~~]?
$\bar{\text{A}}$-mvt

b. **Alex** is expected [$_{\text{TP}}$ ~~**Alex**~~ to eat the nattoo].
A-mvt

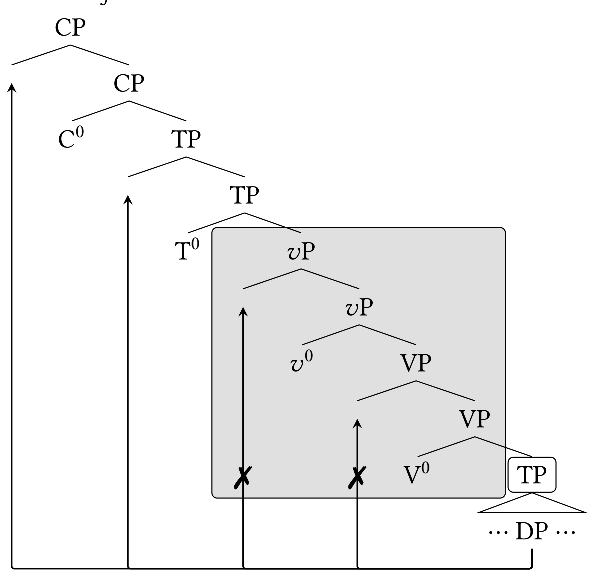
According to the GBOIM, the relative heights of the launching and landing sites determine whether extraction is possible. Because finite clauses are CPs, movement out of a finite clause can land no lower than [Spec, CP] in the next highest clause, as schematized in (51).

(51) *Movement from CP cannot land lower than CP*



As depicted in (51), CP is a barrier for movement to [Spec, TP] because $C \succ T$ in *fseq*, but CP is not a barrier for movement to [Spec, CP] because $C \not\succ C$. Thus, $\bar{\text{A}}$-movement, but not A-movement out of a finite clause is grammatical. On the other hand, because nonfinite clauses are TPs, movement out of a nonfinite clause may land in either [Spec, TP] or [Spec, CP] because $T \not\succ T$ and $T \not\succ C$ respectively. Thus, both A-movement and $\bar{\text{A}}$-movement are possible out of a nonfinite clause, unlike finite clauses, as schematized in (52).

(52) *Movement from TP cannot land lower than TP*



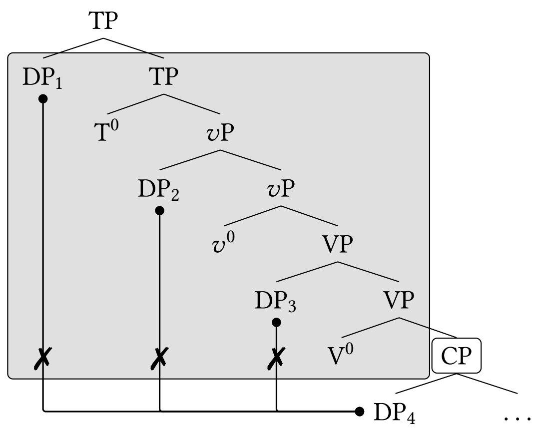
Under the GBOIM, size matters. A smaller clause is permeable to more movement types than a larger clause, because the maximal projection of a smaller clause will be lower on *fseq* than the maximal projection of a larger clause. Constraining movement in terms of clause size extends beyond the distinction between A-movement and $\overline{\text{A}}$-movement. Here are several examples (taken from Keine 2016, to appear): (i) Embedded questions are opaque to *wh*-movement, but not topicalization and relativization (Williams 2013). (ii) Infinitival clauses are opaque to extraposition, but not regular A-movement and $\overline{\text{A}}$-movement (Ross 1967; Baltin 1978). (iii) In Hindi-Urdu, finite clauses are opaque to A-scrambling, but not $\overline{\text{A}}$-scrambling (Mahajan 1990). In German, (iv) embedded V2 clauses are opaque for movement into a verb-final clause, but not movement into a V2 clause (Haider 1984); (v) finite clauses are opaque to scrambling and relativization, but not *wh*-movement or topicalization (Bierwisch 1963; Ross 1967; Bayer and Salzmann 2013; Müller 2014b); and (vi) incoherent infinitives are opaque to scrambling, but not *wh*-movement and relativization (Bech 1955/1957; Wurmbrand 2001). What these asymmetries share is involving a domain that is permeable to one movement type, but not another movement type (what Keine 2016 terms SELECTIVE OPACITY). The GBOIM derives these asymmetries as "generalized" improper movement configurations, i.e. in terms of clause size. For more discussion, see Williams (1974, 2003, 2013), Müller and Sternefeld (1993, 1996), Abels (2007, 2009, 2012a,b), Neeleman and van de Koot (2010), Müller (2014a,b), and Keine (2016, to appear).

5.2 Proposal

There are crucially parallels between the locality problems from sections 3 and 4 and the kinds of movement configurations ruled out by the Generalized Ban on Improper Movement. To see these parallels, let us consider the two locality problems in turn.

With respect to the Movement–Case Generalization, recall the Lower-DP Problem, according to which a DP cannot be the lower DP in a dependent-case pair when in an intermediate landing site (I will return to the Higher-DP Problem in section 5.4). This characterization can be recast in terms of the WC, viz. clause size and the functional sequence: a DP_α in [Spec, CP] cannot enter into a dependent-case relationship with a DP_β in a higher clause—DP_α being the lower in the pair—if DP_β is in [Spec, TP], [Spec, *v*P], or [Spec, VP], because C > T, C > *v*, and C > V in *fseq*. This is schematized in (53).

(53) *Lower-DP Problem*



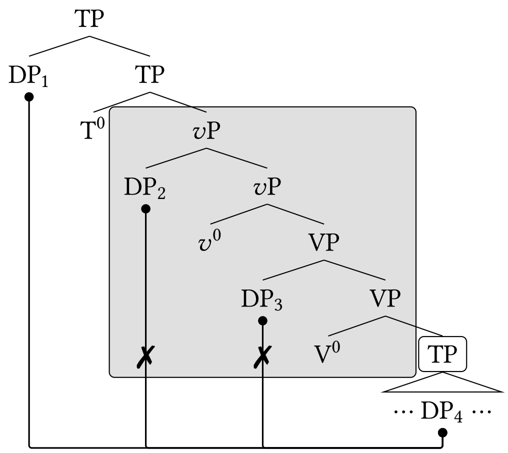
Note that dependent-case licensing between two [Spec, CP] positions also needs to be ruled out (54). This configuration does not fall under the characterization of the Lower-DP Problem—or from the Ban on Improper Case, to be proposed below—because C ≯ C in *fseq*.

(54) [$_{CP}$ **Who** [$_{TP}$ ___ said [$_{CP}$ **who(*m)** [$_{TP}$ ___ had come to the fiesta]]]]?

However, for the higher DP in (54) to be in [Spec, CP], it will have undergone $\overline{A}$-movement to that position. Thus, the impossibility of this particular configuration falls under the Higher-DP Problem (i.e. that an $\overline{A}$-moved expression cannot be the higher DP in a dependent-case pair) and will follow from the analysis of the Higher-DP Problem in section 5.4.

The same reasoning applies to the Finnish Case Generalization, according to which a matrix subject can license dependent case across an embedded TP clause boundary, but a matrix object and a matrix adjunct cannot. In terms of the WC: a DP in [Spec, TP] can license dependent case on another DP across a TP, because T ≯ T, but a DP in [Spec, *v*P] or [Spec, VP] cannot do so, because T > *v* and T > V. This is schematized in (55).

(55) *Finnish–Case Generalization*



These parallels in (53) and (55) are the motivation for extending the WC to dependent-case assignment. I propose that dependent-case assignment is subject to the *Ban on Improper Case* in (56), a direct extension of the WC to case.

(56) **Ban on Improper Case**
DP_α in XP cannot license dependent case on DP_β across YP, where Y is higher than X in the functional sequence.

The Ban on Improper Case states barrierhood for dependent-case assignment relative to the *fseq*-position of the higher DP in the dependent-case pair.[32] For example, a DP in [Spec, TP] can license dependent case on another DP past TP, *v*P, and VP, because none of these projections are higher than T in *fseq* (57). However, a DP in [Spec, TP] cannot license dependent case past CP, because C > T so that CP is a barrier to dependent-case licensing from a DP in TP (58). Note that CP's barrierhood extends to all projections lower than T in *fseq* as well.

(57) $[_{\text{TP}}\ \text{DP}_1\ \text{T}^0\ [_{v\text{P}} \ldots \boxed{[_{\text{TP}}}\ \text{DP}_2 \ldots$

(58) $[_{\text{TP}}\ \text{DP}_1\ \text{T}^0\ [_{v\text{P}} \ldots \boxed{[_{\text{CP}}}\ \text{DP}_2 \ldots$ ✗

Notice that the Ban on Improper Case makes no reference to movement or clause types. It is more general than the empirical data that motivated it. The remainder of this section shows how the Ban on Improper Case applies to our two very different generalizations: the Finnish Case Generalization in subsection 5.3 and the Movement–Case Generalization in subsection 5.4.

[32] As a technical note, the formulation of the Ban on Improper Case is somewhat different from that of the Generalized Ban on Improper Movement, which defines barrierhood for movement relative to the *fseq*-position of the *lower* DP in the chain. The two constraints might thus appear to be mirror images of one another, but this is merely an artefact of their respective empirical domains; they in fact prohibit exactly the same kinds of configurations.

5.3 Application to Finnish

The Finnish Case Generalization is repeated below in (59).

(59) **Finnish Case Generalization**
In Finnish, a matrix subject can license dependent case across an embedded TP boundary, but a matrix object and a matrix adjunct cannot.

Under the Ban on Improper Case, the matrix subject is able to license dependent case across the embedded TP boundary because it is located in [Spec, TP] and T ≯ T in *fseq*. Thus, it licenses dependent case on the matrix object, within the same clause, and on the embedded object, across the clause boundary. This is schematized in (60).[33]

(60) $[_{\text{TP}}$ $\text{Subj}_{[\text{CASE}:\,\square]}$ T^0 $[_{v\text{P}}$ $\underline{\text{Obj}}_{[\text{CASE: DEP}]}$ v^0 $[_{\text{VP}}$ $\underline{\text{Adj}}_{[\text{CASE: DEP}]}$ V^0 $\boxed{[_{\text{TP}}}$ $\ldots$ $\underline{\text{Obj}}_{[\text{CASE: DEP}]}$ $\ldots$ (=37)

The matrix object from its *v*P-internal position (the precise position is inconsequential) is unable to license dependent case across the embedded TP boundary because T > *v* in *fseq*, thereby making TP a barrier for dependent-case licensing from a DP in [Spec, *v*P] and any position lower in *fseq*. The same barrierhood applies for matrix adjuncts as well, which are generated in *v*P-internal positions. As such, in the absence of a matrix subject, the [case: □] features on the matrix and embedded objects both remain unvalued throughout the derivation and are realized as unmarked case at PF. This is schematized in (61).

(61) $[_{\text{TP}}$ T^0 $[_{v\text{P}}$ $\text{Obj}_{[\text{CASE}:\,\square]}$ v^0 $[_{\text{VP}}$ $\underline{\text{Adj}}_{[\text{CASE: DEP}]}$ V^0 $\boxed{[_{\text{TP}}}$ $\ldots$ $\text{Obj}_{[\text{CASE}:\,\square]}$ $\ldots$ (=40)

Under this analysis, there is nothing special about case in ma-infinitives. The same general case mechanism, namely dependent case, applies everywhere in the language as syntactic structure is built up, following section 2—but this mechanism is constrained by the Ban on Improper Case.

Previous analyses of ma-infinitives are all broadly based on the idea that when the matrix subject is absent or bears lexical case, i.e. the environments in Finnish with nominative objects, the ability to assign accusative case is gone altogether (Vainikka 1989; Nelson 1998; Vainikka and Brattico 2014).[34] However, we saw in section 4.2 that structurally case-marked adjuncts are still accusative in configurations like (61); these data are repeated in (62).

[33] An assumption of this analysis is that the subject undergoes A-movement to [Spec, TP], from where it is then able to penetrate the embedded TP to license dependent case. However, if we were to analyze ma-infinitives as being *v*Ps, rather than TPs (contra Koskinen 1998), then the subject would be able to penetrate the embedded TP from its base-generated position in [Spec, *v*P].

[34] Maling's (1993) case-in-tiers analysis is an exception, but only because she simply stipulates that all the internal arguments of a predicate must bear the same case, a fact that my analysis *derives*.

(62)

Pyydä	**Jukka**	[**kolmanne-n**	**kerra-n**]	[$_{TP}$	luke-ma-an	**kirja**	]	(=43a)
ask.IMP	Jukka.NOM	third-ACC	time-ACC		read-INF/MA-ILL	book.NOM		

'Ask Jukka for the third time to read the book!' [Maling 1993:69]

If the ability to assign accusative case is absent in configurations like (61), as previous analyses assume, then there would be no source of accusative case for the adjunct in (62). However, (62) follows without further ado on the dependent-case analysis developed in this paper: the matrix object licenses dependent case on the adjunct, but the matrix and embedded objects cannot enter into a dependent-case relationship without violating the Ban on Improper Case.

This analysis of MA-infinitives can be extended to the other nonfinite clause types in Finnish, which I sketch here in order to highlight an additional benefit of the Ban on Improper Case. Anttila and Kim (2017) divide Finnish nonfinite clauses into three types with respect to case: 'precyclic', 'cyclic', and 'postcyclic'. For Anttila and Kim, 'cycle' is a descriptive notion which amounts to a case-assignment domain. Their own analysis is based in Stratal Optimality Theory with partial constraint rankings, but I will recast their classification in terms of clausal opacity. Precyclic infinitives are transparent to dependent-case assignment, which makes them sensitive to the matrix clause. This class includes MA-infinitives, which have been discussed extensively in this paper, and TA-infinitives, the canonical infinitive in Finnish.[35] Cyclic infinitives are *optionally* transparent for dependent-case assignment and thus exhibit variation in whether the object is nominative or accusative, as illustrated in (63). This class includes what Anttila and Kim call Itkonen and Ikola structures, in addition to the rationale adjunct. Postcyclic infinitives are always opaque for dependent-case assignment, e.g. temporal adjuncts (64).[36]

(63) *Cyclic infinitive*

Pekka	arvosteli	[päätös-tä	ampu-a	{**karhu**	/ **karhu-n**}	]
Pekka.NOM	criticized	decision-PTV	shot-INF/TA	bear.NOM	bear-ACC	

'Pekka criticized the decision to shot a/the bear' [Anttila and Kim 2017:583]

(64) *Postcyclic infinitive*

Metsä-ssä	juhli-ttiin	[Mati-n	ammu-ttua	{**karhu-n**	/ ***karhu**}	]
forest-INE	celebrate-PASS.PAST	Matti-GEN	shoot-INF/TEMP	bear-ACC	bear-NOM	

'It was celebrated in the forest after Matti had shot the bear' [Anttila and Kim 2017:623]

As shown by Toivonen (1995), being opaque or transparent for long-distance case assignment does not correlate with being opaque or transparent for extraction (also Huhmarniemi 2012;

[35] TA-infinitives behave identically to MA-infinitives for the purposes of case assignment. However, the predicates that embed TA-infinitives never have their own objects. Thus, while TA-infinitives exhibit the same basic pattern as (37), the more complex patterns in (40)–(43) that motivated the Ban on Improper Case happen not to arise for them.

[36] The past-tense temporal infinitival suffix morphologically breaks down into the past passive participle (*-tU*) and the partitive case marker (*-A*). In (64), I assume that the embedded subject licenses dependent case on the object from its base-generated position and then moves to the edge of the clause, where it is then assigned lexical genitive case. See section 5.4 for this kind of case-assignment derivation in Faroese as well.

Vainikka and Brattico 2014). Therefore, these nonfinite clause types cannot be reduced to binary locality domains, e.g. phases, and must be the result of something else. I propose that these different case patterns can be accounted for in terms of clause size and the Ban on Improper Case. Let us assume, for expository purposes, that there is a functional head L such that C > L > T; the precise identity of L is inconsequential and, in principle, it could be C. As we have already seen, precyclic infinitives are TPs and hence accessible from a higher TP for dependent case (65). Postcyclic infinitives, on the other hand, are LPs. As such, none of the arguments in higher clauses, being in TP or lower, are able to license dependent case into a postcyclic infinitive without violating the Ban on Improper Case (66). LP serves as a barrier for dependent-case licensing from DPs in TP and any projections lower in *fseq*, given that L > T.

(65) *Precyclic infinitives*

$[_{\text{TP}}$ $\text{DP}_{[\text{CASE}: \square]}$ … $\boxed{[_{\text{TP}}}$ … $\text{DP}_{[\text{CASE}: \text{DEP}]}$ …

(66) *Postcyclic infinitives*

$[_{\text{TP}}$ $\text{DP}_{[\text{CASE}: \square]}$ … $\boxed{[_{\text{LP}}}$ … $\text{DP}_{[\text{CASE}: \square]}$ … ✗

Cyclic infinitives are *structurally ambiguous* between TPs and LPs. When they are TPs, they are transparent for dependent-case assignment, like precyclic infinitives (65). When they are LPs, they are opaque for dependent-case assignment, like postcyclic infinitives (66).[37] This ambiguity gives rise to the appearance of variation. This analysis of case assignment in Finnish nonfinite clause types is summarized in the table in (67).[38]

(67) *Finnish nonfinite clause types*

	Size	Dependent case
Precyclic infinitives	TP	transparent
Cyclic infinitives	TP	transparent
	LP	opaque
Postcyclic infinitives	LP	opaque

[37] Going through Anttila and Kim's (2017) analysis of cyclic infinitives would take us too far afield, largely because their main aim is to account for the nuanced quantitative patterns in Itkonen and Ikola structures, which my analysis has nothing to say about. However, it is worth mentioning that the intuitions behind the two analyses differ. Anttila and Kim propose that case is calculated at the embedded infinitive and then again at the matrix clause, at which point previously assigned case in the embedded clause may be overwritten. Thus, under their analysis, the embedded and matrix clauses always constitute separate case-assignment domains. Under my analysis, however, whether the embedded clause constitutes its own case-assignment domain is a function of clause size. The upshot of this analysis is that it also accounts for precyclic and postcyclic infinitives without additional stipulation.

[38] This is only an analysis of when the matrix and embedded clauses are *able* to interact for case purposes. There are additional factors, though, that determine the case of the embedded object; see Anttila and Kim (2017).

5.4 Application to movement

The Movement–Case Generalization is repeated below in (68).

(68) **Movement–Case Generalization**
A-movement can feed dependent case, but $\overline{\text{A}}$-movement cannot.

Let us begin with $\overline{\text{A}}$-movement. Recall that the locality problem with $\overline{\text{A}}$-movement is that an $\overline{\text{A}}$-moved expression can neither license nor be assigned dependent case from its intermediate and final landing sites. Thus, we must consider (i) when an $\overline{\text{A}}$-moved expression is the *lower* DP in a potential dependent-case pair and (ii) when it is the *higher* one. These are the Lower-DP Problem and the Higher-DP Problem respectively. For the sake of clarity, I will label the higher and lower DPs in a dependent-case pair as DP_α and DP_β respectively, unless it is an $\overline{\text{A}}$-moved expression, for which I will reserve the label DP_μ. It should be emphasized that this labelling is for expository purposes only, and the Ban on Improper Case does not (need to) take into account whether the relevant DPs have undergone movement.

According to the Ban on Improper Case, a DP_α in [Spec, TP], [Spec, *v*P], or [Spec, VP] cannot license dependent case on a DP_μ in [Spec, CP] because these projections are all lower than C in *fseq*. That is, CP is a barrier for dependent-case licensing from DPs in TP and all projections lower in *fseq* (69). This barrierhood accounts for why an $\overline{\text{A}}$-moved expression may not have its case overwritten at its intermediate landing sites, i.e. the Lower-DP Problem.

(69) $[_{\text{TP}}$ DP_α … $[_{vP}$ DP_α … $\boxed{[_{\text{CP}}}$ DP_μ … C > T, C > *v*

The Ban on Improper Case, however, does not prohibit a DP_μ in [Spec, CP] from licensing case on a DP_β lower in the same clause, i.e. the Higher-DP Problem, as C is higher than these projections in *fseq*. I propose that the reason why $\overline{\text{A}}$-moved DPs cannot themselves license dependent case is because they are encased in a QP, i.e. Q-particle Phrase (in the sense of Cable 2007, 2010). Because only DPs may establish a dependent-case relationship, a DP inside a QP cannot be the *higher* DP in a dependent-case pair because it does not c–command out of the QP and hence never c–commands other DPs in the clause (70a). On the other hand, a DP inside a QP can be the *lower* DP in the pair because other DPs can still c–command into the QP (70b).

(70) a. $[_{\text{QP}}$ Q^0 DP_μ] [… DP_β …]
b. DP_α [… $[_{\text{QP}}$ Q^0 DP_μ] …]

However, a subject that undergoes $\overline{\text{A}}$-movement should still be able to enter into a dependent-case relationship with a clausemate object (e.g. *Who saw her/*she?*), which (70a) does not permit. To solve this problem, I propose that the QP is always countercyclically merged onto the DP before it $\overline{\text{A}}$-moves. To illustrate, consider the derivation of a *wh*-subject question: (i) the subject is base-merged in [Spec, *v*P], from where it licenses dependent case on the object (71a); (ii) the

QP is then merged on top of the subject (71b); and finally (iii) the QP moves to [Spec, CP] (71c). The $\overline{\text{A}}$-moving DP will always be encased in the QP before it reaches any intermediate or final landing sites, thereby preventing it from licensing dependent case on other DPs from those derived positions, i.e. the Higher-DP Problem.

(71) a. *Step 1: Merge in the subject, assign dependent case*
$[_{v\text{P}}\ \text{DP}_\mu\ v^0\ [\ \ldots\ \text{DP}_\beta\ \ldots\ ]\ ]$

b. *Step 2: Build the QP on the DP*
$[_{v\text{P}}\ [_{\text{QP}}\ \text{Q}^0\ \text{DP}_\mu\ ]\ v^0\ [\ \ldots\ \text{DP}_\beta\ \ldots\ ]\ ]$

c. *Step 3: Move the QP*
$[_{\text{CP}}\ [_{\text{QP}}\ \text{Q}^0\ \text{DP}_\mu\ ]\ \text{C}^0\ \ldots\ [_{v\text{P}}\ \_\_\ v^0\ [\ \ldots\ \text{DP}_\beta\ \ldots\ ]\ ]\ ]$

A QP (or a projection similar to it) being countercyclically merged onto a DP has previously been proposed by Stanton (2016) and Safir (to appear). Safir also argues that when a QP-shell needs to enter the derivation can be derived from independent factors. While this seems like a promising convergence, non-countercyclic implementations are also conceivable.[39]

The addition of the QP layer, though, does not handle the Lower-DP Problem because other DPs can nonetheless c–command a DP encased in a QP at an intermediate landing site; this problem still requires the Ban on Improper Case, as was schematized above in (69). This point, however, raises an alternative analysis where QPs are themselves opaque to case assignment, so that once they are formed on a DP, that DP no longer interacts with case assignment. The problem with such an analysis is that the opacity would have to come from its own source, as c–command into a QP for the purposes of binding is indeed possible, as shown in (72).

(72) a. ***Mary**$_1$ wondered [whether John saw [the picture of **herself**$_1$] in the museum].

b. **Mary**$_1$ wondered [[which picture of **herself**$_1$]$_2$ John saw ___$_2$ in the museum].

Under the analysis developed here, the behavior of $\overline{\text{A}}$-movement with respect to dependent-case assignment follows from only ordinary c–command and the Ban on Improper Case, the latter of which is required irrespective of our solution to the Higher-DP Problem.

Turning now to A-movement, recall from section 3.1 that in Sakha, movement of the embedded subject into the matrix object position feeds dependent-case assignment, as schematized in (73). This case pattern obeys the Ban on Improper Case because the matrix object position is lower in *fseq* than the matrix subject position.

[39] What I have in mind is the multidominance analysis of QP-movement in Johnson (2012) and Poole (2017), where the DP merges with its base position *and* with the Q-particle, the resulting QP then being merged in the landing site of movement. This is effectively sidewards movement of the DP into the QP.

(73) $[_{\text{TP}}\ \text{DP}_{\alpha} \ldots [_{v\text{P}}\ \underline{\text{DP}_{\mu}} \ldots [_{\text{CP}}\ \text{DP}_{\mu} \ldots$ (=10)

However, the posited movement step from within an embedded finite clause to a *v*P-internal position in the next highest clause, which was reliably diagnosed in (10)–(11) with adverb placement, itself violates the WC (i.e. the Generalized Ban on Improper Movement): the *v*P-internal position will be lower in *fseq* than C and thus CP will be a barrier to such movement. This kind of subject-to-object movement constitutes a general class of exceptions to the WC, which I will return to in section 6.2. For now, if we accept that such movement is admissible, then the Sakha pattern, and more generally the Movement–Case Generalization, follows without further ado under the Ban on Improper Case.

The discussion thus far has focused on dependent case, but it should be noted that this analysis does not preclude *lexical case* from being assigned to a moved position. First, the Ban on Improper Case is not formulated to encompass lexical-case assignment. But, because lexical case is assigned in a sisterhood relation, it is out of the purview of the Ban on Improper Case regardless. Assuming Bare Phrase Structure, where what projects is the head itself (Chomsky 1995a), it is then possible for a DP to move to a specifier position and be assigned a lexical case under sisterhood, in what would traditionally be a specifier–head relation (à la Rezac 2003).[40] To illustrate, consider dative–accusative constructions in Faroese (74), which are historically related to the more familiar Icelandic dative–nominative constructions.[41]

(74) *Faroese dative–accusative constructions*
Mær líkar **hana** væl
I.DAT likes her.ACC well
'I like her a lot' [Thráinsson et al. 2004:255]

These constructions can be analyzed as the following: (i) the subject is base-merged in [Spec, *v*P], from where it licenses dependent case (= accusative) on the object (75a); (ii) the subject moves to a higher projection in the clause, e.g. Exp^0 (75b); and (iii) the head of this projection assigns the subject lexical dative case (75c). The difference between Faroese and Icelandic is that in Icelandic, the subject is assigned dative case in its base-generated position, thus bleeding dependent-case assignment and yielding nominative objects.[42]

(75) a. *Step 1: Merge in the subject, assign dependent case*
$[_{v\text{P}}\ \text{Subj}_{[\text{CASE}:\,\square]}\ v^{0}\ [\ \ldots\ \underline{\text{Obj}}_{[\text{CASE: DEP}]}\ \ldots\ ]\ ]$

[40] See also fn. 4.
[41] Thanks to Ellen Woolford for bringing the Faroese data to my attention.
[42] It should be noted that the derivation in (75) goes against Marantz's (1991) original dependent-case algorithm in (8), but it is admissible under the present analysis, based on Preminger's (2011, 2014) syntactic implementation.

b. *Step 2: Move the subject*
$[_{\text{ExpP}}$ Subj$_{[\text{CASE: }\square]}$ Exp^0 [… $[_{vP}$ ___ v^0 [… Obj$_{[\text{CASE: DEP}]}$ …]]]

c. *Step 3: Assign the subject lexical dative case*
$[_{\text{ExpP}}$ Subj$_{[\text{CASE: DAT}]}$ Exp^0 [… $[_{vP}$ ___ v^0 [… Obj$_{[\text{CASE: DEP}]}$ …]]]

There are several other examples that, to my knowledge, might instantiate this kind of derivation with movement to a lexical-case position: ergative subjects in what Woolford (2015) terms *Active Ergative* languages (where ergative case is associated with external arguments),[43] the "marked nominative" construction in Dinka (van Urk 2015), and differential object marking in Hindi-Urdu (Bhatt and Anagnostopoulou 1996). There are likely many other such instances, but these exemplify when such a derivation might be reasonably invoked.

In sum, the Ban on Improper Case accounts for the interactions between movement and dependent case: roughly, A-movement, but not $\overline{\text{A}}$-movement may feed dependent-case assignment. Importantly, the analysis does not invoke separate operational primitives for A-movement and $\overline{\text{A}}$-movement. Rather, the analysis derives from the positions targeted by different movement types. Moreover, if Safir (to appear) is correct that the QP-shells in $\overline{\text{A}}$-movement can be derived from independent factors, then the analysis presented here captures the A/$\overline{\text{A}}$-distinction in this (narrow) domain purely as an epiphenomenon. This thinking is in line with minimalist syntax, where all structure building is the result of the operation Merge. The foundations of the analysis were also independently motivated from the Finnish Case Problem, which crucially does not involve movement.

6 Discussion

This paper has proposed that case assignment is subject to the *Ban on Improper Case* in (76). This constraint is an extension of the *Williams Cycle* (WC) particularized to case. The motivation for the Ban on Improper Case came from two disparate empirical domains: the interaction between case and movement and crossclausal case assignment in Finnish. Both of these locality problems were shown not to fall under the purview of standard notions of locality, e.g. phases, but rather they follow from the Ban on Improper Case.

(76) **Ban on Improper Case**
DP_α in XP cannot license dependent case on DP_β across YP, where Y is higher than X in the functional sequence.

[43] As such, in Active Ergative languages, ergative case is not dependent case, but rather lexical case—or more accurately, inherent case (e.g. Woolford 1997, 2006; Legate 2002, 2008).

The remainder of this paper is devoted to discussing some of the broader ramifications of the Ban on Improper Case. Subsection 6.1 discusses what it means for the location of case in the grammar. The ramifications for the WC more generally are taken up in subsection 6.2. Finally, the WC's relation to phases is discussed in subsection 6.3.

6.1 Case is in the syntax

One of the debates in the case literature is where case assignment resides in the grammar. Marantz's (1991) original implementation of dependent-case theory situates it in the PF branch of the derivation, i.e. in the postsyntactic morphological component (assuming Distributed Morphology). This line of thinking has prevailed in most of the work on dependent-case theory, e.g. McFadden (2004), Bobaljik (2008), and Baker (2015).

In response, Legate (2008) and Preminger (2011, 2014) raise objections to case assignment being at PF. Legate contends that the calculus of dependent case relies on syntactic mechanisms and likely cannot be determined solely based on the structure sent to PF—essentially because of the interactions between case and movement of the kind discussed in section 3.[44] Preminger points out that case affects processes that are decidedly syntactic, in particular movement, which may have effects at LF, such as altering scope. Such facts cannot be explained under a purely PF theory of case. Legate (2008) uses these considerations to argue against dependent-case theory, under the assumption that dependent-case theory is necessarily a PF theory of case. However, dependent-case theory and case assignment being in the narrow syntax are not mutually exclusive. It is indeed possible to implement dependent-case theory as a syntactic process, as Preminger (2011, 2014) has shown; see section 2.

The Ban on Improper Case lends further support to Legate's and Preminger's arguments that, irrespective of the particular theory of case, case assignment must be in the narrow syntax and not at PF (contra Marantz 1991; McFadden 2004; Bobaljik 2008; Baker 2015).[45] First, as movement is subject to the WC and movement occurs in the narrow syntax, the WC itself must be due to a constraint in the syntax in order for it to restrict movement so. It stands to reason then that anything else that is subject to the WC must be in the syntax as well. As such, because case assignment is subject to the WC, it too must be in the syntax. Second, the information required for the WC in the first place is syntactic in nature, and replicating it at PF just so that it could apply to case assignment would be redundant (in line with Legate's point above). Third, it was argued in section 3.2 that dependent-case assignment is interspersed with structure building, which would not follow if case assignment were at PF. Additionally, given (i) the arguments that Finnish requires dependent case and (ii) the role that dependent case played in uncovering the

[44] Legate (2008) also argues that we should not disassociate the morphological case borne by a DP and its syntactic licensor. McFadden (2004) shows, however, that morphological case is independent of DP-licensing and that modern conceptions of the EPP already (can) capture DP distribution, rendering the notion of "abstract Case" redundant. See Levin (2015) for a recent argument in this spirit.

[45] I consider Baker's (2015) system to be a PF theory of case because he proposes that dependent case is calculated at Spellout, piggybacking on the fixation of linear precedence relations, which is part of the PF branch.

Ban on Improper Case, this paper also supports Preminger's syntactic implementation of the dependent-case calculus.[46]

6.2 Deriving the Williams Cycle

While the Ban on Improper Case derives the range of facts presented in this paper, that analogous restrictions have been observed for movement and agreement strongly suggests that these "WC effects" have a *unified source*. Here, there are two interconnected issues: (i) how to formulate the WC so as to encompass all the relevant facts and (ii) how to derive the WC in the grammar.

Broadly construed, the WC is the notion that one and the same node can be a barrier to some operations, but not to others. There are several formulations of the WC in the literature, differing in the strength of the locality that they enforce (e.g. Williams 1974, 2003, 2013; Abels 2007, 2009; Müller 2014a,b; Keine 2016, to appear). None of these existing proposals handle case out-of-the-box—and only Keine handles agreement—, but I will abstract away from this deficiency in the discussion that follows. I propose adopting the particularly strong version of the WC in (77). This formulation is operation-general—thereby covering movement, agreement, and case—and encodes the strict locality of the Generalized Ban on Improper Movement. It is thus commensurate with the formulation in Williams (2003, 2013).

(77) **Williams Cycle** *(strong version)*
An operation triggered in XP may not target an element across YP, where Y is higher than X in the functional sequence.

The strong WC in (77) enforces a particularly restrictive locality, but this locality appears to be appropriate for case assignment, given what we have seen in this paper. That is, the Ban on Improper Case is a proper subset of (77). Abels (2007, 2009) contends that a strong version of the WC, like (77), is empirically too restrictive for movement, ruling out attested movement dependencies. The weaker, less restrictive formulations of the WC are predicated on Abels' arguments. I will return to this issue below.

The WC on its own is a descriptive generalization. We still need an analysis of the WC that derives its locality effects for case, movement, and agreement alike. Recent proposals analyze the WC as the result of a constraint on either Merge (Abels 2007, 2009; Müller 2014a,b) or Agree (Keine 2016, to appear). The specific details of these proposals need not concern us here, and examining them would take us too far afield. What is important for our purposes here is that they are *operation-specific* analyses. For these proposals to extend to the WC as defined in (77), case assignment would need to involve Agree (or, technically, Merge). As lexical case is assigned by lexical heads to their sister upon first merge, extending Agree to lexical case is straightforward. However, it is not immediately obvious how Agree would extend to dependent-case assignment.

[46] Incidentally, note that a syntactic implementation of dependent-case theory brings it much closer to the standard functional-head theory of case, bridging the gap between the two competing theories.

A dependent-case relation does not resemble a typical AGREE-relation, because it is a relation between two DPs and not a relation between a DP and a head.[47]

I suggest returning to Williams's (2003, 2013) own analysis of the WC, which is operation-general and does not require any particular implementation of dependent-case theory (for an overview of this theory, see Hornstein and Nevins 2005). Williams proposes the *Level Embedding Conjecture* (LEC) in (78), which, as I will illustrate, derives the WC from the syntax of embedding.

(78) **LEVEL EMBEDDING CONJECTURE (LEC)**
An XP can only be embedded in a structure that is also built up to an XP.

The basic idea behind the LEC is that clauses are built up in parallel. Embedding may take place at any point, but once a clause has been embedded, it no longer increases in size.[48] The different points in the derivation at which embedding may take place correspond to the functional sequence. Williams calls this notion the *derivational clock* (or 'F-clock'). To illustrate, consider a CP embedded inside another CP (79) (ignoring the *v*P). First, both clauses are built up to the VP-level (79a). Second, both clauses are built up to the TP-level (79b). Third, both clauses are built up to the CP level (79c). Last, at that point, one CP is embedded inside the other CP (79d).

(79) a. *Step 1: Build up to the VP-level*
[$_{\text{VP}}$ thinks], [$_{\text{VP}}$ saw Sue]

b. *Step 2: Build up to the TP-level*
[$_{\text{TP}}$ Mary thinks], [$_{\text{TP}}$ John saw Sue]

c. *Step 3: Build the CP-level*
[$_{\text{CP}}$ Mary thinks], [$_{\text{CP}}$ that John saw Sue]

d. *Step 4: Embed the CP in the other CP*
[$_{\text{CP}}$ Mary thinks [$_{\text{CP}}$ that John saw Sue]]

Under the LEC, embedding is the joining of two structures, similar to the substitution operation in Tree-Adjoining Grammar.

On this proposal, the WC follows from the strict cycle. Let us take the strict cycle to be the result of the *Strict Cycle Condition*, as defined in (80) (the formulation taken from Müller 2017; see Chomsky 1973, 1995b, 2001, 2008), which precludes syntactic operations from solely applying within embedded domains. Embedding itself must be considered to be admissible under (80).[49]

[47] As a relation between two DPs, a dependent-case relation resembles binding. See Pesetsky (2011) for an exploration of reducing dependent case to binding.
[48] The LEC makes embedding countercyclic, under the standard minimalist incremental version of the cycle. See Williams (2003:70–71) for some discussion of the ramifications.
[49] One way of thinking about how embedding obeys the Strict Cycle Condition is that embedding is an operation that takes two arguments: the *embedded* clause and the *embedding* clause. Thus, it does not exclusively target an embedded domain. See Williams (2003:70–71, 113–115) for other ways of conceiving of cyclicity under the LEC.

(80) **Strict Cycle Condition**
Within the current XP α, a syntactic operation may not exclusively target an item in the domain of another XP β if β is in the domain of α.

(81) **Domain**
The domain of a head X is the set of nodes dominated by XP that are distinct from and do not contain X.

Consider now standard cases of improper movement: the prohibition on A-movement out of a finite clause. Under the LEC, at no point in the derivation is there a root TP that contains the embedded CP (82). Consequently, there is no means for a constituent in the embedded CP to move to [Spec, TP] while TP is the root node. The only point in the derivation at which the embedded CP is embedded in the matrix clause is when both clauses are built up to the CP-level. At that point in the derivation, movement to [Spec, TP] would violate the strict cycle.

(82) *Ruled out by the Level Embedding Conjecture*
$^*[_{\text{TP}} \ldots \text{T}^0 \ldots [_{\text{CP}} \ldots \text{C}^0 \ldots]]$

To generalize, under the LEC, a root XP containing an embedded YP, where Y > X in *fseq*, never exists in a derivation (83a). A YP is only embedded once the embedding clause has itself been built up to the YP-level (83b).

(83) a. $^*[_{\text{XP}}\ \text{X}^0 \ldots [_{\text{YP}} \ldots$ where Y > X
b. $^{\checkmark}[_{\text{YP}}\ \text{Y}^0 \ldots [_{\text{XP}} \ldots [_{\text{YP}} \ldots$ where Y > X

No operation that is triggered in XP—whether it be movement, agreement, or case—can look into a YP (where Y > X) because the relevant structure where X and elements in XP would have access to YP within the strict cycle is simply not created by the grammar. As such, all syntactic dependencies are subject to the WC, regardless of whether or not they share the same operational core. All of the WC effects are thus uniformly derived from the timing of embedding.

The LEC successfully derives the strong version of the WC in (77), and it crucially does not reference specific operations. However, as mentioned earlier, Abels (2007, 2009) has argued that the strong WC is empirically too restrictive because it rules out a number of purported movement dependencies; this criticism extends to the LEC, as it derives the strong WC. The purported counterexamples to the strong WC fall into two classes. The first class is subject-to-object raising, e.g. in English ECM infinitives (84), where the embedded subject moves from inside the embedded TP to a *v*P-internal position in the matrix clause (Postal 1974), even though T > *v* and thus TP should be a barrier for such movement. This is the same kind of movement that Baker and Vinokurova (2010) propose for Sakha; see section 3.1.

(84) Mary believes **John** (with all her heart) $[_{\text{TP}}$ ___ to be guilty]

The second class involves movement over complementizers.[50] To illustrate, consider English topicalization. In an embedded clause, topicalization lands in a position below the complementizer (85a), from which it could be concluded that C > Top in *fseq*, where TopP represents whatever position topicalization targets. Topicalization can, however, cross an embedded finite clause boundary, moving over a complementizer (85b). If topicalization targets TopP and C > Top, the strong WC incorrectly predicts that CP should be a barrier for movement to TopP, thereby prohibiting topicalization over a complementizer.

(85) a. Mary thinks [$_{\text{CP}}$ **(that) John (*that)** no one likes ___]
topicalization

b. **John**, Mary thinks [$_{\text{CP}}$ **that** no one likes ___].
topicalization

In the face of cases like (84) and (85), the recent, operation-specific analyses assume weaker versions of the WC, and they are able to handle these exceptions, but largely through stipulation. For example, Abels (2007, 2009) proposes an extrinsic ordering on movement operations. Keine (2016, to appear) essentially proposes that some probes are not subject to the WC (in his terms, they do not have a 'horizon'). However, it is not at all certain that abandoning the strong WC and the LEC is warranted based on a set of limited counterexamples, especially in light of the importance of their operation-generality. Minimally, the introduction of improper case into the empirical landscape suggests that the purported counterexamples to the strong WC should be reanalyzed.

While fully reconciling these issues is beyond the scope of this paper, there are promising directions for how the two classes of exceptions might be reanalyzed. The first class of exceptions might involve structural reanalysis, not movement per se, as schematized in (86). This is essentially what Williams (2003:67–69, 74–75) proposes to handle ECM infinitives under the LEC, and it is similar in spirit to S-bar deletion in Chomsky (1981). The recent work by Müller (2017) on reanalysis in terms of structural removal is capable of deriving the procedure in (86) without invoking movement proper.

(86) *ECM as structural reanalysis*
[Mary believes [**John** to be guilty]] ⇝ [Mary believes **John** [to be guilty]]

The second class of exceptions would disappear if complementizers in these languages are edge markers that uniformly linearize at the clause boundary, along the lines of Manetta's (2006, 2011) proposal for Hindi-Urdu *ki*. Under such an analysis, a moved expression appearing to the right of a complementizer, like in (85a), would not entail that the complementizer corresponds to a projection higher than the landing site of movement and therefore would not constitute a violation of the strong WC if that movement can also cross the complementizer.

[50] This class also includes several purported cases of hyperraising, e.g. in Greek (Alexiadou and Anagnostopoulou 2002) and Zulu (Halpert 2012, 2015, 2016), which are diagnosed by movement over a complementizer.

The alternative to reanalyzing the exceptions to the strong WC and the LEC is to try to extend Keine's (2016, to appear) Agree-based analysis of the WC to improper case (setting aside that he assumes a weaker version of the WC). As mentioned above, the foremost challenge to this approach is that it would preliminarily require that Agree underlie dependent-case assignment—and a standard Agree-relation does not obviously resemble a dependent-case relation. Against this backdrop, I sketch below the contours of what an Agree-based implementation of dependent-case assignment would (presumably) have to look like. This sketch should not be viewed as a bona fide proposal, but rather as a proof of concept. The Agree-based dependent-case system rests on several technologies that have all been proposed independently in the literature:

- Features may be case-discriminating, whereby they are relativized to positions on the following hierarchy: unmarked ≫ dependent ≫ lexical (Bobaljik 2008; Preminger 2011, 2014; Poole 2015b; Deal 2017). For example, a feature relativized to 'dependent' can establish an Agree-relation with a DP marked with dependent or unmarked case, but not lexical case.
- A feature's search space may be restricted to either just sisterhood or its entire c–command domain, which I notate as $[\text{F}]_s$ and $[\text{F}]_c$ respectively. (This is presumably needed independently for sisterhood properties, like selection).
- Following Bare Phrase Structure, the nodes labelled XP, $\overline{\text{X}}$, and X^0 share the same features, as what projects is the head itself (Chomsky 1995a), thereby allowing specifier–head agreement as sisterhood agreement (Rezac 2003) (see also fn. 4).
- If a feature can be valued, then it must be valued, but unvalued features do not crash the derivation (Preminger 2011, 2014).
- Features may be ordered on a head $\langle x_1, x_2, \cdots, x_n \rangle$, where x_m is active only if x_{m-1} has first been satisfied (Müller 2011).

Dependent case is assigned via Agree with the feature stack ⟨[nom], [dep]⟩, which is borne by every functional head.[51] [nom] is a simple agreement probe, relativized to unmarked case such that it can only establish an Agree-relation with a DP whose [case: □] feature is unvalued; it does not assign any case itself. [dep] assigns dependent case. [nom] encodes the dependency requirement, i.e. that another DP be present in order to assign dependent case, because [dep] only becomes active *after* [nom] has itself been satisfied. In other words, satisfying [nom] "unlocks" the ability to assign dependent case with [dep]. Not satisfying the features, though, does not affect or crash the derivation. The two different case alignments are the result of parameterizing the search space of the two features in the stack. In a nominative–accusative alignment, the case-assignment stack is $\langle [\text{nom}]_s, [\text{dep}]_c \rangle$, where [nom]'s search space is restricted to sisterhood and [dep]'s search space is its entire c–command domain (87). In an ergative–absolutive alignment,

[51] Having every functional head bear ⟨[nom], [dep]⟩ is reminiscent of Marantz's (1991) original implementation of dependent-case assignment, which requires government by V+I. In some sense, this part of the proposal is injecting functional heads *back* into dependent-case theory, albeit in a very different role from functional-head case theory.

it is the reverse: ⟨[NOM]$_c$, [DEP]$_s$⟩, where [NOM]'s search space is its entire c–command domain and [DEP]'s search space is restricted to sisterhood (88).

(87) *Nominative–accusative alignment*

[$_{vP}$ DP$_\alpha$ v^0 ⟨[NOM]$_s$,[DEP]$_c$⟩ [$_{VP}$ V^0 DP$_\beta$]]

① "unlock" ② Assign DEP

(88) *Ergative–absolutive alignment*

[$_{vP}$ DP$_\alpha$ v^0 ⟨[NOM]$_c$,[DEP]$_s$⟩ [$_{VP}$ V^0 DP$_\beta$]]

② Assign DEP ① "unlock"

In a nominative–accusative alignment, depicted in (87), [NOM]$_s$ is satisfied by DP$_\alpha$ as sister to v^0, this unlocks [DEP]$_c$, and then [DEP]$_c$ assigns dependent case to DP$_\beta$. In an ergative–absolutive alignment, depicted in (88), [NOM]$_c$ is satisfied by DP$_\beta$ in its c–command domain, this unlocks [DEP]$_s$, and then [DEP]$_s$ assigns dependent case to DP$_\alpha$, its sister.[52] Under this system, dependent-case assignment is reduced to AGREE and a particular ordered set of features, and its directionality results from different locality profiles for the features in that ordered set.

What this system demonstrates is that dependent-case assignment could *in principle* be reduced to an AGREE-based procedure. Adopting such a system would in turn allow Keine's (2016, to appear) AGREE-based analysis of the WC to extend to case (with some work to do). However, there is no denying that the system sketched above is baroque and, I would argue, undesirable. It cashes out dependent-case assignment as a seemingly accidental combination of features and locality profiles and thus misses the underlying generalization. We are also left to wonder why such complex feature stacks are not utilized elsewhere in the syntax (though perhaps they are). This baroqueness stands in stark contrast to the elegance of the analysis in terms of the LEC. As such, I contend that in light of improper case, the LEC is the preferable analysis of the WC.

6.3 Phases

The WC and phases, the more standard notion of locality, are not mutually exclusive. They may coexist as independent constraints on syntactic operations. For instance, the WC does not force successive-cyclic movement through [Spec, CP]; this is still the domain of phases.

It is standardly assumed that CP and vP are phases, and consequently that successive-cyclic movement targets [Spec, CP] and [Spec, vP] (Chomsky 2000, 2001, 2008). Throughout this paper, I have assumed that only CP is a phase because in Finnish, a dependent-case relation can span an arbitrary number of intervening vPs, as illustrated in (89).

(89) **Hän** [$_{vP}$ pakotti **lapse-n** [$_{vP}$ avaa-ma-an **ove-n**]] (=37a)
s/he.NOM forced child-ACC open-INF/MA-ILL door-ACC
'S/he forced the child to open the door' [Nelson 1998:238]

[52] Thus, a feature stack may be satisfied across two cycles (Rezac 2003; Béjar and Rezac 2009): when the head merges with its complement and when the head merges with its specifier.

(89) shows, minimally, that dependent-case assignment is not subject to the PIC at the *v*P-level. There are two potential conservative explanations for this status, both of which are compatible with the Ban on Improper Case. The first is that dependent-case assignment is not subject to the PIC, as Bošković (2007) has argued about Agree. The second is that the *v*P-phase simply does not intervene in the same way for dependent-case assignment as the CP-phase does, as Baker (2015) proposes with his 'soft' and 'hard' phase distinction.

There is also the more radical explanation that *v*P is not a phase. *v*P-phasehood in fact conflicts with the WC more generally. First, according to the WC, movement from [Spec, CP] to [Spec, *v*P] is barred because C > *v* in *fseq*. Second, if such movement were permitted, it would obscure crucial distinctions, e.g. whether a DP moved out of a finite clause or a nonfinite clause, which is needed to account for improper movement (see Müller 2014a,b). Based on these kinds of considerations involving the WC and long-distance agreement configurations parallel to (89), Keine (2016, 2017) argues that *v*P should not be considered a phase, which would also solve the problems that the WC poses for *v*P-phasehood.

Abbreviations

ACC	accusative	INE	inessive	PCL	particle
ALL	allative	INF/MA	MA-infinitive	PL	plural
AOR	aorist	INF/TA	TA-infinitive	POSS	possessive
DAT	dative	INF/TEMP	temporal infinitive	PTV	partitive
FUT	future	NEG	negation	SG	singular
GEN	genitive	NOM	nominative	SUBJ	subject agreement
ILL	illative	PASS	passive		
IMP	imperative	PAST	past		

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