Case and intervention in DP licensing: Evidence from ECM+DOC

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1 Introduction

The minimal conditions that govern the distribution of DPs are those of Full Interpretation, such thematic interpretability at LF and linearizability at PF. The Minimalist approaches of Chomsky 1995 et seq. also retain purely syntax-internal requirements that go beyond independently motivated LF/PF needs.\(^1\) They are modelled by attributing lexical items uninterpretable features that must be eliminated for Full Interpretation: phi-probes \([\mu\phi]\) on Agree/Case loci such as \(T_{\text{NOM}}\), Case \([\mu\text{Case}]\) on DPs, Edge Features \([\text{EF}]\) to project nonthematic positions including Spec, T.\(^2\) The need to eliminate \([\mu\text{Case}]\) does the work of the Case Filter and its descendants (Chomsky 1981: 49, 333ff., 1986: 3.3.3.3.1). Recent work demotes the significance of Case, partly by shifting much of its work to phi-probes and Edge Features, partly by circumscribing its domain. This remark develops an argument that Case remains a distinct condition on DP licensing from the interaction of Exceptional Case Marking and the Double Object Construction in (1), elaborating the proposals of Pesetsky 1991 and Boeckx and Hornstein 2005. The interaction also argues for the irreducibility of intervener to phase-based locality and the need for a syntactic rather than only PF approaches to Case.

(1) a. We showed (*the reader) the propositions to be true. \(v/V_{\text{ACC}} (*\text{DP}_{\text{IO}}) [\text{INF} \text{DP} \ldots]\)
   b. *The reader was shown the propositions to be true. \(T_{\text{NOM}} (*\text{DP}_{\text{IO}}) [\text{INF} \text{DP} \ldots]\)

Classical Case theory links the licensing of DPs to their case and agreement morphology through the elements in (2):

(2) a. A DP must relate to an Agree/Case locus for its licensing.
   b. The relationship determines case and agreement morphology.
   c. The conditions on syntactic dependencies limit the relationship.

The intended working of the system is illustrated for English infinitives in (3). The infinitival subject gets case from its syntactic context: accusative under active ECM verbs \((v/V_{\text{ACC}})\) and in for-to infinitives \((C_{\text{ACC}})\), nominative under passive ECM or raising verbs \((T_{\text{NOM}})\), neither as subject or adjunct. Where there is case to assign, the DP, its trace, or the expletive associated with it is licensed; otherwise \(\text{PRO}\) is. By locality, case morphology and Case licensing affect the DP closest to Agree/Case loci, not a lower DP such as \(\text{the proof}\), which requires a distinct Case/case relationship, such as inherent Case.

(3) a. Kate expects [them to be shown the proof].

\(^1\) Most clearly so for DPs that may lack relevant interface content, such as idiom chunks at LF.
\(^2\) \([\text{EF}] = [\text{EPP}], [\text{OCC}]\); the nature of its satisfaction being unclear (Lasnik 2001a), I do not notate it \([\mu\text{EF}]\).
b. They are expected [__ to be shown the proof].

c. [For them, to be shown the proof], they must visit the ruins themselves.

d. [PRO to be shown the proof], they must visit the ruins themselves.

The current phi-Agree model of the Agree/Case system diminishes the role of Case. Chomsky 2000: 127f. attributes the driving force of the system to the Agree/Case loci: to their phi-probes that find goals and to their Edge Features that trigger movement. Phi-probes alone ensure that most DP arguments relate to Case licensers. For others, the need for Case licensing is not self-evident (the proof in (3), see section 3), or under debate (ask/*wonder the time, see Pesetsky (1982: 2.5) vs. Rothstein (1992)). The relationship between case and agreement morphology and Case licensing proves opaque in many contexts (Schütze 1993, 2001). The licensing of PRO has been convincingly divorced from morphology and attributed to properties of the C/T system, directly or through 'Null Case' (Marantz 1991; Sigurðsson 1991; Bošković 1997, Martin 2001; Landau 2004). One way to continue these developments is to eliminate Case from syntax and leave the morphology of case and agreement to PF (Marantz 1991, Bobaljik 2008).

Other research retains or extends the role of Case licensing in syntax (Lasnik 2008, Bošković 1997, 2002, 2007). Not all the work done by Case is currently subsumed under its alternatives. An example is Rothstein's 1992 development of Burzio's generalization that unergatives but not unaccusatives to assign object Case. She applies it to DPs added in productive resultitives, including the way construction in (4). X's way may be added to unergatives, provided there is no accusative object, but not to unaccusatives. The sensitivity to the presence of an accusative object suggests that X's way requires the accusative taken up by the object, and its impossibility under unaccusatives is not obviously reducible to LF or PF properties, or to [u phi] and [EF]. The weakness of the argument lies in the unclear analysis of the way construction, leaving space for s- or c-selectional approaches (Goldberg 1995, Jackendoff 2002, Mateu 2010).

(4) a. We drank (*the beer) **our way** through the room.
   b. The river, thundered/cascaded (its way) down the ravine.
   c. The river, fell/flowed (*its way) down the ravine.

This remark develops a new argument for Case licensing from DP intervention in the licensing of ECM subjects, (1). Section 2 sets out the properties of the structures involved. Section 3 argues that the licensing of the subject of an ECM infinitive is sensitive to the intervention of a Case-bearing DP between it and its Case licenser, while controlling for selection and for position licensing. Section 4 sets out the consequences: the need for Case licensing and the nature of Case, the existence of intervention rather than only phase-based locality, and the syntactic character of the phenomena discussed. Section 5 extends the proposal to the related domain of wager-class ECM.

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This aspect of Burzio's generalization seems invariant and follows from cyclicity and locality: only with unaccusatives (i-b) does the subject intervene in the vP where Agree/Case by \( v/A_{\text{ACC}} \) operates.

(i) a unerg.: \( T_{\text{NOM}} SU_{\text{NOM}} [v/V_{\text{ACC}} \ldots [DP_{\text{ACC}} \ldots]] \)
   b unacc.: \( T_{\text{NOM}} v/V_{\text{ACC}}[SU \ldots [DP_{\text{ACC}} \ldots]] \)
2 Case and placement in ECM and DOC

ECM verbs like believe, expect take a single internal argument, the ECM infinitive, corresponding to a DP or a that-CP on their non-ECM uses. Others like show, prove may add an indirect object in the prepositional construction. For both groups, the subject of the infinitive in (5) behaves for case, agreement, and licensing like the thematic object of the non-ECM construction, which may be constructed from (5) by omitting to be consistent. When the ECM verb is active, this DP is accusative and must be adjacent to V, (5)a/a', or the associate of an expletive that is adjacent to V, (5)b, or undergoes A'-movement, (5)c. When the ECM verb is passive, the DP is an agreeing nominative, and raises to [Spec, TP] in (5)d, or to the pre-participial position as the indefinite associate of an expletive (5)e, or undergoes A'-extraction (5)f.4

(5) a. We proved (*conclusively/*to the reader) the propositions/them (conclusively/to the reader) to be consistent.
   b. We proved (*conclusively/*to the reader) there (*conclusively/*to the reader) to be few propositions consistent with ours.
   c. the propositions that we proved (conclusively/to the reader) to be consistent
   d. The propositions/they were proven (to the reader) to be consistent.
   e. There were few propositions proven (to the reader) to be consistent with ours.
   f. the propositions that were proven (to the reader) to be consistent.

In investigating the role of Case in DP licensing, Case Adjacency and Object Shift must be controlled for. Accusative DPs or associated expletives cannot be separated from the verb by adverbs or PPs, save under A'-extraction. This Case Adjacency has been analyzed as Object Shift above adverbs and/or constraints on adverb placement (Johnson 1991, Bowers 1993, Koizumi 1995) or as a PF adjacency condition on Case assignment (Chomsky 1981: 94, Ackema and Neeleman 2004: 264-6, Alexiadou and Anagnostopoulou 2001: 207f.). Nominative case and agreement do not need adjacency, as Johnson 1991: 579f. points out for the pre-T position in (6)a and Bowers 2002: 203 note 25 for the post-participial position in (7). This will prove useful below.

(6) a. I knew that (probably) Gary (probably) had left.
   b. There had been (at first) only a few finds (conclusively) {attributed}/{shown to belong} to the pre-Clovis period.

(7) a. John rolled (*perfectly) the ball down the hill.
   b. Down the hill rolled (?perfectly) the ball (perfectly).

4 To describe expletive constructions, I follow the analysis of Chomsky (2000, 2001, e.g. p. 45 note 31) where the associate is nom./acc., as overtly in Icelandic; for partitive Case approaches, see section 5.
5 A selected accusative may be freely followed by these elements: an ECM subject more variably by adverbs and PPs and freely by particles (Bowers 1993: 632, Koizumi 1995: 34 vs. Johnson 1991: 630); and an expletive only sometimes by particles (Johnson 1991: 608 note 22; cf. Cardinaletti 1997:4.2).
Lasnik’s 1999, 2001b work on verb-particle constructions establishes that Object Shift exists but that it is optional. Bare particles may precede or follow accusatives (*send (out) the books out (out)). Lasnik shows through (8) that only in the accusative-particle order (8)a does the ECM subject c-command into the matrix clause, like a matrix accusative in any position, (9)a, while in the particle-accusative order (8)b it does not, like DPs trapped within the embedded clause, (9)b-(9)c ((8), (9)ab adapted from Lasnik 1999: 197, 201).

(8)  a. The DA made no suspect, out to have been at the scene during his/*any trial.
   b. The DA made out no suspect, to have been at the scene (/*during his/*any trial).

(9)  a. Without my glasses, I could make (out) no defendant, (out) during his/*any trial.
   b. The DA proved there to have been no suspect at the scene (*during his/*any trial)
   c. The DA proved no suspect to have been at the scene (during his/*any trial).

Lasnik concludes that accusative ECM subjects allow but not require Object Shift. The mechanism he proposes may be closely transposed to the system of Chomsky 2008 as in (10). The phase-head v selects for V with a phi-probe [u phi], the probe Agrees with the closest DP, the DP’s [u Case] is valued to accusative in virtue of the interpretable content of v/V, and an optional [EF] on V moves the DP.6

(10)  [TP DAi T [vP ti made, [VP (no suspect,)] V[ [inf,ACC,EF] [out [inf (no suspect,)] …]]]]

Lasnik’s proposal makes accusative licensing independent of optional Object Shift, so that Object Shift does not derive Case Adjacency. At the same time, Object Shift is restricted to the accusative goal v/V_{ACC}, keeping a key aspect of Johnson’s 1991 proposal which bars Object Shift for PPs, adverbs, and adverbial or predicate DPs (call (*to Kate) out (to Kate)). To this may be added the unavailability of the pre-particle position for nominatives (15), both in expletive constructions where they prefer the pre-participial position, and in Locative Inversion where they stay low (Rezac 2006, 2010; on (11)a see Hoekstra 2004: 379, citing Den Dikken 1990). Object Shift thus contrasts with the more diverse options for satisfying the EPP of T, for instance by a PP in Locative Inversion (Collins 1997, Holmberg 2000, Bailyn 2001, Nevins 2005). The asymmetry is not

6 Icelandic Object Shift, to a higher position, is also optional (Thráinsson 2007: 456). Bošković (2002: 208f.) argues that (8) is compatible with obligatory Object Shift if it occurs to below the particle while matrix adverbs must attach above it, but this does not seem readily compatible with the binding in (9)a. If the particle may attach to the verb in v as well as remain in-situ (Johnson 1991), it may only do so without Object Shift to explain (8)b, perhaps because attachment requires phonological adjacency. Weak pronouns or their clusters require adjacency to the verb, by what is often viewed as a prosodic constraint (Williams 1974: 69f., Zwicky 1986, Dowty 1995). This bans particle-pronoun orders. Pronoun-particle orders can be derived by Object Shift, feeding Condition C (Lasnik 1999: 200f.).
provided by attributing both to $\phi\eta+[EF]$. Whatever the solution, nominatives control for Object Shift in (11) as they do for Case Adjacency in (7).\(^7\)

(11)a. On the terrace were *set *up/out the/three chairs (next to each other).
   b. There were three/*the chairs set *out/up ?? on the terrace.

The foregoing patterns of case, agreement, and placement hold of the indirect but not the direct object of the Double Object Construction DOC. In the active, the indirect object is accusative (12)a, in the passive nominative (12)b, (12)c.\(^8\) The direct object is case-invariant, them in (12)b, and remains below the indirect object, so that the object order in (12) cannot be reversed. Most work concurs that the direct object is licensed in virtue of being an argument of the DOC verb: a preposition, inherent Case, or incorporation (Larson 1988, Pesetsky 1995, Baker 1997, Anagnostopoulou 2001). These are invisible in (12) but overt elsewhere (Bittner and Hale 1996: 18, Baker 1996: 4.3, and perhaps assure $X$ of $Y$, present $X$ with $Y$, and). It is then expected that only the indirect object shifts over particles (13)a-(13)b and is subject to Case Adjacency (13)c.\(^9\)

(12)a. We showed the readers / THEM\(_{IO}\) the proposition\(_{DO}\).
   b. The readers / they\(_{IO}\) were shown the propositions / THEM / *THEY\(_{DO}\).
   c. There were few readers\(_{IO}\) shown new propositions\(_{DO}\).

(13)a. Sam sent (%out) the stockholders (out) a schedule (*out). (cf. Pesetsky 1995: 278)
   b. The stockholders were sent (out) a/the schedule (*out).

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\(^7\) The binding of each other in (11)a and the restriction of Object Shift to accusatives indicate that Object Shift is neither necessary nor possible for expletive associates (contra Lasnik (2008: 28)). The pre-particle position of nominatives in (11) would be blocked if the PP of Locative Inversion passed through it, Hoekstra 2004: 379, as Rezac 2006 proposes for the pre-participial position, leaving it unclear why PP's cannot end up there in *call to Kate out. Locative Inversion with unaccusatives has a structure of the type (i), correctly giving V(-particle-)NOM. If true Locative Inversion occurs with unergatives (contra Culicover and Levine 2001), the V(-particle-)NOM order requires an unaccusative structure (Mendieta 2006) or a rightward Spec,v (Doggett 2004). Light is shed on these options by Quotative Inversion (iii). Collins 1997: chapter 3 argues that unlike in Locative Inversion, the verb is in T, v assigns accusative to the quote, and the nominative is in Spec,v. (ii) predicts either order for nominative and particle, correctly as in (iii).

(i) [CP PP \[TP t_{PP} \ldots \[t_{PP} \text{rose(}+\text{up})_{\ldots} \ldots \[t_{PP} \text{the chairs}_{\text{NOM}} \ldots\]]\]]
(ii) [CP quote\(_{ACC}\) \[TP t_{quote} \text{called(}+\text{out})_{\ldots} \[t_{quote} \text{Maia}_{\text{NOM}} \ldots\]quote \[t_{quote} \text{to Azenor} \ldots\]]
(iii) "Did you see him?", called (out) Maia (out) to Azenor.

\(^8\) Focused pronouns in capitals are used to show case while avoiding the V-adjacency condition of note 6.

\(^9\) (12) keeps to the prevalent English grammar that disallows theme passives in the DOC. (13) is less robust than one would like, Farrell (2005: 4.5), Hudson (1992: 259), Stowell (1981: 5.5), although some departures have explanations, Johnson (1991: 625, 630)). To respect the constraint of note 6, weak pronoun direct objects precede particles, Johnson (1991: 200f.), difficult to relate to the placement in (13)a-(13)b.
3 ECM + DOC

A handful of ECM verbs may combine with the DOC, including the regular ECM verb *show; guarantee, grant of the wager-type ECM discussed in Section 5; and assure, persuade, convince, that necessarily conjugate ECM and DOC.\(^\text{10}\) Combining ECM with DOC reveals an asymmetry between arguments and non-arguments where the licensing role of Case emerges. In the DOC, the indirect object relates to the higher Agree/Case loci \(v/V\_\text{ACC}\) and \(T\_\text{NOM}\). In the plain DOC (12)-(13), the next lower DP is the direct object and it is licensed as an argument of the DOC verb. In the ECM+DOC (14), the lower DP is the infinitival subject, which is not an argument of the DOC verb:

\[
(14) \quad T\_\text{NOM} / v(V)_{\text{ACC}} \ldots \text{the reader}_{\text{IO}} \left[\text{INF the propositions to be consistent}\right] \quad \left[\text{Agree (p,Case)}\right] \quad ^*\text{Agree}
\]

What we find is that the ECM+DOC combination is ungrammatical save in one situation. (15) illustrates the ungrammaticality of actives, (16) of passives; (15)a, (15)c and (16)a, (16)b contrasts with the goodness of corresponding plain DOCs without *to be consistent*.\(^\text{11}\) However, ECM+DOC is fine when the ECM subject A’-extracts, (17), as Kayne 1984: 5 observes for *assure* and Pesetsky 1991: 4.1, Postal 1993 show generally.

(15)a. *We showed the reader the propositions to be consistent.*
   b. *We showed few readers there to be any propositions consistent with ours.*
   c. *We showed her them/\text{THEM} to be consistent.*
   d. *I showed him there to be mice in the basement. (Postal 1993: 361)*
   e. *I guarantee you it to be possible to revise the program. (Postal 1993: 362)*

(16)a. *\text{The reader} was shown __ the propositions to be consistent.*
   b. *\text{There were few readers shown any propositions to be consistent with yours}.*

(17)a. *\text{The propositions that we showed the reader} [__ to be consistent]*
   b. *\text{We showed the reader} [__ to be consistent] \text{any propositions entailing the theorem in question}.*
   c. *\text{Those propositions, the readers were shown} [__ to be consistent].*
   d. *\text{There were only a few readers shown} [__ to be consistent] \text{any propositions entailing the theorem in question}.*

ECM+DOC reveals the role of Case in DP licensing, as follows from the Case-based explanation for (15) advanced by Pesetsky 1991: 4.1 and Boeckx and Hornstein 2005. (17) indicates that ECM infinitives and the DOC can combine as such, but (15) and (16) show that the indirect object may not stand between the matrix clause and the non-A’-

\(^{10}\) It may be that different heads introduce the indirect object of the DOC, applicative for *guarantee* vs. causative for *show* as in Pesetsky (1991: 4.1.1.5); here its character as a nonoblique DP matters.

\(^{11}\) With at worst a slight degradation of weak pronoun sequences, *We showed her them*, Postal (1993: 361).
extracted infinitival subject. This can only be so if the infinitival subject needs to relate to the matrix clause and cannot do so past the indirect object. The needed and blocked relationship fits the profile the phi-Agree/Case of Chomsky 2000 et seq. It is not selection, for the infinitival subject is not an argument of the matrix verb. It is not the licensing of Spec,T, for ECM infinitives provide it. It is not blocked by any matrix material, because indirect object PPs combine with ECM (see (5)), and because neither Case Adjacency nor Object Shift affect agreeing nominatives that are barred in (16) (see (7), (11)). The indirect object blocks the licensing of the infinitival subject because both belong to the class of DPs that alternate between accusative and agreeing nominative, that is DPs in need of structural Case, and because the indirect object c-commands the infinitival subject, which makes it closer to the matrix Case-licensers.\(^{12}\)

A’-extraction in (17) shows that ECM and DOC can combine in principle. Moreover, A’-extraction seems to rescue ECM+DOC specifically by providing an accusative assigner, as Kayne 1984 and subsequent work argues. Pesetsky 1991: 4.1.1.5 emphasizes that only when passing v/V
\[\text{ACC}\] does A’-extraction rescue ECM+DOC, (18). Kayne 1984: 5 points out that A’-extraction past v/V
\[\text{ACC}\] but not T
\[\text{NOM}\] licenses overt accusative marking on subjects extracted from finite clauses, (19).

(18) *Bill, who it/there seems / is likely [__ to be the best]… (Pesetsky 1991: 4.1.1.5)

(19)a. the people whom {you say} / {they tell me} / {I believe} __ are extremely bright
   b. *the people whom it is obvious __ like you

The accusative character of whom in (19) has been disputed (Lasnik and Sobin 2001), but there are more robust cross-linguistic parallels. Striking is Hungarian (20) (Gervain 2002, Coppock 2004, Den Dikken 2006, 2009). In Hungarian, a finite clause subject A’-moved past a bridge verb may surface nominative, as it would in-situ, or accusative (the case of other fronted DPs is unaffected). The fronted accusative agrees with the bridge verb, shown in (20)b for indefiniteness and in (20)c for 2SG. The distribution of object agreement leads the literature to conclude that that the accusative of the A’-fronted subject comes from the same source as the accusative of arguments, specifically Agree with v/V
\[\text{ACC}\] for Den Dikken. For the object agreement of a verb occurs with: (i) its accusative argument, obligatorily; an embedded subject A’-extracted past it if it ends up accusative, obligatorily, but not if it ends up nominative; (iii) an embedded object A’-extracted past it, optionally (in its own clause it is an agreeing accusative, per (i)).\(^{13}\)

(20)a. Peter-t/Péter mond-t-am, hogy jön
   Péter-ACC/NOM say-past-1SG COMP come.3SG
   It is Peter who he/she said is coming. (Coppock 2004, ex. 30)

\[^{12}\] Pesetsky's 1991: 4.1 account for (15) is through an S-Structure adjacency condition on Case assignment that Case-marked DPs and their A’-traces disrupt, as they do wanna contraction; however, the indirect object A-trace intervenes in passive (16). Boeckx and Hornstein's 2005 account is through Relativized Minimality on Object Shift needed for Case checking; (16) indicates that Object Shift is not the culprit.

\[^{13}\] The works cited control for prolepsis+resumption.
b. Két fiu-t mond-ott hogy jön.
   two boy-ACC say-3SGS.INDEF.PAST COMP come.3SG
   It was two boys that he/she said were coming. (Coppock 2004, ex. 39)

c. Téged mond-t-lak hogy szertné-lek hogy elnök leygél.
   you.ACC want-1SG→2 that would.like-1SG→2 that president be.2SG
   It is you that I said that I would like to be president. (Den Dikken 2009, ex. 29)

The same proposal for accusative assignment/licensing under A'-extraction by the regular accusative assigner/licenser has been developed for topicalization similar to (19)/(20) in Norwegian (Taraldsen 1981); for object agreement under similar circumstances in Passamaquoddy (Bruening 2001: 5.7); and for the rescue of ECM in ECM+DOC (Pesetsky 1991: 4.1.1.5), wager-class ECM, and croire-class ECM (see section 5; Ura 1993, Bošković 1997: 3.3, 4.4.2, Kayne 1984: 5.3). Ura, Bošković and Bruening develop economy-based accounts. I adapt the Bruening's to ECM+DOC in (21):

(21) \[ vP \text{ which showed/shown}_{\text{ACC}} \text{ the reader} [\text{INF} \, \text{...}] \]

\[ \begin{array}{c}
\text{Agree for A'-movement} \\
\Rightarrow \text{Agree for [uCase],[uφ]} \\
\text{successive-cyclic A'-movement}
\end{array} \]

The capacity to assign accusative and nominative are interpretable properties of T\text{NOM} and v/V\text{ACC} such as their category, tense, or aspect (Chomsky 2000, Pesetsky and Torrego 2004). Active v/V\text{ACC} has a phi-probe that permits it to Agree with the closest DP, while passive v\text{ACC} does not, and T\text{NOM} is the next higher phi-probe. In ECM+DOC, the goal of these phi-probes is the indirect object as the closest phi-bearer, and receives the case associated with the probe. This eliminates the uninterpretable phi-probes but not the interpretable Case properties of v/V\text{ACC} and T\text{NOM}. DPs lower than the indirect object cannot be reached by a phi-probe across it. However, their A'-movement past v/V\text{ACC} stops off in Spec,v (Fox 1999, Legate 2003, Sauerland 2003). Let us suppose that the movement entails Agree, perhaps by [uwh] or [EF] on v. Let us further suppose that Agree between features of α, β may maximize to include all their features as free riders (cf. Chomsky 1995: 4.4.4, 4.5.2, 2001: 15-19, Bruening 2001: 5.7). Then Agree leading to A'-movement through Spec,v allows valuation of unvalued [uCase] on the moving DP by v\text{ACC}, as in ECM+DOC (17)/(21). The idea extends to extracted finite subjects (19) if their uCase need not be valued in their clause or may be multiply valued.14 Both active and passive v/V\text{ACC} can value [αCase], if both have the relevant interpretable property and differ rather in the availability of [uφ]. This rescues (17), and allows accusative in (19)a and its passive analogue the man whom it was believed had left (Lasnik and Sobin 2001: 358 note 18). Unaccusative (18)/(19)b lack an accusative assigner. To bar them, C and T must be distinct so thatA'-movement through Spec,C must not allow T\text{NOM} to value [uCase]. Chomsky 2000, 2001 emphasizes the distinctness of C and T beside unitary v-V

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14 Multiple case assignment for the type (19) is suggested by the co-occurrence of embedded with upstairs agreement in Hungarian (20)c, and Taraldsen's 1981 evidence that in Norwegian topicalization the fronted DP must be syncretic for nominative and accusative; but see Den Dikken (2006).
based on such contrasts as the presence of T without C in ECM infinitives and the existence of Spec,T but not Spec,V expletives. Chomsky 2008: 148f., 157 proposes a parallelism of C-T and v-V, but he notes these unresolved contrasts.\textsuperscript{15}

### 4 Consequences

In ECM configurations, the infinitival subject receives case from, agrees with, and requires licensing by a non-selectional relationship to the matrix clause. All are blocked by an intervening DP that participates in the same case and agreement relationships, but not by other material. A'-movement obviates this intervention and leads to both case and licensing. This correlation of case and agreement, licensing, and intervention is the theory of Case: DPs need licensing by a locality-sensitive but phrase-structurally unbounded non-selectional dependency that influences the morphology of case and agreement.

This result is compatible with the existence of divorces between morphology and licensing and of contexts where DPs do not need Case licensing. Schütze 2001 argues that default case is assigned at PF to DPs in dislocation and apposition, within coordination and modification, and in deletion remnants. If these DPs do not require syntactic Case licensing, which is an open question, two natural domains for it are (22) and (23).\textsuperscript{16} (22) attributes Case to argumental but not adjoined DPs. It covers much of the same ground as Chomsky's 1981: 2.3, 1986 view that Case is required for thematic interpretation, construed broadly enough to encompass idiom chunks. (23) attributes Case to DPs undergoing certain operations. It may be elaborated in different ways so that Case is needed only by DPs that participate in phi-Agree and/or movement and/or pied-piping, these being its roles in Chomsky 2000: 123, 2001: 4, 6, 10 and Sobin 2009.

(22) Syntactic Case licensing is required by DPs introduced by set but not pair Merge.
(23) Syntactic Case licensing is required by goals of phi-Agree and/or (A-)movement.

Both proposals require that certain DPs be Case-licensed syntactically. Among them are the subjects of nonfinite clauses, contrary to Schütze's 1997: 53 suggestion of default

\textsuperscript{15} (18) would be excluded if [\textit{u}Case] had to be valued by the first step of A'-movement (see Pesetsky (1991: 4.1.1.5) vs. Bošković (1997: 128f.)). A'-extraction will not create structures of type (17) for control infinitives, since these require PRO by properties of their C/T (Bošković 1997, Martin 2001; Landau 2004: 6.3). See Bošković (1997: 3.3, 4.4.2, 2007: 626) for alternative Case-assignment mechanics for (17) in a system where A'-movement stops off in Spec,v by principles of chain formation rather than Agree with v.

Interaction of the two DPs in (i) indicates that the phi-probe is restricted to the indirect object, (i-a), which cannot A'-move out of the way between it and the lower DP, (i-b). This is expected if operations apply as early as possible or if Agree maximizes obligatorily. (i-b)/(ii-b) are both partly degraded by the Oblique Trace Filter, Stowell (1981: 5.3.2.3, 6.4.2), Hudson (1992: 258), but (i-b) is considerably worse.

(i) a (?)What did Roger try to show his students to be a liquid?
b *Who did Roger try to show glass to be a liquid?
(ii) a What did Roger try to show his students is a liquid? (Stowell 1981: 413)
b *Who did Roger try to show glass is a liquid? (Stowell 1981: 414; speaker variation)

\textsuperscript{16} They differ in the analysis they would attribute to Schütze's context, particularly deletion remnants.
Case for the type *Her tired, them staying late bothered her*, and infinitival subjects in ECM+DOC, contrary to the automatic availability of 'dependent' accusative for them in the system of Marantz (2000: 26). The two proposals make different predictions about the associates of expletives and nominative objects in quirky-subject constructions, which present key issues that have no generally accepted solution (cf. section 5).

Case licensing in ECM+DOC is constrained by locality. Theories of locality have explored the trade-offs between intervener and phase-based locality. In intervener-based locality, syntactic dependencies are blocked across an element sharing a property of the dependency. In phase-based locality, they cannot access certain structures. One scenario that calls for intervener-based locality is sensitivity to displacement of the intervener, highlighted in this context by Chomsky 2000: 130f., 2008: 143, and studied among others by Anagnostopoulou 2003 for Greek and Romance and by Sigurðsson and Holmberg 2008 for Icelandic. ECM+DOC also supports intervener-based locality, at least over the natural interpretation of phase theory: all the DPs in the same phase may Agree with a probe symmetrically or simultaneously (Hiraiwa 2005, cf. Chomsky 2008). In the DOC only the indirect object Agrees with higher Agree/Case loci. In the plain DOC, the direct object is plausibly inert due to its inherent Case/PP, but locality must derive the impossibility of Agree for the the infinitival subject of ECM+DOC. Phase-locality requires that infinitival subjects not be within a phase in plain ECM, but within one in ECM+DOC, unless undergoing A'-movement. This is readily formulable: the applicative head that introduces the indirect object selects a phasal infinitive, within which the subject is trapped unless it moves to the edge by A'-movement. However, this does not explain why the phase-hood of infinitives depends on indirect objects. Intervention-based locality does provide this explanation.

Finally, consider the syntactic character of the locality restriction on Case licensing in ECM+DOC. Case and agreement have traditionally been syntactic, but Marantz (1991/2000) develops a seminal approach in a post-syntactic morphology with its own computational principles. The ECM+DOC paradigm suggests two reasons for retaining case and agreement as syntactic. First, it indicates that case-agreement relations play a role in licensing DPs, which contrasts with the claim that PF realizes but does not filter syntax (Marantz 2000: 20, cf. Chomsky 1995: 4.1, 2000: 3.1). Second, the argument for a nonsyntactic computational system is weakened to the extent that it is shares key properties of syntax. Marantz's proposal lets PF case and agreement determination span the indefinitely large domains of A-movement, but it refers only in a very limited way to the phrase-structural relationship among DPs. Intervention effects over unbounded distances in ECM+DOC like (24) require much fuller reference to the latter. The same is needed by the reference of agreement to the phrase-structural position of datives on the path of agreement demonstrated in the literature cited above.

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17 Icelandic is key: expletive associates are accusative under ECM (*We expect (there) to be boats-ACC sold-ACC*; for the expletive, Thráinsson 2007: 482), but objects of quirky-subject infinitives prefer nominative (*We expect Jon-DAT to like (the) boats-NOM/ACC*), and can only be nominative in Caseless contexts (*PRO-DAT to like (the) boats-NOM*; see a.o. Freidin and Sprouse (1991: 407-9), Jónsson (1996: 4.7.2), Sigurðsson (2003: 257), as well as Rezac (2004: 5.4), Hiraiwa (2005: 2.6), Nomura (2005: 3.6).

18 Bobaljik 2008: 320 notes this issue of importing intervener-based locality into PF case/agreement, and
There are likely to have been (*few readers) shown to exist two proofs.

5 Extension to wager-class ECM

The role of A’-movement in Case-licensing also surfaces in wager class ECM (20), discussed by Postal 1974: 9.3-4, 1993, Pesetsky 1991, and Bošković 1997. Verbs like wager license a weak pronoun, an A/A’-trace, but not a full DP as the subject of their infinitival argument, (20). Thereby they differ both from regular believe-class ECM, which license all, and from the combination of believe/wager ECM with the DOC in show and guarantee, grant, which license only an A’-trace, as shown in (26).

(25)a. We expected/*alleged the propositions to be inconsistent.
b. (?)the propositions that we alleged [_ to be inconsistent]
c. We alleged them / *THEM to be inconsistent.
d. The propositions were alleged [_ to be inconsistent].

(26)a. The examination {showed (*us)} / {*guaranteed (us)} the books to be genuine.
b. The examination showed/guaranteed (*us) them to be genuine.
c. The books/they were shown/guaranteed (to us/*us) __ to be genuine.
d. *We were shown/guaranteed the books/them to be genuine.

In the believe-class, the phi-probes of T
\text{NOM} and v/V
\text{ACC} reach the infinitival subject. The wager-class behaves as if the phi-probe of T
\text{NOM} but not v/V
\text{ACC} reached the infinitival subject, but A’ and weak pronoun movement related it to v/V
\text{ACC} nonetheless. Both belief and wager ECM contrast with ECM+DOC, where the added DP intervenes for all higher phi-probes in a way eliminable solely by A’-movement across it.

Pesetsky 1991: 4.1.2 makes two key proposals that I would like to pursue: (i) v/V
\text{ACC} is neutralized in the wager class in the same way as in ECM+DOC, by intervention, (ii) proposes to reanalyse one of the Icelandic paradigms suggestive of it as raising + an infinitive transparent to A-movement vs. raising + experiencer + an opaque infinitive: Nomura 2005: 3.6 does so also for a parallel quirky-subject intervention for accusative under ECM verbs (note 17). Sigurðsson and Holmberg’s (2008) study of the raising constructions shows that agreement does depend on the position of the matrix experiencer. Even when the opacity of an infinitive is induced by an added internal argument, we would like to know why. Cinque (2002; section 5, 2004: 4.1) argues that adding a dative experiencer to ‘seem’ in French and Italian renders an infinitive opaque for clitic and quantifier climbing, but deduces it from his general hypothesis that restructuring verbs are functional heads that cannot take internal arguments. Importantly, both types of infinitives are transparent to case, agreement, and A-movement, and intervention is created by undisplaced experiencers (Anagnostopoulou (2003: chapter 4) on French, Italian and Greek).

19 Pesetsky 1991 includes under believe ECM ?assume, consider, discover, expect, fancy, feel, figure, find, hold, imagine, judge, know, reckon, remember, suppose, suspect, understand; show, demonstrate, prove, ?reveal, while under the wager ECM admit, affirm, allege, announce, assert, avow, claim, conjecture, declare, decree, disclose, grant, guarantee, intimate, maintain, note, observe, posite, recollect, said, state, stipulate, verify, as well as mumble, mutter, scream, shout, sight, yell, whisper; see also Postal (1974: 9.3-4). I set aside the use of wager-class verbs like declare when selecting the DP in V+DP+INF, analysed by Pesetsky 1991: 2.7, Bošković 1997: 3.2. Postal 1974: 307-9 reports more complex selectional restrictions.
the property that differentiates the *wager* class from the *believe* class is the selection of a human agent. Pesetsky links (ii) to (i) by stipulating that if a predicate selects for a human agent, it must Case-mark an argument. In the active, this can only be the infinitive, which then intervenes for Case-marking its subject, while in the passive, it can be the passive morpheme, which does not. It seems possible to reduce the stipulation by syntactically decomposing the *wager* but not the *believe* class is into \( v/V \) _make_ + [N (INF/CP)], where \( v \_make \) selects human agents and N incorporates. The decomposition is natural in a system such as that of Hale and Keyser 2006, since the *wager* consists of verbs paraphrasable as *make the N that...*, N typically cognate with the verb (*wager, allege*), or of verbs of the manner of communication, while the *believe* class does not. The decomposition is in (27).

\[
(27) \quad T_{\text{wp,NOM}} \[ vP \_v+V\_\text{make(wp,ACC)}[N\_\text{wager}[\text{INF DP ...}]\]\]

In (27), the intervention that Pesetsky proposes can be attributed to N and relativized to \( v/V_{\text{ACC}} \) by locality. Incorporated N does not usually block the phi-probe of \( v/V_{\text{ACC}} \) from finding a DP, *I wagered them*. However, in these cases N and DP are sisters in the structure [\( v/V_{\text{ACC}} \) [N DP]]. We may therefore take them as equidistant to \( v/V_{\text{ACC}} \), so that the phi-probe of \( v/V_{\text{ACC}} \) may Agree with the DP, while N meets any needs it has by syntactic incorporation (Baker 1988). When N takes an infinitival complement in (27), the infinitival subject is within the sister of N and thus not equidistant with N. The phi-probe of \( v/V_{\text{ACC}} \) thus stops at N. However, by the cycle when \( T_{\text{NOM}} \) probes, other things have happened. For one, N has incorporated into \( v/V_{\text{ACC}} \), and from the complex [\( v/V_{\text{ACC}}+N \)], N or the chain (N, N) no longer c-commands the infinitival subject to block the phi-probe of \( T_{\text{NOM}} \). For another, the infinitival complement of N might have raised to a higher position past the intervening N, as on Collins’s 2005 ‘smuggling’ approach to the passive where the VP raises to Spec,Voice over the agent in Spec,v.

A’-movement relates the infinitival subject to \( v/V_{\text{ACC}} \) in the *wager* class in the same way as it does in ECM+DOC in section 3. Movement might also underlie the licensing of weak pronouns in the *wager*-class but not ECM+DOC, (26). Bošković 1997: 58f. proposes that weak pronouns can incorporate into the verb and thereby satisfy the Case Filter (Baker 1988; cf. note 6). However, more must be said, since weak pronouns are not licensed simply by being adjacent to the verb in active and passive ECM+DOC (26)b, (26)d. Rather, incorporation makes weak pronouns equidistant to N in *wager*-class ECM and thus reachable by the phi-probe of \( v/V_{\text{ACC}} \), while in ECM+DOC it will not help since the indirect object still uses up the phi-probe. Chomsky 2000: 128, 2008: 145 develops labelless bare phrase structure in a way that may derive the exceptionality of weak pronouns without movement, if they are atomic. Chomsky proposes that upon Merge of a.

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20 Alternatives include that only [N INF] but not bare N or bare INF is the goal of a phi-probe, for reasons to be understood, and Bošković 1997: 3.2, 4.4.2.1 proposal where the agentive verbs project an extra VP shell that intervenes for relating the infinitival subject to the matrix clause, hard to recast under Agree.
with \( \beta \) to satisfy the properties of \( \beta, \{ \alpha, \beta \} \), if \( \alpha \) is a atomic then either \( \alpha \) or the label of \( \beta \) or both may act as the next probe/selector and as the label at the interfaces. Thus in ECM infinitives, Merge\((there, T')\) to \{there, \{T, vP\}\} permits \([uperson] \) of \( there \) to probe \( T' \) but \( T \) be the label for selection, simultaneously. (28) indicates the structures for wager-class complements in this light. In (28)a, N and DP are equidistant from \( v/V_{ACC} \) as sisters and the phi-probe of \( v/V_{ACC} \) may reach either N or the D label of DP. Exactly the same should hold for (28)b with D taken as the label. Not so when the subject of the infinitive is complex, (28)c, where only T can be the label.

\[
\begin{align*}
(28) \quad a. \quad v/V_{ACC} \left[ N \left[ DP \ D \ NP \right] \right] &= \{ v/V_{ACC} \left[ N \left[ D \ \ldots \right] \right] \} \\
\quad b. \quad v/V_{ACC} \left[ N \left[ TP \ D \ T' \right] \right] &= \{ v/V_{ACC} \left[ N \left[ D, \left[ T, vP \right] \right] \right] \} \\
\quad c. \quad v/V_{ACC} \left[ N \left[ TP \ DP \ T' \right] \right] &= \{ v/V_{ACC} \left[ \left[ \left[ D, NP \right], \left[ T, vP \right] \right] \right] \} 
\end{align*}
\]

Among the weak pronouns licensed in wager ECM are expletives (29); it remains to understand the Case of their associates. Nothing need be said on partitive Case approaches to expletive associates (Lasnik 2008: 28, Bošković 2007: 628) or if expletive associates are exempt from Case licensing (Sobin 2009: 5.9).\(^{21}\) However, Chomsky 2000, 2001 takes the expletive associate to be nominative/accusative, as overly in parallel Icelandic structures (sharing with English the definiteness effect, Sigurðsson (2009), and for some speakers the overt expletive, Thráinsson (2007: 482)). On this view, the expletive+associate in (29) should get Case as a whole. This may be done without positing expletive-associate chains, by combining the proposal that Agree unifies features, Frampton and Gutmann 2000, Pesetsky and Torrego 2007, with the notion of free riders Chomsky 1995: 4.4.4, 4.5.2. Following Chomsky 2000: 128f., 2001: 16-19, in (29) \( T_{INF} \) Agrees for \([uphi] \) with stolen documents and the expletive Agrees with the \( T_{INF} \) for \([uperson] \). Let us suppose that \([uCase] \) of stolen documents is involved in these Agree steps as a free rider. Unification at each Agree step results in a single \([\{uphi\}=3PL] \) and \([uCase] \) linked to the positions Spec,\( T_{INF} \), T, and V,DP. Agree between \( v/V_{ACC} \) and \( there \) in Spec,\( T_{INF} \) values the single \([uCase] \) distributed across these positions to ACC.

(29)a. \quad He alleged there to be stolen documents in the drawer.

\quad b. \quad There were alleged to be stolen documents in the drawer.

In this manner the similarities and differences of wager class ECM with belief class ECM on the one hand, and with the ECM+DOC combination on the other, can be reduced to intervention and related to the human agent requirement of the wager-class.\(^{22}\)

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\( ^{21} \) Partitive Case does not eliminate the need for a low agreeing nominative in Locative Inversion, where the postverbal subject may be definite (Bresnan 1994), must agree (Schütze 1997: 4.1.6), and is structurally low (Rezac 2010). Branigan 1997 extends Locative Inversion to ECM in The photos proved behind this very hedge to have hid Jack and Jill during each other's trials, but Culicover and Levine 2001: 288, 300 argue that Locative Inversion in infinitives involves raising the subject to Spec,\( T \) followed by HNPS, which explains Branigan's binding pattern and its contrast with (9)b.

\( ^{22} \) The wager-class resembles French croire 'believe' class, which take non-control infinitives only if the infinitival undergoes A'-movement. Since passivization is no help, Kayne 1984: 5.3, Rizzi 1990: 58f., and
References


Bošković 1997: 3.4 all develop positions where croire combines with infinitival CPs that are neither transparent to ECM nor can Case-license their own subject, so that only A'-extraction will do so; since French has no overt-subject infinitives, the absence of Case-licensing might be the absence of EPP-licensing for all but PRO. The opacity of these infinitives to ECM might be modelled by intervention eliminable by neither equidistance or incorporation, as in Pesetsky's 1991 approach to wager-class ECM.


