Off Phases: It's All Relative(ized)

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August 2024

Abstract

This paper argues that Phase Theory (Chomsky, 2000, 2001) can be subsumed by a theory of locality based on Relativized Minimality (Rizzi, 1990). Any phrase head can induce phase-like locality effects for a particular dependency, if it bears the relevant feature. C has no special status; while it reliably induces locality effects in A-bar dependencies, we find crosslinguistic variation in whether it induces locality for other dependencies. Phrases like TP induce locality effects for A-depdencies when they bear phi-features.Examining crosslinguistic patterns in long-distance A-dependencies, we tease apart the predictions of phase-based and minimality-based locality and show that minimality fares better.

1 Introduction: Absolute and Relative Locality

A guiding intuition in syntactic theory is that dependencies between syntactic elements are possible if those elements are, in some sense, local to each other. Traditionally, syntactic theory distinguishes two main types of locality: absolute locality and relative locality. Absolute locality involves certain syntactic objects, like syntactic islands, that are opaque to all outside processes; elements inside these objects are never local enough to elements on the outside. Relative locality involves the idea that two syntactic elements are only

local to each other in case another element of the relevant type does not intervene. Both types of locality are often invoked within a single theoretical approach, but in Minimalist approaches (and their predecessors), absolute locality is frequently assumed to regulate cross-clausal dependencies. In this paper, we reassess the motivations and evidence for absolute locality instantiated by Phase Theory (e.g. Chomsky, 2000, 2001) and argue that not only can the locality effects typically ascribed to phases be accounted for instead by Relativized Minimality (following Abels, 2003; Torr, 2012; Keine and Zeijlstra, 2023), but that a minimality-based approach to cross-clausal dependencies in fact provides better empirical coverage than a phase-based one.

1.1 Absolute Locality and Phasality

Absolute locality, going back to Ross' (1967) strong islands, Huang's (1982) Condition on Extraction Domain (CED) and Chomsky's (1986) Barriers, involves domains that are opaque for extraction, such as sentential subjects or adjuncts. In more recent theories, starting with Chomsky (2001), absolute locality has been implemented in terms of phases (most notably Chomsky, 2000, 2001, 2008). Under Phase Theory, certain constituents (phases) form units of absolute locality, and syntactic structure is subject to periodic Spell-Out (or Transfer) when these units are built. There are two versions of Phase Theory. In this paper, we consider the strong version of Phase Theory, which maintains that once a phase is completed, its complement undergoes Spell-Out and becomes inaccessible for all subsequent operations. Only the phase head itself and its specifiers, the so-called phase edge, remain accessible as more structure is built. The Phase Impenetrability Condition (or PIC), as in (1), formalizes this idea.

(1) *Phase Impenetrability Condition* (Chomsky, 2000, 108): In phase α with head H,

the domain of H is not accessible to operations outside of α, only H and its edge are accessible to such operations.[1]

Phase Theory is a version of absolute locality because categories that are phases will always block syntactic dependencies from being established across the phase head. Naturally the question arises as to what constituents are phases. Chomsky (2000, 2001) and much subsequent work takes CPs and (transitive/unergative) *v*Ps to be phases, at least in the verbal domain (an idea that goes back to Chomsky, 1986). However, in recent years, but a number of alternatives have been proposed as well, for instance that that every phrase is a phase (Bošković, 2002; Boeckx, 2003; Müller, 2004, 2010, 2011; Boeckx and Grohmann, 2007, see also Manzini, 1994, and Takahashi, 1994), or that every syntactic operation constitutes a phase (Epstein and Seely, 2002), that phasehood is determined contextually (Bošković, 2005, 2014; den Dikken, 2007; Gallego and Uriagereka, 2007; Gallego, 2017; Takahashi, 2010), More recently it has been argued that CP is a phase but *v*P is not (Grano and Lasnik, 2018; Keine, 2020a,b; Gesoel and Ranero, 2021; Keine and Zeijlstra, 2023). Keine and Zeijlstra (2023) have argued, based on data from (Standard) Indonesian, Dinka, and Defaka, that *v*P-phasality effects are actually better captured in terms of Relativized Minimality than in terms of phasality, and that therefore *v*P-phasality can be dismissed with.

Across these proposals, there is broad (with the notable exception of den Dikken, 2017) consensus that CP is a phase, a view that goes back to (Chomsky, 1973, 1977, 1981). The identity and distribution of other phase heads like *v*P, but also DP and PP, is less established and nowadays at least controversial.

How can we tell that a particular category is a phase? As noted above, the PIC predicts

[1]The weak version of Phase Theory states that Spell-Out takes place when the next-higher phase head is merged (Chomsky, 2001). On this version, instead of the PIC as formulated in (1), impenetrability only arises when a higher phase H_n has been built: at that point, the complement of the next lower phase H_{n+1} can longer be targeted by syntactic operations. The reason we focus on the strong version of the PIC is that several of the arguments in favour of the weak PIC depend on syntactic dependencies across v, whose status as phase head is currently disputed by Keine and Zeijlstra (2023), a.o., as we discuss below.

that phase heads will block dependencies from being established across them; only the phase head and its specifier are available to higher elements in the syntax. In order to establish dependencies between a phase-external element and one that is generated below the phase head, then, the lower element must first move to the phase edge (specifier). The empirical signature of successive cyclic movement, where an element in a long-distance dependency must move through certain specifier positions, thus fits with the predictions of Phase Theory and has been taken as evidence for CP phasality in a variety of languages and configurations.

For instance, Irish C in declaratives is realized as *go* (*gu-r* in past tense), both in main clauses and in embedded clauses. However, whenever a *wh*-element or another element undergoes A-bar movement into Spec,CP, it changes into *aL*, realized as *a* below. Strikingly, under cross-clausal movement, an embedded C-head also gets realized as *a*, indicating that the *wh*-constituent lands in embedded Spec,CP on its way to matrix Spec,CP (McCloskey, 2002, 187-186):[2]

(2) a. Creidim [$_{CP}$ gu-r inis sé bréag.]
believe.1SG C-PST tell he lie
'I believe that he told a lie.' (McCloskey, 2002, (3), glosses modified)

b. [$_{CP}$ Céacu mac$_i$ **a** thóg t$_i$ an teach sin?]
which son aL raise.PST the house DEM
'Which of the sons built that house?' (McCloskey, 2001, (66a))

c. [$_{CP}$ Cé$_i$ **a** dúradh léithi [$_{CP}$ t$_i$ **a** cheannódh t$_i$ é?]]
who aL said.PST with-her aL would-buy it
'Who was she told would buy it?' (McCloskey, 2001, fn.23, (ii))

Successive cyclic movement through CP edge can also be seen in various varieties

[2]This paper uses the Leipzig glossing abbreviations, with the following additions: AA = alternative agreement, ACCOMP = accomplishment marker, AOR = aorist, ASSOC = associative marker, AUG = augment prefix, CL = classifier, FV = final vowel, INSTR= instrumental, INV = inverse, OM = object marker, POT = potential mood PSTPRT = past participle, SM = subject marker, TI = transitive inanimate. In glossing Bantu languages, cardinal numbers typically indicate noun class; local persons are distinguished from noun class by combining the number with SG/PL.

of German and Frisian where overt *wh*-copies are realized in the lower Spec,CP position (Hiemstra, 1986):

(3) a. [$_{CP}$ Wen glaubst Du, [$_{CP}$ **wen** sie getroffen hat]]?
Who think you who she met has
'Who do you think she has met?'

b. [$_{CP}$ Wêr tinke jo [$_{CP}$ **wêr** 't Jan wennet]]?
Where think you where that Jan resides
'Where do you think that John lives?' (Hiemstra, 1986, p. 99)

Similarly, English- and French-learning children sometimes also produce similar examples (Thornton, 1990; Oiry and Demirdache, 2006).

Another type of evidence for successive cyclic movement through CP comes from *wh*-intervention effects, as in (4). Here, Spec,CP is already occupied by a *wh*-term; hence no other *wh*-element may land there. If *wh*-movement into the matrix clause could take place in one fell swoop, this movement should in principle still be possible (unless, of course other island/intervention effects block it), contrary to fact.

(4) *Who$_i$ do you wonder [$_{CP}$ **why** (that) she invited t$_i$]?

This type of evidence for successive cyclic movement through CP for long-distance A-bar dependencies is strong and cross-linguistically pervasive, and we have no reason to dispute the conjecture of obligatory intermediate landing sites for movement. However, the question is open as to whether this obligatory successive cyclic movement, in fact, provides *evidence* for CP phasality. As we turn to below, the empirical footprint of successive cyclic movement is actually compatible with both absolute and relative notions of locality.

1.2 Relative Locality and Phasality

While the idea of CP phasality has garnered broad consensus due to the pervasive evidence for obligatory successive cyclic movement through CP edges across languages, Keine and

Zeijlstra (2023) argue that classical arguments in favor of (*v*P)-phasality are not conclusive and that alternative accounts, in terms of relative locality, may actually fare better in accounting for the empirical facts that have been taken to indicate (vP)-phasality. Hence, the question arises of whether CP-phasality, the hallmark of Phase Theory, can also be captured in terms of Relatized Minimality.

In the next section, we spell out out what such a minimality-based approach to (CP)-phasality amounts to, primarily following ideas by Abels (2003). As we will see, if minimality can account for successive cyclic movement in the C domain, then there is no intrinsic property that singles out C as a special head. Rather, a minimality-based approach predicts that the types of locality effects found with C should also be attested around other heads. In sections 3 and 4, we explore this prediction by looking at long-distance A-dependencies (raising and long-distance agreement). In both of these domains, we find that the empirical picture favors a general minimality-based approach over phases: not only do CPs lack expected phase effects for A-dependencies in some languages, but other phrases, like TPs, do show the expected effects. As predicted by Relativized Minimality, the distribution of phi-features is implicated across languages in the specific locality patterns for A-dependencies.

2 A Minimality-based Approach to Phase Effects

Abels (2003) is the first and foremost approach that aims at accounting for phasality effects—or more specifically, the necessity for intermediate landing sides in case of extraction out of certain domains—in terms of Relativized Minimality. Here we'll look at how his proposal derives successive-cyclic A-bar movement.

2.1 Enforcing A-bar Movement Through CP Edge

Concretely, Abels' proposal builds on two assumptions. First, Abels implements Relativized Minimality in the domain of phasality in terms of Attract Closest (Chomsky 1995), which is defined as follows:

(5) Attract Closest: If a head K attracts feature F on X, X a feature bearer of F, no constituent that bears F is closer to K than X is.

(6) Closeness: Y is closer to K than X is if K c-commands Y and Y c-commands X.

(7) Feature bearers: A is a feature bearer of feature F iff A is a constituent and the label of A contains F.

In order to see how this works, let's for the sake of illustration assume that matrix C is endowed with some feature [Wh] that attracts the *wh*-phrase. Now, further assume that not only matrix C but every C-head carries such a feature, irrespective of whether it is (or ends up being) an interrogative C-head or not. The moving *wh*-terms (trivially) carry [Wh] as well.

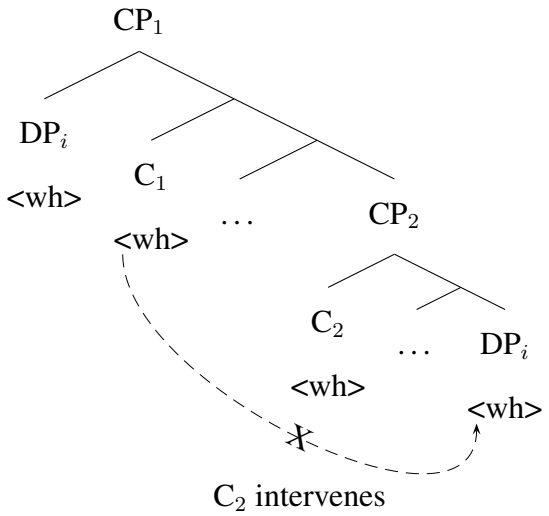
Under these assumptions, obligatory successive cyclic movement of *wh*-terms directly follows. To see this, take the following minimal pair:

(8) What$_i$ do you think [$_{CP}$ that Mary bought t$_i$]?

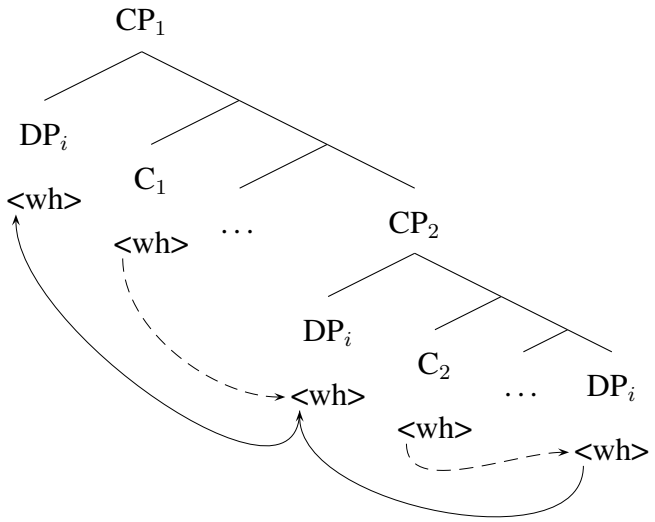
(9) What$_i$ do you think [$_{CP}$ t$_i$ that Mary bought t$_i$]?

The difference between (8) and (9) is that in (8) the *wh*-term moves in one fell swoop to matrix Spec,CP while in (9) it does so by making an intermediate landing in embedded Spec,CP. The underlying structures of (8)-(9) are (10)-(11), respectively.

(10) *[$_{CP}$ DP$_i$ C [$_{CP}$ C DP$_i$]]



(11) $[_{CP}$ DP$_i$ C $[_{CP}$ DP$_i$ C DP$_i]]$



In (8)/(10), matrix C c-commands embedded C, and embedded C c-commands the DP. Consequently, given Attract Closest, when matrix C_1 probes for [Wh], DP$_i$ is out of reach: embedded C_2 is a closer, feature-bearing intervener between matrix C_1 and the DP.

However, in (9)/(11) there is no intervention. Here, embedded C_2 first attracts DP$_i$ to its specifier. Nothing intervenes between C_2 and the DP. Next, matrix C_1 attracts the DP into matrix Spec,CP. Note that this embedded CP, even though it bears a [Wh] feature, does not act as an intervener as it does not c-command its specifer.[3]

[3]Note that even though the first movement step may violate featural relativized minimality (C intervenes

Hence, obligatory successive cyclic movement follows straightforwardly without any recourse to phasality. However, it only does so under the assumption that not only do matrix C and the DP carry some [Wh] feature, but also embedded C, even though its exponent *that* is not an interrogative complementizer and can survive without attracting a *wh*-term.[4] Here, Abels' second assumption comes into place. Abels assumes is that every C-head is universally endowed with a feature he dubs [clause-type]. This feature, for him, is special in the sense that does not have to be checked but that when it is is unchecked will receive a default value *declarative* rather than causing ungrammaticality.[5]

Let us see how Abels' approach works for some examples:

(12) a. I said that Mary bought a car.

b. Who said that Mary bought what?

c. What$_i$ did you say <what$_i$> that Mary bought?

In (12a), embedded C is not checked by any *wh*-term. It remains unchecked and surfaces as a (default) declarative. In (12b), embedded C also remains unchecked because the embedded *wh*-term remains in situ. Again, embedded C surfaces as a (default) declarative. However, for (12c), more needs to be said. Here, embedded C attracts the *wh*-term but does not get checked/valued by it, even though it lands in its specifier. For Abels, the reason is that the *wh*-term can only check one of its attractors and since it is closer (in the sense of (6) it will only check matrix C and not embedded C.

Abels' proposal is not free of problems. For one, it remains unclear why in (12c) the *wh*-term is attracted by embedded C, while this is not the case in (12b). One cannot say that

between the raised and base copies of DP), under Attract Closest, this movement step is fine. This is the reason why Abels opts for Attract Closest instead of (featural) relativized minimality.

[4]As van Urk (2020) notes, intermediate features may in fact be necessary to derive intermediate movement even in a phase-based approach to successive-cyclic movement.

[5]Note that such features were rather mysterious in the time that Abels presented his thesis, but are now much more common under *failed agreement* or *Obligatory Operation* approaches (e.g. Preminger, 2014; Longenbaugh, 2019).

in (12c) the *wh*-term must move to embedded Spec,CP in order for matrix C to attract it, as that would involve *look ahead*. Second, the step that in (12c) only highest C gets checked by the *wh*-term is rather stipulative.

At the same time, various solutions have been proposed for these problems. Bošković (2007), for instance, has proposed that *wh*-terms not only have an interpretable [Wh] feature, but also an uninterpretable [uQ] feature. In addition, he assumes that only interrogative C—but crucially not declarative C—carries a feature ([uQ]) that needs to be checked by a *wh*-term. Then, every *wh*-term that carries [uQ] will automatically move across a declarative C-head as otherwise it will not be able to be checked. Only if the *wh*-term lacks a feature [uQ] can it stay behind. In that case, no clause-external C-head can attract it. This indeed explains cases like (12c), although it does not account for the lack of movement in (12b). In more recent work, the notions and loci of checking and valuation have been disentangled as well (Pesetsky and Torrego, 2007; Arregi and Nevins, 2012; Bjorkman and Zeijlstra, 2019), where valuation follows checking and can be delegated to PF. If lower copies are deleted prior to valuation, it follows that only overt copies can value a local C.

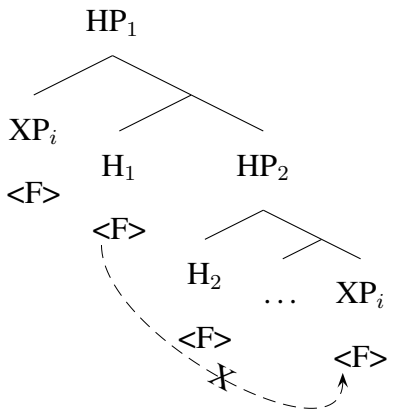
Given the above, we concur with Abels that one can maintain that both declarative and interrogative C-heads and *wh*-terms share some feature (like [clause-type]) that underlies obligatory successive cyclic movement. The problems his 2003 account faces can be rescued by adopting some additional, more recent assumptions.

While we follow Abels' approach in assuming that attraction of the *wh*-term to the intermediate Spec,CP alleviates intervention, we also differ with Abels in an important respect. For Abels, the features on C are special in the sense that they have a default value that frees them from an obligatory checking requirement. Other functional heads lack such special features. For instance (finite) T, for him, has a case feature that must be checked; otherwise ungrammaticality arises, which derives T's EPP property. In other words, there must be a universal alignment between features with a default value that do not have to

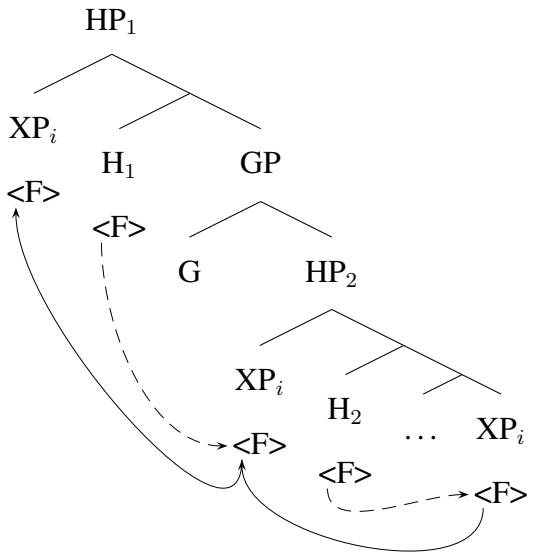
be checked and functional heads that bear these features like C. These heads, on Abels approach, are phase heads, while heads whose features that lack a default value and do need to be checked should not be phase heads.

Here we differentiate. What we argue in this article is that it is not the case that certain features or heads are special to the exclusion of others. Rather, the mechanism that triggers obligatory successive cyclic movement is equally applicable to traditional phase heads and traditional non-phase heads. The empirical prediction of minimality-based locality is that obligatory successive cyclicity can arise for *any* functional head in a derivation. That is, first, (13) is always ungrammatical, irrespective of what head H is. Second, without additional triggers of ungrammaticality, (14) is fine, even if XP, when moving from embedded Spec,HP to matrix Spec,HP, does not land in an intermediate Spec,CP or any other Spec,GP where G is what is canonically assumed to be a phase head.

(13) *[$_{HP}$ XP$_i$ H [$_{HP}$ H XP$_i$]]



(14) [$_{HP}$ XP$_i$ H [$_{GP}$ G [$_{HP}$ XP$_i$ H XP$_i$]]]



In the next subsection, we begin to make the predictions of this proposal more concrete.

2.2 Minimality vs. Phasality: Assessing the Predictions

As we've now seen, the main evidence for phases—obligatory successive cyclic movement through the phase edge—is in line with the predictions of both phase-based and minimality-based locality. On a phase-based approach, successive cyclic movement is required in cross-clausal movement to allow the moving element to escape the impenetrable complement of the phase head. On a minimality-based approach, it arises as a result of agreement between an intervening head that bears shared features and the moving element, resulting in movement to the specifier of the intervening head. How, then, can we differentiate between the two approaches to locality?

The phase-based approach to locality identifies specific heads that will always induce opacity effects, both across languages and for all processes within a language. It affords one mechanism—movement to the phase edge—for establishing dependencies across a phase head. In the case of CP, then, we expect movement to Spec,CP for all cross-clausal dependencies. When the lower clause does not involve a CP phase, we expect movement

directly from the base position into the higher clause to be possible, without successive cyclicity. We might also expect it to be impossible for multiple, distinct dependencies to cross a single clause in a language with a single Spec,CP: only one element could ever use that position as a landing site to escape the phase.

A minimality-based approach to locality predicts more possibilities for variation in locality effects within and across languages. Rather than designating specific heads as having special status as phases, the minimality-based approach predicts that locality effects will be relativized to specific features. That is, a phrase like CP might induce locality effects for one type of dependency but not for another. And similarly, another type of phrase might also induce locality effects for a particular dependency if the phrase head bears the relevant feature. We therefore expect to find different barriers for different dependencies within a language. Because, under this approach, locality effects are linked to feature distributions, and are not intrinsic properties of certain heads, we might also expect locality effects associated with a particular head to vary across languages, to the extent that the features associated with a particular head can vary cross-linguistically. Finally, while a phase-based approach depends on movement to the phase edge (successive cyclicity) as the sole means of establishing phase-crossing dependencies, a minimality-based approach could potentially harness other mechanisms for alleviating intervention effects, as we will discuss in the next section.

In the case of A-bar movement and CPs, as we have discussed in the previous sections, we indeed seem to find the type of uniformity that Phase Theory predicts: rigid successive cyclicity across languages, using only the available specifier(s) of CP.

(15) a. *[$_{CP}$ XP$_i$ C … [$_{CP}$ C … XP$_i$ …]]

b. [$_{CP}$ XP$_i$ C … [$_{CP}$ XP$_i$ C … XP$_i$ …]]

However, it is far from clear that C must be special in this sense. While indeed ev-

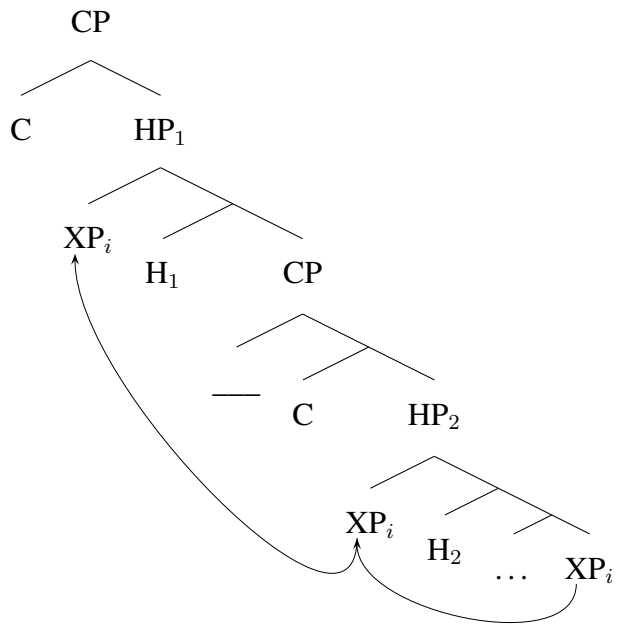
ery instance of cross-clausal A-bar movement into some Spec,CP requires an intermediate landing site, it is less clear that this uniformity in the CP/A-bar domain applies to other CP-crossing dependencies—or that obligatory successive-cyclic movement is something that is restricted to heads like C only. In this paper, we argue that (15a)-(15b) are actually special instances of (13) and (14) from the previous section, repeated in simplified form below:

(16) *[$_{HP}$ XP$_i$ H … [$_{HP}$ H … XP$_i$ …]]

(17) [$_{HP}$ XP$_i$ H … [$_{HP}$ XP$_i$ H … XP$_i$ …]]

In order to evaluate the validity of (16)-(17), of which (15a)-(15b) are then instances, as the sole source of successive cyclic movement (and other locality effects), (16)-(17) first need to be verified for movement into Spec,HP where H crucially is not assumed to be phase head. Moreover, to show that successive cyclicity in CP is purely due to Relativized Minimality, and not special phasal status, it also needs to be shown that when the features of C are not implicated in long-distance movement, movement to the higher clause does not necessitate an intermediate landing site in an embedded CP, as schematized in (18):

(18) [$_{CP}$ [$_{HP}$ XP$_i$ H … [$_{CP}$ … [$_{HP}$ XP$_i$ H … XP$_i$ …]]]]



Let us discuss each in turn. Baltin (1995) has shown that subjects in infinitival clauses do not move into embedded Spec,TP unless they raise into matrix Spec,TP, as shown in (19), where we take floating quantifiers to diagnose the position of (copies of) embedded subjects:

(19) a. The students hoped [$_{TP}$ {*all} to {all} win the race.]

b. The students seemed [$_{TP}$ {all} to {all} win the race.]

Given that embedded T does not require subject movement into Spec,TP (otherwise higher *all* should be fine in (19a)), (19b) must reflect an instance of successive cyclic movement of the type in (17), where H is T and XP is the subject.

In addition, we can also find instances of the configuration in (18), where a long-distance process bypasses Spec,CP, as well. In Brazilian Portuguese, CPs don't block A-movement, a phenomenon known as hyperraising (e.g. Nunes, 2008; Ferreira, 2009). As Kobayashi (2020) shows, strikingly, a CP that launches hyperraising does not bleed *wh*-movement (20).

(20) [Quais livros]$_1$ elas$_2$ parec-em [que t_1 ler-am t_2]?
Which books they seem-PL that read-PL
'Which books do they seems to have read?' (Kobayashi, 2020, (54))

The cooccurrence of cross-clausal A- and A-bar dependencies is unexpected under a CP-phasality approach: the only way is out through embedded Spec,CP, so the raised subject and the *wh*-term should compete for the landing site. On the account presented here, this cooccurrence follows straightforwardly: each movement is triggered by different features and embedded Spec,CP is not implicated in long-distance A-movement (as argued by, for example, Zeller, 2006; Halpert, 2019; Lee and Yip, 2022, for other instances of hyperraising).

As is becoming evident, the best places to test the predictions of phase-based vs. minimality-based locality are outside the domain of A-bar movement and CPs. If Abels (2003) is correct that the featural properties of CPs uniformly cause them to intervene in A-bar processes, it is indeed difficult to distinguish the approaches by looking at A-bar facts alone. In the next sections, we will look more closely at A-dependencies across languages to show that, not only do we find other evidence that the predictions of CP phasality are not met, but that the possibility space afforded by Relativized Minimality is instantiated in the patterns we see for cross-clausal A-dependencies across languages.

3 Raising as a Testing Ground

As we saw in the previous section, cross-clausal A-movement is a useful place to investigate the predictions for a Relativized Minimality approach to phases. Indeed, hyperraising in particular poses a challenge to standard phase theory: if CP is a phase, movement from Spec,TP to Spec,TP across a CP boundary should be impossible. If movement out of the embedded Spec,TP crosses the CP boundary, phase theory would predict that it must pass

through the phase edge. As (20) illustrated in Brazilian Portuguese, and as we will see in this section, this prediction is not always borne out. On the other hand, if all phase effects can reduce to Relativized Minimality, as we argue here, we face a different puzzle posed by raising: what prevents raising out of CP in languages like English? The prediction of minimality-based locality is that raising is blocked only when the embedded clause bears the feature that is implicated in raising, regardless of whether the clause is a finite CP. In this section, we'll first map out the predictions of minimality-based locality for long-distance A-movement more precisely and then show that these predictions are instantiated by raising patterns across languages.

3.1 Sketching the Possibility Space

The previous section focused on CPs as barriers in cases of long-distance A-bar movement; as discussed, we propose, following Abels (2003), that these are instances where an embedded C head intervenes for a higher C probe, rather than evidence for an absolute CP phase. For A-movement, the picture will be somewhat different. Here, the probe triggering the movement to the matrix clause is (at least in most raising-to-subject cases) T, not C. In order to understand and evaluate the predictions of minimality-based locality, we first need to understand which feature(s) are involved when a T probe triggers A-movement. While many approaches to A-movement assume that case is the relevant feature, we here follow van Urk (2015) in taking phi-features to be the trigger for A-dependencies (see also Sheehan and van der Wal, 2018; Halpert, 2019; Fong, 2019).[6] The basic prediction, then, is that clauses (of any type) will be barriers for A-movement when the clause (head) bears features that intervene with a phi-probe.

The predictions of minimality-based locality, as noted in the previous section, must

[6]We're using [phi] here, but other features could possibly be implicated; step one is simply to look for the specific evidence in a given language for what drives A-movement. See §3.5 for more discussion.

be evaluated on a phrase-by-phrase (and not phase-by-phase) basis. For each embedded clause type in a language, we must determine whether we expect it to intervene for a higher phi-probe. Intervention alone will yield a pattern in which the intervening phrase is completely opaque for A-movement. Once a category's status as an intervener is determined, though, we still must look closely at other syntactic factors. We know from other cases of Relativized Minimality and intervention that there are ways for a probe to target a non-local element. In particular, we might expect two additional patterns to be attested, each of which could yield raising. Successive cyclic movement, as we've already seen, can alleviate Relativized Minimality; here, we'd expect the embedded subject to exit the intervening clause, whatever it is, via its edge. In addition to successive cyclic movement, we might expect to find some sort of persistent probing mechanism that allows a head to continue to probe past the most local phi-bearer in search of some more specific (sub)-feature (e.g. Béjar and Rezac, 2009; Deal, 2015, a.o.).[7]

A minimality-based approach to locality, then, predicts that categories that block A-movement should uniformly show evidence for phi-intervention across languages, while instances of A-movement across a category may be heterogeneous, even within a language: the long distance dependency may arise from a lack of intervention, from movement via the edge of the intervening category, or from a persistent probe configuration. For example, this approach affords three possible pathways to hyperraising out of embedded CP, and one pathway to opaque CPs:

(21) **Hyperraising typology predicted by Relativized Minimality**

[7]In the previous section, we did not discuss this possible mechanism for alleviating minimality-based locality in the case of A-bar movement. Here, a difference between A-bar and A-configurations becomes salient: Following Abels (2003), we might assume that in A-bar dependencies, the embedded C head not only bears an intervening A-bar feature, but is itself a movement-triggering A-bar probe. As a result, successive cyclicity becomes the only means of alleviating intervention; the intermediate C will necessarily attract the embedded A-bar goal. By contrast, for A-movement, we consider a slightly different scenario, in which the embedded clause bears features as a goal, rather than a probe.

a. **CP is not a phi-intervener:** hyperraising available *Greek, Brazilian Portuguese*

b. **CP is a phi-intervener:**

   i. **No mitigation:** no hyperraising *English, Makhuwa*

   ii. **Successive-Cyclic Movement:** hyperraising available *Mongolian, Japanese*

   iii. **Persistent probing:** hyperraising available *Zulu, Luyia, (Cantonese, Vietnamese)*

Of the possible patterns above, only two are predicted by phase-based locality: (21b.i) and (21b.ii). The other two patterns involve movement that bypasses Spec,CP, giving us a way to tease apart the predictions of phases and minimality.

Beyond CPs, this same set of possibilities in (21) will apply to any embedded clause selected by a raising predicate. More concretely, we might expect to see phi-bearing TPs that act as interveners to yield opacity; that require successive cyclic movement for raising; or that require some sort of persistent probing. Again, the predictions for phase-based minimality are rather different: embedded TP should always be transparent for A-movement or could yield opacity (or require a precise mitigation path) if it bears phi-features.

In the previous section, we saw some initial evidence that the predictions of the phase-based approach are not met for either CPs or TPs. Example (20) showed that movement out of embedded CP can bypass Spec,CP in Brazilian Portuguese in hyperraising; (19) showed that English requires successive cyclic movement through Spec,TP in raising. In the remainder of this section, we show that the range of patterns predicted by Relativized Minimality, as sketched in (21) are in fact attested in the raising profiles of natural languages.

3.2 Basic Cases: Establishing Whether CP Intervenes

The basic prediction of minimality-based locality account is that A-movement will only be blocked when a relevant feature intervenes between the T probe and the embedded subject. As discussed in the previous subsection, we here focus on phi as a common feature driving these configurations. To the extent that CP appears to be a barrier for A-movement in languages, we therefore expect to find evidence for phi features associated with C (or some element that accompanies CP) in those languages; in the absence of phi on C, we expect the hyperraising pattern of cross-clausal A-movement.

To investigate this basic prediction, we'll first look at Greek. Iatridou and Embick (1997) show that in Greek, and some other *pro*-drop languages, a CP or IP clause cannot be the antecedent for *pro*. They argue that this ungrammaticality is because *pro* must be licensed by phi-features (person, number, and gender) and clauses lack these features. Minimality-based locality would therefore predict A-movement to be available out of finite embedded clauses, which is indeed what we find:

(22) Ta pedhia arxisan na trexoun
the children.NOM started.3PL SBJV run.3PL
'The children started to run.' (Alexiadou and Anagnostopoulou, 1999, (11))

(23) Ta pedhia dhen tis fenonte na meletun
the children.NOM not cl-GEN seem.3PL SBJV study.3PL
'The children don't seem to her to study.' (Anagnostopoulou, 2003, (50b))

The embedded clauses in (22) and (23) are headed by subjunctive complementizer *na* and the embedded verbs agree with the raised subject. Alexiadou and Anagnostopoulou (1999) argue that these embedded clauses are defective, lacking semantic tense, and therefore unable to assign case to the embedded subject; the lack of case is linked to the non-phasal nature of the embedded CP. On our account, no extra assumptions are needed about the status of *na* clauses; their lack of phi-features allows a phi-probe on matrix T to find the

embedded subject.[8]

In English, by contrast, as Iatridou and Embick (1997) discuss, finite CPs have the ability to control number agreement on T: building on McCloskey (1991), who demonstrates number agreement for conjoined propositions, they propose that individuated CPs can control subject agreement:

(24) That Susan married Tom and that she took up scuba diving...

a. bother me equally.

b. independently convince me that she has lost her mind.

(Iatridou and Embick, 1997, (39))

The basic prediction of minimality, then, is that embedded CPs in English will intervene for the phi-probe in the matrix clause, blocking raising out of finite CP, as we see in (25) below.[9]

(25) *The children don't seem that t_i study.

The basic contrast between Greek-type languages and English-type languages with respect to raising, then, is reduced to differences in the distribution of phi-features on embedded clauses. While we've shown that CP opacity in these two languages correlates with a lack of phi-features, in the next section we will consider the differing predictions of phase-based and minimality-based locality in the context of other types of embedded clauses.

[8]Note that the minimality-based approach is compatible with the lack of Case in the embedded clause requiring raising to occur; it simply separates the distribution of case from expectations about the availability of raising.

[9]Zyman (2023) notes that for some speakers of English, agreement with conjoined CPs in English is degraded or impossible, but that hyperraising is still impossible for these speakers. There is certainly more to be understood here, including the possibility that some varieties of English may in fact have a form of hyperraising, as Greeson (2023) argues.

3.3 Not Just CP: Other Raising Blockers

The predictions of phase theory are centered around the special status of CP as a phase head; CP should be uniformly opaque across languages for all cross-clausal dependencies, while other types of embedded clauses should be uniformly transparent. By contrast, there is nothing special about CP on a minimality-based approach; *any* phrase with phi-features should intervene between a matrix phi-probe and embedded subject, regardless of its category. When we look across languages, we indeed find evidence of opacity of just this type.

While many Bantu languages have been shown to have hyperraising (e.g. Ura, 1994; Carstens and Diercks, 2013; Carstens, 2011; Diercks, 2012; Halpert, 2019, see also discussion in §3.4 below), we also find Bantu languages like Makhuwa, which lacks raising altogether (van der Wal, 2015). In this language, which allows agreement with both post- and pre-verbal arguments, infinitives clearly have noun class 15 phi-features and can control agreement on T:

(26) a. O-kí-tsivélá [o-várá ehópa]
15SM-1SG.OM-please 15-grab 9-fish
'I like fishing/catching fish.'

b. [O-vár' éhópa] o-kí-tsívélá
15-grab 9-fish 15SM-1SG.OM-please
'I like fishing/catching fish.' (Kruijsdijk et al., 2022, (26))

Subjects of infinitives in Makhuwa are expressed by a genitive or connective construction, following the nonfinite predicate, rather than in preverbal position:

(27) a. O-cáwá w-áwé Folóra o-ki-tsívéla
15-run 15-POSS.1 1.Flora 15SM-1SG.OM-please
'Flora's (way of) running I like.'

b. O-c'awá w-a Folóra ti w-oóréera
15-run 15-CONN 1.Flora COP 15-good

'Flora's running is good.' (van der Wal, 2015, (58),fn.22, p.124)

The same class 15 subject agreement is found when the clausal argument is a finite clause headed by the complementizer *wiira*:

(28) O-ki-tsivela wiira Peeturu a-var-e nteko
15SM-1SG.OM-please COMP 1.Pedro 1SM-grab-SBJV 3.work
'I like it that Pedro works.' (van der Wal, 2015, (46b))

Halpert (2019) points out that the phi- properties of Makhuwa clauses would cause both infinitive and finite clauses to satisfy a phi-probe on matrix T, intervening between T and the embedded subject, leading to the absence of raising constructions that van der Wal (2015) describes.[10]

If phi-bearing infinitives can block raising in a language like Makhuwa, what do we expect for nonfinite TPs in English? As with finite CPs, these clauses can control number agreement when conjoined:

(30) [To grow your own food] and [to cook it] *is/are equally satisfying.

Here we might wonder why English permits raising at all, instead of showing the Makhuwa-type non-raising pattern for both CPs and nonfinite TPs. However, as we saw in (19b) above, repeated below, English shows evidence that raised subjects pass through Spec,TP in the embedded clause:

(31) The students seemed [$_{TP}$ *all* to win the race.]

Recall that the floated quantifier in Spec,TP of the embedded clause was unexpected on a phase theory account of raising, especially since subjects of embedded control infinitives,

[10]van der Wal (2015) notes that Makhuwa employs an experiencer construction in place of *seem*-type raising predicates:

(29) Ki-ná-móóná ntokó wíírá n-náá-ki-thépya
1SG.SM-PRES.DJ-see like COMP 2PL.SM-PRES.DJ-1SG.OM-lie
'It seems like you are lying to me = 'I look/see as if you are lying to me.' (van der Wal, 2015, (39))

where raising does not occur, show no evidence of moving to Spec,TP. On a minimality-based account, though, this type of successive cyclic movement out of TP is exactly what we expect to find if TP is a phi-intervener. By contrast, the subjects of Makhuwa infinitives in (27) are not located at the edge of TP, so we might expect them to be truly trapped inside the embedded TP in raising environments.

A closer look at TPs, then, shows not only that TP can be opaque for A-movement when it bears phi-features, as in Makhuwa, but also that in languages like English, successive cyclic movement might provide an escape hatch from TP for raising, just as it does in instances of A-bar movement out of CP. In the next section, we will examine strategies for mitigating intervention for A-movement at the CP level.

3.4 How to Get Around Clausal Intervention

In Makhuwa, we saw that both TPs and CPs are opaque for A-movement because both bear phi-features and can satisfy the matrix T probe. Zulu, another Bantu language, has similar phi-properties for TPs and CPs, but a different raising profile. As Halpert (2019) shows, Zulu blocks raising out of nonfinite TPs, but permits it out of finite CPs:

(32) a. **uZinhle**$_i$ **u**-bonakala [ukuthi t$_i$ **u**-zo-xova ujeqe]
AUG.1Zinhle$_i$ 1SM-seem that t_i 1SM-FUT-make AUG.1steam.bread

b. * **uZinhle**$_i$ **u**-bonakala [t$_i$ uku-(zo-)xova ujeqe]
AUG.1Zinhle$_i$ 1SM-seem t_i INF-(FUT-)make AUG.1steamed.bread
'It seems that Zinhle will make steamed bread.' (Halpert, 2019, (3b-c))

Halpert (2019) argues that the difference between Makhuwa and Zulu stems from another difference between the languages. In Makhuwa, movement of agreeing elements to Spec,TP is generally optional, and DPs, TPs, and CPs can all control agreement in postverbal position. Zulu, by contrast, always requires agreeing DPs to move to Spec,TP. Nonfinite TPs also show this behavior, moving to Spec,TP when they control subject agreement, as

in (33). Finite CPs, which also have phi-features and can control agreement in various contexts in Zulu, cannot occupy Spec,TP, as (34) shows.

(33) [uku-(zo)-fika k-ubusika] ku-ya-bonakala
AUG.17-(FUT)-arrive 17ASSOC-AUG.14winter 17SM-YA-seem
'Winter's arrival is evident.'/'We can tell that winter is coming.'

(Halpert, 2019, (52a))

(34) *[ukuthi w-a-thatha umhlala phansi] **ku**-ya-ngi-mangaza
that 1SM-PST-take AUG.1sit down 17SM-YA-1SG.OM-surprise
intended: 'That he retired surprises me.' (Halpert, 2019, (47))

Based on these facts, Halpert (2019) proposes that in Zulu raising configurations, while the embedded CP can act as a phi-goal for matrix T, it cannot satisfy the EPP, so T will continue to probe. This continuation is what causes it to find the embedded subject. In Makhuwa, there is no EPP driving further probing, so embedded TPs and CPs will always block A-movement.

As we saw in the previous section, English shows evidence of successive cyclic A-movement through the TP edge. On a minimality-based approach to raising, we might also expect movement through CP edge to facilitate raising in cases where CP acts as an intervener for the matrix probe. There are in fact a number of analyses of raising-to-object/ECM across a wide variety of languages that take exactly this approach, arguing that the finite CP-crossing A-dependency takes place via movement to Spec,CP (e.g. Zyman, 2017; Fong, 2019; Wurmbrand, 2019). In Mongolian, for example, Fong (2019) shows that hyperraising to object, which correlates with the presence of accusative case on the thematic subject of the embedded clause, proceeds via the edge of Spec,CP; when A-movement out of CP occurs (indicated by the landing side to the left of the adverb), as in (35b), accusative becomes obligatory.

(35) a. Bat chang-aar **nokhoi(-g)** gaikhal-tai gej khel-sen
Bat loud-INSTR dog(-ACC) wonder-with COMP say-PST

b. Bat **nokhoi-g** chang-aar gaikhal-tai gej khel-sen
Bat dog-ACC loud-INSTR wonder-with COMP say-PST
'Bat said loudly that dogs are wonderful.' (Fong, 2019, (5))

All three accounts mentioned in the previous paragraph demonstrate that when Spec,CP functions as a launch site for further A-movement, it shows other evidence of being an A-position; they build on van Urk (2015) to argue that the presence of phi-features on C can yield a mixed A/A-bar position. In all of these cases, pure A-bar movement seems to be incapable of feeding raising. Wurmbrand (2019) specifically argues that movement to CP edge *must* be driven by an A-feature in order to permit further A-dependencies, proposing an "Improper A-after-A' constraint". As Wurmbrand notes, there appear to be a mix of other semantic and pragmatic factors that contribute to the availability of the mixed CP edge position that can launch further A-dependencies; she suggests that the variation in the availability of this position and the particular circumstances in which it can attract a DP yield the crosslinguistic variation in (hyper)raising patterns. For Wurmbrand, movement through the CP edge is necessary to escape a phase; on the view we propose, it is simply one strategy for establishing a cross-clausal A-dependency.

Interestingly, while cases of raising-to-object/ECM via the CP edge are well attested, we are not aware of languages in which hyperraising-to-subject is generally available that clearly instantiate this strategy. English, however, may be a language that permits this type of movement, in exactly the type of constrained way that Wurmbrand (2019) predicts. Danckaert and Haegeman (2017) describe cases of *wh*-raising that are grammatical for some speakers of English, where it appears that an embedded *wh*-subject can undergo movement into the matrix clause and control agreement in both clauses:

(36) any quotes which$_i$ were felt t$_i$ were relevant to the process (Danckaert and Haegeman, 2017, (6))

These cases are highly restricted, even for English speakers who permit this possibil-

ity; *wh*-raising can only occur with embedded subjects and cannot cross more than one clause boundary. Based on these restrictions, Danckaert and Haegeman (2017) conclude that hyperraising is not merely parasitic on standard A-bar movement of a *wh*-phrase. Instead, they analyze these cases as involving phi-driven movement through a clause-edge A-position that is only available to subject *wh*-elements. They further argue that for some speakers of English, this specialized position is also available in the matrix clause, allowing the *wh*-phrase to A-move and agree in both clauses.

Here we have seen that the two expected strategies for circumventing intervention—continued probing to satisfy some feature of the matrix T probe and successive cyclic movement via the edge of the embedded clause—have both been argued to occur in cases of A-movement across CP. While these analyses are typically couched in terms of phases, we argue instead that they should be understood as means of alleviating intervention effects. And in all of the cases we have considered in this section, a phi-probe is implicated in driving the long-distance A-dependency. To the extent that A-movement is simply the outcome of phi-driven movement, this is perhaps expected (e.g. Obata and Epstein, 2011; van Urk, 2015). In the next section, though, we'll consider the degree to which other features might be implicated in the types of cross-clausal movement we have been discussing in this section.

3.5 Relativized to What?

As Wurmbrand (2019) notes in her discussion of hyperraising, not only is CP-crossing hyperraising typically optional in the languages that permit it, but additional semantic or pragmatic factors also seem to play a role in these configurations. If these factors are featurally encoded, we might expect them to play a role in minimality-driven derivations as well. Here we will consider the way in which other features might contribute to the raising

landscape.

The previous subsection already illustrated one case where the matrix probe is not simply relativized to phi-: in Zulu, Halpert (2019) argues that the phi-intervention induced by an embedded clause can be mitigated the EPP. We might think of this as a [D] probe on T, which can be satisfied by DPs and (nominalized) nonfinite TPs, but not CPs, even though all three bear phi-. In Uyghur, Asarina (2011) similarly argues that cross-clausal A-movement is purely driven by a category-sensitive EPP, with no role for phi- at all. She demonstrates that in Uyghur, when the complement to a raising predicate is a DP nominalization, the embedded clause is opaque for A-movement and the entire clause raises. By contrast, if the embedded clause is an NP-sized nominalization, raising of the embedded subject occurs. Asarina (2011) shows that unlike DPs, NPs cannot satisfy the EPP in Uyghur; a minimality-driven derivation, relativized simply to [D], can capture this pattern.

In recent work, Lee and Yip (2024) also argue for EPP-driven hyperraising. They analyze hyperraising-to-subject in Cantonese and Vietnamese, which is possible out of the complements of certain attitude verbs (37a), but not others (37b), as illustrated for Cantonese below:

(37) a. Coeng jyu gamgok/tengman waa m-wui ting.
CL rain feel.like/hear COMP not-will stop
'It is felt/heard that the rain will not stop.'

b. *Coeng jyu gamgok-dou/zidou waa m-wui ting.
CL rain feel-ACCOMP/know COMP not-will stop
Int.: 'It can be felt/is known that the rain will not stop.' (Lee and Yip, 2024, (1a),(2a))

Lee and Yip (2024) observe that in Cantonese, Vietnamese, and many other hyperraising languages, the predicates that permit hyperraising appear to be ones that encode indirect evidentiality. They propose a phase deactivation approach, where a matrix probe that bears

an indirect evidence feature [EV] and an EPP/A-movement feature [D]. The embedded clause is goal for [EV], but the probe continues to search for a [D]-satisfying goal, causing it to raise the embedded subject. In the absence of [EV] agreement, they argue, CPs are opaque. On their account, the absence of hyperraising in languages like English amounts to the absence of an [EV] probe to deactivate the phase.

To what extent is this type of approach amenable to the minimality-driven derivations we are advocating for here? While Lee and Yip (2024) assume that the absence of an [EV] probe means that CPs will remain impenetrable phases, our account does not privilege CPs in the same way and must still explain why a different (say, phi- or [D]) probe in the matrix clause would be blocked by CPs. One possibility is that the type of persistent probing strategy to mitigate intervention is specifically available when another feature (like [EV]) is probing in conjunction with phi-. While Lee and Yip (2024) do not consider the role of phi- in Cantonese or Vietnamese, where we see neither agreement nor case, they do note that in the cases of hyperraising in Luyia (Bantu) languages discussed by Diercks et al. (2022), matrix phi-agreement can track both direct and indirect evidence, which they take as evidence in support of [EV]-driven raising. As Diercks et al. (2022) show, not only is direct/indirect evidential phi-agreement available with both the raised and unraised subject, hyperraising also permits phi-agreement with the raised subject itself, suggesting that [EV], phi-, and [D]/EPP are all probing in tandem, though with slightly different satisfaction conditions. In Tiriki, for example, Diercks et al. (2022) demonstrate that A-movement of an embedded subject driven by the raising predicate *-fwana* permits 3 possible subject agreement patterns in the main clause: class 9 agreement *i-*, which can function as an expletive yielding direct evidential meaning; class 6 expletive *ka-*, which yields an indirect evidential meaning; and class agreement that matches the raised subject:

(38) shivala **i-/ka-/shi-**fwaan-a khuli shi-hamb-i muriro.
7-world 9SM-/6SM-7SM-seem-FV that 7SM-be.on.fire-FV 3-fire

Lit. “The world seems to be on fire.”

Id. “Things seem to be going badly.” (Diercks et al., 2022, (109b)/(110))

If, as Luyia suggests, phi- is always involved in hyperraising, then our basic story—that opacity arises from phi-intervention on C—could still underlie all of the patterns. The variation we observe across languages (and predicates), then, might result from what feature the EPP property is linked to.

3.6 Taking Stock

What does raising teach us about phase-based vs. minimality-based locality? First, we've seen cases in which nonfinite TPs show phase-like behavior, requiring successive cyclic movement, as in English, or blocking raising altogether, as in Makhuwa or Zulu. Such behavior is not accounted for by Phase Theory, but would be a predictable consequence of minimality if nonfinite TPs are sometimes interveners for the probe that drives raising. Second, we've seen that finite CPs themselves are not necessarily opaque for A-movement, as in Greek, which is unexpected on Phase Theory, but predicted if CPs do not bear the feature implicated in raising. Finally, we've seen that many languages permit raising out of CPs but show evidence of a complicated, multi-step derivation; this type of pattern arises because CP interveners in A-movement are goals and not themselves probes (unlike in the A-bar cases). We've generally seen two types of strategy for these cases of hyperraising: movement via the CP edge and movement that involves multiple steps of agreement driven by the EPP. In all of these cases, A-movement/phi-agreement is implicated in every step, even movement to CP edge; in many (perhaps ultimately all) of these cases, some additional feature, like [EV] or [wh] seems to act in tandem with phi-. While most previous approaches have assumed that these multi-step hyperraising derivations occur as a means of neutralizing the CP phase, we have suggested here that they can instead be understood

as a means of mitigating intervention of the CP for phi- (or another relevant feature). We conclude that the full raising picture, where the same sorts of effects can be found with TP-sized (and DP-sized) clauses, indicates that the minimality-based approach has better empirical coverage overall.

4 Beyond Movement: Minimality-based Locality in Long-Distance Agreement

So far, we have shown that phasality/PIC effects concerning both A and A-bar movement can be captured purely in terms of Relativized Minimality (or Attract Closest). However, the PIC has not only been postulated to capture obligatory successive cyclic movement, but also to block any syntactic dependency that crosses a phase head. In this section, we consider the extent to which the minimality-based approach can deal with the locality of those syntactic dependencies that do not involve movement.

Here, we focus on Long-Distance Agreement (LDA). Various languages in the literature have been reported to exhibit agreement where a goal in a lower (finite) clause agrees with a probe in a higher (finite) clause. Below we provide examples from Tsez (Polinsky and Potsdam, 2001) and from Innu-aimûn (Branigan and Mackenzie, 2002)

(39) a. Enir [užā magalu b-āc'-ru-łi] r-iyxo.
mother boy bread.III.ABS III-eat-PSTPRT-NMLZ] IV-know
'The mother knows that the boy ate the bread.'

b. Enir [užā magalu b-āc'-ru-łi] b-iyxo.
mother boy bread.III.ABS III-eat-PSTPRT-NMLZ] III-know
'The mother knows that the bread, the boy ate.' (Polinsky and Potsdam, 2001, (56))

(40) a. Ni-tshissenit-en [Pûn kâ-mûpisht-âshk].
1-know-TI [Paul PRT-visited-2/INV]

'I know that Paul visited you.'

b. Ni-tshissenit-âu [Pûn kâ-mûpisht-âshk].
1-know-3 [Paul PRT-visited-2/INV]
'I know that Paul visited you.' (Branigan and Mackenzie, 2002, (5))

In both cases, the matrix verb optionally agrees with an embedded argument. In Tsez, this is always with an embedded absolutive topic. In Innu-aimûn it can be a topic or a *wh*-phrase. When LDA does not occur, default agreement appears on the matrix probe.

Such examples *prima facie* form a problem for the PIC, but Polinsky and Potsdam (2001) and Branigan and Mackenzie (2002) argue that these cases involve (covert) movement of the goal to the edge of the CP. In that case, they no longer pose a problem for the PIC as then the goal is an the phase edge and thus local enough.

At the same time, in order for such an analysis to work, one needs to assume that (i) the relevant goals, can, optionally, undergo LF movement to the clausal edge; and (ii) that this LF movement can feed agreement. This second assumption in particular is problematic, as it is known for other phenomena that covert movement does not feed agreement. The following examples from French, where participle agreement only appears when the goal is in a higher position then the probe, show that here covert movement cannot feed agreement.

(41) a. J'ai ecrit *ecrite Marie
I.have written written.F.SG Marie
'I have written Marie.'

b. (Marie,) je l'ai ecrite *ecrit.
Marie I her.have written.F.SG seen
'(Marie,) I have written her.'

c. Combien de femmes a-t-il ecrites / ??ecrit?
How.many of women has-he written.F.PL / written
'How many women has he seen?'

d. J'ai ecrit *ecrites toutes les femmes.
I.have written written.F.PL all the women

'I have written all the women.'

If covert agreement could feed agreement, (41d) should exhibit agreement as well.

Alternatively, it has been proposed that in these cases the controller of agreement is able to transfer its features to the head of the embedded clause (Butt, 1995; Bjorkman and Zeijlstra, 2019). On this approach, the dependency is broken into two pieces: the embedded arguments themselves do not directly value the probe, but they value some clausal head that, in turn, values the matrix probe. The two options are depicted below (exemplified for Tsez structures).

(42) a. [$_{CP}$ ... v[uPhi: III]] [$_{CP}$ DP[Phi: III]$_i$ C ... t$_i$]]

b. [$_{CP}$ ... v[uPhi: III]] [$_{CP}$ C/Top[Phi: III] ... DP[Phi: III]]]

Neither family of solutions adjudicates between a phase-based approach and our minimality-based proposal; either option yields the desired locality for each approach. In (42a), if the embedded topic moves to embedded Spec,CP, this CP (or its C head) is no longer an intervener for an Agree relation between matrix v^o and the DP. If such movement does not take place, embedded CP/C is an intervener, and LDA is correctly predicted to be ruled out. Also, if CP is a phase, these facts follow trivially. If the DP agrees with C (or a more specified Top-head), under our proposal, these features percolate to embedded CP and these value the goal under Agree. If the DP does not Agree with C/Top C/Top, again, would intervene in the Agree relation between matrix v^o and the DP, and long-distance LDA would be ruled out. Also, under Phase Theory, embedded CP can value a higher probe without violating the PIC. Hence, just as we saw with cases of successive cyclic A-bar movement, LDA effects could be equally well explained by either phase-based or minimality-based locality.

A crucial ingredient for our approach is that C(P) is an intervener for agreement. This, again, is clearly visible in the case of Tsez where a (nominalized) embedded clause triggers noun class IV agreement in absence of a relevant topic. If CPs can control agreement themselves, they should indeed act as interveners. But what about a language in which CPs cannot control phi-agreement in any way and thus do not participate in any phi-dependency relation? In that case, minimality-based locality predicts that CP should not count as an intervener and LDA should be possible without the goal having any active dependency with the clausal edge. If this type of configuration is attested, that would strongly plea in favor of a minimality-based approach and against one in terms of phasality.

Such cases may indeed exist. As we saw, in Tsez LDA is restricted to embedded (absolutive) topics. Also in Innu-aimûn, it can be a topic or a *wh*-phrase and, it has been reported that in Passamaquoddy, it does not have to have a distinguished information structure status at all. A-bar movement to the edge is enough (Bruening, 2001; Bhatt and Keine, 2017). But Börjesson and Müller (2020) also show various cases where, depending on the analysis, LDA with elements that do not move to the clausal edge is possible. In these cases, however, it is hard to definitively rule out an Agree relation between the non-moving goal and the head of the embedded clause. Therefore, it is hard to use them as diagnosing languages. But Börjesson and Müller (2020) also present data from the the non-Tsezic Nakh-Dahgestanian language Tsakhur, where LDA across two clause boundaries is possible:

(43) Ičī-s w=uk̄īkin-na [$_{CP}$ jičo-j-s [$_{CP}$ gaba hāʔ-as]
girl-DAT 3=want.PF-AA sister-OBL-DAT carpet.3 3.do-POT
XaIr-qi=w=x-es]
learn-3=become-POT
'The girl wants her sister to learn to make a carpet'. (Börjesson and Müller, 2020, (21), citing Kibrik 1999)

If these embedded arguments are indeed full finite clauses, Tsakhur would then exem-

plify a language where CPs are not engaged in phi-dependencies and LDA across clauses, and thus across phase boundaries, would be possible.

Finally, as we saw in the previous section, the minimality-based approach we advocate for here should apply equally to any phrase that has the relevant features, not just CPs. For A-movement, we found evidence for more generalized minimality in languages like Zulu or Uyghur, where TP- and DP-sized embedded clauses act as barriers for movement. A phase-based approach to LDA predicts that anything smaller than CP should be transparent for agreement; however, as Bešlin (2022) demonstrates, optional LDA is possible in Serbian only at the edge of an embedded finite TP.[11] Bešlin establishes that the verb *trebati* 'need' takes finite TP complements headed by T *da*. Example (44) shows that when an embedded subject appears at the edge of Spec,TP—here diagnosed by the presence of an *i*-NPI that requires superordinate (and not clause-mate) negation—LDA is possible. When the subject follows T, LDA is not an option.

(44) a. Ne bi treba-o [$_{TP}$ i-ko da to uradi.
NEG AUX.AOR.3SG need-PTCP.MASC.SG i-who DA that do
'No one should do that.'

b. Ne bi treba-lo [$_{TP}$ da i-ko to uradi.
NEG AUX.AOR.3SG need-PTCP.NEUT.SG DA i-who that do
'No one should do that.'

c. *Ne bi treba-o [$_{TP}$ da i-ko to uradi.
NEG AUX.AOR.3SG need-PTCP.MASC.SG DA i-who that do

(Bešlin, 2022, (26a), (27a-b))

As Bešlin (2022) notes, this pattern is unexpected under standard phase-based locality; a strict phase-based approach would require *da* TPs in Serbian to be phases. As we have seen in other cases, minimality-based locality predicts that the T head here acts as an inter-

[11] While Bešlin discusses both optional A-movement and optional agreement, we here focus on the possibilities for optional LDA between the matrix clause and the embedded subject.

vener for LDA; cases like this one can therefore serve as a place to investigate the differing predictions of phase-based and minimality-based approaches.

5 Discussion and Conclusion

In this paper, we have explored the idea that phases can be subsumed into Relativized Minimality: we have argued that the locality effects ascribed to phases can in fact be recast in terms of minimality—and that a minimality-driven approach can provide better empirical coverage for a range of locality effects for which Phase Theory has no ready explanation. Relativized Minimality and phases coexist in many approaches to syntactic dependencies; eliminating phases in favor of minimality alone therefore reduces redundancy in grammar (see e.g. Rizzi, 2009; Torr, 2012, for discussion) and removes the conceptual problems facing phases (e.g. Truswell, 2005; Bešlin, to appear).

Over the years, Phase Theory has been subject to a number of proposed amendments, including the Weak PIC (e.g. Chomsky, 2001), Phase Extension (e.g. den Dikken, 2007), Phase Sliding (e.g. Gallego and Uriagereka, 2007), Phase unlocking (e.g. Rackowski and Richards, 2005), and others. These amendments were designed to accommodate the empirical landscape, which as we have seen requires a measure of flexibility and cross-linguistic variation for any theory of locality, but which complicate the simplicity of the notion of phases and sometimes introduce incompatibility. As we have tried to show here, minimality-based locality provides a systematic way to capture variation in locality patterns within and across languages: variation can occur both in the distribution of particular features across heads and in the satisfaction conditions for probes. First, locality is always relativized to a particular probe/dependency type, so we can see variation in locality domains for different processes within a language.[12] Variation in the location of specific features across

[12]Keine (2019, 2020b) has independently argued that this type of variation is necessary, with a different

languages can yield potentially different locality domains: the successive-cyclic movement signature of phases arises in configurations where a phrase containing the goal shares the relevant feature, regardless of phrase type. Finally, variation in the feature combinations on heads and satisfaction conditions of particular features can also impact locality domains: as we've seen for A-movement, intervention can be alleviated in order to satisfy the EPP or some other linked feature without the signature of successive cyclic movement. By examining the feature distribution and satisfaction conditions for particular probes within a language, we can determine a 'locality profile', predicting which heads should induce locality effects for which processes.

The minimality-based approach to locality suggests a different framing for some of the observations and research questions about locality within and across languages than a phase-based approach. We here attempt to sketch out some of the questions and future avenues suggested by the approach we adopt in this paper.

Phase Theory ascribes special status to certain heads: cross-linguistically, C and (some version of) v^o are assumed to be unique in requiring Spell Out of their complements. As we have discussed, widespread crosslinguistic uniformity surrounding these heads is therefore expected on a phase-based approach. A minimality-based approach to locality, by contrast, in principle allows any head to induce locality for any probe, if it bears the same type of feature as the probe. We have shown that some amount of cross-linguistic variation on feature distribution for phi-features is indeed desirable and necessary to reflect the empirical picture. Pockets of widespread cross-linguistic uniformity, as we seem to see with A-bar/CP locality, now become areas for further investigation and scrutiny; on this approach, uniformity is telling us something deep about potential cross-linguistic universals in the distribution of features.

In our discussion of A-movement, we argued that a minimality-based approach to lo-

theoretical formalization.

cality not only predicts the successive-cyclic movement pattern, where the goal moves to the specifier of an intervening head, but also other means of alleviating minimality. In particular, we suggested that the type of persistent probing mechanisms required to capture patterns like omnivorous agreement can also be found in cases where a clause head intervenes in an A-dependency. The fact that we saw evidence for this type of persistent probing in A-movement but not A-bar movement may suggest another point of variation that should be investigated further: in A-bar cases, following Abels (2003), we assumed that intervening heads are themselves A-bar probes. In A-movement cases, by contrast, at least some of the intervening heads simply seem to be phi-goals, rather than probes. While we predict that intervening probes obligatorily yield successive-cyclic movement, intervening goals seem to either yield impenetrability or a long-distance dependency that bypasses the clause edge.

Another question raised by the minimality-based approach to locality concerns the (lack of) feeding relationships that arise between the different derivational steps involved in long-distance dependencies. On this approach, any successive-cyclic movement requires hyperactivity: *wh*-goals and phi-goals that move via a clause edge need to be probed for the same feature multiple times in the derivation. In this paper, we assume that such probing is always possible, but an open question remains of whether (and how) goals are ever deactivated for particular features. Another facet of this question concerns the notion of proper movement: one notable aspect of the long-distance A-dependencies that we discussed is that while they can be fed by movement to a CP-edge, pure A-bar movement of this type does not typically seem to feed further A-movement. Wurmbrand (2019) captures this pattern with her “Improper A-after-A’ constraint", which requires additional assumptions beyond the basics of Relativized Minimality. These questions are not unique to a minimality-driven research program, but to the extent that the patterns show restrictions beyond what is predicted by pure intervention, they are important to investigate.

Finally, our proposal here reduces the notions of locality required in the theory by eliminating phases. It says nothing, however, about other instances of absolute locality in syntax, such as adjunct or coordinate islands and freezing effects (e.g. Ross, 1967; Huang, 1982; Truswell, 2007). A larger remaining question, then, is whether these additional cases of absolute locality can similarly be reduced to other principles, or if the grammar must still maintain both absolute and relative locality.

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