Intervention effects and phase boundaries in Czech clitic climbing

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1 Introduction

Czech has a number of short, clitic-like elements that tend to appear together in a cluster after the first element of a sentence—thus known as "second position clitics". Under certain circumstances, clitics that are associated with the argument structure of an embedded clause can instead appear in second position of the matrix clause, a phenomenon known as *clitic climbing*.

Previous work on Czech clitic climbing includes two classes of restrictions. First, clitics cannot climb out of embedded CPs like finite embedded clauses (Dotlačil, 2007), and possibly certain types of infinitival clauses (Lenertová, 2004; Rezac, 2005). Second, there are limitations on clitic climbing out of infinitival complements of object control verbs (Rosen, 2001; Lenertová, 2004; Rezac, 2005; Hana, 2007).

After a brief overview of Czech clitics in Section 2, I provide new empirical evidence clarifying these restrictions. In Section 3, I show that, as argued by Dotlačil (2007), clitic climbing is

blocked by strong CP boundaries, but not by other infinitives—even those with syntactic subject PRO. I then show a contrast between monoclausal and biclausal structures: clitics can reorder themselves regardless of their merged position within a single TP (Section 4), but in object control constructions, clitics usually cannot climb if they would have to cross over the controller to do so (Section 5).

In Section 6, I account for these generalizations with a clitic probe containing a novel mechanism: a nested hierarchy of cases (Caha, 2009) that interacts with a DP by successively shedding layers until matching its case. If the probe reaches a DP in the wrong order, it will have already discarded the layer required to match it. This analysis explains the standard clitic order as well as the case-based intervention effects found in object control sentences. I derive the contrast between monoclausal sentences and object control sentences from the fact that clitics can freely scramble (and thus reorder to match the required hierarchy) in the former, but not the latter. Section 7 concludes and discusses remaining issues for future work.

2 Background

Before discussing the details of clitic climbing, I present my basic assumptions about clitic position in the clause.

2.1 Clitics come "second"

In (1) we see that the clitics (emphasized here) can appear after a verb ((1-a)), an overt subject pronoun ((1-b)), or an adverb ((1-c)):

(1) a. Omluvil **jsem** **se** **mu**.
        apologized PST.1SG REFL.ACC him.DAT

'I apologized to him.'

    b.   Já **jsem**   **se**   **mu**   omluvil.
          I   PST.1SG REFL.ACC him.DAT apologized
          'I apologized to him.'

    c.   Včera   **jsem**   **se**   **mu**   omluvil.
          yesterday PST.1SG REFL.ACC him.DAT apologized
          'Yesterday I apologized to him.'   (cf. Fried, 1994: 170)

The examples in (1) show members of the clitic cluster in their canonical order: first come past and conditional auxiliaries like *jsem*, followed by the accusative *se* and dative *si* reflexive clitics, then pronominal clitics, with dative clitics like *mu* preceding accusative clitics (and genitive clitics, which are much less common, between the two).

There are some complications: for example, clitics can sometimes follow *two* elements, like a complementizer and a contrastive or non-contrastive topic (Lenertová, 2004; Sturgeon, 2008; Kaspar, 2016). In these cases, I assume that clitics are always in the same place, and other things can vary around them.

2.2   Clitics are in the specifier of CliticP

Following earlier accounts (e.g. Toman, 1999; Lenertová, 2004), I assume that clitics occupy a set position in the clause in the lower left periphery. In basic main clauses, clitics generally end up in second position because of an EPP feature that attracts an element to a pre-clitic projection—which I, in line with these previous accounts, identify as Fin, also the site of auxiliary clitics. This element can be a phrase attracted to the specifier of FinP, as in the case of *já* in (1-b) and *včera* in (1-c). If no such phrase is available, the inflected verb undergoes head movement to Fin to satisfy the EPP feature instead (Alexiadou and Anagnostopoulou, 1998; Lenertová, 2004; Sturgeon, 2008).

What is the nature of this clitic position? I follow Toman (1999) in positing that clitics are in a

dedicated projection just below Fin. In particular, I adopt his Theory A, in which clitics are DPs that are base-generated and subsequently attracted to specifiers of clitic projections. I assume, contra Dotlačil (2007), that clitics are different from full DPs in that they are in some way syntactically deficient. However, this deficiency is emphnot the ability to receive case, strictly speaking: I show in Section 4 that clitic movement does not show properties of case assignment processes.

Wwhile Toman (1999) assumes a series of projections—ReflP for reflexive clitics, $K_{dat}P$ for dative clitics, $K_{gen}P$ for genitive clitics (which are relatively uncommon), and $K_{acc}P$ for accusative clitics—I place them all in successive specifiers of a single projection, which I call CliticP. As I discuss in Section 6, my analysis fits the description of a single clitic head with multiple specifiers, rather than a series of related heads.

2.3   Summary

I assume that Czech pronominal clitics are DPs that are merged the same way as non-clitic DPs and cluster together in multiple specifiers of a single dedicated CliticP projection. Their "second position" derives from being in CliticP just below Fin, an EPP head that attracts an element to its specifier. With these basic assumptions in place, we can now turn to more complicated patterns in the distribution of clitics.

3   Clitic climbing out of CPs and infinitives

In the next three sections, I discuss empirical generalizations about clitic movement and clitic climbing in Czech. In Section 4 and Section 5, I look at how the case and structural position of clitics affects their ability to move. First, in this section, I look at a more general effect: clitics cannot climb out of CPs with overt elements in the left periphery, but can climb out of smaller

clauses—in particular, clauses that have a syntactic subject PRO.

3.1 Clitic climbing is "clause-bound"

The broadest generalization about Czech clitic climbing (Lenertová, 2004; Rezac, 2005; Dotlačil, 2007) is that at least some embedded infinitives in raising and/or control structures are compatible with climbing, whereas clitics cannot climb out of finite embedded clauses or wh-infinitives. We see examples of this in (2): when the verb *chtít* 'want' (first singular *chci*) embeds an infinitive (in which case it functions as a control verb, according to Rezac (2005)), climbing may occur—in this case, of the reflexive clitic associated with the verb *soustředit se* 'focus'. However, when it embeds a conditional headed by a conditional complementizer and an inflected verb, as in (2-b), the clitic can no longer climb. Lenertová (2004) provides further examples of structures where clitic climbing is illicit in (3): a standard indicative embedded clause typically headed by *že* 'that' in (3-a) and a wh-infinitive in (3-b).

(2)   a. Teď **se**   chci   [soustředit hlavně na hokej].
          now REFL.ACC want.1SG focus.INF mainly on hockey
          'Now I want to focus mainly on hockey.'   (SYNv9)[1]

      b. Teď {*se}   chci,   [aby   {**se**}   soustředil hlavně na hokej].
          now REFL.ACC want.1SG that.COND.3SG REFL.ACC focus   mainly on hockey
          'Now I want him to focus mainly on hockey.'

(3)   a. Řekl {***mi** ***ho**}, [že {**mi**   **ho**}   můžete ukázat].
          said me.DAT him.ACC that me.DAT him.ACC can.2PL show
          'He said that you can show him to me.'

      b. Ale ne-vím   {***ho**} opravdu, [jak {**ho**}   zapisovat].
          but NEG-know.1SG him.ACC really   how him.ACC record.INF
          'But I really don't know how to record him.'   (Lenertová, 2004: 156)

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[1]Examples marked with this note are taken from the SYNv9 corpus offered by the Czech National Corpus (Křen et al., 2021).

I refer to this pattern of restriction as clause-boundedness: a (sufficiently strong) CP boundary blocks clitic climbing. In this, clitic climbing patterns with other clause-bound phenomena like negative concord, as shown for Serbo-Croatian by Progovac (1993). Like other Slavic languages, Czech is a strict negative concord language (Giannakidou, 2000; Zeijlstra, 2008), meaning that if a sentence has a negated main verb (indicated by the negative element *ne-* preceding the verb), all indefinites must take the form of negative concord items, which usually have the prefix *ni-*.

In Czech, negative concord is clause-bound in the same way as clitic climbing: a negated main verb can license negative concord items embedded in control infinitives analogous to (2-a), but not in finite clauses like (3-a) or wh-infinitives like (3-b). Examples of this can be found below: first, (4) shows that the negative concord item *žádné* can appear in an infinitive embedded under the negated verb *dokázat* 'manage', a subject control verb according to Rezac (2005). On the other hand, the finite embedded clause in (5) is opaque to negative concord: the negated main verb cannot license the negative concord item *žádné*, which is ungrammatical. Similarly, the negated main verb in (6) cannot reach into a wh-infinitive to license the negative concord item *nic* 'nothing'.

(4)   Všechno ji   zajímalo a   ne-dokázala [udržet **žádné** tajemství].
        everything her.ACC interested and NEG-managed keep.INF no   secret
        'Everything interested her and she couldn't keep any secrets.'   (SYNv9)

(5)   *To ale ne-znamená, [že mají   **žádné** výhody].
        that but NEG-mean   that have.3PL no   advantages
        'But that doesn't mean that they have any advantages.'   (adapted from SYNv9)

(6)   *Petr ne-ví,   [jak si   **nic**   koupit přes   internet].
        Petr NEG-knows how REFL.DAT nothing buy.INF through internet
        'Petr doesn't know how to buy anything on the internet.'

3.2 Clitics can climb out of infinitives with PRO

I now address the particular question of whether infinitives with syntactic subject PRO necessarily have CP boundaries. Lenertová (2004) claims that they do, and thus block clitic climbing, while Landau (2008) argues that control infinitives are at most weak phases, which should be transparent for clause-bound phenomena. In this section, I argue that clitics can climb out of embedded infinitives with PRO (and negative concord can reach into such infinitives)—contra Lenertová (2004), control infinitives with syntactic subjects do not constitute strong CP boundaries.

To show this, I will look at two types of evidence for PRO, and show that in both cases, clitic climbing is compatible with PRO. The first type of evidence involves partial control (Landau, 1999), where the subject of the embedded verb includes, but is larger than, the subject of the matrix verb. This is the case when a noun representing a single individual is the subject of a matrix verb embedding a so-called collective predicate, such as *meet*, that requires more than one individual as its subject. In sentences like *John wants to meet tomorrow*, *John* cannot be the subject of *meet*, (cf. **John will meet tomorrow*), so there must be a mediating syntactic subject PRO including John and other individuals.

In Czech, clitic climbing is valid in cases of partial control, as we can see in (7): without the intervening infinitive, the individual *Dominik* cannot be the subject of the collective predicate *sejít se* 'meet' ((7-b)); thus, (7-a) must have an intervening subject PRO coindexed with *Dominik* and some other individuals (hence the index $i+$). In this sentence, the reflexive clitic *se*, which is affiliated with the verb, then climbs into the matrix clause. An analogous example, (8), appears in Dotlačil (2005), although its relevance on this point is not mentioned.

(7)   a.   Dominik$_i$ **se**   chce [sejít   PRO$_{i+}$ zítra   v Základně].
           Dominik$_i$ REFL.ACC wants meet.INF PRO$_{i+}$ tomorrow in Základna
           'Dominik wants to meet tomorrow at Základna.'   (SYNv9)

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b. *Dominik **se** sejde zítra v Základně.
Dominik REFL.ACC meet.FUT tomorrow in Základna
'Dominik will meet tomorrow at Základna.'

(8) Já **se** chci sejít dneska odpoledne.
I REFL.ACC want meet.INF today afternoon.
'I want to meet this afternoon.' (Dotlačil, 2005: 13)

The second example of clitic climbing with PRO involves the subject-oriented possessive anaphor *svůj* 'one's own', which in Czech must be coindexed with the subject of its clause. (This word inflects for gender, number, and case; the root is *sv(oj)-*.) Since non-subjects generally cannot bind *svůj*, if the anaphor is coindexed with an object controller it must be bound by a different subject coindexed with the controller—namely, PRO (Rezac, 2005). The examples in (9) show the impersonal verb *podařit se* 'succeed', which takes a dative object controlling an infinitive. The anaphor *svůj* can be coindexed with the dative object, and in such sentences, the accusative clitic *ho*, which is the object of the embedded verb, can climb into the matrix clause.[2]

(9) a. 'The job was difficult, but...'

Pavlovi se {**ho**} podařilo [{**ho**} dokončit {**ho**} během své směny].
Pavel.DAT REFL.ACC it.ACC succeeded it.ACC finish.INF it.ACC during own shift

'Pavel managed to finish it during his shift.'

b. 'The plan was quite complicated, but...'

Pavlovi se {**ho**} podařilo [{**ho**} vysvětlit {**ho**} i
Pavel.DAT REFL.ACC it.ACC succeeded it.ACC explain.INF it.ACC even
svému bratrovi].
own brother.DAT.

'Pavel even managed to explain it to his brother.'

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[2]In this work, I will not discuss the fact that non-climbing clitics can appear either first or second in the embedded clause, although the issue deserves further attention.

To be sure that the sentences in (9) do indeed have PRO, we must dismiss the possibility that oblique arguments of impersonal constructions can exceptionally bind *svůj* despite not behaving like subjects. Indeed, Lenertová (2004) and Kučerová (2007) allow, at least marginally, for dative experiencers in monoclausal impersonal constructions to bind the subject-oriented anaphor. The example in (10) shows the impersonal adjectival predicate *líto*, which takes a dative experiencer and a genitive theme. The experiencer *mu* is not nominative and does not show subject agreement (instead, we see default neuter third singular agreement), but can nonetheless bind the subject-oriented anaphor *svého*. Kučerová (2007) judges the similar sentence in (11) as 'possible', giving it a question mark (Nedoluzhko (2016) marks an equivalent sentence as ungrammatical).

(10)   Bylo   mu   líto svého otce.
        was.N.SG him.DAT sorry own father.GEN
        'He was sorry for his father.'   (Lenertová, 2004: 164)

(11)   ?Máše   bylo   líto svého psa.
        Máša.DAT was.N.SG sorry own dog.GEN
        'Máša felt sorry for her dog.'   (Kučerová, 2007: 184)

If the impersonal control verb *podařit se* 'succeed' is analogous to *líto*, the dative controller may be able to directly bind the subject-oriented anaphor, and the sentences in (9) may not necessarily contain PRO.

However, *líto* is unusual because it seems to lack a subject entirely, whereas *podařit se* does have a subject: the embedded infinitive. This can be shown in two ways. First, the embedded infinitive can be replaced by a proform (the neuter third singular demonstrative *to*) and behave like a regular nominal subject, as in (12); second, this verb can also take a lexical DP subject which controls agreement, as shown in (13), where the feminine noun *báseň* 'poem' triggers feminine agreement on the verb:

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(12) Chtěl   mi   alkohol   znechutit a to se   mu   podařilo.
      wanted me.DAT alcohol.ACC put.off.INF and that REFL.ACC him.DAT succeeded.N.SG
      'He wanted to put me off alcohol and he succeeded.'   (SYNv9)

(13) Měl radost, když se   mu   báseň podařila.
      had joy   when REFL.ACC him.DAT poem succeeded.F.SG
      'He was happy when a poem worked out for him.'   (SYNv9)

Thus, sentences with *podařit se*, unlike those with the impersonal experiencer construction with *líto*, are simply sentences with a subject and an object, in which case the latter cannot bind a subject-oriented anaphor. Indeed, Czech infinitival subjects can bind subject-oriented anaphors. An example is shown in (14), where the infinitival *získat Grónsko* 'to obtain Greenland' binds *svoji* in the object:

(14) [Získat   Grónsko] má svoji logiku – ekonomickou a   bezpečnostní.
      obtain.INF Greenland has own logic economic   and security.ADJ
      'Obtaining Greenland has its logic—in terms of economics and security.'

                                                                        (SYNv9)

From this, I conclude that the dative controller of *podařit se* is not eligible to bind *svůj*, so the examples in (9) do show evidence of PRO compatible with clitic climbing, further affirming the evidence from partial control in (7-a). Negative concord, as expected, patterns with clitic climbing: negated matrix verbs can license negative concord items embedded in an infinitive with PRO. An example is seen in (15): the subject-oriented anaphor *svých* indicates the presence of PRO, but the infinitive is still transparent for negative concord, with the negation on the main verb licensing the embedded negative concord item *žádný*.

(15) Sociálním demokratům se   tak ne-podařilo   prosadit   **žádný** ze
      Social Democrats.DAT REFL.ACC thus NEG-succeeded push.through.INF no   from

svých pozměňovacích návrhů
own   amendatory   proposals
'The Social Democrats thus did not manage to pass any of their proposed amendments'

(SYNv9)

Lenertová (2004) and Rezac (2005) use the subject-oriented anaphor to argue that clitic climbing is *incompatible* with PRO using the contrast in (16): when the embedded object clitic *je* 'them' stays low in (16-a) the dative matrix object *Janovi* 'Jan.DAT' can be coindexed with the subject-oriented anaphor in the embedded indirect object *svým přátelům* 'his friends.DAT'. However, when the embedded object clitic *je* climbs to the matrix clause, as in (16-b), this coindexation is marked as ungrammatical. Coreference with the matrix subject is marked ungrammatical in both cases:

(16) a. Pavel$_i$ přikázal Janovi$_j$ dát **je**   svým$_{*i/j}$ přátelům.
          Pavel ordered Jan.DAT give.INF them.ACC own friends.DAT
          'Pavel$_i$ ordered Jan$_j$ to give them to his$_{*i/j}$ friends.'

      b. *Pavel$_i$ **je**   přikázal Janovi$_j$ dát   svým$_{i/j}$ přátelům.
          Pavel them.ACC ordered Jan.DAT give.INF own friends.DAT
          'Pavel$_i$ ordered Jan$_j$ to give them to his$_{i/j}$ friends.'   (Rezac, 2005: 114–5)

Dotlačil (2007) disputes Rezac's judgement in this sentence, saying that he finds (16-b) acceptable under both interpretations of *svým* (that is, the anaphor can be coindexed with either the matrix subject or the controlled object). In general, these examples are quite complicated, with two competing potential binders for the anaphor. Thus, I conclude that (16) is rather inconclusive, and that my examples in this section—which do not involve potentially complicated interactions between binders—show more clearly that clitic climbing is in fact compatible with PRO.

3.3 Summary

In this section, I showed that clitic climbing is blocked by a CP boundary, which also blocks other clause-bound phenomena like negative concord. For these purposes, an infinitive with a syntactic subject PRO does not necessarily have a CP boundary; it is transparent to both negative concord and, crucially, clitic climbing.

4 Clitic movement is free in monoclausal constructions

I now turn to cases where the particular nature of clitics—their case and structural position—is relevant. First, in this section, I look at clitics in sentences with a single verb; in Section 5, I contrast this freedom with the more limited behavior of clitics in object control sentences.

Rezac (2005) argues that clitic movement is intimately tied to case assignment and makes the following claims accordingly: first, clitic movement should respect the merged order of clitics, and second, arguments with non-structural case should not cliticize. In this section, I show that neither of those is true: in monoclausal constructions, clitics can be reordered relative to their merged position, and arguments with non-structural case can cliticize—as can some DPs that are not verbal arguments at all.

4.1 ACC-ACC ditransitives: non-structural accusative can cliticize

Rezac (2005) looks at verbs that take two accusative arguments, like *učit* 'teach'. He shows that the first accusative (the person being taught) is structural, and can be cliticized, while the second accusative (the object of study) is non-structural, and cannot be cliticized. He provides the following judgements:

(17) a. Naučil jsem **ho**   zeměpis.
          taught PST.1SG him.ACC geography.ACC
          'I taught him geography.'

      b. *Naučil jsem **ho**   Honzu.
          taught PST.1SG it.ACC Honza.ACC
          'I taught it to Honza.'   (Rezac, 2005: 122)

However, Hana (2007) considers it grammatical for both arguments to cliticize (preferring for the structural accusative to come first), and examples of the second accusative cliticizing are robustly attested (if relatively uncommon). One such example is in (18), which shows the second accusative cliticizing with both the transitive verb *učit* 'teach' and its reflexivized form, *učit se* 'learn':

(18) 'The art of listening is the greatest art in the world. ...'

      Učím   **se**   **ho**   celý život, učím   **ho**   studenty.
      teach.1SG REFL.ACC it.ACC whole life teach.1SG it.ACC students.ACC

      'I've been learning it my whole life, I teach it to students.'   (SYNv9)

Thus, in ACC-ACC ditransitives, the second accusative can in fact cliticize despite being non-structural.

4.2   ACC-DAT ditransitives: non-structural dative can cliticize and cross over structural dative

Dvořák (2010) provides several diagnostics to show that Czech has two distinct types of ditransitive: first, standard, productive dative–accusative verbs including benefactives, which she analyzes as having the accusative merged in VP and the dative merged in a higher applicative projection between V and *v*; and second, accusative–dative verbs, where the dative is merged as the object of a null preposition below the accusative object (both in VP).

This dative argument is non-structural, so if it can cliticize, this would be further evidence that clitic movement is not limited to arguments with structural case. In addition, if both arguments can cliticize in the standard dative–accusative order, this would constitute a reversal of the merged order, in which the accusative c-commands the dative. This is indeed possible: as seen in (19), the accusative–dative verb *svěřit* 'entrust' is well attested with both arguments cliticizing.

(19)   Soud **mu**   **ho**   svěřil   loni   25. května.
        court him.DAT him.ACC entrusted last year 25th May
        'The court entrusted him [the child] to him last year on May 25.'   (SYNv9)

The ability of the non-structural dative to cliticize contrasts with the behavior of an analogous class of accusative–dative ditransitives in Icelandic, which do not undergo certain types of A-movement like Object Shift (Holmberg and Platzack, 1995)—again, suggesting a looser fit between clitic movement and case assignment in the A-system.

4.3   DAT-ACC ditransitives: reflexive accusative can (maybe) cliticize and cross over dative

The other class of ditransitives according to Dvořák (2010)—standard dative–accusative ditransitives— arguably provides another example of clitic order reversing merged order. Reflexive clitics precede dative clitics, so in a dative–accusative ditransitive where the accusative is reflexivized, the reflexive must cross over the dative to precede it—assuming that it originates as the internal argument, by no means an innocent assumption (see Medová, 2009). This clitic cluster is possible, as shown in (20): the dative–accusative verb *věnovat* 'devote' reflexivizes as *věnovat se* 'devote oneself, pay attention (to)', and the resulting reflexive clitic precedes the dative indirect object clitic.

(20) Justýna **se** **mu** však ne-věnovala tak, jak by rád
      Justýna REFL.ACC him.DAT however NEG-devote thus like COND.3SG happy
      'Justýna, however, was not paying attention to him as he would have liked'

(SYNv9)

Under certain analyses of reflexive clitics, at least, this class of ditransitives provides further evidence that clitics can be reordered from their merged position.

4.4 Numerals: non-argument genitives can cliticize, datives can cross over them to cliticize

So far, I have largely ignored genitive clitics, which are rather marginal, but they occupy a position in the cluster between datives and accusatives. As shown by Rezac (2005), these can arise either as arguments of verbs like *bát se* 'fear' (as in (21)), or as complements to certain quantifiers, mostly numerals five or greater (as in (22)):

(21) Tak jsem **se** **jich** pomalu přestal [bát].
      so PST.1SG REFL.ACC them.GEN slowly stopped fear.INF
      'So I slowly stopped fearing them.'

(22) Včera jsem **jich** šel [koupit pět].
      yesterday PST.1SG them.GEN went buy.INF five
      'Yesterday I went to buy five of them.'   (Rezac, 2005: 130)

Even if genitive case is structural in (21), in (22), the genitive clitic is not even a verbal argument. This is unexpected if cliticization is limited to arguments with structural case, as acknowledged by Rezac (2005).

In (22), the genitive clitic starts out as part of the embedded object, whose head, *pět* 'five', remains *in situ*. In fact, such pronominal objects of numeral constructions can cliticize even when they are

associated with the *subject*, showing the neuter singular verbal agreement pattern typical of these constructions, as in (23). In this example, the genitive clitic *jich* slots below the dative clitic *mi*, even though the latter originates as an indirect object lower in the clause.

(23) Když jsem jim podával ruku, tak **mi** **jich** několik řeklo
     when PST.1SG them.DAT gave hand then me.DAT them.GEN several said.N.SG . . .
     'When I shook hands with them, a few of them said to me. . .'   (SYNv9)

Although the merged position of the genitive (inside a nominal phrase) does not c-command that of the dative, if the genitive must extract to the clausal spine in order to undergo cliticization, its landing site would c-command the dative, and (23), with the dative preceding the genitive, would thus require a reversal of hierarchy.

4.5 Summary

In this section, I showed that clitic movement is quite free within a single clause: so long as the basic hierarchy (reflexive–dative–genitive–accusative) is respected, pronouns can cliticize, no matter their initial position or the source of their case.

5 Clitics cannot reorder in biclausal structures

I will now show that the freedom of clitic order in clauses with a single verb contrasts with the restricted nature of climbing in some sentences with embedded infinitives—in particular, object control sentences. The generalization, which has been observed in some form by previous researchers (Rosen, 2001; Lenertová, 2004; Rezac, 2005; Hana, 2007), is that clitics originating in the embedded infinitive cannot cross over the object controller (whether this is a clitic or a full DP,

with one exception). Let us go through each configuration in turn.

5.1 Reflexive clitics cannot climb over object controllers

In Section 4.3, I showed that reflexive accusative clitics end up above dative clitics in reflexivized dative–accusative ditransitives, and that this, depending on one's analysis of reflexive clitics, may constitute a reordering of the merged hierarchy. Hana (2007) notes that no such reordering is possible in object control sentences: reflexive clitics cannot climb in object control sentences. We see this in (24): the reflexive clitic from the embedded infinitive *dívat se* 'watch' cannot climb, but must stay in the lower clause.

(24) Martin {*se}   zakázal Petrovi [dívat   {se}   na televizi].
      Martin REFL.ACC forbade Petr.DAT watch.INF REFL.ACC on television
      'Martin forbade Petr from watching television.'   (Hana, 2007: 129)

In order for the reflexive clitic to climb, it would have to cross over the controller (*Petrovi* 'Petr.DAT' in (24))—and this is true regardless of whether reflexive clitics represent internal arguments, external arguments (Medová, 2009), or something else.

5.2 Dative clitics cannot climb over accusative controllers

In Section 4.2, I looked at ditransitives like *svěřit* 'entrust' in which the accusative argument c-commands the dative (Dvořák, 2010) and showed that both elements can cliticize in dative–accusative order, meaning that the dative must cross over the accusative at some point. This is not possible in object control sentences like (25): the dative clitic *jí*, which originates as an oblique object of the embedded infinitive *pomoct* 'help', cannot climb over the accusative controller, which is merged in the main clause. This holds true whether the controller is a clitic or a full DP.

(25) *Matka **mu**   **ho**   / Petra   přinutila [pomoct].
       mother him.DAT him.ACC / Petr.ACC forced   help.INF
       'Mother forced him/Petr to help him.'   (Lenertová, 2004: 162)

This constitutes another example in which clitic movement is more limited in biclausal structures than monoclausal ones.

5.3   Clitics of the same case respect order of embedding

Rosen (2001) notes that an embedded dative clitic can climb into a clause with a dative controller, so long as the controller comes first. Hana (2007) somewhat tentatively expands this to accusative clitics and controllers as well. We see examples of this below: (26) is valid on the reading where the dative controller of *zakázat* 'forbid' precedes the indirect object of the embedded infinitive *kupovat* 'buy' but not vice versa; similarly, (27) is valid on the reading where the accusative controller of *učit* 'teach' precedes the direct object of the embedded infinitive *napsat* 'write'.

(26) Martin **mu**   **jí**   včera   zakázal [kupovat takové dárky].
       Martin him.DAT her.DAT yesterday forbade buy.INF such   presents
       'Martin forbade him from buying her such presents yesterday.'

       ?'Martin forbade her from buying him such presents yesterday.'

(27) Martin **ji**   **ho**   učil   [napsat].
       Martin her.ACC him.ACC taught write.INF
       'Martin taught her to write it [a masculine noun like *čl_ánek* 'article'].'

       ?'Martin taught him to write it [a feminine noun like *povídka* 'story'].'

                                                        (Hana, 2007: 147–8)[3]

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[3]Hana (2007) writes the feminine accusative clitic as *jí*, with a long vowel, although the standard orthographic form has a short vowel. He notes that the accusative clitic can be pronounced either way, so I bring the example in line with the orthography.

Sentences with two datives or accusatives are quite uncommon, but they are attested, and only in the order marked valid in (26) and (27). Attested examples affirming these judgements are found below: in (28), the dative controller *mi* of the impersonal verb *podařit se* 'succeed' cliticizes before the dative object *jí* of the embedded verb *sdělit* 'communicate'. The example in (29) has the same structure as (27): the accusative controller *tě* precedes the embedded object *je*, but both cliticize in the matrix clause.

(28)   Přesto   **se**   **mi**   **jí**   podařilo sdělit,   že …
          nonetheless REFL.ACC me.DAT her.DAT succeeded communicate.INF that
          'I nonetheless managed to communicate to her that …'   (SYNv9)

(29)   Já **tě**   **je**   naučím   chytat.
          I you.ACC them.ACC teach.FUT.1.SG catch.INF
          'I'll teach you to catch them.'   (SYNv9)

Thus, the data from object controllers interacting with embedded objects of the same case affirms the data from the previous sections: embedded clitics can climb, so long as they do not climb over an object controller.

5.4   Accusative clitics can climb over dative controllers

There is one exception to the generalization that embedded clitics cannot climb across controllers: embedded accusative clitics can climb into matrix clauses with dative controllers, regardless of whether the controller is a clitic or a full DP (Lenertová, 2004; Rezac, 2005). In the former case, the dative–accusative order corresponds to the merged order, but in the latter, the accusative clitic can precede the dative controller DP. We see examples of this in (30): the accusative object clitic *ji* of the embedded infinitive *navštívit* climb equally well when the dative controller is the clitic *mu* or the full DP *Petrovi*.

19

(30)   a.   Matka **mu**   **ji**   ne-dovolila   [navštívit].
            mother him.DAT her.ACC NEG-allowed visit.INF
            'Mother didn't allow him to visit her.'

       b.   Matka **ji**   Petrovi   ne-dovolila   [navštívit].
            mother her.ACC Petr.DAT NEG-allowed visit.INF
            'Mother didn't allow Petr to visit her.'   (Lenertová, 2004: 162)

While the basic order of the clitic cluster still must be respected, dative controllers do not behave as interveners that block accusative clitics from climbing. This stands in contrast with accusative controllers, which do block dative clitics from climbing, as shown in Section 5.2.

5.5   Summary

In the preceding sections, I have surveyed the empirical landscape of clitic movement, making the following generalizations:

1. Clitic movement is clause-bound: clitics cannot climb out of CPs with strong boundaries, although they can climb out of smaller clauses, even those with syntactic subject PRO.

2. In clauses with a single main verb, elements can freely cliticize, no matter their merged position of source of case, and can cross over other clitics to do so.

3. By contrast, clitics originating in an embedded infinitive can only climb into a matrix clause if they do not cross over an object controller in the matrix clause. One exception is that accusative clitics can climb across dative controllers.

6   A case containment analysis of clitic movement

I will now present an analysis that captures the three generalizations described in Section 5.5. The main mechanism is a probe on the Clitic head that allows clitics to move into specifiers of CliticP,

so long as they are reached in an appropriate order. Examples of successful and unsuccessful clitic movement with the probe are found in Section 6.4.

6.1   The probe on the Clitic head

An extensive literature on clitics (e.g. Béjar and Rezac, 2003; Coon and Keine, 2021: and many others) casts clitic movement as the product of a need for the clitic to be licensed in some way through movement—the exact way in which clitics are defective relative to other DPs is unclear, though in Czech, it is *not* for the purposes of case assignment (e.g. Rezac, 2005), as discussed in Section 4. As case is relevant for my proposed probe, I tentatively suggest that clitics can receive case but lack a K layer to license this case, similar to Nevins (2011).

I place a probe on the Clitic that searches the tree below it for potential DPs to agree with. This probe has no satisfaction requirements; its purpose is to interact with DPs with the effect of allowing clitics to move and be licensed. If the probe finds and matches with a clitic, the clitic can choose to move. If a clitic has not cliticized to a possible landing site at the end of the derivation, the derivation crashes. The probe can interact with any number of DPs in its c-command domain, clitic or not, similar in spirit to Multiple Agree (Nevins, 2007, 2011) or other probes that allow for multiple interactions before being satisfied and terminating (Deal, 2015, 2021). If a given probe attracts multiple clitics, they occupy multiple specifiers in the order in which they move, each "tucking in" beneath the last (Richards: 1997).

The probe, like other Agree relations, is blocked by a CP phase boundary due to the Phase Impenetrability Condition (Chomsky, 2000, 2001; Keine, 2018). However, it can search into control infinitives with PRO, which are at most weak, penetrable phases according to Landau (2008). This captures the first generalization in Section 5.5.

6.2 The probe's feature geometry

While interactions with DPs leave no visible trace except for potential clitic movement, they can prevent DPs lower down from matching the probe. I propose that the probe has the feature geometry in (31), with a reflexive feature dominating a dative feature, followed by genitive and accusative features.

(31)   [REFL [DAT [GEN [ACC]]]]

The REFL feature may be a shorthand for some structure or feature that matches reflexive clitics; the rest of the hierarchy has been independently proposed as the containment hierarchy for Czech cases to explain phenomena like case syncretism (Caha, 2009).

When the probe encounters a DP, it attempts to match its case (or reflexive feature). If the top layer of the probe does not match that of the DP (i.e., if the DP is not a reflexive clitic), it discards layers one by one until it finds a match. For example, if a probe with the features in (31) encounters a genitive DP, it discards the REFL and DAT features so that the required GEN feature is exposed. The probe then continues its search, now with a diminished feature set: [GEN [ACC]]. This process accounts for the order of the cluster: a given probe must first attract reflexives, then datives, then genitives, then accusatives, because once a layer has been discarded, it is gone for the remainder of the probe's search. However, multiple clitics of the same type can be attracted in succession.

Similarly, DPs can act as interveners preventing lower clitics from matching and moving, though through a different mechanism than is familiar from literature on the Person Case Constraint (e.g. Béjar and Rezac, 2003, 2009; Nevins, 2007; Deal, 2021). For example, if the probe encounters a dative clitic after an accusative, it would not be able to match it, since it has already discarded its DAT feature. Thus, the dative would not be able to move. This property derives the third generalization in Section 5.5: clitics from an embedded clause cannot climb across object controllers in

the matrix clause. Arguments in a matrix clause (i.e., object controllers) interact with the probe before arguments in an embedded clause. If both the controller and the embedded object cliticize, the controller must come first. If the controller is an accusative full DP, a dative embedded object clitic cannot match the probe and climb over it, as described above. However, if the controller is a dative full DP, an accusative embedded object *can* climb, since the clitic probe can match the dative controller (which does not move), followed by the accusative object (which does). This derives the exception to the third generalization: embedded accusative clitics can climb over non-clitic dative controllers.

6.3   Scrambling to accommodate the case hierarchy

I have argued that the Czech clitic probe observes both the case hierarchy and the structural hierarchy of clitics—thus, embedded clitics cannot climb if they are "out of order" with respect to the controller. In this case, the second generalization in Section 5.5—that clitics can rearrange themselves to match the case hierarchy within a single clause—is unexpected. Since clitic movement cannot rearrange clitics, there must be some way for clitics within a single clause to reorder *prior to* clitic movement. Moreover, this process must not be able to reorder embedded DPs above matrix DPs, or else we would see a similar freedom in biclausal sentences, against the third generalization.

Scrambling in Czech fits these criteria. In Czech, given elements can freely move to the middlefield (Biskup, 2006; Kučerová, 2007; Sturgeon, 2008; Šimík et al., 2014; Šimík and Wierzba, 2015), which Biskup (2006) and Sturgeon (2008) label as scrambling to a *v*P edge with multiple elements, in any order (contra Veselovská, 1995). Scrambling shows properties of A-movement (Kučerová, 2007; Sturgeon, 2011), which is confined in general to a local TP (Chomsky, 2000; Dotlačil, 2007)—a fact that holds true of scrambling in Czech as well, according to Kučerová (2007).

Since clitics are, by definition, given elements, they can freely scramble to the middlefield—in any order. Thus, clitics originating from within the same TP can freely rearrange themselves as needed to match the probe's case hierarchy by first scrambling to the middlefield before clitic movement. Indeed, clitics need not even be verbal arguments, so long as they can scramble, like the genitive clitics discussed in Section 4.4. In contrast, embedded arguments cannot scramble outside an infinitival TP, so they cannot scramble above elements merged in the matrix clause. If clitic movement follows scrambling, we derive the generalizations we need: free ordering for elements within a verbal clause, but generally fixed ordering of matrix controllers above embedded clitics.
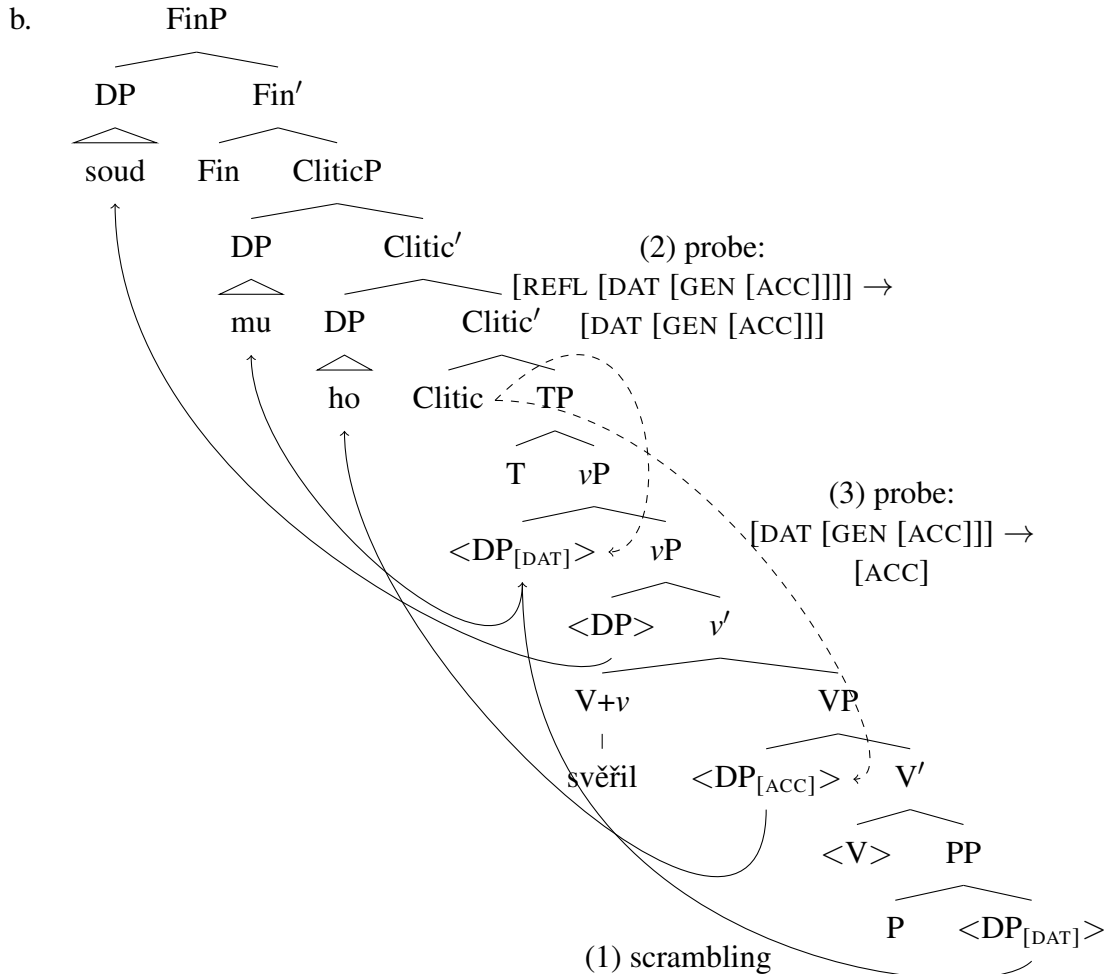
6.4 Examples

I now present two examples showing attempted movement of accusative and dative clitics in configurations where the merged position of the accusative c-commands that of the dative.

First, (32) features the accusative–dative ditransitive *svěřit* 'entrust' discussed in Section 4.2. The accusative clitic *ho* originates in the VP, with the dative *jí* starting out further down in VP as the object of a silent preposition (Dvořák, 2010). For the probe to successfully attract both clitics, the dative must be above the accusative, so (1) the former scrambles to the *v*P edge above the latter. Now the probe can work: (2) the first DP it encounters is the scrambled dative clitic, so it sheds its REFL layer to expose DAT and match it. The probe then continues (I assume it ignores the subject, which cannot cliticize) until (3) it reaches the accusative clitic—I show it *in situ*, although my analysis does not change if it also scrambles to the *v*P edge below the dative (recall that scrambled elements may adjoin in any order). At this point, the probe casts off its DAT and GEN layers, matching the accusative and attracting it to CliticP, where it tucks into a specifier beneath the previously moved dative clitic. Finally, to complete the derivation, the subject moves to the specifier of FinP to satisfy the EPP feature on Fin.

(32) a. Soud **jí** **ho** svěřil.
court her.DAT him.ACC entrusted
'The court entrusted him to her.'   (see (19))

b.

(2) probe:
[REFL [DAT [GEN [ACC]]]] →
[DAT [GEN [ACC]]]

(3) probe:
[DAT [GEN [ACC]]] →
[ACC]

(1) scrambling

We can contrast this with the failed derivation in (33), with an accusative controller *ho* in the matrix clause and a dative object *jí* merging in the embedded clause, as the object of *pomoct* (whether this argument is introduced as a simple VP complement, as I have it, or in a more complicated structural configuration, such as an applicative head or as the complement of a silent P, does not matter for these purposes). This dative cannot scramble outside of its local TP, so it is stuck below the accusative. Thus, (1) the clitic probe first encounters the accusative DP and sheds its first three layers, leaving only [ACC]. The probe continues on, and then (2) finds the embedded dative object. However, at this point, it has already discarded the DAT feature, and cannot match and

attract it. Thus, the dative cannot undergo clitic movement and is stranded in a non-clitic position, so the derivation crashes. The grammatical alternative (not depicted here) is for the dative object to be attracted to a lower CliticP projected in the embedded clause, where the accusative controller cannot intervene—that is, the clitic stays low, without climbing.

(33)   a.   *Matka **jí**   **ho**   přinutila [pomoct].
            mother her.DAT him.ACC forced   help.INF
            'Mother forced him to help her.'   (see (25))

   b.   *
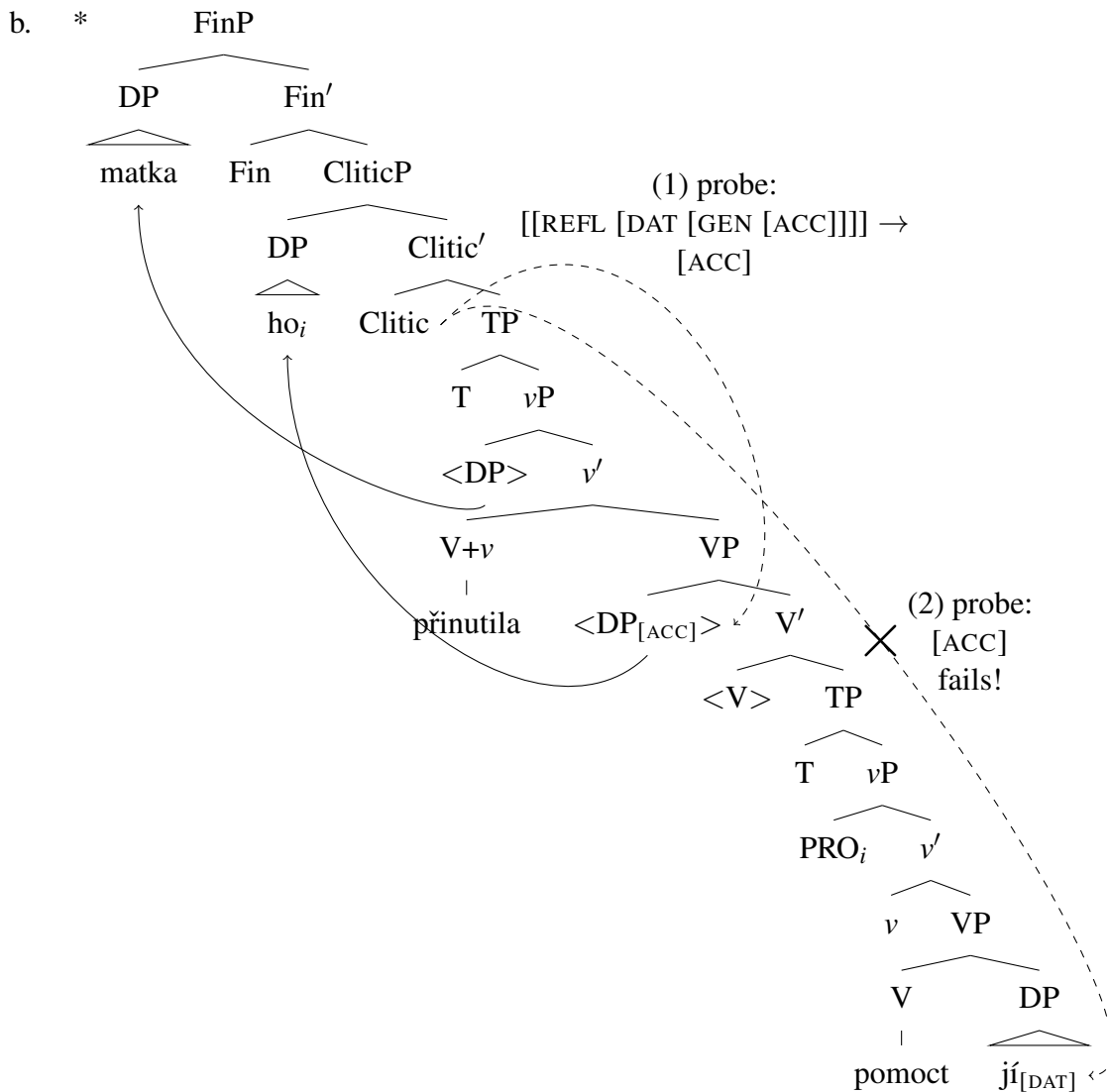
6.5 Summary

I have proposed that cltiic movement is driven by a probe with a hieararchy of reflexive and case features that it uncovers one at a time to match DPs in its c-command domain up to a CP phase boundary, which it cannot cross. When DPs are ordered in accordance with the probe's hierarchy, we get the canonical Czech clitic cluster: reflexive–dative–genitive–accusative. When they are not, clitics fail to undergo their necessary movement; however, scrambling allows clitics to reorder themselves as needed, so long as they are in the same TP. This probe thus naturally accounts for the three generalizations about clitic climbing discussed in the previous sections.

7   Conclusion

In this work, I have refined previous empirical generalizations about Czech clitic climbing (e.g. Lenertová, 2004; Rezac, 2005; Hana, 2007) and proposed a novel type of probe that handles intervention effects through a hierarchical feature geometry that gradually removes layers to match successive DPs depending on their case. While this general approach neatly unifies the various possibilities and limitations of Czech clitic movement presented here, some issues remain.

One issue is technical: what is the feature I have labelled REFL? If Medová (2009) is correct that the reflexive clitic represents the subject, the outer layer of my probe's hierarchy should match it in some way. This match cannot be a nominative feature: first of all, the reflexive clitic expresses accusative or dative case on its own, and second of all, nominative is at the *bottom* of the case hierarchy (Caha, 2009), inside the accusative, so it could not be the first case matched.

Another open question is the interaction of case and phi features. Previous work on limitations in clitic ordering has focused in large part on the Person Case Constraint (e.g. Béjar and Rezac, 2003, 2009; Nevins, 2007; Deal, 2021). Although my proposed probe shares with much of this work a

complex feature geometry, I have not addressed PCC effects in Czech (see Sturgeon et al., 2011). Thus, future work should aim to integrate the case-based effects discussed here with more classic PCC effects.

One more avenue for further exploration is the nature of scrambling. I have followed Kučerová (2007) in assuming that elements cannot scramble out of embedded infinitives, but this seems slightly too strong: Lenertová (2004: 162n24) shows examples with embedded objects scrambling out of object control clauses, although they still cannot scramble over the controller. Thus, future work should explore how, exactly, elements can scramble out of embedded infinitives—for example, perhaps these infinitives are smaller than TP, making the matrix TP a single domain for A-scrambling.

Overall, the empirical work and theoretical framework presented in this study should provide ample ground for further exploration of Czech clitic movement and the structure of Czech embedded infinitives.

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