Pronoun cliticization, *wh*-movement, and the Principle of Minimal Compliance[*]

Steven Foley & Maziar Toosarvandani

University of California, Santa Cruz

1.   Introduction

In a theory of attraction, an element (the goal) moves to satisfy the needs of a functional head (the probe) (Chomsky 2000, 2001). *Wh*-movement is a canonical example of such movement: to form a constituent question, the specifier of C must contain a *wh*-phrase. In this paper, we explore whether pronoun movement, a type of movement that does not fit so neatly into a theory of attraction, can be brought closer together to *wh*-movement.

Our empirical focus is Sierra Zapotec, a Northern Zapotec language (Oto-Manguean: Oaxaca, Mexico) that is VSO. Up to three pronouns can move to a verb-adjacent position.[1]

(1)   a.   Shtahs=**eb**$_1$ t_1.
           sleep.CONT=**3.AN**
           'It is sleeping.'   (FSR, SLZ056-s, 11)

      b.   Blen=**ba'**$_1$=**b**$_2$ t_1 t_2.
           hug.COMP=**3.HU**=**3.AN**
           'S/he hugged it.'   (FSR, SLZ1012, 16:53)

      c.   Tsgaw=**a'**$_1$=**ba'**$_2$=**n**$_3$ t_1 t_2 t_3.
           feed.CONT=**1SG**=**3.HU**=**3.IN**
           'I feed it to her/him.'   (FSR, SLZ1017, 36:30)

[1]The data in this paper primarily come from intensive work with two speakers, with additional data from a third speaker. All three are from the neighboring towns of Santiago Laxopa and San Sebastian Guiloxi; they currently reside either there or in California.

In one line of reasoning, pronoun movement takes place entirely because of properties of the pronouns themselves — they are *greedy* in Chomsky's (1995: 201) terms. Cardinaletti and Starke (1999) argue, for instance, that clitic pronouns, along with other weak pronouns, are deficient. They lack case and so must associate with an appropriate functional head.

Indeed, there are some obvious differences between *wh*-movement and pronoun movement. While just one *wh*-phrase moves in English, more than one pronoun moves in Sierra Zapotec (1). Once a few more languages are taken into account, though, the surface typologies of pronoun movement and *wh*-movement look a lot more parallel. There are languages where only one pronoun can move to a special position, as in Northern Paiute (Uto-Aztecan: Western United States) (2), just as there are ones where no pronouns do (e.g., English).[2]

(2) a. Su=naatsi'i t$_1$ **i=**$_1$bunni.
         NOM=boy   **1SG=**see.IMPF
         'The boy sees me.'   (EM, BP37-2-s, 14)

     b. Su=nana t$_1$ tɨba   **i=**$_1$maka.
         NOM=man pine.nut **1SG=**give.IMPF
         'The man gives me pine nuts.'   (MS, BP35-4-s, 10)

Conversely, there are languages in which no *wh*-phrases in a clause move (e.g., Japanese; Kratzer and Shimoyama 2002) and ones in which multiple *wh*-phrases in a clause move (e.g., Bulgarian; Rudin 1988).

Here, we explore some deeper parallels between *wh*-movement and pronoun movement. In particular, we investigate whether it is possible to see effects of the *Principle of Minimal Compliance (PMC)* — an economy constraint that Richards (1998) proposes is active in multiple *wh*-movement — in the domain of Sierra Zapotec multiple pronoun movement.

The PMC allows for otherwise illicit instances of movement just in case the constraint they would violate has already been satisfied. We identify two constraints on pronoun movement that are lifted once they have been minimally complied with. First, basic locality, and second, certain hierarchy-sensitive restrictions on the movement of pronouns, which we call *Gender–Case Constraints* (*GCCs*; Toosarvandani 2017, Foley, Kalivoda, and Toosarvandani 2019, to appear). GCCs are closely related to the more familiar Person–Case Constraints (PCC; Perlmutter 1971, Bonet 1991), but refer specifically to pronouns' gender features.

In concluding, we consider whether a fruitful comparison between *wh*-movement and pronoun movement might be made in the other direction as well. Specifically, we examine a type of A′-movement in Toba Batak (Austronesian: Sumatra, Indonesia), drawing on data reported by Erlewine (2018). We suggest that some instances of A′-movement in this language are subject to a hierarchy-sensitive constraint on movement akin to a PCC or GCC. Rather than a hierarchy of person or other φ-features, it operates over a hierarchy of A′-categories.

---

[2]The Northern Paiute data come from Toosarvandani's fieldwork with two speakers in California.

2.   Locality and the Principle of Minimal Compliance

Generally speaking, *wh*-movement exhibits superiority effects: only the highest *wh*-phrase in the clause can move to sentence-initial position.

(3)   *$\textbf{What}_2$ did $\textbf{who}_1$ buy t_2?

In a theory of attraction, superiority follows from Attract Closest, a locality condition on the movement of *wh*-phrases which ensures that the probe can only attract the closest goal (Chomsky 2000: 122). A goal is closest just in case there is no eligible goal that intervenes between it and the probe (cf. Relativized Minimality; Rizzi 1990).

Superiority is still obeyed, in some ways, in languages with multiple *wh*-movement like Bulgarian (Rudin 1988: 472). In (4), it is the highest *wh*-phrase that must occur first. Lower *wh*-phrases, however, can occur in any order, as shown in (5) (Bošković 1997: 238–239).

(4)   a. $\textbf{Koj}_1$ $\textbf{kogo}_2$ vižda t_1 t_2?
          who whom sees
          'Who sees who?'

       b.   *$\textbf{Kogo}_2$ $\textbf{koj}_1$ vižda t_1 t_2?
          whom who sees   (Rudin 1988: 472–473)

(5)   a. Koj_1 $\textbf{kogo}_2$ $\textbf{kak}_3$ e tselunal t_1 t_2 t_3?
          who **whom how** is kissed
          'Who kissed whom how?'

       b. Koj_1 $\textbf{kak}_3$ $\textbf{kogo}_2$ e tselunal t_1 t_2 t_3?
          who **how whom** is kissed   (Bošković 1997: 239)

If *wh*-phrases move to satisfy the needs of a functional head (say, C), the rigid position of the highest *wh*-phrase is not surprising; to obey locality conditions, the probe must move the closest *wh*-phrase first. But the free order of the other *wh*-phrases is unexpected.

Richards (1997: 225–339, 1998) proposes that this freedom arises from an economy constraint, the *Principle of Minimal Compliance (PMC)*.

(6)   *Principle of Minimal Compliance*
       For any dependency D that obeys constraint C, any elements that are relevant for determining whether D obeys C can be ignored for the rest of the derivation for purposes of determining whether any other dependency D' obeys C.
          An element X is relevant to determining whether a dependency D with head A and tail B obeys constraint C if:
         (i) X is along the path of D (that is, $X = A$, $X = B$, or A c-commands X and X c-commands B), *and*
        (ii) X is a member of the class of elements to which C makes reference.
                                                                 (Richards 1998: 601)

The details of this original formulation of the PMC are not a huge concern here. Its effects are the following: once one instance of movement to a given position has obeyed a constraint on movement, such as Attract Closest, that constraint is lifted for subsequent instances of movement to the same position.

For Bulgarian multiple *wh*-questions, at the point in the derivation when the probe first searches for a goal, it can only attract the closest *wh*-phrase: in (5), this is the subject. After that, either *kogo* 'whom' (5a) or *kak* 'how' (5b) can move, since the locality condition on movement has already been checked. The remaining *wh*-phrases tuck in below the first *wh*-phrase in whatever order they move, giving rise to the flexible order.

The PMC might be grounded ultimately in considerations of economy. Examining a structure to ensure that an instance of movement satisfies a given constraint, such as a locality condition, comes with a certain cost. Incurring this cost again can be avoided once the constraint has been successfully checked a single time. In the following sections, we propose that the effects of the PMC can also be observed in the domain of pronoun movement.

3.   Locality in pronoun movement

Pronoun movement in Sierra Zapotec is subject to a locality constraint which can be understood as Attract Closest. The probe can, in the first instance of attraction, only move the highest pronoun. Once the highest pronoun has moved out of the domain of the probe, however, we suggest that it can attract any other pronoun, regardless of closeness. This lifting of locality, enabled by the PMC, parallels what is found in multiple *wh*-movement.

3.1   Pronouns in Sierra Zapotec

First, a bit of background about pronouns in Sierra Zapotec. As shown in (7), there are both *clitic* and *strong* pronouns, in Cardinaletti and Starke's (1999) terms.

(7)

	STRONG	CLITIC		STRONG	CLITIC
1SG	*neda'*	*=a'*	3.EL	*lè'*	*=e' ~ =ne'*
1PL.EXCL	*dziu'*	*=dzu*	3.HU	*leba'*	*=ba'*
1PL.INCL	*netu'*	*=tu'*	3.AN	*leb*	*=(e)b*
2SG	*lhé'*	*=u'*	3.IN	*len*	*=(e)n*
2PL	*lhe'e*	*=lhe*			

At least in (postverbal) subject position, a pronoun is obligatory realized as a clitic in information-structurally neutral contexts, e.g., out of the blue or with broad focus.

(8)   a.   Dzaw{**=a'**,   ***neda'**}   yet.
              eat.CONT**=1SG**   **1SG.STR** tortilla
              'I am eating a tortilla.'   (RM, GZYZ048, 05:08)

b. Tsini'a{**=ba'**,   *__leba'__**} behle' jed.
cook.CONT**=3.AN 3.AN.STR** meat chicken
'S/he is cooking chicken.'   (RDR, SLZ1029, 22:26)

Pronouns appear in their strong form when they bear narrow focus, or when they appear in particular syntactic environments, like fragment answers and preverbal A′-positions.

As shown in (1) above, up to three pronouns can cliticize in a rigid order: subject–indirect object–direct object. This cliticization must involve syntactic movement, as it is not permitted out of a coordination structure.

(9)   a. *Ts-ja-wi**=e'**$_1$ [t$_1$ na xna'=a']   taw=a'.
CONT-AND-visit**=3.EL**   and mother=1SG grandmother=1SG
Intended: 'S/he and my mother went to visit my grandmother.'
                                  (RM, GZYZ052, 57:32)

   b. Ts-ja-wia   [**le'**   na xna'=a']   taw=a'.
CONT-AND-visit **3.EL.STR** and mother=1SG grandmother=1SG
'S/he and my mother went to visit my grandmother.'
                                  (RM, GZYZ052, 56:25)

If pronoun movement were maximally parallel to *wh*-movement, it would be driven by a functional head looking for some features, such as φ-features (person, number, gender). This probe searches its c-command domain for a suitable goal, subject to Attract Closest.

Evidence for the role of attraction in pronoun movement comes from intervention effects. An object pronoun may only cliticize if the subject is also a cliticized pronoun (10a). If the subject is an R-expression, a pronominal object may neither cliticize around the subject (10b), nor cliticize onto the subject (10c); instead, it must appear in its strong form (10d).

(10)   a. Betw**=ba'=b**.
hit.COMP**=3.HU=3.AN**
'S/he hit it (an animal).'   (RDR, SLZ1029-s, 3)

   b. *Betw**=b**$_2$ Maria$_1$ t$_2$.
hit.COMP**=3.AN** Maria
Intended: 'Maria hit it (an animal).'   (RDR, SLZ1029, 29:34)

   c. *Betw   Maria$_1$**=b**$_2$ t$_2$.
hit.COMP Maria**=3.AN**
Intended: 'Maria hit it (an animal).'   (RDR, SLZ1029, 30:12)

   d. Betw   Maria **leb**.
hit.COMP Maria **3.AN.STR**
'Maria hit it (an animal).'   (RDR, SLZ1029, 28:07)

Sichel and Toosarvandani (2018) argue that this pattern is expected if an R-expression counts as an intervener between the probe and a pronominal object, even if it is not able to move itself.

Preminger (2019) offers one reason why R-expressions might count as defective interveners in this way. He proposes that clitic pronouns realize the copy of a determiner. A probe that is looking for φ-features will not, however, be able to find and copy a D head bearing matching features directly. Under a certain conception of locality, a DP will always be closer than its D head, given that they are featurally identical (assuming bare phrase structure).[3]

(11)
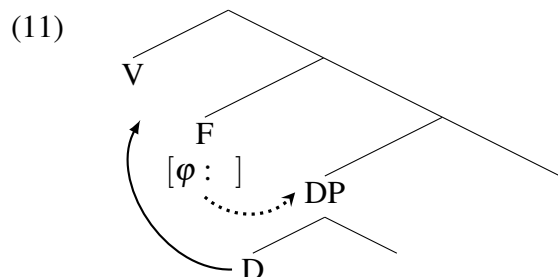
When the entire DP that has Agreed with the probe cannot itself move, the D head is instead eligible to move if it can be realized as a clitic pronoun. A probe, then, can never skip over an intervening R-expression: because it is a DP, it is an eligible goal even if it or its head cannot itself move.

3.2 Minimal compliance with pronoun movement

While the highest pronoun must always move first, lower pronouns are not subject to the same locality constraint. In particular, as shown in (12a), an R-expression indirect object does not intervene for cliticization of a direct object (see Avelino Becerra 2004: 29–30 and Sonnenschein 2004: 157 on closely related Sierra Zapotec varieties).

(12) a. Bnexjw=**a'**$_1$=**b**$_3$ t$_1$ Bedu'u$_2$ t$_3$.
          give.COMP=**1SG=3.AN**   Beto
          'I gave it to Beto.'   (RDR, SLZ1029-s, 15)

      b. Bnexjw=**a'**$_1$=**ba'**$_2$ t$_1$ t$_2$ beku'$_3$.
          give.COMP=**1SG=3.HU**   dog
          'I gave him/her the dog.'   (RDR, SLZ1029, 40:32)

We suggest that, once Attract Closest has been satisfied by movement of the highest goal (the subject), the PMC allows other goals to move without checking this locality constraint again. Thus, a direct object can cliticize across an indirect object, just as an indirect object can cliticize when the direct object is an R-expression (12b).

---

[3]Simplifying somewhat, the relevant notion of locality is the following: A category C is closest to a probe if there is no other category C' such that C' either dominates C or asymmetrically c-commands it.

This flexibility cannot be attributed to a "flat" structure for ditransitives in which neither object asymmetrically c-commands the other. This is non-trivial to show, though, as the language has relatively flexible word order. Except for the subject, which must directly follow the verb, other major constituents can be freely ordered (Adler, Foley, Pizarro-Guevara, Sasaki, and Toosarvandani 2018).

(13)   a.   Ba   be   Maria **bidau' ni   beku'**.
             already give.COMP Maria **child   this dog**
             'Maria gave this child the dog.'   (RM, GZYZ015, 18:46)

       b.   Ba   be   Maria **beku' bidau' ni**.
             already give.COMP Maria **dog   child   this**
             'Maria gave the dog to this child.'   (RM, GZYZ015, 18:13)

But, many Zapotec languages have a *backwards binding* construction, in which an argument can be "omitted" just in case it c-commands a coreferential possessor (Black 1996, Avelino, Foreman, Munro, and Sonnenschein 2018). In (14a), for instance, the subject — which otherwise is obligatory — can be null, since it corefers with the possessor of the object. Crucially, while the indirect object can be omitted if it corefers with the possessor of the direct object (14b), the direct object cannot be omitted under coreference with the possessor of an indirect object (14c).

(14)   a.   Ben**(=a'$_i$)**   lill**=a'$_i$**.
             do.COMP**=1SG** house**=1SG**
             'I$_i$ built my$_i$ house.'   (RM, GZYZ055, 0:30)

       b.   Bi=a'**(=ba'$_i$)**   xhikw**=ba'$_i$**.
             give.COMP=1SG**=3.HU** dog**=3.HU**
             'I gave her/his$_i$ dog to her/him$_i$.'   (RM, GZYZ055, 21:18)

       c.   Ni   gwa=a'***(=ba'$_i$)**   xna**=ba'$_i$**.
             here give.POT=1SG**=3.HU** mother**=3.HU**
             'I will give her/him$_i$ to her/his$_i$ mother.'   (RM, GZYZ055, 49:45)

While the source of this backwards binding construction is not well understood, we take this as evidence that indirect objects underlyingly asymmetrically c-command direct objects. The absence of intervention in (12a) must then come from a lifting of locality constraints, enabled by the PMC.

3.3   Two alternatives

To account for the ability of the direct object to move without cliticization of the indirect object, Toosarvandani (2017) proposes that scrambling can feed pronoun movement. Under this account, (12a) does not actually violate locality: first, the direct object scrambles above

the indirect object; then, the direct object can be attracted by the probe without the indirect object ever intervening.

(15)   V F pro$_S$ pro$_{DO}$ DP$_{IO}$ t$_{DO}$

Under this alternative, the linear order of clitic pronouns does not transparently reflect either their underlying hierarchical position or the derivational timing of their movement (for further discussion, see Section 4).

The reordering of the objects in a ditransitive does seem to have some syntactic consequences. Like A-movement, it creates new binding possibilities. For example, if the first object — whether an indirect object (16a) or direct object (16b) — binds an R-expression inside the other object, a Condition C violation results.

(16)   a. Benexjw   bene' biu' **leba'**$_{*i/j}$ kar tse **Maria**$_i$.
            bring.COMP CL   male **3.HU**   car of **Maria**
            'The man brought her$_{*i/j}$ Maria$_i$'s car.'   (RM, 08/06/2018)

        b. Ja-saynh   Maria **leba'**$_{*i/j}$ lill   **Pedro**$_i$.
            COMP.AND-bring Maria **3.HU**   home **Pedro**
            'Maria brought Pedro$_i$ to his$_{*i/j}$ home.'   (RM, 08/06/2018)

However, it seems unlikely that this kind of word order alternation, reminiscent of the clause-internal scrambling found in the German middlefield, can feed Agreement in φ-features, and consequently pronoun movement. In general, there do not seem to be free word order languages where verb agreement varies with the position of arguments. In German, for instance, the verb invariably agrees with the subject, whether or not another argument has scrambled above it.[4]

(17)   a. Gestern **hat/*haben**   wohl **der**   **Mann** die   Bücher
            yesterday **have.SG/have.PL** PTCL **the.NOM.SG man**   the.ACC.PL books
            gekauft.
            bought
            'Yesterday, the man bought the books.'

        b. Gestern **hat/*haben**   wohl die   Bücher **der**   **Mann**
            yesterday **have.SG/have.PL** PTCL the.ACC.PL books **the.NOM.SG man**
            gekauft.
            bought

We do not understand why scrambling of this kind should be invisible to agreement. It seems unlikely, though, that it could feed pronoun movement if, as we assume in §3.1, this first requires Agreement in φ-features.

---

[4]We are grateful to Lisa Hofmann for the German data.

There is yet another alternative, though. It is not impossible that ditransitives contain two φ-probes. The functional head that introduces the goal (F′), for instance, could come with an additional probe for attracting pronouns.

(18)   V F pro$_S$ DP$_{IO}$ F′ pro$_{DO}$
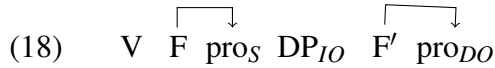
While the higher probe would Agree with and attract the subject and indirect object pronouns, this lower probe would Agree with and attract the direct object pronoun. An R-expression indirect object would thus simply never intervene. (There is a separate question of how the cliticized object then appears on the verb, along with other clitic pronouns.)

To evaluate this hypothesis directly, a syntactic context is needed that suppresses the agent. In a passive, for instance, the indirect object should still fail to intervene for movement of the direct object. By contrast, if it is the PMC that allows a direct object to cliticize across the indirect object, an intervention effect should reappear when a ditransitive is passivized. Unfortunately, there is no passive in Sierra Zapotec that can be used to test this.

There is some indirect evidence, though, that there is no additional probe in ditransitives. The presence of this probe would allow a direct object to cliticize entirely independently of other arguments. While this may be desirable for the indirect object, where no intervention effect is observed, it is not so desirable for the subject. In distransitives, as in monotransitives, an R-expression subject still blocks cliticization of the direct object.

(19)   *Blu'id=**b**$_2$ **Maria**$_1$ bi'i nu'ule-dao'$_2$ t$_3$.
        show.COMP=**3.AN Maria** CL girl-DIM
        Intended: 'Maria showed it to the little girl.'   (FA/RM, GZYZ070, 15:30)

This suggests the absence of intervention effects between objects comes instead from a principle like the PMC, which only lifts a locality constraint after it has been satisfied.

4.   Gender–Case Constraints and their obviation

The previous sections identified a number of information-structural and syntactic restrictions on pronoun movement in Sierra Zapotec. In addition to these, the language also exhibits a *Gender–Case Constraint (GCC)*, which restricts cliticization based on a pronoun's structural position and gender (Toosarvandani 2017, Foley, Kalivoda, and Toosarvandani 2019, to appear). For instance, while an animal object pronoun can move after an elder human subject pronoun has moved (20a), the inverse is not possible (20b).

(20)   a.   Blenh=**e'**$_1$=**b**$_2$ t$_1$ t$_2$.
             hug.COMP=**3.EL=3.AN**
             'S/he (an elder) hugged it (an animal).'   (FSR, SLZ1012, 15:16)

        b.   *Udi'in=**eb**$_1$=**ne'**$_2$ t$_1$ t$_2$.
             bite.COMP=**3.AN=3.EL**
             Intended: 'It (an animal) bit her/him (an elder).'   (FSR, SLZ1012, 19:25)

When the GCC is violated, as in (20b), the object exceeds the subject on a gender hierarchy. Then, the object must be realized as a strong pronoun.

(21)   Udi'in=**eb**$_1$ t$_1$ **le'**$_2$.
         bite.COMP=**3.AN**   **3.EL.STR**
         'It (an animal) bit her/him (an elder).'   (FSR, SLZ1012, 19:25)

    The GCC in Sierra Zapotec makes reference to a four-way distinction in gender, realized formally in the third-person pronouns. This gender system is strictly semantic, rooted in animacy and formality. It contrasts elder humans (EL), non-elder humans (HU), animals (AN), and inanimates (IN); these categories can be ordered hierarchically by entailment.

(22)   3.EL > 3.HU > 3.AN > 3.IN

There is some variation within Sierra Zapotec in how the GCC makes reference to this hierarchy (see Foley, Kalivoda, and Toosarvandani, to appear for details on this microvariation). But all prohibit pronoun movement that subverts the hierarchy in a particular way.
    In general, an object pronoun may only cliticize if it does not outrank the subject clitic on the gender hierarchy. Ignoring variation within Sierra Zapotec, we might characterize the GCC in the following way:

(23)   *Gender–Case Constraint*
         If a probe *P* attracts a clitic *C* of gender *G*, *P* may then attract another, lower clitic
         C' of gender *G'* iff *G'* does not outrank *G* on the gender hierarchy.

We assume that the GCC involves more than one pronoun being attracted by a single probe, since it requires computing the relative positions of two pronouns on a hierarchy (as Anagnostopoulou 2005 and Nevins 2011 argue for similar constraints based on person).
    Importantly, the GCC, as characterized in (23), relies crucially on some notion of locality. We might predict, then, that it will be lifted by the PMC once it has been minimally complied with. This prediction is borne out with ditransitives, where all three arguments in Sierra Zapotec are able to cliticize. The GCC is in force when just two pronouns move: after the first pronoun cliticizes, a second cannot if its gender outranks the first's.[5]

---

[5]This may depend on the role of the second pronoun. When it is a direct object, as opposed to an indirect object as in (24), the GCC does not appear to hold.

(i)   Blu'i=**b**$_1$=**ne'**$_2$ t$_1$ me'edo' t$_3$.
        show.COMP=**3.AN**=**3.EL**   baby
        'It (an animal) showed her/him (an elder) to the baby.'   (FSR, 05/21/2019)

It may be tempting to treat this as support for the presence of an additional, lower probe in ditransitives, a possibility we discussed in Section 3.3. For the reasons we reviewed there, though, this seems unlikely, so a different explanation must be found for the contrast between (i) and (24).

(24) *Be=**ba**₁=**ba'**₂   t₁ t₂ yej   ni.
    give.COMP=**3.AN=3.HU**   flower this
    'It (an animal) gave him/her this flower.'   (RM, GZYZ017, 54:27)

Now, if after the second pronoun has been attracted, the GCC has been satisfied (i.e., the second pronoun does not outrank the first), the constraint should be lifted by the PMC when the probe goes to attract a third pronoun. And indeed, the third clitic pronoun (the direct object) in a ditransitive can outrank the second (the indirect object) (Toosarvandani 2017: 136–137).

(25) Ba   blu'i=ba'₁=**b**₂=**ne'**₃   t₁ t₂ t₃.
    already show.COMP=3.HU=**3.AN=3.EL**
    'S/he already showed him/her (an elder) it (an animal).'   (FSR, 05/21/2019, p.c.)

There is an alternative explanation for this obviation of the GCC, though it also appeals to the PMC. Consider the following derivation for (25): The probe first attracts the subject, thereby minimally complying with locality. Next, the probe attracts the direct object around the indirect object, violating locality. Because the subject outranks the indirect object, though, this step counts as minimal compliance with the GCC. Finally, the probe attracts the indirect object. Since the direct object (in this derivation, the second goal) outranks the indirect object, this final step does not actually violate the GCC.

What has to be explained under this alternative is why the clitic pronouns invariably surface in S–IO–DO order. Crosslinguistically, clitics pronouns often occur in rigid and often arbitrary orders, so it may not be too far-fetched to appeal to a post-syntactic mechanism that can linearize them independently of the order in which they were attracted (Bonet 1995, Miller and Sag 1997). But, even if we admit such a mechanism, this means simply that there are two possible ways the PMC could derive the (at least superficial) obviation of the GCC in ditransitives.[6]

---

[6]In this connection, it is interesting to note that the Person–Case Constraint (PCC; Perlmutter 1971, Bonet 1991), a constraint similar to the GCC that makes reference instead to person, is never obviated in ditransitives. Sierra Zapotec has the "Strong" PCC, which prohibits first- and second-person pronouns from cliticizing from object position in monotransitive clauses (i).

(i)   Ba   betw=ba'{***=a'**,   **neda'**}.
    already hit.COMP=3.HU{**=1SG, 1SG.STR**}
    'S/he already hit me.'   (RM, GZYZ015, 6:17)

In ditransitives, too, neither an indirect (ii) nor direct (iii) object first- or second-person pronoun can cliticize.

(ii) Ba   ben=**ba'**{***=o'**,   **le'**}   beku'.
    already give.COMP=**3.HU**{**=2SG 2SG.STR**} dog
    Intended: 'S/he gave the dog to you.'   (RM, GZYZ015, 43:58)

(iii) Elu'ed=ba=b{***=o'**,   **le'**}.
    show.POT=3.HU=3.AN{**=2SG, 2SG.STR**}
    'S/he will show you to it (an animal).'   (RM, GZYZ017, 50:58)

5. Looking forward: A potential A$'$-hierarchy effect

This paper has so far focused on finding ways in which pronoun movement resembles *wh*-movement. We have seen two types of constraints on pronoun movement in Sierra Zapotec that can be obviated after they are minimally complied with. This parallels the PMC effects observed in *wh*-movement for languages like Bulgarian.

We now ask if there are ways in which *wh*-movement resembles pronoun movement. In languages with clitic pronouns, constraints on their movement rooted in φ-feature hierarchies — the GCC as well as the Person–Case Constraint (Perlmutter 1971, Bonet 1991) — are ubiquitous. Are there parallel constraints on *wh*-movement rooted in A$'$-feature hierarchies? We suggest that interactions between *wh*-movement and focus-fronting in Toba Batak tell us that the answer is yes.

Toba Batak is a verb-initial language which, as described by Erlewine (2018), permits fronting of certain arguments into a pre-verbal position. Among the possible fronted constituents are *wh*-phrases (26a) and foci associated with 'only' and 'even' (26b).

(26) a. **Ise**$_1$ mang-allang babi t$_1$?
          who ACT-eat   pork
          'Who ate pork?'   (Erlewine 2018: 665)

      b. **[Holan si   Poltak]**$_1$ mang-allang indahan t$_1$.
           only   PN Poltak   ACT-eat   rice
          'Only Poltak ate rice.'   (Erlewine 2018: 667)

More than one *wh*-phrase or focus can be fronted, though not every logical combination is permitted. In particular, while a *wh*-phrase may precede a focus at the left periphery (27a), the opposite order (27b) is "degraded at best" (p. 668, fn. 11).

(27) a. **Aha**$_2$ **[holan si   Poltak]**$_1$ mang-allang t$_1$ t$_2$?
          what only   PN Poltak   ACT-eat
          'What did only Poltak eat?'   (Erlewine 2018: 669)

      b. ??**[Holan indahan]**$_2$ **ise**$_1$ mang-allang t$_1$ t$_2$?
           only   rice   **who** ACT-eat
          Intended: 'Who ate only rice?'   (Erlewine 2018: 668, fn. 11)

Erlewine proposes (p. 685) that both wh-phrases and foci are attracted by the same probe in Toba Batak, though movement of multiple goals does not involve tucking in (Richards 1997). In (27a), the highest goal occupies an inner position, while the lower goal occupies an outer position.

This means that a *wh*-phrase can be attracted after a focus (27a), but a focus cannot be attracted after a *wh*-phrase. This parallels the GCC in Sierra Zapotec, where, for example,

---

The asymmetry between (iii) and (25) requires further investigation, but we suggest a key ingredient may be the Person Licensing Condition (Béjar and Rezac 2003: 53), which requires that first- and second-person arguments value a probe for person features.

a 3.AN clitic can be attracted after a 3.EL clitic, but not vice versa (20). We suggest that the multiple A′-movement found in Toba Batak might be restricted by a parallel constraint. Formulated in (28), it makes reference to a hierarchy of A′-categories — FOC > WH — in the same way that the GCC refers to a hierarchy of gender categories.

(28)   *A′-Case Constraint (A′CC)*
        If a probe *P* attracts a goal *G* with A′-feature *F*, *P* may then attract another, lower goal *G′* with A′-feature *F′* iff *F′* does not outrank *F* on the A′-hierarchy.

Future research on Toba Batak and beyond will have to explore the full extent of possible A′-hierarchy effects. This initial parallel suggests, though, that *wh*-movement might be more like pronoun movement than one would expect, just as Sierra Zapotec shows that pronoun movement resembles *wh*-movement in a key and unexpected way.

References

Adler, Jeff, Steven Foley, Jed Pizarro-Guevara, Kelsey Sasaki, and Maziar Toosarvandani. 2018. The derivation of verb-initiality in Santiago Laxopa Zapotec. In *A reasonable way to proceed: Essays in honor of Jim McCloskey*, ed. Jason Merchant, Line Mikkelsen, Deniz Rudin, and Kelsey Sasaki, 31–49. Santa Cruz, CA: Linguistics Research Center, University of California, Santa Cruz.

Anagnostopoulou, Elena. 2005. Strong and weak person restrictions: A feature checking analysis. In *Clitic and affix combinations: Theoretical perspectives*, ed. Lorie Heggie and Francisco Francisco Ordóñez, 199–235. Amsterdam: John Benjamins.

Avelino, Heriberto, John Foreman, Pamela Munro, and Aaron Huey Sonnenschein. 2018. Covert subjects in Zapotec. *Symposium on Oaxacan Linguistics (SOL)* 2.

Avelino Becerra, Heriberto. 2004. Topics in Yalálag Zapotec, with particular reference to its phonetic structure. Doctoral dissertation, University of California, Los Angeles.

Béjar, Susana, and Milan Rezac. 2003. Person licensing and the derivation of PCC effects. In *Romance linguistics: Theory and acquisition*, ed. Ana Teresa Pérez Leroux and Yves Roberge, 49–62. Amsterdam: John Benjamins.

Black, Cheryl A. 1996. A backwards binding construction in Zapotec. *Working Papers of the Summer Institute of Linguistics* 40:75–87.

Bonet, Eulàlia. 1991. Morphology after syntax: Pronominal clitics in Romance. Doctoral dissertation, Massachusetts Institute of Technology.

Bonet, Eulàlia. 1995. Feature structure of Romance clitics. *Natural Language and Linguistic Theory* 13:607–647.

Bošković, Željko. 1997. On certain violations of the Superiority condition, AgrO, and economy of derivation. *Journal of Linguistics* 33:227–254.

Cardinaletti, Anna, and Michal Starke. 1999. The typology of structural deficiency: A case study of the three classes of pronouns. In *Clitics in the languages of Europe*, ed. H. C. van Riemsdijk, 145–233. Berlin: Mouton de Gruyter.

Chomsky, Noam. 1995. Bare phrase structure. In *Evolution and revolution in linguistic theory*, ed. Héctor Campos and Paula Kempchinsky, 57–109. Washington: Georgetown University Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on Minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–156. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.

Erlewine, Michael Yoshitaka. 2018. Extraction and licensing in Toba Batak. *Language* 94:662–697.

Foley, Steven, Nick Kalivoda, and Maziar Toosarvandani. 2019. Forbidden clitic clusters in Zapotec. *Chicago Linguistic Society (CLS)* 53:87–102.

Foley, Steven, Nick Kalivoda, and Maziar Toosarvandani. To appear. Gender–Case Constraints in Zapotec. *Workshop on Structure and Constituency in Languages of the Americas (WSCLA)* 22.

Kratzer, Angelika, and Junko Shimoyama. 2002. Indeterminate pronouns: The view from Japanese. In *Proceedings of the Third Tokyo Conference on Psycholinguistics*, ed. Yukio Otsu, 1–25. Hituzi Syobo.

Miller, Philip H., and Ivan A. Sag. 1997. French clitic movement without clitics or movement. *Natural Language and Linguistic Theory* 15:573–639.

Nevins, Andrew. 2011. Multiple agree with clitics: Person complementarity vs. omnivorous number. *Natural Language and Linguistic Theory* 29:939–971.

Perlmutter, David. 1971. *Deep and surface structure constraints in syntax*. New York: Holt, Reinhart, and Winston.

Preminger, Omer. 2019. What the PCC tells us about "abstract" agreement, head movement, and locality. *Glossa* 4:13.

Richards, Norvin. 1997. What moves where when in which language? Doctoral dissertation, Massachusetts Institute of Technology.

Richards, Norvin. 1998. The principle of minimal compliance. *Linguistic Inquiry* 29:599–629.

Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, MA: MIT Press.

Rudin, Catherine. 1988. On multiple questions and multiple wh fronting. *Natural Language and Linguistic Theory* 6:445–501.

Sichel, Ivy, and Maziar Toosarvandani. 2018. Zapotec pronouns and attraction. *2nd Symposium on Oaxacan Linguistics*.

Sonnenschein, Aaron. 2004. A descriptive grammar of San Bartolomé Zoogocho Zapotec. Doctoral dissertation, University of Southern California.

Toosarvandani, Maziar. 2017. On reaching agreement early (and late). In *Asking the right questions: Essays in honor of Sandra Chung*, ed. Jason Ostrove, Ruth Kramer, and Joseph Sabbagh, 124–138. Santa Cruz, CA: Department of Linguistics, University of California, Santa Cruz.

Steven Foley, Maziar Toosarvandani
srfoley@ucsc.edu, mtoosarv@ucsc.edu