Forbidden clitic clusters in Zapotec[*]

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1 Introduction

Many languages restrict combinations of clitic arguments. One family of such restrictions — *Person–Case Constraints (PCCs)* — restricts those clitic clusters that subvert a hierarchy of person categories in one way or another (Perlmutter 1971:64, Bonet 1991:176–221). In Spanish, for example, a first- or second-person direct object clitic cannot appear with an indirect object clitic of any kind.

(1)   *Person–Case Constraint (Spanish)*
    a.   *1, 2 ≫ 3*
            Pedro {**me**,   **te**}   **lo**   envía.
            Pedro {**1SG.DAT**, **2SG.DAT**} **3SG.M.ACC** send.PRES.3SG
            'Pedro sends it to me, you.'
    b.   *3 ≫ 1, 2*
            * Pedro **le**   {**me**,   **te**}   envía.
            Pedro **3SG.DAT** {**1SG.ACC**, **2SG.ACC**} send.PRES.3SG
            Intended: 'Pedro sends me, you to him/her.'
                                                    (Ormazabal & Romero 2007:316–317)

In another family of constraints, clusters of identical or nearly identical clitics are prohibited, as in the *3–3 Effect* in Spanish: no combination of third-person direct and indirect object clitics is possible (Perlmutter 1968:129–136, Bonet 1995).

(2)   *3–3 Effect (Spanish): *3 ≫ 3*
        * **Le**   **lo**   recomendé.
        3SG.DAT **3SG.M.ACC** recommend.PAST.1SG
        Intended: 'I recommended it to him.'   (Perlmutter 1968:132)

PCCs and 3–3 Effects are often taken to have distinct grammatical sources, with the former being rooted in syntax, and the latter in morphology (Anagnostopoulou 2003, Nevins 2007, 2011, Rezac 2011, Preminger 2017, *pace* Bonet 1991).

A central argument for this division comes from the nature of the repair for each of these constraints, which is presented succinctly in Nevins's (2011:948) Division of Labor (see also the extensive discussion in Rezac 2011).

(3)   *Division of Labor (Nevins 2011:948)*
　　　　a. Syntactic restrictions are hierarchical, and asymmetric. Based on principles of Multiple Agree. Repairs involve periphrasis.
　　　　b. Postsyntactic restrictions may be idiosyncratic and symmetric. Based on principles of syntagmatic markedness. Repairs involve (feature) deletion.

Assuming a modular theory of grammar where the syntax does not have access to morphological information (Miller *et al.* 1997:68, Halle & Marantz 1993:122–123), the violation of a morphological constraint can only be repaired through a morphological operation. Conversely, the violation of a syntactic constraint must be repaired through syntactic means.

　　According to the Division of Labor, the PCC in Spanish must be a syntactic constraint, since it is repaired periphrastically: the offensive indirect object clitic is replaced with a strong pronoun (4). In contrast, the 3–3 Effect must be morphological, as it is repaired by converting the indirect object into a "spurious *se*" (5), which has been argued to be a morphological default (Bonet 1991:154–155).

(4)   *3 ≫ 1*

Me　　enviaron　　**a él**.
1SG.ACC send.PAST.3PL **to 3SG.M**

'They sent me to him.'　　　　　　(Ormazabal & Romero 2007:318)

(5)   *3 ≫ 3*

Se   lo　　　　recomendé.
3SG 3SG.M.ACC recommend.PAST.1SG

'I recommended it to him.'　　　　　　(Perlmutter 1968:132)

　　We examine clitic clusters in several Zapotec varieties (Oto-Manguean: Oaxaca), which have some familiar restrictions. First, they exhibit *Gender–Case Constraints (GCCs)*: certain combinations of third-person subject and object clitics are not permitted depending on their position on a four-way gender hierarchy (Foley *et al.*, to appear). In Guiloxi Zapotec, for instance, a cluster consisting of an elder subject clitic and animal object clitic is permitted, but not the reverse.

(6)   *Gender Case Constraint (Guiloxi Zapotec)*
　　　　a.　*Elder Human ≫ Animal*
　　　　　　Bdell**=e'=b**.
　　　　　　hug.COMP**=3.EL=3.AN**
　　　　　　'S/he (an elder) hugged it (an animal).'　　(RM, GZYZ012, 32:15)
　　　　b.　*Animal ≫ Elder Human*
　　　　　* Bdi'inn**=b=ne'**.
　　　　　　bite.COMP**=3.AN=3.EL**
　　　　　　Intended: 'It (an animal) bit her/him (an elder).'
　　　　　　　　　　　　　　　　　　　　(RM, GZYZ014, 32:32)

Second, these Zapotec varieties do not allow certain combinations of identical third-person clitics, which we will call a *X–X Constraint*. In Guiloxi Zapotec, a non-elder human subject clitic cannot occur with a non-elder human object clitic.

(7)   *X–X Constraint (Guiloxi Zapotec)*

    * Ba   betw**=ba'=ba'**.
      already hit.COMP**=3.HU=3.HU**
      Intended: 'S/he already hit her/him.'   (RM, GZYZ014, 18:18)

As we will show, the repairs for these constraints fail to conform to the predictions the Division of Labor, as it is formulated above. For both GCCs and the *X–X Constraint, the repair is periphrasis: a strong pronoun replaces the object clitic. Yet, the *X–X Constraint clearly has a *morphological* source.

The fact that a morphological constraint need not have a postsyntactic repair forces us to closely scrutinize our theory of pronouns, and in particular the relationship between clitic and strong pronouns. We suggest — at least for these Zapotec varieties — that there is no restriction on the types of pronouns which can enter the syntactic derivation, and that neither pronominal class is syntactically derived from the other (*pace* Cardinaletti & Starke 1999, Rezac 2011). Rather, competing filters rule out derivations containing pronouns with offensive syntactic or morphological properties. These filters determine just which clitic clusters are forbidden, and, more generally, their interaction gives rise to the distributional asymmetries between clitic and strong pronouns.

2   Clitic pronouns in Zapotec languages

We focus on four closely related Zapotec varieties from the Sierra Norte: San Sebastián *Guiloxi* (original field work, Toosarvandani 2017), Hidalgo *Yalálag* (Avelino Becerra 2004, López & Newberg 2005), San Baltazar *Yatzachi* el Bajo (Butler 1980), and San Bartolomé *Zoogocho* (Long & Cruz 2000, Sonnenschein 2004) Zapotec. These Sierra varieties all exhibit the same four-way gender distinction:[1]

           ELder human vs. non-elder HUman vs. ANimal vs. INanimate.

This gender distinction is realized in the languages' third-person pronouns, which come in both strong and clitic forms, as illustrated for Guiloxi in Table 1.

Across the Zapotec languages, clitic pronouns are syntactically and prosodically dependent, while the strong pronouns occur elsewhere (see Marlett 2010a,b for further details). In Guiloxi Zapotec, these clitics are somewhat limited in what their host can be: subject and object clitics must encliticize to the verb.[2]

(8)   Bdell**=ba'=ne'**.
      hug.COMP**=3.HU=3.EL**
      'S/he hugged her/him.'   (Guiloxi: RM, GZYZ012-s, 22)

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[1]Other Zapotec languages have genders specific to adult males, adult females, children, babies, young unmarried males, and disparaged referents, among others (Marlett 2010b).

[2]See Toosarvandani (2017) and Foley *et al.* (to appear) for additional details on cliticization in the Sierra Zapotec varieties.

| | STRONG | CLITIC | |
		subject	object
1SG	*nada'*	*=a'*	–
2SG	*lé'*	*=o'*	–
3.EL	***llè'***	***=e'***	***=ne'***
3.HU	***lleba'***	***=ba'***	***=ba'***
3.AN	***lleb***	***=b(a)***	***=b(a)***
3.IN	***llen***	***=(e)n***	***=(e)n***

Table 1: Pronouns in Guiloxi Zapotec

Guiloxi Zapotec generally does not exhibit clitic doubling.[3] Clitic pronouns are in complementary distribution with both R-expressions (9a) and strong pronouns (9b).

(9)   *Guiloxi*

    a.   Ba   bdell**(*=ba')**   **bidao' ni**   Pedro.
        already hug.COMP**=3.HU child**   **this** Pedro
        'This child already hugged Pedro.'   (RM, GZYZ014, 27:09)

    b.   Ba   bdell**(*=ba')**   **lleba'** beku'.
        already hug.COMP**=3.HU 3.HU** dog
        'S/he (a non-elder) already hugged the dog.'
                                  (RM, GZYZ013, 11:35)

The fact that clitic clusters are subject to PCC-like effects, which we discuss in the next section, strongly suggests that a syntactic mechanism like Agree is involved in licensing clitics (Béjar & Rezac 2003, Anagnostopoulou 2003, 2005, Nevins 2007, 2011, and others). We remain agnostic, though, about whether they are, say, arguments (Kayne 1975), functional heads (Sportiche 1993), or syntactic objects that originate inside a "big DP" (Uriagereka 1995, Nevins 2011). Regardless of the ultimate analysis of these clitics, the distributional properties that we are interested in have the same architectural consequences.

3   Restrictions on clitic clusters

All four Zapotec varieties restrict possible clitic clusters based on their φ-features. They each exhibit a "Strong" PCC: in a subject–object clitic cluster, the object clitic cannot be first or second person (see Toosarvandani 2017:131 for Guiloxi, López & Newberg 2005:8 for Yalálag, Butler 1980:175–176 for Yatzachi, and Sonnenschein 2004:54 for Zoogocho). In addition, they restrict clitic clusters based on their four-way gender distinction. Though there are some differences across the four varieties, these restriction can be broadly divided into two patterns, each paralleling a constraint found in the domain of person.

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[3]There are a few exceptions. Local person subject pronouns are obligatorily clitic doubled in Guiloxi Zapotec (cf. Teotitlán del Valle Zapotec, where even third-person subject pronouns must be clitic doubled; Kalivoda 2015). Topicalized third-person subjects also cooccur with a coreferential clitic, in a construction similar to clitic left dislocation.

	STRONG	CLITIC	
		subject	object
1SG	*nada'*	*=a'*	–
2SG	*lue'*	*=o'*	–
3SG.EL	*le'e*	***=e'***	***=e'***
3SG.HU	*lebe'*	***=be'***	***=be'***
3SG.AN	*leba'*	***=ba'***	***=ba'***
3SG.IN	*len*	***=n***	***=n***

Table 2: Pronouns in Yalálag Zapotec (Avelino Becerra 2004:51–53)

First, *Gender–Case Constraints (GCCs)* prohibit certain combinations of clitics much like the more familiar PCCs, but based on their position in a gender hierarchy.

(10)   *Sierra Zapotec Gender Hierarchy*
          3.EL > 3.HU > 3.AN > 3.IN

By way of illustration consider the paradigm in 11, which schematizes the grammaticality of 3 ≫ 3 subject–object clitic clusters in Yalálag Zapotec. The only legal clusters are those where the subject strictly outranks the object on the gender hierarchy (white cells). Clitic clusters where the object outranks the subject are prohibited by a GCC (dark grey cells).

(11)

	OBJECT			
	3.EL	3.HU	3.AN	3.IN
3.EL	*	✓	✓	✓
3.HU	*	*	✓	✓
3.AN	*	*	*	✓
3.IN	*	*	*	*

(Yalálag: López & Newberg 2005:8)

The other three Sierra varieties exhibit GCCs that forbid only some of the clitic clusters below the diagonal — see Foley *et al.* (to appear) on this variation.

These GCCs have a syntactic source. Toosarvandani (2017) shows for Guiloxi Zapotec that the combinations of clitics ruled out by the GCC are not prohibited in every syntactic environment. While the hierarchy violating 3.IN ≫ 3.AN cluster is impossible as a subject–object combination, it is permitted for indirect–direct object combinations. Since this sequence of formatives itself is not ruled out, a syntactic explanation for GCCs is required that is sensitive to differences in grammatical relations. This mirrors PCCs, which are widely viewed as a syntactic phenomenon, resulting from limitations on the operation Agree to license clitic arguments (Béjar & Rezac 2003, Anagnostopoulou 2003, 2005, Nevins 2007, 2011).

It is less clear what the source of the **X–X Constraint* is, which forbids clitic clusters on the diagonal — those with the same gender (light grey cells). For parallel 3–3 Effects, both morphological (Bonet 1995, Nevins 2011:947–948) and syntactic (Walkow 2010) explanations have been offered. In Yalálag, it is not possible to tell whether the *X–X Constraint is morphological or syntactic, as subject and object clitics are identical in form for every gender category (Table 2).

(12) *Yalálag*

    a. * Bchew'**=e'=e'**.
        kick.COMP**=3.EL=3.EL**
        Intended: 'He kicked him.'   (Avelino Becerra, p.c.)

    b. * Llne'**=be'=be'**.
        speak.HAB**=3.HU=3.HU**
        Intended: 'He is speaking to him.'

    c. * Bdinn**=ba'=ba'**.
        bite.COMP**=3.AN=3.AN**
        Intended: 'It bit it.'

    d. * Bchochj**=en=en**.
        bite.COMP**=3.IN=3.IN**
        Intended: 'It hit it.'   (following Avelino Becerra 2004:34–35)

While the *X–X Constraint might be stated as a morphological ban on clusters with *phonologically* identical clitics, it is equally conceivable that the ban arises from a syntactic constraint prohibiting clusters with *featurally* identical clitics. As we show next, though, phonological identity does not track featural identity so neatly in the other Sierra varieties. This provides convincing evidence that the *X–X Constraint — unlike the GCCs — has a morphological source.

3.1   Case 1: Guiloxi

As shown in Table 1, the third-person elder clitic in Guiloxi has two forms: one for subjects (13a) and another for objects (13b). This is the only gender category with more than one allomorph.

(13)   a. Ba   got**=e'**.
          already die.COMP**=3.EL**
          'He already died.'   (RM, GZYZ004-s, 5)

        b. Ba   betw=o'**=ne'**.
          already hit.COMP=2SG**=3.EL**
          'You already hit her/him.'   (RM, GZYZ011-s, 23)

Unlike in Yalálag, two third-person elder clitics can cooccur in Guiloxi (14a), even though other combinations of identical clitics are ungrammatical (14b–d)

(14)   a. Bdell**=e'=ne'**.
          hug.COMP**=3.EL=3.EL**
          'S/he (an elder) hugged her/him (an elder).'
                         (RM, GZYZ030, 34:15)

        b. * Ba   betw**=ba'=ba'**.
          already hit.COMP**=3.HU=3.HU**
          Intended: 'S/he (a non-elder) already hit her/him (a non-elder).'
                         (RM, GZYZ014, 18:18)

c. * Ba   bzhige**=ba=b**.
    already push.COMP**=3.AN=3.AN**
    Intended: 'It (an animal) already pushed it (an animal).'
                               (RM, GZYZ014, 19:57)

d. * Ba   bdishjw**=en=en**.
    already break.COMP**=3.IN=3.IN**
    Intended: 'It (a thing) already broke it (a thing).'
                               (RM, GZYZ014, 45:05)

This follows directly if the *X–X Constraint is a morphological constraint on clusters in which the clitics have identical form.

3.2 Case 2: Yatzachi

| | STRONG | | CLITIC | |
| | | | subject | object |
		agent	experiencer	
1SG	*nada'*	*=a'*	*=da'*	–
2SG	*le'*	*=o'*	*=do'*	–
3.EL	*le̱'*	**=e'**	**=ne'**	**=ne'**
3.HU	*le̱bo'*	*=bo'*	*=bo'*	*=bo'*
3.AN	*le̱b*	*=b*	*=b*	*=b*
3.IN	*le̱n*	*=n*	*=n*	*=n*

Table 3: Pronouns in Yatzachi Zapotec (Butler 1980:25, 55, 175)

In Yatzachi, the third-person elder clitic has two allomorphs, as shown in Table 3, though these are conditioned by thematic and grammatical role. One is used for agent subjects (15a), and the other for experiencer subjects and objects (15b–c).

(15)   a.   Cho̱l   {=a', =o', **=e'**}.
               sing.CONT =1SG =2SG =**3.EL**
               '{I, You, S/he (an elder)} am/are/is singing.'   (Butler 1980:56)

    b.   Chyažje   {=da', =do', **=ne'**}.
               need.CONT =1SG =2SG =**3.EL**
               '{I, You, S/he (an elder)} need/needs to.'   (Butler 1980:65)

    c.   Goquəlena'=a**=ne'**.
               help.COMP=1SG**=3.EL**
               'I helped her/him (an elder).'   (Butler 1980:171)

Though identical clusters of other third-person clitics are always ruled out (Butler 1980:176–177), elder–elder clitic clusters are grammatical as long as the subject is an agent (16a).

(16)   a.   Chlo'**=e'=ne'**.
               teach.CONT**=3.EL=3.EL**
               'S/he (an elder) teaches her/him (an elder).'

b. * Chle'i**=ne'=ne'**

　　see.CONT**=3.EL=3.EL**

　　Intended: 'S/he (an elder) sees her/him (an elder).'

<div align="right">(following Butler 1980:176)</div>

When the subject is an experiencer — that is, when both clitics happen to have the same form — the cluster is ungrammatical (16b). This, too, supports the view that the *X–X Constraint has a morphological source.

3.3 Case 3: Zoogocho

| | STRONG | | CLITIC | |
| | | | subject | object |
		agent	experiencer	
1SG	*neda'*	*=a'*	*=da'*	–
2SG	*lee (loo)*	*=o'*	*=do'*	–
3.EL	*lhe'*	***=e'***	***=de'***	***=ne'***
3.HU	*lhebe'*	*=be'*	*=be'*	*=be'*
3.AN	*lheba'*	*=ba'*	*=ba'*	*=ba'*
3.IN	*lhen*	*=(e)n*	*=(e)n*	*=(e)n*

Table 4: Pronouns in Zoogocho Zapotec (Sonnenschein 2004:39–45)

In Zoogocho, the third-person elder clitic has *three* forms, whose distribution depends on both thematic and grammatical role. Agent (17a) and experiencer (17b) subject elder clitics are permitted with an object elder clitic, though all other identical clitic clusters are impossible (Sonnenschein 2004:54).

(17) 　a. 　Na da Dolor=en'　dxe**=e=ne'**…

　　　　　and late Dolores=DEF say.CONT**=3.EL=3.EL**

　　　　　'And the late Dolores said to him…'　　(Sonnenschein 2004:384)

　　　b. 　Bi　ble'e**=de'=ne'**.

　　　　　NEG see.COMP**=3.EL=3.EL**

　　　　　'S/he didn't see her/him.'　　　　　　　(Long & Cruz 2000:467)

Since there are three allomorphs for the elder clitic in Zoogocho, the *X–X Constraint, as a morphological constraint, allows for all elder–elder clitic clusters.

3.4 The morphological nature of the *X–X Constraint

The microvariation across Sierra varieties in the form of third-person elder clitics is summarized in Table 5. A clear generalization emerges: two clitics of the same gender are allowed in the same cluster as long as they do not have identical realizations. We thus formulate the *X–X Constraint in these languages as a morphological constraint.

(18) 　*X–X Constraint*

　　　For two clitics Cl_1 and Cl_2 in the same cluster, i.e., [V Cl_1 Cl_2], Cl_1 and Cl_2 cannot be exponed with the same Vocabulary Item.

<div align="center">8</div>

	AGT ≫ OBJ	EXP ≫ OBJ
Yalálag	*=e'=e'	
Guiloxi	✓=e'=ne'	
Yatzachi	✓=e'=ne'	*=ne'=ne'
Zoogocho	✓=e=ne'	✓=de'=ne'

Table 5: Clitic clusters with two third-person elder arguments in Sierra Zapotec

Together with some simple Vocabulary Items, this derives the patterns of forbidden clitic clusters across all four Zapotec varieties in a general way.[4]

(19)   a.   *Yalálag*
$\begin{bmatrix} \text{Cl} \\ \text{3.EL} \end{bmatrix}$ $\leftrightarrow$ =e'

   b.   *Guiloxi*
$\begin{bmatrix} \text{Cl} \\ \text{3.EL} \end{bmatrix}$ $\leftrightarrow$ =ne' / Cl ____

$\leftrightarrow$ =e'

   c.   *Yatzachi*
$\begin{bmatrix} \text{Cl} \\ \text{3.EL} \end{bmatrix}$ $\leftrightarrow$ =e' / $\begin{bmatrix} \text{V} \\ \theta_{\text{AGT}} \end{bmatrix}$ ——

$\leftrightarrow$ =ne'

   d.   *Zoogocho*
$\begin{bmatrix} \text{Cl} \\ \text{3.EL} \end{bmatrix}$ $\leftrightarrow$ =ne' / Cl ____

$\leftrightarrow$ =de' / $\begin{bmatrix} \text{V} \\ \theta_{\text{EXP}} \end{bmatrix}$ ——

$\leftrightarrow$ =e'

Before moving on, we should consider an alternative analysis that does not attribute the ungrammaticality of these clusters to a morphological constraint like 18. Within Distributed Morphology, paradigm gaps can be derived by positing Vocabulary Item that render the ungrammatical combinations ineffable (Nevins 2014, Arregi & Nevins 2014). For Yatzachi, for instance, we could write Vocabulary Items for the elder clitic none of whose structural descriptions are met by the object of an experiencer verb.

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[4]The Vocabulary Item for the "object" clitic in Guiloxi makes no reference to objecthood per se; it is simply the elsewhere case. This correctly predicts that in imperatives, which lack a subject clitic — a common pattern across Zapotec (Marlett 1993:96, fn. 13) – the third-person elder object clitic is realized as =e', not =ne'.

(i)   Bdell**=e'**!
   hug.COMP**=3.EL**
   'Hug her/him!'   (Guiloxi: RM, GZYZ030, 33:44)

For the other varieties, we lack the relevant data on imperatives, but our predictions are clear from the Vocabulary Items above.

(20)   *Yatzachi*

$$\begin{matrix} \text{Cl} \\ [\text{3.EL}] \end{matrix} \quad \leftrightarrow \quad =e\text{'} \quad / \quad \begin{matrix} \text{V} \\ [\theta_{\text{AGT}}] \end{matrix} \underline{}$$

$$\leftrightarrow \quad =ne\text{'} \quad / \quad \left\{ \begin{matrix} \text{V} \\ [\theta_{\text{EX}}] \ \underline{} \\ \text{Cl} \\ [\text{PART}] \ \underline{} \\ \text{V} \quad \text{Cl} \\ [\theta_{\text{AGT}}] \ [\text{3.EL}] \ \underline{} \end{matrix} \right\}$$

Such an approach could be extended to the other varieties, but it misses the generalization that, in all four Sierra varieties, same-gender clitics may cooccur in a cluster if and only if they do not have the same form. This morphological commonality would be entirely accidental and unprincipled.

4   Repairing the *X–X Constraint

Since the *X–X Constraint makes reference to the form of clitics, it is necessarily a postsyntactic constraint. Yet, its repair involves periphrasis. In Guiloxi, a violation of the *X–X Constraint is avoided by realizing the object as a strong pronoun.

(21)   *Guiloxi*

    a.   Bdell**=ba'**   **lleba'**.
           hug.COMP**=3.HU 3.HU**
           'S/he hugged her/him.'   (RM, GZYZ012, 36:00)

    b.   Ba   bzhig**=b**   **lleb**.
           already push.COMP**=3.AN 3.AN**
           'It already pushed it.'   (RM, GZYZ014, 19:13)

    c.   Ba   bdishjw**=en**   **llen**.
           already break.COMP**=3.IN 3.IN**
           'It broke it.'   (RM, GZYZ014, 44:35)

The same repair is reported for the other Sierra Zapotec varieties: see Butler (1980:176–177) for Yatzachi, Avelino Becerra (2004:34) and López & Newberg (2005:9) for Yalálag, and Sonnenschein (2004:38) for Zoogocho.

These facts are surprising in light of the Division of Labor, as stated in 3, which predicts that the repair for a morphological constraint should involve deletion (or possibly replacement by another formative). This prediction is motivated by basic considerations of modularity and the principles of phonology- and morphology-free syntax (Miller *et al.* 1997:68, Halle & Marantz 1993:122–123): the syntactic component of the grammar is not able to access the phonological or morphological properties of the objects it manipulates (Rezac 2011:25–34, *et seq.*). If the syntax is not able to see that a morphological constraint is violated, then no syntactic operation should be able to repair it.

We might ask whether there is even a plausible syntactic operation that could produce the periphrasis in 21 in response to a violation of the *X–X Constraint. Rezac (2011:93–159) argues for a last resort syntactic operation in French that, in the course of a single derivation, can convert a clitic pronoun into an (unfocused) strong pronoun.[5] For Rezac, it is spurred into action as a repair specifically for the PCC — a constraint that is, as discussed in Section 3, syntactic — but for no other illicit clitic clusters. But such an operation would not be available as a repair for the *X–X Constraint without violating the modularity of grammar. Concretely, it would require look ahead: in applying to a clitic in the syntax, it would have to already see that a cluster violates a constraint referring to morphological information.

Perhaps, then, there is a *postsyntactic operation* that can produce the surface string in 21. This would obey modularity, but it would produce a periphrastic repair for the *X–X Constraint that is "syntactically inert," in Rezac's (2011:35) terms. For example, one might imagine that a violation of the *X–X Constraint could trigger pronunciation of the tail of a cliticization chain, rather than its head, à la Bonet (1991:201–207). (This may need to be supplemented by a morphophonological mechanism promoting the clitic pronoun to its strong form.) But, despite looking just like a strong pronoun, this repair for the *X–X Constraint would have the *syntactic properties* of a clitic pronoun, since it would have been merged as one.

This is not the case, however, at least in Guiloxi Zapotec. Consider one syntactic asymmetry between pronoun classes: only strong pronouns may occupy a preverbal focus position (22a). A clitic may not move into this focus position, even if it has a potential phonological host (the matrix bridge verb) (22b).

(22)   *Guiloxi*

    a.   Dzaklazh=a'   **lleba'**$_1$ ye-z-ban=a' t_1.
        want.CONT=1SG **3.HU**   POT-CAUS-be.alive=1SG

        'I want to wake HER/HIM up.'   (RM, GZYZ045, 33:00)

    b. * Dzaklazh=a'**=ba'**$_1$ ye-z-ban=a' t_1.
        want.CONT=1SG**=3.HU** POT-CAUS-be.alive=1SG

                              (RM, GZYZ045, 31:15)

The repair for the *X–X Constraint, which looks like a strong pronoun (23a), also behaves like one, being eligible to undergo this focus movement (23b).

(23)   a.   Bitu dzaklazh=a'   chell=ba'   **lleba'**.
            NEG want.CONT=1SG embrace.POT=3.HU **3.AN**
            'I don't want her/him to embrace her/him.'
                             (RM, GZYZ045, 50:40)

    b.   Bitu dzaklazh=a'   **lleba'**$_1$ chell=ba' t_1.
            NEG want.CONT=1SG **3.HU**   embrace.POT=3.AN
            'I don't want her/him to embrace HER/HIM.'
                              (RM, GZYZ045, 52:19)

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[5]This operation would essentially be the inverse of Cardinaletti & Starke's (1999:204–207) Erase α, which derives clitics from strong pronouns by deleting part of their structure.

The repair for the *X–X Constraint thus cannot be the result of a postsyntactic operation that converts a clitic into an ersatz strong pronoun.

To preserve the modularity of grammar, a different perspective on the relationship between clitic and strong pronouns seems to be needed. Both the syntactic and postsyntactic operations that we considered above took the two pronoun classes to be derivationally related. An alternative would be for clitics and strong pronouns to be lexically distinct and to be freely mergeable in argument position. The *X—X Constraint would then have to be a global filter, crashing any derivation in which an object clitic gets the same exponent as its partner subject clitic. The periphrastic repair for such a violation would thus be derivationally distinct, and it would behave like a strong pronoun, as in 23. That would be because at no point was it anything but a strong pronoun.

There are some challenges with this approach. If clitic and strong pronouns are freely merged, why are they not in free variation outside of contexts where the *X–X Constraint is violated? In general, a clitic is strongly preferred to a strong pronoun if its referent is given or not in focus.

(24)   *Guiloxi*

A: Bi   dzon=u'   len   beku'   tsi=a'?
        what   do.CONT=2SG   with   dog   of=1SG

        'What are you doing with my dog?'

B: Ni   shwazj=a'   {✓=b(a),   *lleb}.
        here   wash.CONT=1SG   {   =3.AN,   3.AN}

        'I am washing it.'   (RM, GZYZ048, 15:30)

In one tradition, the preference for a clitic over a strong pronoun arises from an economy principle, Minimize Structure, assuming clitics have less functional structure than strong pronouns (Cardinaletti 1990). If clitic and strong pronoun are merged, then Minimize Structure would itself have to be a transderivational constraint, like the *X–X Constraint (*contra* Cardinaletti & Starke 1999:204–207).[6]

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[6]An additional complication involves focus. When the *X–X Constraint is not violated, strong pronouns are only acceptable in postverbal position if they bear narrow focus — and even then, only somewhat marginally.

(i)   ? Bitu ble'eyd=e'   nada', ble'eyd=e'   **lleba'**.
         NEG see.COMP=3.EL 1SG   see.COMP=3.EL   **3.HU**

         'S/he didn't see me, s/he saw HER/HIM.'   (Guiloxi: RM, GZYZ048, 41:15)

By contrast, the strong pronouns that repair violations of the *X–X Constraint need not be focused; they are licit in a broad focus context.

(ii)   A: Bi   ben   Maria?
                what   do.COMP   Maria

                'What did Maria do?'

         B: Ba   betw=ba'   {*=ba',   ✓lleba'}.
                already   hit.COMP=3.HU   {   =3.HU,   3.HU}

                'She hit her/him.'   (Guiloxi: RM, GZYZ048, 1:07:28)

12

It is worth noting that the repair for GCCs also involves replacing the object clitic with a strong pronoun, as shown for Guiloxi in 25; see López & Newberg (2005:9) for Yalálag, Butler (1980:176–179) for Yatzachi, and Sonnenschein (2004:52) for Zoogocho.

(25)   *Guiloxi*

      A: Bi   dzon   beku'?
            what do.CONT dog
            'What is the dog doing?'

      B: Shwia=b   {*=ba',   √**lleba'**}.
            watch.CONT=3.AN { =**3.HU**,   **3.HU**}
            'It's watching him/her.'   (RM, GZYZ048, 1:07:28)

These strong pronouns have all the same properties as the ones that repair violations of the *X–X Constraint. For instance, they are not syntactically inert, since they can undergo focus movement.

(26)   Bitu dzaklazha'   **lleba'**$_1$ chi'inn=b   t$_1$.
       NEG want.CONT=1SG **3.HU**   bite.POT=3.AN
       'I don't want it to bite HER/HIM.'   (RM, GZYZ045, 48:49)

A strong pronoun appears generally available, then, as repair for different constraints on clitic clusters in these Zapotec varieties: not just the *X–X Constraint, but the GCC as well.

This repair has a very different profile, then, from the superficially similar repair in French. Rezac (2011:134–152) argues that, in this language, strong pronouns are only available as a repair for violations of an individual constraint, the PCC. He cites other illicit clitic combinations, which simply cannot be repaired and lead to ineffability instead. For this reason, Rezac posits a last-resort syntactic operation, triggered only when the PCC is violated, to derive the strong pronoun. By contrast, the wider distribution of strong pronouns in the Sierra Zapotec varieties suggests a different relationship between clitic and strong pronouns, one where they freely alternate subject to both morphological and syntactic derivational filters.

5 Conclusion

Certain clitic clusters in several Sierra Zapotec varieties are forbidden for morphological reasons — the *X–X Constriant — and yet are repaired with periphrasis. This is at odds with Nevins's (2011) Division of Labor. However, on closer inspection, we see that this repair does not entail a syntactic mechanism, which would violate basic assumptions about the modularity of grammar. Instead, periphrasis

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If strong pronouns are freely merged, they cannot inherently bear focus. Otherwise, there would be no way to generate the answer to 6. But then, a theory of focus is needed that accounts for why narrow focus is able to overcome the preference for clitic pronouns, while still not being obligatory with the strong pronouns that repair the *X–X Constraint.

is generally available as a repair for constraints on clitic clusters. This state of affairs is compatible with a certain perspective on the relationship between strong and clitic pronouns, whereby derivations, freely varying in what kind of pronoun they contain, are filtered by both syntactic and morphological constraints. We submit an amended Division of Labor that reflects this.

(27)   *Division of Labor (revised)*
   a.   Syntactic constraints may be repaired by syntactic operations. The repairs, including periphrasis, are specific to the constraint and not syntactically inert.
   b.   Morphological constraints may be repaired by postsyntactic operations. The repairs, including deletion, are syntactically inert.
   c.   Both morphological and syntactic constraints may filter derivations. The repairs, including periphrasis, are general and not syntactically inert.

References

Anagnostopoulou, E. 2003. *The Syntax of Ditransitives: Evidence from Clitics*. Berlin: Mouton de Gruyter.

Anagnostopoulou, E. 2005. Strong and weak person restrictions: A feature checking analysis. In *Clitic and Affix Combinations: Theoretical Perspectives*, ed. by L. Heggie & F. Francisco Ordóñez, 199–235. Amsterdam: John Benjamins.

Arregi, K., & A. Nevins. 2014. A monoradical approach to some cases of disuppletion. *Theoretical Linguistics* 40.311–330.

Avelino Becerra, H. *Topics in Yalálag Zapotec, with Particular Reference to Its Phonetic Structure*. University of California, Los Angeles dissertation.

Béjar, S., & M. Rezac. 2003. Person licensing and the derivation of PCC effects. In *Romance Linguistics: Theory and Acquisition*, ed. by A. T. P. Leroux & Y. Roberge, 49–62. Amsterdam: John Benjamins.

Bonet, E. *Morphology After Syntax: Pronominal Clitics in Romance*. Massachusetts Institute of Technology dissertation.

Bonet, E. 1995. Feature structure of Romance clitics. *Natural Language and Linguistic Theory* 13.607–647.

Butler, I. M. 1980. *Gramática Zapoteca: Zapoteco de Yatzachi el Bajo*. Mexico City: Instituto Lingüístico de Verano.

Cardinaletti, A. 1990. *Impersonal Constructions and Sentential Arguments in German*. UniPress.

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

Foley, S., N. Kalivoda, & M. Toosarvandani. To appear. Gender–Case Constraints in zapotec. *Workshop on Structure and Constituency in Languages of the Americas (WSCLA)* 22.

Halle, M., & A. Marantz. 1993. Distributed Morphology and the pieces of inflection. In *The View from Building 20: Essays in linguistics in honor of Sylvain*

Bromberger, ed. by K. Hale & S. J. Keyser, 111–176. Cambridge, MA: MIT Press.

Kalivoda, N., 2015. Distinguishing doubled clitics and pronominal arguments in Teotitlán del Valle Zapotec. University of California, Santa Cruz.

Kayne, R. S. 1975. *French Syntax*. Cambridge, MA: MIT Press.

Long, R., & S. Cruz. 2000. *Diccionaria Zapoteco de San Bartolomé Zoogocho Oaxaca*. Mexico City: Instituto Lingüístico de Verano.

López, F., & R. Newberg. 2005. *La Conjugación del Verbo Zapoteco, Zapotevco de Yalálag*. Mexico City: Instituto Lingüístico de Verano.

Marlett, S. A. 1993. Zapotec pronoun classification. *International Journal of American Linguistics* 59.82–101.

Marlett, S. A. 2010a. Personal pronouns: Inventory. In *The Zapotec Grammar Files*, ed. by C. A. Black, H. A. Black, & S. A. Marlett. SIL International.

Marlett, S. A. 2010b. The *la'a* 'base' plus enclitic pronoun phrase. In *The Zapotec Grammar Files*, ed. by C. A. Black, H. A. Black, & S. A. Marlett. SIL International.

Miller, P. H., G. K. Pullum, & A. M. Zwicky. 1997. The principle of phonology-free syntax: Four counterxamples in French. *Journal of Linguistics* 33.67–90.

Nevins, A. 2007. The representation of third person and its consequences for person-case effects. *Natural Language and Linguistic Theory* 25.273–313.

Nevins, A. 2011. Multiple agree with clitics: Person complementarity vs. omnivorous number. *Natural Language and Linguistic Theory* 29.939–971.

Nevins, A. 2014. Book review: "defective paradigms: Missing forms and what they tell us". *Revista Linguística* 10.29–36.

Ormazabal, J., & J. Romero. 2007. The object agreement constraint. *Natural Language and Linguistic Theory* 25.315–347.

Perlmutter, D. *Deep and Surface Structure Constraints in Syntax*. Massachusetts Institute of Technology dissertation.

Perlmutter, D. 1971. *Deep and Surface Structure Constraints in Syntax*. New York: Holt, Reinhart, and Winston.

Preminger, O., 2017. What the PCC tells us about "abstract" agreement, head movement, and locality. University of Maryland.

Rezac, M. 2011. *Phi-Features and the Modular Architecture of Language*. Dordrecht: Springer.

Sonnenschein, A. *A descriptive grammar of San Bartolomé Zoogocho Zapotec*. University of Southern California dissertation.

Sportiche, D. 1993. Clitic constructions. In *Phrase Structure and the Lexicon*, ed. by J. Rooryck & L. Zaring, 213–276. Dordrecht: Springer.

Toosarvandani, M. 2017. On reaching agreement early (and late). In *Asking the Right Questions: Essays in Honor of Sandra Chung*, ed. by J. Ostrove, R. Kramer, & J. Sabbagh, 124–138. Santa Cruz, CA: Department of Linguistics, University of California, Santa Cruz.

Uriagereka, J. 1995. Aspects of the syntax of clitic placement in Western Romance. *Linguistic Inquiry* 26.79–123.

Walkow, M. 2010. A unified analysis of the Person Case Constraint and 3-3-Effects in Barceloní Catalan. *North East Linguistic Society (NELS)* 40.239–252.