Gender Case Constraints in Zapotec

The Person (and Gender) Case Constraint. Many languages prohibit certain combinations of clitic arguments based on person features. In the "weak" Person Case Constraint (PCC) familiar from Romance, a first or second person direct object clitic cannot occur with a third person indirect object clitic (i.e., *3 > 1, 2; Perlmutter 1971, Bonet 1991). Currently, there are two main theories for such effects, both relying on Agree to license grammatical clitic combinations. Under *cyclic* approaches, a probe targets the structurally inferior argument first, e.g., direct object, which consequently must be less featurally specified than the superior argument, e.g., subject or indirect object (e.g., Béjar & Rezac 2009, Walkow 2014). By contrast, under *relational* approaches, a probe Agrees with both arguments simultaneously just in case the relevant features are found on both arguments (e.g., Nevins 2007, 2011). Here, we investigate several parallel patterns involving gender in several Sierra Zapotec varieties. We argue that these *Gender* Case Constraint (GCC) effects reveal, because of the richer feature structure of gender, that a relational theory is needed, over a cyclic theory, for this general phenomenon.

The basic pattern and variations. Zapotec languages exhibit rich gender distinctions in third person pronouns. In four varieties — Laxopa (original fieldwork data), Yalálag (López & Newberg 2005), Yatzachi (Butler 1980), and Zoogocho (Sonnenschein 2004) — there is a four-way distinction: ELder human vs. neutral HUman vs. nonhuman ANimate (or animal) vs. INanimate, shown for Yalálag in (1).

(1)

	3EL	3HU	3AN	3IN
clitic	*=e'*	*=be'*	*=ba'*	*=n*
independent	*le'e*	*lebe'*	*leba'*	*len*

Both subject and object clitics may encliticize to the verb, though the GCC rules out certain combinations. In Yalálag, the object cannot outrank the subject on a hierarchy: EL > HU > AN > IN (2a–d). (Clitics identical in all their features also cannot cooccur, a pattern we do not address here.) The impossible clitic combinations can be rescued by expressing the object as an independent pronoun.

(2) a. V=*e'*{*=*e'*, =*be'*, =*ba'*, =*n*}
         =3EL{*=3EL, =3HU, =3AN, =3IN}
     c. V=*be'*{*=*e'*, *=*be'*, =*ba'*, =*n*}
         =3HU{*=3EL, *=3HU, =3AN, =3IN}

   b. V=*ba'*{*=*e'*, *=*be'*, *=*ba'*, =*n*}
       =3AN{*=3EL, *=3HU, *=3AN, =3IN}
   d. V=*n*{*=*e'*, *=*be'*, *=*ba'*, *=*n*}
       =3IN{*=3EL, *=3HU, *=3AN, *=3IN}

The other three varieties each exhibit variations on this basic pattern. In Laxopa, all of Yalálag's combinations are possible, in addition to 3HU > 3EL. Descriptively, this means Laxopa leaves EL and HU unranked in its hierarchy (3b). As for Zoogocho, it leaves EL, HU, and AN unranked (3c), as 3HU > 3EL, 3AN > 3EL, and 3AN > 3HU are all possible combinations. Finally, Yatzachi permits all combinations that Laxopa does, except for 3AN > 3IN; in other words, any object (EL, HU, AN, or IN) can cliticize, but only when the subject is EL or HU. (In addition, all four languages exhibit the strong version of the PCC: first and second person pronouns may never cliticize as direct objects.)

(3) a. Yalálag: EL > HU > AN > IN
     c. Zoogocho: {EL, HU, AN} > IN

   b. Laxopa: {EL, HU} > AN > IN
   d. Yatzachi: {EL, HU} > AN ~ IN

Against a cyclic theory. In a cyclic theory like Walkow's (2014), which builds on Béjar & Rezac (2009), a φ-probe first Agrees downward with the object and then upward with the subject. In Yalálag, this yields the right results, if: (i) this probe is articulated, bearing uAN, uHU, and uEL features, and (ii) gender features on pronouns are organized into a feature geometry, such that EL entails HU which entails AN (cf. Harley and Ritter 2002). With those assumptions, the object clitic can never outrank the subject clitic on the scale in (3a). For instance, when 3EL > 3HU, the probe Agrees first with the object, checking only

some of its features (in red); when it continues probing upward, it Agrees with the subject and checks its remaining features (in blue) (4a). By contrast, when *3HU > 3EL, the probe's features are all checked by the object (4b). It cannot Agree with the subject, which is thus not licensed, either for needs of cliticization or the Person Licensing Condition (Béjar & Rezac 2003).

(4) a. 3EL > 3HU
     [AN, HU, EL] ... [*u*AN, *u*HU, *u*EL] ... [AN, HU]

    b. *3HU > 3EL
     [AN, HU] ... [*u*AN, *u*HU, *u*EL] ... [AN, HU, EL]

There are two general problems extending this account to other varieties. The first involves the gender values that are left unranked. In Laxopa, for instance, where both 3EL > 3HU and 3HU > 3EL are grammatical, the probe cannot simply bear *u*AN and *u*HU features. This would incorrectly predict 3HU > 3EL to be ungrammatical, as the probe would be fully satisfied and stop probing after encountering just the object. The second implicates Yatzachi, where both the 3AN and 3IN clitics can occur as objects (e.g., 3EL > 3AN, 3EL > 3IN), just not together: *3AN > 3IN and *3AN > 3IN. If the probe is endowed so that it can Agree with these clitics in grammatical combinations, the ungrammatical combinations should then also be possible. These problems arise for any cyclic theory, regardless of specific assumptions, as the probe must Agree serially with each argument, ignoring information from the other.

A relational theory is required. We take these patterns to indicate that the GCC has a fundamentally relational character, requiring simultaneous comparison of multiple arguments' feature specifications. Nevins (2007, 2011) proposes that a probe can Agree with multiple goals simultaneously, and imposes an intervention condition, Contiguous Agree (5), which is relativized to particular features.

(5) *Contiguous Agree*. For a probe P relativized to features F with a goal G, there can be no goal G′ such that: (i) P c-commands G′ and G′ c-commands G, and (ii) G′ does not have F.

For Yalálag, which makes a four-way cut, the probe can be relativized to three features: [AN], [HU], and [EL]. A 3EL clitic thus can outrank a 3HU clitic (6a), but the inverse is ruled out (6b): there is a goal higher than the 3HU clitic without [EL]. Parallel logic holds for all other combinations in Yalálag.

(6) a. 3EL > 3HU
     [AN, HU, EL] ... [AN, HU]

    b. *3HU > 3EL
     [AN, HU] ... [AN, HU, EL]

The GCC patterns for the other varieties, which leave some gender values unranked, are derived by relativizing to fewer features. In Laxopa, this is to [AN] and [HU], so Contiguous Agree does not rule out combinations of 3EL and 3HU. Similarly, in Yatzachi to just [HU], and in Zoogocho to just [AN]. Finally, two impossible combinations in Yatzachi — *3AN > 3IN and *3AN > 3IN — are ruled out by an additional constraint, Matched Value (7). Simplifying somewhat, the probe is relativized to [AN] for this constraint, so that it is violated by any combination of 3AN and 3IN, which differ in their value for [AN].

(7) *Matched Value.* For a probe P relativized to features F with goals {G, G′, ...}, {G, G′, ...} must all share the same value for F.

Future prospects. Admittedly, relativizing probes for both constraints in (5) and (6), creates a logical space for possible GCC patterns that is not insignificant. Are all possible patterns attested, or can they be ruled out independently? Also, how is the strong PCC in these varieties (*3 > 1, 2) related to the GCC, especially given that some varieties (e.g., Teotitlan del Valle) never permit third person humans as objects (*1, 2, 3 non-human > 3 human)? We leave these and other issues for the future.

References. Béjar, S. & M. Rezac. 2009. Cyclic Agree. *LI.* ○ Nevins, A. 2007. The representation of third person and its consequences for person-case effects. *NLLT.* ○ Walkow, M. 2014. Cyclic AGREE derives restrictions on cliticization in classical Arabic. *Perspectives on Arabic linguistics XXVI.*