Multiple Agree with Clitics: Person Complementarity vs. Omnivorous Number *

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Abstract. This paper capitalizes on the difference between person complementarity (e.g. PCC effects) and omnivorous number (e.g. the fact that a single plural marker can be used to cross-reference more than one plural argument) by proposing that the same syntactic mechanism of Multiple Agree is responsible for both. The widely divergent surface difference results from the fact that person features are fully binary, whereas number features are syntactically privative. Additionally, arguments drawn from a variety of verbal cross-referencing morphemes implicating phi-interactions between subject and object support the claim that these elements are clitics, necessitating a revisitiation of the clitic-affix distinction.

Keywords: Multiple Agree, omnivorous number, person complementarity, syntactic rebracketing, clitic/affix distinction, tense-invariance.

1. Multiple-Argument Exponence

While the focus of much research on agreement has focused on object agreement by participles and subject agreement by tense (e.g. Kayne (1989); Chomsky (2000)), in more recent years there has been increasing attention on the syntactic mechanisms responsible for patterns of *multiple-argument exponence*, in which the features of both subject and object (or object and indirect object) are exponed on a single prosodic word – either as distinct agreement morphemes, as pronominal clitics corresponding to each argument, or as a portmanteau morpheme incorporating the features of both.

It is quite often the case that multiple-argument exponence displays restrictions on the full realization of all combinations of arguments. For example, the person-case constraint (PCC), well-known from French and Catalan (Perlmutter, 1971; Bonet, 1991) disallows combinations of pronominal clitics that expone a first person object in combination with a third person indirect object. A wide variety of theories have been developed to account for such effects, ranging from ones in which this combination is ruled out by principles of syntactic agreement to ones in which the combination reflects a surface morphological ban on certain morpheme sequences.

Béjar and Rezac (2009) present a thoroughly-developed proposal of interactions in multiple-argument exponence that relate to person hierarchy and person complementarity effects, through a model of derivational syntax called *Cyclic Agree*. In this highly influential model, developed based on the *Probe-Goal* (*Agree*) framework of Chomsky (2000), person complementarity effects are the result of a single *probe* that first searches downward in the syntactic tree, and then, under certain circumstances, upward. According to these authors' general proposal, successful downward agreement with a *goal* can bleed the occurrence of upward agreement, so that as a result, a first person direct object will completely *value* the features of a probe that is situated between the IO and DO, rendering it inactive for upward agreement with a third-person

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indirect object (as in French) or third-person subject (as in Nishnaabemwin (Valentine, 2001), described by Béjar and Rezac (2009)).

At the core of such models is the notion that first-person agreement is more specific than third-person agreement: according to the feature-geometric hierarchy of Harley and Ritter (2002), for example, first-person features asymmetrically entail third-person features; alternatively, according to the marked-features calculus of Nevins (2007), first-person features bear a marked value for the feature [± participant], and probes may be specified to preferentially value themselves with marked features.

Cyclic agree models thus successfully capture *person complementarity* effects in languages such as Nishnaabemwin: the presence of a first-person object is complementary with any higher agreement, because there is only one probe, and all of its features have been valued in the case of an all-entailing first-person goal. The central claim of Cyclic Agree is that phi-featural interactions between subject and object are the result of the derivational nature of syntax: probing down for a lower argument necessarily occurs before probing up for a higher argument. When the object is third-person, however, the probe remains unsatisfied (not completely valued), and hence may probe upwards, establishing successful agreement with a first-person subject. The asymmetry between *1 > 3* (a licit combination of first person subject (or indirect object) and a third person object) and **3 > 1* (an illicit combination of third person subject (or indirect object) and first person object) is thus the result, in the Cyclic Agree system, of preferential agreement with the lower argument over the higher argument, when the probe is situated exactly between the two (e.g. *v* between Subject and Object, or *Appl* between IO and DO).

Surprising as it may seem, the same complementarity effects have been derived in a quite different way – one which is downwards for *both* arguments, as opposed to downwards for the first and upwards for the second – in the *Multiple Agree* approach to person complementarity effects of Nevins (2007). In this model, the probe is situated *above* both goals, and establishes a simultaneous Agree relationship with both of them, subject however to a condition of Continuity of Agreement-Path – called the Continuous Agree constraint – which requires that valuation of the probe with a certain feature not involve skipping of any of the arguments along its path.

(1) *Contiguous Agree*: For a relativization R of a feature F on a Probe P, and x ∈ Domain(R(F)), ¬∃y, such that y>x and P>y and y¬ ∈ Domain(R(F))
"There can be no interveners between P and x that are not in the domain of relativization that includes x".

Thus, a probe required to agree with marked [+participant] will successfully satisfy Continuous Agree in *1 > 3* (a licit combination of first person subject (or indirect object) and a third person object) but not in **3 > 1* contexts because the [−participant] 3rd person interrupts the continuous span of Agree. By contrast, two [+participant] features (e.g. *1 > 2* or *2 > 1*) will satisfy Continuous Agree in either configuration, because the path of Agree does not skip a [+participant] argument in either case. In short, Multiple Agree derives person complementarity effects (such as **3 > 1*) through the locality-based mechanism of intervention.

Summarizing, we have two distinct models accounting for the same types of data. One the one hand, there is Cyclic Agree, with two distinct, ordered applications of Agree, in which successful downward agreement bleeds a later potential operation successful upward agreement. On the other hand, there is Multiple Agree, in which there is no notion of bleeding (because there is only one step). The essential difference in these models is not the directionality of agreement; rather it is that in Cyclic Agree, a probe is "used up" after one valuation, whereas in Multiple Agree, there can be as many valuations as possible, as long as conditions on continuity within the domain of agreement is met. Stated in the most general terms, Multiple Agree rules out **3 > 1* in terms of Intervention, whereas Cyclic Agree rules out **3 > 1* in terms of derivational timing. The question arises as to how well these two theories,

both of which can explain person-complementarity, can extend to explanation of other related empirical phenomena.

The main focus of the current paper is the differences between person-complementarity effects, of the type described above, and what happens with number (e.g. plural) realization in multiple argument exponence. As it turns out, the patterning of number agreement with a single probe and multiple arguments is not at all like that of person. One strikingly recurrent pattern within the domain of number agreement across languages is the phenomenon of *omnivorous* number agreement: verbal markers of plurality that show up when *either* the subject or object is plural. An example is shown in (3) below from Georgian, with contrasts with (2) only in the presence of the plural marker *-t* following the verbal stem.

(2) g-xedav
2obj.- saw
'I saw you, he saw you'

(3) g- xedav- t
2obj.- saw- Pl
'I saw y'all, we saw y'all, he saw y'all, We saw you'

While (2) is two-ways ambiguous (as the subject's person features are not expressed), (3) is four-ways ambiguous, as the source of plurality could be either or both of the [+participant] arguments. Such effects are clearly of interest to models of multiple-argument exponence because they raise the question of how such a plural marker can be valued if both of the arguments are plural. For example, in Cyclic Agree models, Person Complementarity arises as a consequence of the fact that once person-agreement is "used up" by the DO, it can no longer be valued by the Subject or IO. If Cyclic Agree were to be straightforwardly transferred to number agreement, we would expect "Number Case Constraint" effects, in which the presence of a plural DO rendered impossible the presence of a plural IO. Such effects do not seem to exist in natural language. Thus, Cyclic Agree models undergenerate, disallowing cases of multiple-argument exponence when a single plurality marker can correspond to *both* the subject and object. By contrast, the mechanism of Multiple Agree seems perfectly suited to such cases, as its guiding intuition is that a single probe, on T, is agreeing with both Subj and DO simultaneously, and as long as they both satisfy (1), no intervention problem will arise. One of the primary goals of this paper, therefore, is to demonstrate the derivation of Omnivorous Number effects within the Multiple Agree framework proposed in Nevins (2007), while maintaining the coverage of that model for Person-Complementarity Effects. The other side of the coin from the fact that there are no Number Case Constraints is the fact that there is no corresponding phenomenon of Omnivorous Person. In this paper, both of sides of this coin will be derived within the same configuration and the same mechanism of Multiple Agree, relying on a difference between Person and Number.

Before proceeding with the details of the implementation, it is worth discussing in detail the various ways in which establishment and realization of agreement relations with number features are quite different from those with person features. In the next section, I turn to a broad discussion of difference between person agreement and number agreement in syntax, ultimately proposing that the primary difference can be boiled down to the fact that negative values of person are visible in the syntax (e.g. [−participant] for 3rd person), while negative values of number (e.g. the absence of [plural] for singular arguments) are not. In Section 3, I provide a broad typological overview of person complementarity and omnivorous number effects, which can coincide in one and the same language. Section 4 presents a recap of Nevins (2007)'s derivation of Person Case Constraint using Multiple Agree and demonstrates the derivation of Omnivorous Number effects using Multiple Agree.

In Section 5, in turn to a more in-depth look at the syntactic configurations that facilitate Multiple Agree involving both Subject and Object. In Nevins (2007), I focused only on interac-

tion between IO and DO in ditransitive constructions, in which both arguments were clearly within the domain of the same probe. However, I made the overly bold assertion that Subject-Object interactions were unexpected given that Subject and Object sit on opposite sides of v, and thereby occupy distinct spell-out domains. While this fact seems to be generally correct, upon closer inspection it turns out that the configurations in which Subject and Object are both implicated in Multiple Agree involve cases in which the object is a pronominal clitic. I therefore turn to a demonstration of how clitic movement facilitates placing the pronominal object into the same Agree domain as the Subject. Section 6 is devoted to quelling doubts that the relevant elements don't look like clitics according to some "classic" diagnostics for clitics vs. inflection, and outlines a set of arguments demonstrating that those diagnostics are in sore need of revision. I propose a new diagnostic for pronominal clitic vs. agreement – tense invariance – and demonstrate that the relevant elements under analysis in Sections 3-5 conform to this diagnostic.

Section 7 concludes the paper, recapitulating its central proposal that both Person Complementarity (in which a single Agreement operation is quite restrictive in terms of the argument combinations it allows), and Omnivorous Number (in which a single Agreement operation is quite free in terms of the argument combinations it allows), result from the same syntactic configuration and same syntactic mechanism, and that their surface disparity is the effect of fundamentally different featural representations for person and number in the syntax.

2. Syntactic Differences Between Person and Number

Much converging evidence points to the fact that Person features are central to verbal agreement in a way that number features are not. Vikner (1997) suggests that the crucial ingredient of "rich" agreement that is rich enough to enable pro-drop is full distinction of all persons. Indeed, Rodrigues (2004) shows that Brazilian Portuguese lost its pro-drop status when it lost a person distinction between 2nd and 3rd person, even while maintaining singular-plural distinctions. Finally, experimental evidence by Nevins et al. (2007) suggests that electrophysiological responses to agreement violations in Hindi are stronger when for Person than for Number.

Morphosyntatic differences between Person and Number agreement themselves are not hard to come by: Baker (2011) develops an extensive theory in which Person agreement obeys stricter restrictions than number agreement. One consequence of his theory is that adjectives should not show person agreement, due to their phrase structural properties. While Baker's framework predicts the existence of many configurations in which person agreement is blocked, but number agreement is allowed, it is crucial that no configurations will be found in which number agreement is blocked but person agreement is allowed. This asymmetry in agreement restrictions points to an asymmetric treatment of person features and number features, which I will expand on in this section.

As mentioned in Section 1, while many languages display Person Case Constraints, which state that in ditransitives, if the object is [+participant], the indirect object cannot be [−participant], there have not been any reports of such effects with number.[1] A putative effect of a Number Case constraint would ban singular subjects when the object is plural, or singular indirect objects when the direct object is plural. It is a striking gap that no such effects obtain.

Conversely, there is no Omnivorous Person marking – e.g, a marker for 1st person that shows up on the verb in the same fixed position when *either* the subject or object is 1st person. One might imagine that the presence of a verb looking for [+participant] features could potentially be satisfied by an argument bearing such features anywhere in its search domain.

[1] Nevins and Savescu (2008) present a reanalysis of a small corner of Romanian that appears to exhibit such effects in terms of syncretism and animacy.

However, the proposals of Nevins (2007) that (i) person features are always fully specified on syntactic arguments and (ii) Multiple Agree obeys the Continuous Agree principle effectively rule out such a possibility. Given these two proposals, the existence of Person Case Constraints and of Omnivorous Number Effects and the concomitant absence of Number Case Constraint and of Omnivorous Person Effects could in principle be due to relaxation of either full specification of phi-features on syntactic arguments or due to a radically relaxed version of locality for number, but not person. In what follows, I will argue that it is the former that distinguishes person and number: person values are always fully specified in the syntax using binary features [± participant] and [± author], but number features are privative, meaning that [plural] is syntactically specified but that singular arguments are not.

The generalized version of this claim is that unmarked values of number, e.g. [−singular], are never syntactically active and never referred to in the syntax. A number of typological and experimental investigations seem to bear out this conclusion, as I will argue below.

We can imagine what a putative number case constraint would look like. Person case constraints involve an IO argument whose person specification "outranks" that of the DO, and as a result, such a combination of arguments in ditransitives is impossible. A putative number case constraint would therefore be a prohibition against ditransitives with a plural IO and a singular DO, i.e. banning the equivalent of *I gave them the book*. The literature on person case constraints is vast (see Haspelmath (2004) for a typological overview), there are no outstanding reports of number case constraints. This gap is notable, as the machinery for capturing Person Case Constraints, either of Béjar and Rezac (2009) or Nevins (2007), would allow them to occur if singular features exist in the syntax. The conclusion, therefore, must be that the feature [singular] does not occur in the syntax, and therefore cannot intervene in multiple agree configurations.

Similarly, while a number of languages employ an "inverse" construction depending on the combination of persons, no languages employ a syntagmatic inverse construction depending on the number specifications of the arguments. While a full theory of inverse constructions is not within the scope of this paper, it should be clear that if inverse marking depends on inspecting the featural specifications of both arguments, and if singular number *has* no featural specification, then inverse marking will never be required for such cases.

One of the areas in which plural agreement patterns quite differently from person agreement is in the elicitation of "attraction effects" (see Bock and Middleton (2011) for a recent discussion). Attraction effects, found in experimental studies of elicited production, occur when a verb shows plural agreement due to the presence of a plural feature within a DP modifier, e.g. within a prepositional phrase in *The **key** to the cabinets **are** missing*. Since the work of Eberhard (1997), the existence of attraction effects has been related to the marked status of plural compared to singular, and the fact that models of feature-tracking can be "tricked" by finding instances of [plural]. Arguably, if [singular] is simply not present in the syntax, the absence of reverse attraction effects (e.g. **The **keys** to the cabinet **is** missing*) can be explained in terms of the absence of a triggering feature. Arguably, attraction effects involve looking within the whole subject DP: if any plural feature is found within the subject DP, the probability of plural attraction increases. In *The key to the cabinets are missing*, there is simply no number specification on the head DP.

Attraction effects involving number are easily observed in casual speech and written production, particularly with light head nouns (e.g. *the majority*). However, no extant reports of attraction effects involving person exist. These effects would look like **The story about you are interesting*. If third person features are always present in the syntax, however, as soon as the head DP *the story* is encountered, [−participant] agreement will be registered, with no possibility of further attraction effects.

Number marking appears to occasionally have some "expressive" functions in which it can reinforce the notion of the subject noun phrase as a collective or distributive group, as extensively discussed in the work of Reid (2011). Reid shows that [plural] features can be

added or subtracted according to stylistic and semantic factors, such as in *My family have been prominent, well-to-do people in this Middle Western city for three generations*, where the verb has been "enriched" with the [plural] feature despite a singular noun phrase. Arguably, this sort of mechanism is allowed precisely because there is no "overwriting" of a singular feature. The [plural] feature may be added or subtracted without the need to manipulate or specify singular in the syntax.

A striking limit on such expressive uses of agreement, however, concerns the impossibility of manipulating person features. Constructions such as **Your family am only one person*, uttered by one member of a two-person family, should be perfectly possible within the limits of pragmatic context and expressive use of agreement, but seems to be limited by the possibilities afforded within syntactic feature manipulation (Cases of "unagreement" in Spanish, impossible with pronominal subjects, may be the closest thing, but these involve a number of restrictions mentioned in Rivero (2008).) In particular, if third person features are always present in the syntax, then enriching the verb agreement recorded by third-person *Your family* would require more than simply inserting [+author]; it would involve also deleting and/or overwriting [−participant]. Apparently, expressive uses of agreement do not enjoy this sort of formal power.

The range of asymmetries between person and number considered above have never been brought together in one place, to my knowledge. I believe that they make the case for the fact that number agreement is much less constrained than person agreement, as the former has no hierarchical restrictions in ditransitive constructions, can be easily over-tracked in attraction effects, and can be manipulated for expressive purposes. I propose that this greater flexibility of number agreement is due to the fact that it is a privative-zero opposition, as opposed to person, which is built on equipollent oppositions.

The distinction between privative oppositions and equipollent oppositions was developed by Trubetzkoy for phonology, and it is useful before proceeding to briefly illustrate how this apparent small difference in formal notation has great consequences for activity in processes. In phonological theory, for example, it has been argued that as there is no activity of [−nasal] (Steriade, 1995), this feature should be represented simply as presence or absence of [nasal].[2] On the other hand, as there is clear activity of both [−back] and [+back] in languages with vowel harmony, both values of this feature should be represented. We argue for a parallel conclusion in morphosyntax: [plural] is a privative opposition, where the unmarked value is not represented and hence cannot be referred to, or interfere in processes, whereas [−participant] is present in the syntax. Research in phonological theory has uncovered evidence for some features being binary, while others unary. I believe that the evidence amassed in this section points to the same conclusion for the syntax of person vs. number.

On the other side of phonology-phonetics interface, certain unary specifications must be converted into articulatory instructions. Although phonological typology finds no evidence for the activity of [−nasal], for example, non-nasal sounds must at some point in their articulation include the detail that airflow should not freely pass through the nasal cavity. A *phonetic* transduction of non-nasal sounds to the instruction for non-nasality, therefore, does not preclude the conclusion that no feature like [−nasal] exists. Similarly, the *syntactic* absence of a feature such as [−plural] does not preclude the transduction of its equivalent in another module. Purely morphological well-formedness may in fact require reference to singular number, as found for example in the noun class system of Kiowa (Harbour, 2006). Like the fact that phonetic non-nasality does not pre-empt unary phonological [nasal] features, post-syntactic morphological structure that requires singular does not pre-empt unary syntactic [plural] features.

[2] See also Halle (1995) for a discussion of Major Place features as unary.

3. Person-Complementarity Effects vs. Omnivorous Number Effects

3.1. Person Complementarity

As Person-Case Constraints have been extensively discussed in the literature (Perlmutter, 1971; Kayne, 1975; Bonet, 1995; Anagnostopoulou, 2003; Bejar and Rezac, 2003; Adger and Harbour, 2007), we will review them only very briefly here. It is well-known that certain combinations of clitics do not sit comfortably together. These co-occurrence restrictions can be categorized into two broad types. The first are Person-Case Constraint effects, which ban the presence of noncontrastive or nonmarked features dominating marked features (e.g. 3 $>$ 2, 3 $>$1, 2 $>$1), which are arguably syntactic, and cast in terms of constraints on the operation Multiple Agree. The second are dissimilatory effects, which ban the co-occurence of two [+participant] clitics or of two [−participant] clitics, which are arguably post-syntactic, specifically in terms of markedness constraints that ban adjacent identity (though see Walkow (2010) for an attempt to unify the PCC with dissimilatory 3-3 effects). Some examples of the latter effects are listed in (4) (the deletion analyses here follow Arregi and Nevins (2007); Nevins and Sandalo (2010)):

(4) a. Kadiwéu: 1st person clitic deletes in presence of 2nd person object clitic
b. Georgian: 1st person agent clitic deletes in presence of 2nd person object clitic
c. Onandaga: 2nd person object clitic deletes in presence of 1st person agent clitic
d. Maruri Basque: 2nd person object clitic deletes in presence of 1st person agent clitic
e. Ondarru Basque: 1st person plural agent clitic deletes in presence of 2nd person object clitic

This division of labor between syntactic phi effects, such as PCC violations, and morphological phi effects, such as those in (4) follows Rezac (2011), whereby syntactic vs. post-syntactic effects can be diagnosed both in terms of their structural description and their structural change:

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

Our focus in the comparison between person and number will be on the former, as the latter, while illustrating the 'finickiness' of clitic combinations, are arguably not instructive as to the presence or absence of particular features in the syntax. However, we will return to the latter in Section 6, under a general discussion of person complementarity effects among clitics. All of these co-occurrence constraints are relativized in terms of locality and domain, and thus concern either indirect object and direct object of the same vP or subject and object of the same TP.

The PCC holding between Indirect Object and Direct Object has been described for a wide range of Romance languages, exemplified here by Catalan:

(6) *A en Josep, me li va recomenar la Mireia
to the Josep, 1st-acc 3rd-dat recommended the Mireia
'She (Mireia) recommended me to him (Josep).' (Catalan; Bonet 1991:178)

(7) *A en Josep, te li va recomenar la Mireia
to the Josep, 2nd-acc 3rd-dat recommended the Mireia
'She (Mireia) recommended you to him (Josep).' (Catalan; Bonet 1991:179)

(8) En Josep, te 'l va recomenar la Mireia
the Joseph, 2nd-dat 3rd-acc recommended the Mireia
'She (Mireia) recommended him (Josep) to you.' (Catalan; Bonet 1991:179)

IO-DO PCC effects have also been documented for Arabic, for Greek, for Basque, and for Georgian, where its repair involves object 'camouflage' (Harris, 1981, p.92),Rezac (2009):

(9) važa-m da-m-i-xat-a *sen / *∅ / šeni tav-i (me)
Vazha-ERG PV-1s-V-paint-3sSU.AOR you / you / your self-NOM me(DAT)
'Vazha painted you for me.'

By contrast, the existence of subject clitic-object clitic interaction for person complementarity has received comparatively less discussion in the literature than that of IO and DO interactions (under the rubric of the Person Case Constraint), but such cases can indeed be found. A case of person complementarity that highly resembles the PCC for Catalan above can be observed with Kashmiri clitics between subject and object. Kashmiri clitics cluster together on the second-position auxiliary, following the order Nom-Acc-Dat (Hook and Kaul, 1987). Much like Catalan, a third person argument cannot dominate a second (or first) person argument within the same TP/vP.

(10) Bi ch- u- s- an- av su tohi nis sozan
I be- M- 1sg- 3sg- 2pl he you.dat near sending
"I am sending him to you"

(11) Biz sooz- a- th tsi toor
I send- 1sg- 2sg you there
I'll send you there

(12) *Su sooz- yi- th tsi toor
He send 3sg- 2sg you there
He'll send you there (* 3.subj $>$ 2.obj)

A Kashmiri 3rd person subject clitic cannot co-occur with a 2nd person object clitic, illustrating very much the same restriction as is found between IO and DO in Catalan. The goal of our analysis, therefore, will be to illustrate how Multiple Agree can derive PCC effects for both IO/DO interactions, as was developed in Nevins (2007), as well as for Subject/Object interactions, where it will be proposed that clitichood enables this wider extension of the locality domain. In other words, Subject/Object PCC effects can only holds when both goals are proved by the same head. As subject and object are normally separated by a vP boundary, I argue that it is clitic movement that enables the object to shift into the same Agree domain as the subject.

Before delving into the details of the Multiple Agree analysis for Person Case Constraints, however, we turn to an exemplification of a phenomenon that has received comparatively little attention in contrast to the PCC: Omnivorous Number effects.

3.2. Omnivorous Number

The phenomenon of omnivorous number is one in which an agreement morpheme dedicated to realizing number shows up under the condition that either or both of the subject and object is plural, as illustrated in the following table:

(13) Omnivorous Number:

Subject	Object	Plural Marker Shows Up on Verb
Pl	Sg	Yes
Sg	Pl	Yes
Pl	Pl	Yes
Sg	Sg	No

Omnivorous number thus results in potentially massive ambiguity of which argument is plural, as can be seen in the following two examples from Georgian:

(14) g- xedav- t
2ndobj.- saw- Pl
'I saw y'all, we saw y'all, he saw y'all, We saw you'

(15) g-xedav
2ndobj.- saw
'I saw you, he saw you'

The omnivorous number pattern with Georgian *-t* is only found with 1st and 2nd person arguments. By hypothesis, this is because only 1st and 2nd person arguments have object markers that are eligible for Multiple Agree. In terms of the theory presented in Section 5, this is because only 1st and 2nd person arguments generate object clitics, enabling them to shift to the specifier of *vP*.

Omnivorous number is found not only with plural marking, but also with dual marking, thus yielding a similar ambiguity in Onandaga:

(16) s- g- ni -gẽha
2obj.- 1subj.- dual- see
'You see us two, you two see me, you two see us two' (Barrie, 2005)

The Onandaga omnivorous number pattern is found for dual agreement, where the dual marker *ni* indicates that one or both of the subject and object is dual. It is also found for plural agreement, where the plural marker *wa* indicates that one or both of the subject and object is plural.[3]

While the Georgian and Onandaga omnivorous number patterns do not transparently involve clitics (an issue to which I will return in Section 6, where I argue that they are indeed clitics), it is important to point out that such patterns can also be found in uncontroversial cases of Romance clitics, such as the Italian dialect of Soazza (Manzini and Savoia, 2007):

(17) la bev-an
3f drink-fem.pl
'They (f.) drink'

(18) la tSami-an
3f call.1sg-fem.pl
'I call them (f.)'

[3] In an interesting complication that does not affect the main argumentation of the paper, the plural marker *wa* trumps the dual marker *ni*. This could be due to the specifications associated with the Vocabulary Items that realize agreement, with the former being a more specific vocabulary item – suppose *wa* is both [plural] (really, nonsingular) and [± augmented], while the Vocabulary Item *ni* is only [plural] (nonsingular). Alternatively, it may be due to a more nuanced interpretation of the feature [± augmented] (Harbour, 2006) that distinguishes dual and plural in terms of reference sets.

(19) la la tSam-an
3f 3f call-fem.pl
'She calls them, they.f call her, they.f call them.f'

As the Soazza examples show, the feminine plural ending *-an* can crossreference either subject or object clitic. As I will argue below, subject clitics and object clitics occupy a syntactic position locally close enough to each other to render them equidistant for the purposes of plural agreement, yielding the omnivorous number pattern.

Barceloní Catalan, according to Bonet (1995, p.639), shows the same effects, although for IO and DO: "The plural marker /z/ surfaces whenever one of the input clitics (or both) is plural".[4] Thus dative singular plus accusative plural, dative plural plus accusative singular, or dative plural plus accusative plural all yield the clitic output *lzi*, where *z* is the exponent of [plural]:

(20) Els llibres, a en Quim, əlzi donaré demà
the books, to the Quim, 3.acc-pl-3.dat will-give.1st tomorrow
'I will give the books to Quim tomorrow'

(21) Als nens, əlzi donaré pomes demà
to-the children, 3.acc-pl-3.dat will-give.1st apples tomorrow
'I will give apples to the children tomorrow'

In fact, omnivorous number effects can be found with clitics even in languages not thought to canonically display them. In a series of experimental studies involving elicited productions of written French, Fayol et al. (1994) elicited "errors" such as the following, in which plural verbal agreement reflects the plurality of the object clitic, and not the subject argument:

(22) Il les promenent
He them.cl walks-pl
'He walks them around'

Similar patterns have been elicited in production studies of Standard Italian by Franck et al. (2006). While still at the level of an "error", it is noticeable that errors of this type have been found precisely with clitics. I propose that all clitics are in a local-enough configuration to grammatically permit omnivorous number, but that not all languages have omnivorous number as a grammaticalized rule. However, such "erroneous" productions can become evolutionarily grammaticallized, if "performance proposes, and locality disposes" – in other words, if performance errors can become "syntacticized" (the analogue of "phonologization" in Hyman (1976)), and if they exhibit an effect that the principled rules of locality in the grammar can deal with – precisely the case, I will argue, when the participating arguments are clitics.

Many more omnivorous number effects are likely to be waiting to be discovered, and, given the proposal in Section 6, the expectation is that three properties of tense-invariance, omnivorous number, and person complementarity will often be found in tandem. Let us turn, however, to the syntactic explanation for omnivorous number, which I will argue is firmly rooted in the featural representation of number as privative.

[4] Omnivorous number effects between IO and DO can also be found in Nahuatl (Launey, 1981), according to Mark Baker (pers. comm).

4. Multiple Agree for Person vs. Number

4.1. Review of Person Complementarity Derivation

In reviewing the mechanics of Multiple Agree as proposed in Nevins (2007) in terms of the conditions of Continuous Agree and Matched Values, I would like to extend this treatment to interactions between subject and object, maintaining that such interactions are possible when the object is a clitic.

4.1.1. *Weak Subject-Object PCC: Kashmiri*

(23) Bi ch- u- s- an- av su tohi nis sozan
I be- M- 1sg- 3sg- 2pl he you.dat near sending
"I am sending him to you"

(24) Biz sooz- a- th tsi toor
I send- 1sg- 2sg you there
I'll send you there

(25) *Su sooz- yi- th tsi toor
He send 3sg- 2sg you there
He'll send you there (* $3subj > 2obj$)

By hypothesis, the ban against (25) is the result of a Multiple Agree operation initiated by T, which encounters both arguments (subject and object) simultaneously, and must meet the following conditions:

(26) Contiguous Agree (CA): For a relativization R of a feature F on a Probe P, and x $\in$ Domain(R(F)),
$\neg\exists$y, such that y >x and p>y and y $\notin$ Domain(R(F))
"There can be no interveners between P and x that are not in the domain of relativization that includes x"

(27) Matched Values (MV): For a relativization R of a feature F, $\exists\ \alpha$, $\alpha \in \{+,-\}$,
$\forall$ x, x $\in$ Domain(R(F)), val(x,F) = α
"All elements within the domain of relativization must contain the same value"

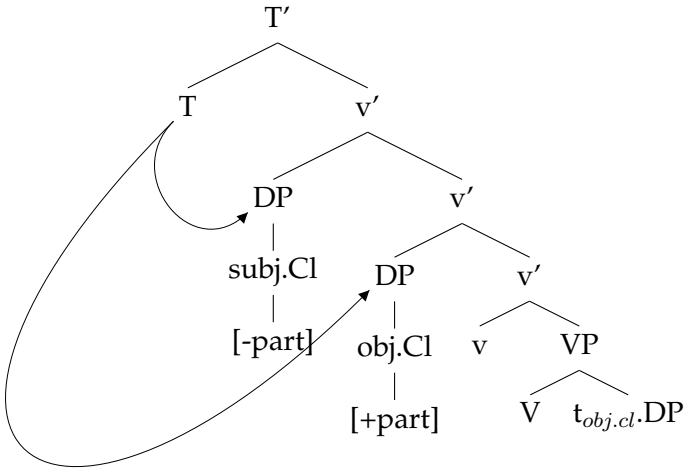
For PCC effects such as that in Kashmiri, a language-specific feature-based parameterization of the search restricts agreement valuation to marked values of [Participant], i.e., positive values. For a convergent derivation to occur, therefore, the two conditions above are met as follows. Condition CA requires that there cannot be any unmarked values of [Participant] that intervene between the Probe and elements within the featural specifications it is looking for. The second condition, MV, is trivially met when there is marked relativization to a single value of a binary feature (i.e., in this case), as there cannot be elements within this domain that have differing values for the feature in question. The possibilities for clitic ordering (with left-to-right indicating dominance, i.e. dative on the left and accusative on the right) are given below, and, in each case, an 'x' indicates that the configuration fails to meet a condition on Multiple Agree. Checkmarks (✓) are used in the table to indicate convergent derivations.

(28) Weak PCC: If Acc is 1/2, then Dat is 1/2.
Probe's Value-Relativization: Marked [Part].

Subj	Obj	CA	MV
1	3	✓	✓
1	2	✓	✓
2	1	✓	✓
2	3	✓	✓
3	1	x	
3	2	x	

The illustration of the illicit (25) is shown in (29).

(29) Multiple Agree with $3 > 2$ violates the PCC:



To summarize the intuition behind the weak PCC within the current syntactic implementation: the Probe is searching for Marked values of Participant. Configurations such as <3 1> and <3 2> constitute violations of the Contiguous Agree domain, because a non-marked value of [Participant] interrupts the Agreement span.

Person-Case Constraints, while very widespread, never find a parallel in Number-Case Constraints. This latter gap is somewhat puzzling given the machinery used to derived PCC effects that rely on 3rd person as the absence of person, since, by parity of reasoning, if singular number is the absence of number, in the same hierarchical configuration, the same syntactic constraints should obtain, if no further stipulations are invoked. On the other hand, if the right explanation of PCC violations is rooted in intervention by a featurally present unmarked person, then the absence of a feature for unmarked number will mean that no intervention can occur.

4.2. Applying Multiple Agree to Omnivorous Number

Let us now consider the result of applying the exact mechanism above to number agreement, with the sole difference that singular number is privative, and hence not represented in the syntax. A single number probe on T or v, looking for privative [plural] with Multiple Agree, will have no intervention by singular number, given the following two conditions:

(30) Contiguous Agree (CA): For a relativization R of a feature F on a Probe P, and x $\in$ Domain(R(F)),

$\neg\exists$y, such that y >x and p>y and y $\notin$ Domain(R(F))
"There can be no interveners between P and x that are not in the domain of relativization that includes x"

(31) Matched Values (MV): For a relativization R of a feature F, $\exists\ \alpha$, $\alpha \in \{+,-\}$,
$\forall$ x, x $\in$ Domain(R(F)), val(x,F) = α
"All elements within the domain of relativization must contain the same value"

In the case of two plurals, CA is satisfied, as the span is clearly continuous. In the case of one singular and one plural, the higher argument is literally absent for Agree, and hence does not interrupt CA. The condition MV is always trivially satisfied, as no value-mismatch can occur for a unary feature.

(32) Omnivorous Number: If either subject or object is plural, the plural marker is realized.
Probe's Value-Relativization: Marked [Plural].

Subj	Obj	CA	MV
[Plural]		✓	✓
	[Plural]	✓	✓
		✓	✓
[Plural]	[Plural]	✓	✓

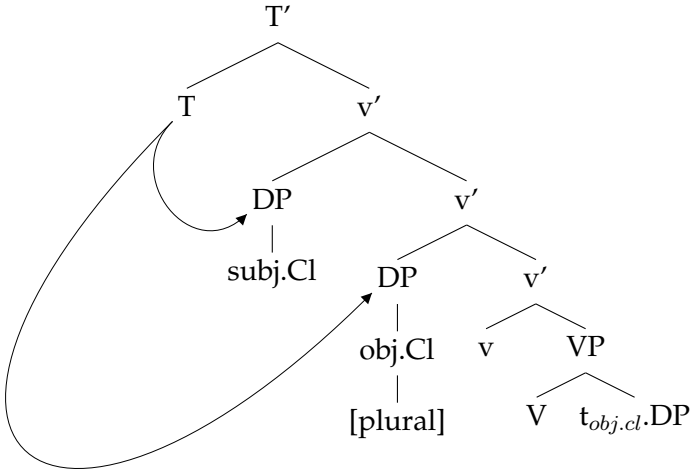
The result of Omnivorous Number probing is exemplified here for Georgian:

(33) g-xedav
2obj.- saw
'I saw you, he saw you'

(34) g- xedav- t
2obj.- saw- Pl
'I saw y'all, we saw y'all, he saw y'all, We saw you'

The derivation for a syntactic structure such as 'I saw y'all', where singular is above plural but no intervention effect obtains, is shown in (35):

(35) No Number-Case Constraint effects with Privative [Plural]:



The tree in (32) differs from the one in (29) in that the unmarked value on the higher argument is absent for number but syntactically present (and hence constitutes an intervener) for person.

Crucially of course, omnivorous number is not found in every language. As the tree above demonstrates, it is only found when Multiple Agree is initiated. Whether or not the T head in a given language initiated Single or Multiple Agree is clearly a point of parametric variation (see also Baker (2008, 99-102)), and it is only when two goals are agreed with that they can jointly influence the success or failure of featural valuation. In addition, as omnivorous number will only be found when Multiple Agree is initiated, Non-Multiple Agree will be potentially subject to defective intervention effects when the case of an intervener renders it ineligible to control agreement. For example, T attempting Agree with an in-situ nominative argument will hit a defective intervener with an experiencer dative in Icelandic, as reported in Holmberg and Hróarsdóttir (2004). This, however, is not due to properties of number (as both singular and plural intervening datives cause default agreement), but rather because dative arguments constitute defective interveners whose case blocks their phi-features from being accessible.[5]

Omnivorous number effects are found with Multiple Agree when both arguments are [plural], because they jointly furnish the same value for a single agreement morpheme. They are also found when only one argument is [plural], because the other argument does not syntactically intervene for Agree. The resulting morphosemantic ambiguity of Georgian sentences like (34) is because the element *-t* reflects a syntactic operation carried out between a single head and one or both arguments.

Wholesale Omnivorous Person effects of this scale cannot result from Multiple Agree, because an unmarked person dominating a marked person *will* intervene.[6] On the other hand, when both arguments are marked, they will either run up against the Matched Values constraint (for [± author]), or the construction itself will be reflexive-marked. As a result, sentences with the analogous three-way ambiguity of omnivorous number configurations for person (e.g. the morpheme indicates that either subject, or object, or *both*, are [+participant]) will never be found.

5. Placing the Object in the Structural Realm of the Subject: Cliticization

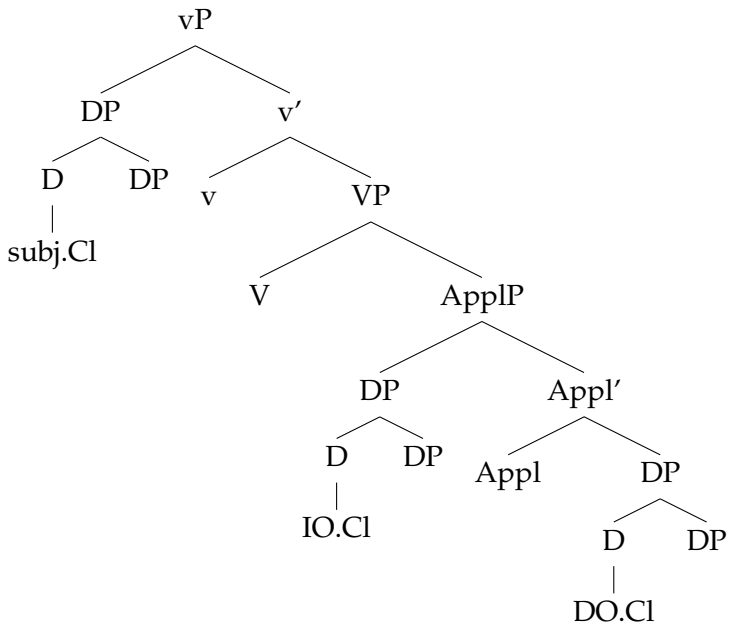
PCC effects are not found between subject and object in all languages. Subject-object interactions, both in terms of person complementarity, as in Kashmiri, and in terms of omnivorous number, as in Georgian, raise the question of how it is that the subject and object can be sufficiently local enough for them to interact. We turn to the details I assume for the syntax of pronominal clitics, intended to cover cliticization in all of the languages discussed throughout this paper.

The basic proposal is that clitics are generated in argument positions alongside the arguments, as part of a Big-DP structure (Torrego, 1992; Uriagereka, 1995), and move to the specifier of *v*P via Object Shift. In other words, I treat clitic doubling as a type of object shift, which moves the D element of a complex argument out of the complement of *v*. The unification of object cliticization with Germanic style object shift has already been identified and argued for by Suñer (2000). The base positions of the clitics are shown below:

[5] Further questions arise as to whether certain probing functional heads (e.g. T vs *v*) restrict successful valuation to certain cases; for example, it may be that *v* but not T can be valued by a dative argument.

[6] Multiple Agree for [+participant] with satisfaction of Matched Values effects could in principle be found when a single morpheme indicates the presence of the specific combination of *both* 1st and 2nd person arguments in its domain. This may in fact be the right analysis for the frequent 1 ↔ 2 portmanteaus discussed by Heath (1998), in languages such as Caddo.

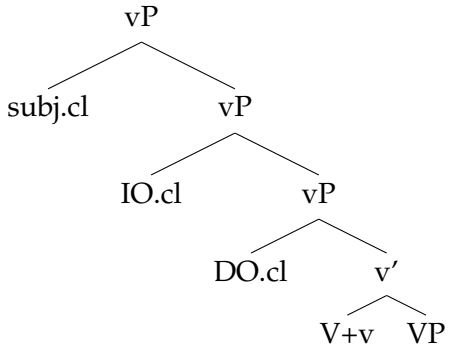
(36)



I assume that the clitic is an adjunct to the DP, projecting another level of DP structure. Like floating quantifiers, adjoined to DP (Haegeman, 2006), clitics and their hosts can be derivationally separated. Crosslinguistic variation in clitic doubling results from conditions on generating Big DP structures. For example, if only definite or specific DOs undergo clitic doubling, then only definite or specific DPs will be eligible to generate a big-DP structure. If negative quantifiers do not undergo subject clitic doubling, they will not be eligible to generate a big-DP structure. If 3rd person arguments do not undergo clitic doubling (e.g. Georgian), this is because the big-DP structure is unavailable for such arguments. See Roberts (2008) for a more general discussion of how conditions on clitic-doubling result from conditions on big-DP structures. Similarly, when languages differ, e.g. in not having subject clitics, the subject DP will still be in the same position as a subject clitic would, namely in the externally-merged specifier of *v*P. Similarly, in languages where the IO does not have a clitic, the analysis above would remain the same.

The (IO and) DO clitics are attracted to *v* by Multiple Agree (Nevins, 2007), and TUCK-IN (Richards, 1997) under the subject clitic. When successful attraction of both clitics occurs, as a result, these elements are thus all 'co-specifiers' of the same functional head, as shown below:

(37)

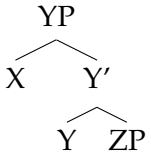


The consequence of the tree in (37) is already anticipated in the trees in (29) and (32). Subject and object clitics are now essentially 'equidistant' (Chomsky, 1995) for the purposes of Multiple Agree. By hypothesis, PCC effects and Omnivorous Number effects that hold between Subject and Object can only obtain as the result of Object Shift (converted into cliticization at the relevant point in the derivation) that places the two in the same Agree domain.

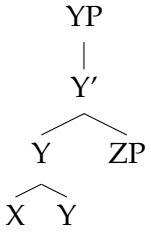
I have proposed above that pronominal clitic doubling is essentially object shift of the Germanic type (see also Roberts (2008) and Boeckx and Gallego (2008)), moving an object argument to the specifier of *v*P, and that this movement feeds the locality of Multiple Agree, ultimately yielding PCC or Omnivorous Number effects holding between subject and object. However, clitic doubling does not "look" like object shift, primarily for two reasons: clitics are morphophonologically weak, unlike the potentially fuller pronouns of Germanic, and clitics 'move along' with verbs in processes such as verb movement. While I maintain clitic doubling and Object Shift are identical in their first step, namely movement of the object that tucks-in as a specifier of *v*P, these two phenomena differ as the result of a further operation: syntactic re-bracketing, the Merger operation of Matushansky (2006)

As phonologically deficient elements, like English *n't*, clitics must undergo syntactic re-bracketing with their host. (However, they may move up to a matrix *v* first, if it is local enough, as in restructuring contexts). I adopt the Merger operation of Matushansky (2006), rebrackets two heads that are in a specifier-head relation (38) as a complex head (39):

(38) Input to Re-bracketing Merger:

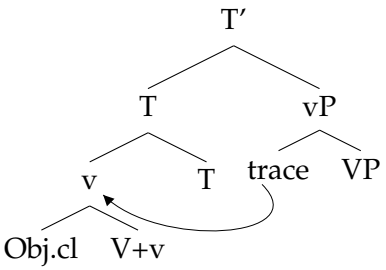


(39) Output of Re-bracketing Merger:



When X is an object clitic and Y is *v*, therefore, the result of re-bracketing is a complex head consisting of the clitic+*v*. The rebracketed, complex *v* may then undergo further head-movement to T:

(40) Head-Movement brings along the Rebracketed Clitic



This type of pied-piping of clitics in verb movement is found in examples such as French Inversion, which moves along object clitics with their hosts (41):

(41) L'= at- il pas appris?
Acc.3sg.cl= has he not learned?

The syntactic relations above encode dominance and sisterhood, but not linear order. Thus, within the postsyntactic component, the clitic cluster itself be right-linearized, yielding enclisis. In addition, the local sisterhood relations among the clitics will render them close enough to

enact post-syntactic deletion operations, such as removal of the 1st person subject clitic in the presence of the 2nd person object clitic in Georgian, alluded to ain (4).

Clitics, affixes, and free pronouns thus differ in the following ways. Affixes are functional heads that are part of the clausal spine (or features of those functional heads) and join up with the verb by head-movement, while clitics are pronominal D elements that undergo object shift and then the cliticization-operation of syntactic rebracketing. Clitics and pronouns, being D elements, are tense-invariant, while functional morphemes that bear agreement affixes may be sensitive to tense.

Let us retrace our steps. Multiple Agree is a syntactic operation that simultaneously engages the features of two arguments. When both the subject and object are involved (as diagnosed by either PCC effects or Omnivorous Number), it means that they must be in the same Agree domain. As object and subject are not ordinarily in the same Agree domain, it must be because the object has shifted higher. Cliticization is a type of object shift, followed by further Merger, yielding the rebracketing of a specifier into part of a complex head.

The above reasoning yields a rather tight set of predictions: omnivorous number and subject/object PCC effects may (co)exist, but only when the participating (direct and/or indirect) objects are clitics. While the proposal that the elements displaying PCC and/or Omnivorous Number effects in Kashmiri, Barceloní, and Soazza are indeed clitics, it is not always widely accepted that the 'per-fixes' (a theory-neutral term I will use for person prefixes) of languages such as Georgian are clitics. In the entire discussion thus far, the term 'clitic' has been used entirely syntactically, referring to a pronominal element that is targeted by Multiple Agree, and which undergoes Object Shift (and subsequent Merger). Resistance to the classification of per-fixes in languages such as Georgian as clitics, therefore, largely rests on morphophonological diagnostics, rather than syntactic patterning. In order to complete the argument, therefore, I must take the reader through a somewhat lengthy revisitation of the clitic/affix distinction, in the next Section.

6. Revisiting the Clitic/Affix Distinction

As mentioned above, within the set of morphological markers of person (which includes both the familiar Romance clitics and a set of items called above 'per-fixes', as a theory-neutral term to be revised), three properties are often found together: (a) per-fixes are tense-invariant, (b) person complementarity occurs based on morphosyntactic features in clusters of more than one per-fix, and (c) omnivorous number, whereby a plural marker agrees with either per-fix. My objective in this section is to analyze per-fixes as clitics, even though they have not necessarily been so labeled before. I propose that the current independent syntactic diagnostic for clitic vs. affix status is tense-invariance: a clitic, being a D element, will not show allomorphy across tenses. This is true in all of the 'classic' clitic languages with PCC effects, such as Romance and Greek, as well as in Kashmiri, Georgian, Onandaga, Basque, Tiwa, Nahuatl, and others.

Given a separation between morphosyntactic features and morphophonological properties, we can expect pronominal elements of category D to show variable morphophonological behavior. In a post-lexicalist landscape, morphosyntactic clitichood and morphophonological clitichood are orthogonal, and the analysis of elements as clitics requires keeping distinct the syntactic and morphophonological properties of clitics (see Zribi-Hertz and Diagne (2002) for a similar conclusion).

While Zwicky and Pullum (1983) have proposed certain diagnostics for clitics vs. affixes, such as the idea that clitics do not show context-sensitive allomorphy, in reality it is very hard to find a clitic that does not show some degree of allomorphy, making this diagnostic restrictive to the point where, if it is literally followed, perhaps nothing can be a clitic at all. In fact, as I will discuss, even English possessive *'s*, a paradigm case of a clitic, shows allomorphy, as do

Romance clitics, to which we turn. The overall conclusion, then, will be that the diagnostic of "no allomorphy", and many other morphophonological diagnostics, have led researchers to classify elements as not clitics when in fact their morphosyntactic patterning is precisely that of clitics.

6.1. "Morphological idiosyncrasies are not characteristic of cliticization"

Zwicky and Pullum (1983)'s proposal has gained currency based on the apparent claim that, while English *n't* yields allomorphy and thus is not a clitic, there are putatively robust cases of cliticization that never yield allomorphy. However, even the best candidate in the English language for a clitic, possessive *'s*, whose variable placement and free host attachment (e.g. *The man I'm talking to's hat*, displays morphological idiosyncrasies, as noted by Lapointe (1996).

In particular, for a great number of English speakers, when the rightmost edge of the possessive phrase ends in a plural *-s*, the possessive clitic has a zero allomorph (43), though not when the *-s* is part of the stem itself (42).

(42) the bass's fins [bæsɪz]

(43) the ducks' plumage [dʌks]

Interestingly, for the same speakers, the interaction of plural marking and the possessive clitic depends on whether the clitic attaches to the *head* of the noun phrase or not, as when the plural noun phrase is within a PP complement of the noun phrase, zero allomorphy is optional:

(44) the man with the ducks' gun [dʌks] or [dʌksɪz]

This pattern of possessive clitic marking reveals a great sensitivity of the clitic to whether it is bracketed with the head of the DP it attaches to or not. Thus, phonologically-conditioned allomorphy between syntactic specifier-head or head-complement may be sensitive to whether the conditioning factor is in located in the *head* of its complement (or specifier), a nuanced type of allomorphy found even with the indisputably clitic English *'s*.

Looking a bit further afield, even Udi endoclitics, characterized as mobile elements par excellence, show an idiosyncratic restriction in that the 3rd person clitic *t'e* cannot combine with the negative particle *nut'* (Harris, 2002, p.96ff). As clitics to the no-allomorphy diagnostic would render the notoriously mobile and unselective Udi endoclitics as not clitics either, the value of this diagnostic quickly plummets in utility.

Concluding, if even the English possessive *'s*, a paradigm case of a clitic, shows allomorphy, we must conclude that the no-allomorphy requirement is of no probative value in diagnosing clitichood. [78]

In fact, we can compare two closely related languages with clitics, one of which shows allomorphy of the elements involved and one of which does not, in order to demonstrate that positional allomorphy is not an accurate diagnostic for clitichood. Consider, as a basic contrast, European Portuguese (EP) and Brazilian Portuguese (BP), which both have pronominal object clitics. The EP clitics show variable placement, positional allomorphy, and induce stem allomorphy. The BP clitics (in colloquial BP, only 1st/2nd person) have a fixed position and induce no allomorphy. Despite these morphophonological differences, there is no reason

[7] Another diagnostic often repeated in the literature views clitics as blind drones that will attach to anything they can to their left (or right) edge. Anderson (2005) characterizes the Bulgarian definite article as a second position clitic within the noun phrase. While the definite article indeed attaches to most words that occupy the initial position within the noun phrase (suggesting, I would argue, a metathesis analysis, whereby the initial D post-syntactically moves to the right of the first eligible element to its right), as (iv) shows, it skips adverbs; as (Bermúdez-Otero and Payne, 2008) note, Scatton (1984) remarks "The definite article [...] is enclitic on the first stressed constituent of the noun phrase – except adverbs".

(i) knigi =te
books =the

(ii) interesni =te knigi
interesting =the books

(iii) mnogo =to interesni knigi
many =the interesting books

(iv) tvăarde interesna =ta kniga
very interesting= the book

Thus, while clitics may be rather free in their placement – as I argue, due to postsyntactic, morphophonological repositioning based on prosodic requirements, they still retain "selectivity", and arguably, therefore, this falls out too as a less-than-useful diagnostic for clitichood.

[8] Another morphophonological diagnostic for clitichood we will consider is the assertion that clitic combinations do not yield arbitrary gaps. Of course, an evaluation of this statement entirely depends on what one views as arbitary. Romanian pronominal clitic clusters, for example, have an "arbitrary gap" in combinations of 2pl.dat $>$ 1pl.acc but not 2pl.dat $>$ 1sg.acc; in other words, the *number* of the second clitic apparently matters (Nevins and Savescu, 2008).

(i) a. Dându- ţi- mă de nevastă, tata a câştigat mulţi bani
giving 2sg.dat 1sg.acc of wife, father has gained much money
'Giving me to you in marriage, my father has gained a lot of money'. (2sg.dat $>$ 1sg.acc)

b. ??/*Dându- vi- ne in grijă, tata s- a simţit uşurat
giving 2pl.dat 1pl.acc in care, father se has felt relieved
'Entrusting us to y'all, my father felt relieved.' (2sg.dat $>$ 1pl.acc)

However, Nevins and Savescu (2008) present an analysis of (i) in terms of the interaction between syncretism and clitic clusters – in particular, while the 1sg clitics are not syncretic for dative vs. accusative, the 1pl clitic is syncretic for this case distinction. In fact, many theories develop a principled account of the interaction between paradigmatic syncretism and the acceptability of syntagmatic patterning in clitic clusters (Laenzlinger, 1993; Adger and Harbour, 2007). Thus, determinations that an ungrammatical combination is "arbitrary" should be weighed with an appropriate, independently developed theory of arbitrariness in hand – as the Romanian case shows, taking a broader investigation of the clitic paradigm as a whole into account, the apparent "number effect" in Romanian clitic clusters ceases to be arbitrary.

Similarly, Gruber (2008), describing 2nd person subject clitics in Gmunden (Austria), shows that they display very low host selectivity, appearing on wh- phrases, complementizers, pied-piped phrases, and even comparative heads, nonetheless do not comfortably combine with bare *wh-* words such as *dem* 'who.dat-repl.pron' (p.40-41). Gruber (2008) concludes that this is not, as it seems at first blush, an arbitrary gap, but is related to the independent preference for a doubly-filled Comp in Bavarian based on the nature of the element in Spec, CP, a preference found outside of cliticization contexts altogether.

to think these are different in the syntax: both are pronominal clitics, but the EP ones show morphophonological effects when linearized as enclitics.

There is proclitic vs. enclitic allomorphy in EP. There are two ways of expressing the future tense in EP, either synthetically (45) or analytically (46). In the synthetic form, the clitic is placed before the verb, whereas in the analytic form, it is placed after the verb (as indicated by the respective placement o '=' in the following glosses).

(45) a= buscarei
her.3sg.acc pick-up.1sg
'I'll pick her up'

(46) Vou busca =la
Will.1sg pick.up-inf. her.3sg.acc
'I'll pick her up'

(47) Vou buscar a profesora
Will.1sg pick.up-inf. the professor-fem.
'I'll pick up the professor'

The data in (45) vs. (46) illustrate that EP clitics show positional allomorphy (with *a* in proclitic position and *la* in enclitic position) and that they induce allomorphy, as the infinitival marker *-r* is missing from (46), though otherwise present in analytic future tenses (47).

Positionally-dependent allomorphy is by no means limited to EP; as (Cardinaletti and Repetti, 2006) show, Paduan subject clitics show a different form depending on whether they are proclitic (in declaratives) or enclitic (in interrogatives):

(48) te magni
2.subj.cl eat.2sg
'You eat'

(49) magni to ?
eat.2sg 2.subj.cl
'Do you eat?'

Finally, the possibility of clitics inducing stem allomorphy may also be found in Spanish (Bermúdez-Otero and Payne, 2008), in which the 2nd person plural imperative ending *-d* deletes specifically when followed by the clitic *os*:

(50) ¡amad!
love.2pl.imper
'Love!'

(51) ¡ama =os! (*amad=os)
love.2pl.imper =2pl.refl
'Love yourselves!'

Thus, clitics undergoing allomorphy and inducing allomorphy are well-attested properties, once we start looking for them. Returning to EP, while it exhibits positionally-dependent clitic allomorphy (and indeed, variable placement of clitics depending on the morphology of the verb), BP shows neither variable clitic placement nor allomorphy (recall that colloquial BP has clitics only for 1st/2nd person):

(52) te buscarei
2sg.acc pick-up.1sg
'I'll pick you up'

(53) Vou te buscar
Will.1sg 2sg.acc pick.up-inf.
'I'll pick you up'

Lest the reader think that BP proclitics are somehow more tightly integrated with the verb than EP clitics (e.g. that they are 'really affixes', a position to which we will return in Section 6.2), note that BP proclitics can occur in coordinations and retain scope over both conjuncts, which is expected of a pronominal item:

(54) Minha mãe me ensinou e incentivou
My mom 1sg taught and motivated
'My mom taught (me) and motivated me'

However, BP clitics are tightly integrated with verbs, as they do not tolerate interruptions by particles:

(55) *Você me ja falou
You 1sg. already told
'You already told me'

Thus, while EP clitics show positionally-dependent allomorphy, BP clitics do not. Nonetheless we would clearly want to call both sets of person markers clitics, because in both languages these items are weak pronouns that correspond to the direct object (and block the overt co-occurrence of a strong pronominal object). In addition, the clitics, while positionally displaying allomorphy in EP, are tense-invariant, in that a proclitic always has the same form if it is a proclitic and an enclitic always has the same form if it is an enclitic: in other words, allomorphy is predictable entirely based on linear position with respect to the verb and needs no reference to the specific tense features on the verb.

Returning to our central point, it is important to note that whether the account presented here that enclisis being the result post-syntactic linearization is ultimately correct or not, when enclisis happens by whatever mechanism, the postverbal placement of clitics in EP and Spanish enable their ability to induce allomorphy, as postverbal elements are in general more tightly prosodically integrated than preverbal elements, an asymmetry noted in Peperkamp (1997), Bermúdez-Otero and Luis (2009), and Ackema and Neeleman (2003) with respect to prosodic domains and determination of allomorphy.

6.2. BUT MAYBE THEY'RE ALL JUST AFFIXES?

At a number of points in the preceding discussion, we have shown that pronominal clitics have properties that otherwise fall on the "affix" side of Zwicky and Pullum (1983)'s diagnostics. If one really wanted to blindly adhere to these diagnostics, one might even raise the possibility that all Romance pronominal clitics are actually themselves affixes. In fact, scholars such as Miller and Sag (1997) claim that Romance pronominal clitics are actually affixes, and many scholars have proposed that object clitics are actually a kind of variably-appearing object agreement. However, these views raise a number of significant problems, in particular with respect to clitic climbing, which would have to be analyzed as an affix jumping into a matrix clause, and conditions on clitic doubling, which is obligatory with pronouns, but impossible in French, a pattern that has no analogue in syntactic agreement.

Consider first clitic climbing. Recall that Spanish *d*-deletion occurs when a 2pl clitic is associated with the verb. Now, if clitic climbing were somehow the "affixal realization" of features on a verb that can percolate up to the matrix clause, then even without clitic climbing, *d*-deletion should happen, counter to fact, as shown in (56-a):

(56) a. ¡comenzad a amar =os!
begin.imper.2pl to love.inf =2pl.cl
b. comenza-os a amar!
begin.imper.2pl to love.inf
'Begin to love yourselves!'

Now, it cannot be claimed that 'feature percolation' is required only when clause union happens, because in Italian, even when auxiliary selection is determined by the lower verb, clitic climbing need not occur:

(57) Sono voluto andar=ci
Be-past.1sg wanted go=loc.cl
'I had wanted to go there'

In sum, clitic climbing is an optional movement operation that affects a weak pronoun, and not a case of affixal percolation afforded by clause union.

Even putting aside the empirical difficulties with an "clitics-as-feature-realization' approach to clitics, clitic climbing would have to be a kind of long-distance agreement. However, one of the robust generalizations of Baker (2008) is that Long-Distance *Agree* is never for Person. If this is so, then clitic climbing cannot be reduced to a case of agreement, but must be a case of pronoun movement.

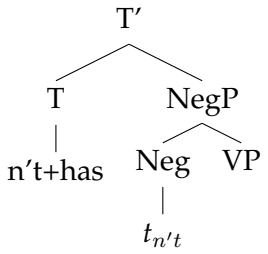
Next, consider conditions on clitic doubling. In Spanish (Suñer, 1988), clitic doubling is obligatory with all indirect objects, and obligatory with pronominal direct objects. There are no agreement systems, to my knowledge, that work like this – while pronoun vs. full NP splits are attested for case marking and agreement patterns, and indeed languages such as Irish (McCloskey and Hale, 2003) in which agreement is impossible in the presence of pronouns, I know of know bona-fide agreement system in which agreement is obligatory *only* with pronouns.

Given the problems that an agreement analysis of Romance clitics has for long-distance agreement and conditions on obligatory agreement, I conclude that clitics are weak pronouns, and not the realization of agreement. We must maintain a distinction between clitics and agreement, and as I have shown in the preceding sections, morphophonological properties will not make the right cut.

6.3. ENGLISH *n't* REVISITED

On the basis of the above diagnostics, Zwicky and Pullum (1983) concluded that contracted English negation *n't* is not a clitic, as it induces allomorphy (e.g. *wo*+n't) and displays arbitrary gaps (e.g. **amn't*).[9] However, given a mirror principle analysis of affixation (Baker, 1985), in which it involves syntactic head movement adjoining to the left, it is untenable to analyze *has+n't* as a case of head movement. Consider the tree below, in which *n't*, as the head of NegP, head-moves to T. This yields the wrong order!

(58)



[9] In a lexicalist analysis, the use of *aren't* for *amn't* in questions requires significant complications, as *aren't* must be listed as compatible with 1sg only in interrogative contexts. See Nevins (2007) for a postsyntactic analysis of *aren't* and *isn't* as repairs to the *amn't* prohibition, viewed as a filter on the output of syntax.

If head-movement is the mechanism responsible for affixation in syntax, there is no way, using standard left-adjunction, to create *hasn't*.[10] In a post-lexicalist analysis of English *hasn't*, which views *hasn't* as syntactically related to *has not*, there is no way to treat *n't* as an affix, contra Zwicky and Pullum (1983)'s very conclusions (based as they were on diagnostics that, I have now argued, were irrelevant to clitichood vs. affixhood).

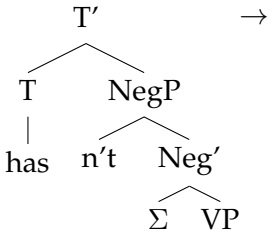
Given the problem of a head-movement analysis of *hasn't*, however, it cannot simply be the case that *n't* prosodically attaches very late to its left, because of the fact that the auxiliary brings negation along in T-to-C movement:

(59) Hasn't he seen it already?

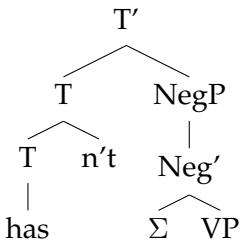
(60) Hasn't he a nickel ?

I thus propose that English *n't* requires the same syntax-internal operation of Merger (Matushansky, 2006), a *rebracketing* proposed for pronominal clitics above. This operation that is *cyclically interspersed* with syntactic structure-building, and is triggered by the presence of a Y that is prosodically weak (tied to structural deficiency in Cardinaletti and Starke (1999)). Rebracketing enables Y to become part of X's zero-level projection. This is shown below for *hasn't*, on the assumption that *n't* is a specifier, and not a head, of ΣP.

(61) Structure prior to rebracketing:



(62) Result of rebracketing:



As a cyclically interleaved operation, syntactic rebracketing occurs prior to T-to-C movement, and as a result, the clitic *n't* may be carried along in subject-aux inversion, yielding examples such as (59) and (60)

Although Zwicky and Pullum (1983) claim that cliticization cannot provide the input to further syntactic operations, it is already widely known that clitics can move along with their hosts in verb-movement operations, given French inversion examples, such as (63):

(63) L'= at- il pas appris?
Acc.3sg= has he not learned?
'Has he not learned it?'

Concluding this discussion, *n't* cannot be affixed to the verb as the result of head-movement, given left-adjunction, and its lower position than Tense in the syntactic tree. As a result, there is no way to syntactically combine *n't* with its host via affixation. Ironically, *n't* was exactly the poster case on which Zwicky and Pullum (1983) based their set of clitic/affix distinctions, and

[10] The problem is only further complicated if *hasn't* is viewed as the result of 3sg *-s* in T, *n't*, and the verb root *hæ*.

even it does not submit well to a syntactic analysis.[11] In fact, once *n't* is analyzed as a clitic, it lends yet more support to the demonstrations in the preceding sections that diagnostics such as no stem-allomorphy and no-arbitrary-gaps are inappropriate and superfluous to the clitic/affix distinction.

By contrast, I have proposed a syntactic mechanism for cliticization, syntactic rebracketing, which adjoins a prosodically weak syntactic terminal to a linearly adjacent syntactic element, projecting the another X-bar level of the host's label. This rebracketing is cyclically interspersed with other syntactic operations, and hence can occur prior to T^0-to-C movement, in which *n't* is carried along.

6.4. Interim Conclusion

I have proposed three important morphosyntactic criteria for pronominal clitics. The first of these is that they are tense-invariant. The claim is that clitics must be tense-invariant, as they are pronominal elements. The second criterion is that Person Complementary effects are found only with clitics, never with agreement. Tying together the first two criteria, then, we make a prediction: Person Co-Occurrence Restrictions are never found with Tense-Sensitive person markers. I have verified this claim for Romance, Greek, Kashmiri, Albanian, Mohawk, Nahuatl, Southern Tiwa, Kambera, and Warlpiri, all of which show a classic Person-Case restriction banning *3DAT $>$ 1SG. In none of these languages are the elements involved in PCC effects tense-variant.

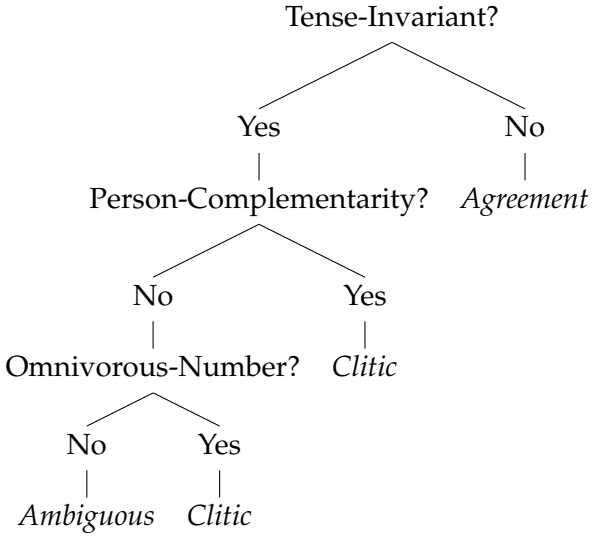
The third claim is that omnivorous number agreement, of the sort found in Soazza, should not be found when the triggering element (e.g. the object as well as subject) is a tense-varying person marker. This prediction holds for all of the languages in which I have found omnivorous number agreement in Romance (Soazza, French, Barceloní Catalan, Italian). Moreover, Merchant (2009), analyzing Aleut *pro* as a clitic requiring a syntactic host, finds that the tense-invariant agreement markers show omnivorous number.

These morphosyntactic properties of clitics are dissociated from their morphophonological properties, such as inducing stem allomorphy. Stem allomorphy is by no means the exclusive prerogative of items within the same lexical word (Embick, 2008), and under the hypothesis that the determination of morphophonological form is post-syntactic, there is no necessary causal relationship between being a clitic vs. affix in the syntax and whether or not certain morphophonological rules occur.

Dissociating morphosyntactic properties from morphophonological properties (apparent "edge-marking") allows us to call "Per-Fixes" clitics and reap the analytic benefits; and it is my hope that having thoroughly discarded the faulty Zwicky/Pullum diagnostics, which do not work at all for Romance pronominal clitics, a new set of person markers in a typologically broad set of languages can be tested for correlations between tense-invariance, person-complementarity, and omnivorous number, as shown in the decision tree repeated below:

[11] An alternative, in which *hasn't* is a single lexical item inserted in T, should be rejected on grounds of missed generalizations, as it has to add stipulations to derive the complementary distribution of *n't* and head-of-NegP *not*.

(64) Morphosyntactic properties on which the learner can decide clitic or agreement ?



The newly revised set of diagnostics may have consequences for diachronic studies of renalysis of clitics as affixes (Fuss, 2005). The ambiguous branch of the tree in (64) opens the possibility that a clitic whose mobile placement (i.e. host of syntactic rebracketing) has become distributionally restricted may be reanalyzed as a part of a functional head if the other three diagnostics are not decisive.

Kramer (2010) and Preminger (2009) propose additional sets of morphosyntactic diagnostics for distinguishing cliticization from agreement, converging on the conclusion that cliticization involves a doubling D element, whereas agreement involves the valuation of phi-features on a functional head. As a result, while clitic doubling is dependent on generation of a big DP structure, which may be conditioned by semantic features of the argument, may have interpretive effects, and may be optional, agreement canonically has none of these properties (Corbett, 2006, p.14-26). Indeed, one of Preminger's (2009) diagnostics of agreement is that defective intervention yields default agreement – *something* must supply the functional head with phi-features, whereas failure in clitic doubling (e.g. failure to move or find a host) yields the wholesale absence of the clitic element.

Given the potential similarity in morphophonological behavior between clitics and affixes (for, as we have seen, Romance clitics, like affixes, can induce and undergo allomorphy), and the fact that they both express person features, it is unsurprising that the clitic/affix distinction is a very fine-grained one which has puzzled and will continue to vex many language learners and linguists alike. Nonetheless I hope to have shown it is time to move on from Zwicky &Pullum's heuristics, given 25 years of subsequent research on clitics, and embrace a suite of diagnostics rooted in the division of labor between syntactic and post-syntactic computations and representations.

7. General Conclusion

Morphosyntacticians have always had an intuition that person and number are different. What this proposal attempts to derive is their very different patterning in multiple-argument exponence using the same operation, Multiple Agree, and relyng solely on differences in representational alphabet.

In an unexpected way, the absence of Number-Case Constraints from linguistic typology vitiates the analysis of Person Case Constraints that rely on explicit featural encoding of 3rd person, such as Nevins (2007). Were both 3rd person and singular number to be coded as the absence of a feature, complete parallelism should be expected among person and number. By

contrast, the present proposal maintains that 3rd person is encoded by the unmarked value of a binary feature, whereas singular number is the absence of a unary feature.

I have extended the analysis of Person Case Constraints, typically restricted only to discussions of indirect object and direct object, to Subject/Object interactions, as demonstrated by Kashmiri, with the important proviso that Subject and Object can interact via Multiple Agree only when the latter is a clitic. I have furthermore argued that the Omnivorous Number pattern holding between subject and object in languages such as Georgian is possible, again, because the latter is a clitic. The categorization of Georgian 'per-fixes' as clitics, while initially raising some eyebrows, has led to a re-inspection of the classic diagnostics for clitics vs. agreement, with the conclusion that even the most well-worn morphophonological diagnostics, such as 'no allomorphy', do not work for clitics as familiar as English *'s*. I have therefore proposed a morphosyntactic diagnostic for clitichood: tense invariance, something to be expected of a D element. As Georgian and the other per-fix languages inspected here exhibit tense-invariance of the relevant elements, their omnivorous number pattern is to be expected as a consequence of Multiple Agree involving an object clitic.

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