Unagreement and how morphology sees syntax

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Abstract

The phenomenon of unagreement, found in Spanish, Catalan, and Greek, among other languages, poses four theoretical problems: 1) how to account for an apparent mismatch between trigger and target in an agreement relation; 2) how to account for the fact that not all languages have this phenomenon; 3) how to account for variation in the NPs that trigger unagreement within a given language and across languages; 4) how to account for the correlation between the presence or absence of unagreement and the type of *adnominal pronoun construction* (APC) allowed in the language. The analysis assumes a lexicalist unencapsulated view of the relationship between syntax and inflectional morphology, which implies that agreement is a strictly morphological phenomenon. The fundamental idea is that some determiners in some languages do not specify person information. This implies that a phrase headed by such a determiner is compatible with any person feature.

1 Introduction

The phenomenon of unagreement, found in Spanish, Catalan, Greek, among other languages, is illustrated by the Catalan examples in (1).[†] The same NP, in this case, *els artistes* 'the artists', can be the subject of a verb form showing agreement with a third person plural, as in (1a), a first person plural, as in (1b), or a second person plural, as in (1c), with the differences in meaning shown by the translations.¹ Examples in this paper are in Catalan unless otherwise noted.

(1)	a.	<i>Els</i> the.M.PL 'Artists w	<i>artistes</i> artist.PL vork a lot.'	treballen work.3PL	<i>molt</i> . much
	b.	<i>Els</i> the.M.PL 'We artis	<i>artistes</i> artist.PL ts work a l	<i>treballem</i> work.1PL ot.'	<i>molt</i> . much
	c.	<i>Els</i> the.M.PL 'You artis	<i>artistes</i> artist.PL sts work a l	<i>treballeu</i> work.2PL lot.'	<i>molt</i> . much

The name *unagreement*, given by Hurtado (1985), suggests the idea that there is an agreement mismatch between the agreement trigger, an apparently third person NP, and the target, the verb, which can show first, second, or third person plural agreement.²

In section 2, we discuss three different views on agreement: the asymmetric syntactic view, the symmetric syntactic view, and the strictly morphological view. Section 3 outlines the four problems posed by unagreement: a) the fact that an apparently 3rd

[†]I gratefully acknowledge the comments made by two anonymous reviewers and the audience at the 29th International LFG Conference at the University of Ghana.

¹ In this paper, the term NP is used as a descriptive or theory-neutral term, equivalent to *nominal phrase*, whereas DP is the theoretical term used in theories that assume the hypothesis that the determiner is the head of its nominal phrase (Abney 1987).

 $^{^{2}}$ As suggested in section 3, it is plausible to analyze the NP *els artistes* in (1) not as the actual subject, but as a topic anaphorically controlling the null subject, with which it agrees in person and number. This still means that there is an apparent person/number mismatch between the null subject and the verb.

person NP can trigger 1st or 2nd person agreement; b) the fact that some languages have this phenomenon and some do not; c) the fact that, in languages with unagreement, some NPs allow it and some do not; and d) the fact that the presence or absence of unagreement in a language correlates with the type of adnominal pronoun construction (APC) found in the language. Section 4 presents an existing account within Distributed Morphology (DM) of the APC-unagreement correlation and shows some problems with it. Section 5 proposes an account of unagreement and the four problems noted earlier within a WYSIWYG LFG, i.e, without resorting to null categories. Section 6 concludes, with implications for agreement and the syntax-morphology interface.

2 Three views on agreement

Agreement is generally taken to be a syntactic phenomenon, one in which two different syntactic constituents, such as words, are in a dependency relation, as they both reflect, or carry, information about a single syntactic element. This syntactic dependency is sometimes viewed as an asymmetrical relation, in which one of the two syntactic constituents involved is the trigger and the other one is the target, in that the latter copies features of the former. (The term *controller*, or *controller of agreement*, is also very widespread along with trigger.) This is the view most commonly held in transformational frameworks, such as the Minimalist Program (MP). Agreement can also be seen as a symmetrical relation, in which the two syntactic constituents involved specify information about a given syntactic element. Neither constituent determines the form of the other directly, but they have to be mutually consistent as they jointly specify the features of the same element. This is the view that is prevalent in constraint-based approaches to syntax, such as Head-driven Phrase-Structure Grammar (HPSG) and LFG. (See Haug 2023 for discussion of the symmetrical and asymmetrical approaches to agreement.) But it is also possible to view agreement as a strictly morphological phenomenon: each of the two (or more) constituents involved in the agreement relation has the form that results from applying the set of rules of the inflectional morphology to it. A single feature structure (e.g., that of the subject of a clause) may have morphological effects on more than one syntactic constituent (e.g., the determiner of the NP that maps onto the subject and the verb of the clause), as a result of the morphological rules that apply to these constituents. In what follows I illustrate the three views in some more detail.

2.1 The asymmetrical syntactic approach

In an agreement relation, the features that are shared by two constituents involved in the relation are "meaningful" (to use Haug's 2023: 183 term) on only one of the constituents. This constituent is known as the trigger, whereas the other constituent involved is the target. In subject-verb agreement, where the features of person and number are shared between the subject NP and the verb, these features are only meaningful on the subject NP, which is therefore the trigger. The verb, which is the target in subjectverb agreement, can be said to copy the features of the trigger. A theory that adopts the view that there is a trigger and a target in an agreement relation can be said to treat agreement as an asymmetrical relation. One of the defining features of transformational frameworks such as MP is the idea that grammatical functions (GFs) such as subject and object are represented as positions in the phrase structure. For example, in some versions of MP, the subject is the DP in Spec of TP. This implies that the features of the subject are the features of this DP. Thus, the asymmetric view of agreement is practically a consequence of this assumption about GFs. These features may be copied by some other constituent (such as T), which gives rise to a situation in which two different constituents (e.g., Spec of TP and T) have the same features, namely, agreement. In the illustration given in Sells (2023: 1950–1952), T assigns nominative Case to a DP that requires Case and copies the person and number features of this DP. After the verb attaches to T and merges with it and the morphological spell-out rules have taken place, we have a structure in which the verb agrees with a DP.

An analysis of unagreement within this approach implies that the agreement trigger, the subject NP in examples like (1), has three different representations depending on the person feature: one in which it is third person, one in which it is second person, and one in which it is first person. Since the verb is morphologically different in the three examples and since the verb is assumed to copy the features of the trigger, we have to assume that the trigger—the subject NP—is different in each example, despite the fact that it is phonologically identical in the three cases. In this respect, the asymmetrical syntactic approach leads to an unintuitive analysis of unagreement.

2.2 The symmetrical syntactic approach

The theoretical frameworks that separate the representation of GFs from the representation of overt constituents give rise to a symmetrical approach to agreement. This is the case of HPSG and LFG, among others: in them, each constituent involved in an agreement relation lexically specifies information about the same GF. As long as the information coming from the different constituents unifies, it is not necessary for all the relevant features to be present in the "trigger" constituent.

The French example (2), from Sells (2023: 1925–1926), is used to argue for the lack of directionality in the agreement relation.

(2) Je suis heureuse. (Fr) I am happy.F.SG 'I am happy.' (spoken by a female)

It is clear that the subject in this sentence has grammatical gender feminine, but this information is not conveyed by the pronoun *je*, the only constituent that can be said to be a trigger, as it is unmarked for gender. It is likewise not conveyed by the verb *suis*, which specifies that its subject is first person singular, but is indifferent as to its gender. It is necessary to assume that the GF subject in (2) has the gender feature feminine because of the feminine form of the predicate adjective *heureuse*, which nevertheless is the target of the agreement relation. It would be very unmotivated to assume that *je* is lexically ambiguous having an entry with masculine gender and an entry with feminine gender, just in order to preserve an asymmetrical treatment of agreement.

The symmetrical approach to agreement lends itself to an intuitive analysis of unagreement. The NP in examples like (1) contributes information of the subject, because of its position, but carries no information about person, whereas the verb form specifies that its subject is third person, in (1a), first person, in (1b), or second person, in (1c). The information about the subject unifies because there is no inconsistency, but it is the "target", the verb, that specifies the person feature of the subject.

2.3 The morphological approach

The third approach to be considered here is one that assumes a non-encapsulated lexicon. The standard position in LFG is that the lexicon, which is the component in which word formation, or morphology, takes place, is encapsulated with respect to the syntax. In this view, words are inserted in the syntax fully formed and cannot use information from the syntactic context in which they appear for their morphological derivation. Alsina (2020, 2022, 2023b) argues against this view and in favor of a non-encapsulated view of the relation between morphology and syntax, namely, the position that word formation, particularly inflectional morphology, uses syntactic information in its rules. Morphological rules perform affixation operations (among other operations) on a word on the basis of the f-structure information that maps onto the c-structure position in which that word appears. For example, the inflectional endings that distinguish the three verb forms in (1) are the result of such rules. The -m in treballem in (1b) is found in verb forms whose subject is first person plural; the -u in treballeu in (1c) in verb forms whose subject is second person plural; and the -n in treballen in (1a) in verb forms whose subject is third person plural. The corresponding morphological rules are a block of rules (in the sense of Stump (2001), among others) that say: (a) if a verb form maps onto an f-structure whose subject has the features of first person and plural number, it has the suffix /m/; (b) if a verb form maps onto an f-structure whose subject has the features of second person and plural number, it has the suffix /w/; (c) if a verb form maps onto an f-structure whose subject has the feature of plural number, it has the suffix /n/. Given the Paninian principle by which a more general rule only applies if a more specific rule fails to apply, rule (c) only applies in those cases in which neither rule (a) or (b) can apply.³

The approach assumed here is that agreement is a strictly morphological phenomenon. The morphosyntactic features of the language (those that are reflected in the morphology) are present in the f-structure and referred to by the rules of the morphology licensing the appropriate word forms in the c-structure. In the case of subject-verb agreement, the f-structure features of the subject are reflected on the verb through the morphological rules that apply to verbs and, if there is an NP that maps onto the subject, the features of the subject are reflected on the word forms that make up the NP, such as

³ If we assume that a morphological rule is a rule that affects or constrains the form of a word and that it can use any kind of linguistic information in its definition, such as syntactic, semantic, phonological, and other, then it is clear that the rules just mentioned are morphological rules. They are essentially identical to the morphological rules of encapsulated versions of LFG such as Dalrymple et al. (2019), only, in the latter versions, syntactic information is copied into the lexicon in the guise of m-features. By allowing morphological rules to make direct reference to syntactic information (both c- and f-structure information), as opposed to reference mediated by m-features, we achieve a simpler theory, as argued in Alsina (2020; 2022). There is no need to rename these rules morphosyntactic, as suggested by an anonymous reviewer. The present approach explicitly claims that inflectional morphology is dependent on syntactic information and that this should not be obscured by recasting this information as morphological. The ungrammaticality of sentences such as **We works a lot* is accounted for as instances of misapplication of morphological rules: a rule that should apply fails to apply or, conversely, a rule applies that should not apply.

the determiner, the noun, the adjective, etc. The morphological approach to agreement is much simpler than either of the two syntactic approaches outlined earlier because, whereas they all have to assume that there are morphological principles responsible for accounting for the different word forms, the morphological approach does not need to assume any syntactic principle to account for the use of the appropriate word forms in each syntactic environment. This is a further argument in favor of the non-encapsulated view of the relation between morphology and syntax.

3 The four problems of unagreement

The phenomenon investigated here affects both grammatical and anaphoric agreement (to use Bresnan and Mchombo's 1987 terms). Clear cases of anaphoric agreement are those in which a pronominal clitic agrees with a discourse topic, such as (3):

(3)	a.	Als	<i>artistes</i> _i	ens_i	agrada	la	feina.
		A.the.M.PL	artist.PL	1.pl	like.3SG	the.F.SG	work.F.SG
		'We artists	like work.'	,			

b. *Als artistes*_i *us*_i *critiquen, però també us*_i *ajuden.* A.the.M.PL artist.PL 2PL criticize.3PL but also 2PL help.3PL 'You artists, they criticize you, but they also help you.'

Apparent subject-verb agreement in which the subject NP is preverbal, such as (1), might be taken to be an instance of grammatical agreement. However, there is considerable evidence that, in languages such as Catalan, the in situ position of the subject NP is postverbal and that the preverbal position is a topic position (Rosselló 1986, Bonet 1990, Solà 1992, Vallduví 1992, 2002, among others for Catalan, and Alexiadou and Anagnostopoulou 1998, and Barbosa 2001 for other languages). Under this interpretation, examples such as (1) would be instances of anaphoric agreement, in which a grammaticized topic anaphorically agrees with a pronominal subject that has no overt exponent except for the verb. Nevertheless, the unagreement construction can also involve postverbal subject NPs, which would be a clear case of grammatical agreement, as in (4):

- (4) a. En aquesta casa només treballem els artistes. in this F.SG house.SG only work.1PL the.M.PL artist.PL 'In this house only we artists work.'
 - b. *No canviarà res si no protesteu els estudiants.* not change.FUT.3SG nothing if not protest.2PL the.M.PL student.PL 'Nothing will change unless you students protest.'

In the following paragraphs we discuss the four analytical problems posed by the phenomenon of unagreement.

3.1 A third person NP triggering first or second person agreement

The motivation for calling the phenomenon under investigation in this paper unagreement is that the NP that can trigger either first, second, or third person agreement in examples like (1) appears to be a third person expression. The components of the NP show no variation in form that can be attributed to the person feature. The relevant NP is *els artistes* in (1) whether the verb shows 3^{rd} person, 2^{nd} person, or 1^{st} person agreement. In addition, if an NP that triggers unagreement is changed to the corresponding singular form, only 3^{rd} person agreement is possible, as shown in (5) (compare (5a) with (1) and (5b) (3a)):

- (5) a. *L' artista treballa /*treballo /*treballes molt.* the.SG artist.SG work.3SG / work.1SG / work.2SG much 'The artist works a lot.'
 - b. *A l' artista*_i *li*_i /**m'*_i /**t'*_i *agrada la feina*. A the.SG artist.SG 3SG / 1SG / 2SG like.3SG the.F.SG work.F.SG 'The artist likes work.'

Thus, the first question to address is: how come certain apparently 3rd person NPs can trigger 1st or 2nd person agreement, as well as 3rd person?⁴

3.2 Cross-linguistic variation: not all languages have unagreement

As noted in Höhn (2016) among others, some languages have unagreement, such as Spanish, Catalan, Galician, Greek, Bulgarian, to name a few, whereas others lack this phenomenon, including Italian, Portuguese, and Bosnian-Croatian-Montenegrin-Serbian. Italian, which belongs to the Romance family, like Spanish and Catalan, offers a clear contrast with the latter, as we see in (6):

(6) Gli studenti lavorano /*lavoriamo /*lavorate molto. (It) the.M.PL student.PL work.3PL / work.1PL / work.2PL much '(*We/*You) students work a lot.'

Whereas in (1) the plural definite NP allows agreement in 1^{st} , 2^{nd} , and 3^{rd} person, the Italian counterpart only allows agreement in 3^{rd} person. Thus, the second question we need to address is how to account for the existence of unagreement in some languages and its absence in other languages.

3.3 Variation in what NPs allow unagreement

Within a single language that exhibits some instances of unagreement, not all NPs can take part in this phenomenon. And the class of NPs that allow unagreement varies across languages. Whereas NPs introduced by the plural definite article allow unagreement in Catalan, as shown in (1), (3), and (4), as well as in Spanish, the corresponding singular form fails to allow first or second person agreement, while allowing third person agreement, as illustrated in (5). Other NPs that trigger unagreement in Catalan include those introduced by plural indefinite determiners and quantifiers such as *alguns/algunes* 'some', *uns quants/unes quantes* 'several', *quants/quants* 'how many', and cardinal numerals like *dos* 'two', *tres* 'three', etc. NPs that only allow third person agreement are those that are introduced by the singular counterparts of these determiners and quantifiers, by demonstratives (such as *aquests* 'these'), personal pronouns (such as *ells* 'they/them'), the indefinite pronoun *algú* 'some one', among others.

⁴ An interesting question, which has to be left for further research, is why unagreement only occurs with plural verb forms in some languages, such as Catalan and Spanish. Greek, however, does seem to allow singular unagreement, as illustrated in (7).

The variation across languages can be illustrated comparing Greek with Catalan and Spanish. Greek reportedly allows unagreement with NPs introduced by the plural definite article (Höhn 2016: 546), just like Spanish and Catalan, but also allows it with NPs introduced by the singular definite article, in contrast with these other languages. In contrast with Catalan examples such as (5), where the singular definite article does not allow first or second person agreement, example (7) shows that Greek allows this type of agreement:

(7)	Ti	travao	i	gynaika.	(Gr)
	what	suffer.1SG	DET.NOM.SG	woman	
	'Wha	' (Höhn 2016: 586)			

The third problem is accounting for the variation in the NPs that allow or do not allow unagreement within a language and across languages.

3.4 Correlation with the type of adnominal pronoun construction

Höhn (2016) proposes that there is a correlation between the presence or absence of unagreement in a language and the type of *adnominal pronoun construction* (APC) allowed in the language. An APC is a nominal expression introduced by a personal pronoun such as *we* or *you* followed by an NP that modifies the pronoun. Cross-linguistically there are two types of APCs, referred to as *Type I* and *Type II*:

- Type I APC: the pronoun cannot be followed by the definite article; this type is found in Italian and Portuguese, among other languages, and illustrated in (8) for Italian;
- Type II APC: the pronoun must be followed by the definite article; this type is found in Catalan and Spanish, among other languages, and illustrated in (9) for Catalan.

(8)	Type I APC:	noi (*gl	i) stuc	<i>lenti</i> (It)	
		we ART	.M.PL stuc	lent.PL	'us students'
(9)	Type II APC:	nosaltres	*(els)	estudiants (Ca)
		we	ART.M.PL	student.PL	'us students'

We can observe that the languages with Type I APC are those that lack unagreement, and that those with Type II APC are the ones that have unagreement. Höhn (2016: 560) claims that this correlation is not an accidental fact but that the two properties are causally connected and makes the following empirical claim:

- (10) Null subject languages with definite articles
 - a. show unagreement if they have a definite article in APCs, and
 - b. do not show unagreement if they have no definite article in APCs.

4 Höhn's (2016) account and a problem

Höhn (2016) proposes to account for the facts noted in the previous section by assuming that the presence or absence of unagreement in a language in essence depends on whether that language has one type of APC or the other. We will first outline his proposal and then present an empirical problem for it.

4.1 Höhn's (2016) theory

Languages split up according to the type of APC they have. In Type I definiteness and person are encoded on the same head (D), whereas in Type II person is encoded on a separate functional head higher than D. In Type I, elements of category D, which includes both pronouns and articles, appear in the one D position of the structure:⁵

(11) Type I structure (for example, Italian):



The pronoun *noi* 'us' and the definite article *gli* 'the' are both D and compete for the single D position in the structure. Only one of the two can be used depending on the person feature of D. If D is 1st person plural, *noi* is used; if D is 3rd person plural definite, *gli* is used. When the DP is in subject position, verb agreement reflects the person feature of the subject DP.

In Type II languages, nominal expressions are not DPs, but PersP, a phrasal category headed by Pers, which hosts the person feature and takes a DP as its complement:

(12) Type II structure (for example, Catalan):



Pers is realized as a pronoun, which can be overt (e.g., *nosaltres*) or null (\emptyset). The overt and the null versions are both pronouns and carry the same person features. It is overt if it has the feature [+dem(onstrative)] and is covert if it has the feature [-dem]. The possibility of unagreement crucially depends on the NP being a PersP headed by a null pronoun followed by an overt DP, as in Type II APC, which cannot arise in Type I APC. This captures the claim that, if the language has Type II APC, the pronoun precedes the article in an APC and it also has unagreement and, if the language has Type I APC, there is no article in an APC and it lacks unagreement. In a Type I language, a definite D is always overt, either as a pronoun or as an article.⁶ The Italian spell-out rules assign

⁵ The NumP in both types consists of a Num head and an NP; the Num head hosts number features and the NP may contain the noun (Höhn 2016: 563–564, 568).

⁶ It is unclear why languages with type I APC cannot have a null definite pronoun heading the DP. In other words, why couldn't the phrase *studenti* have the structure [$_{DP}$ [$_{D}$ \emptyset] studenti]], in which the null determiner is the null counterpart of an overt pronoun? Why is it that type II languages can have both overt and null pronouns, whereas type I languages only have overt pronouns when the NumP contains phonologically overt material? Interestingly, when NumP is phonologically null, the pronoun in D position can be null, accounting for the possibility of null subjects. Clearly, the account depends on additional stipulations.

the phonological form *noi* to a first person plural definite D and the phonological form i/gli to a third person plural definite D. There is no null spell-out for a definite D. A null spell out of an indefinite D would give what looks like a bare noun, which would not trigger unagreement if indefinites are third person.

4.2 An empirical problem with Höhn's (2016) theory

A consequence of Höhn's (2016) theory is that what looks like a plain NP introduced by a determiner (whether the definite article, an indefinite such as *alguns* 'some' or a cardinal numeral such as *tres* 'three', among other possibilities) in a Type II APC language is really a PersP introduced by a null pronoun. This null pronoun may have any of the three person features. The NP *els estudiants* has the structure indicated in (12) using the null pronoun \emptyset for the Pers node. It is therefore identical in structure to an NP with an overt pronoun such as *nosaltres els estudiants*. The only difference is in the phonology of the Pers node, which should have no effect on the syntax. A prediction that Höhn's theory makes is that there should be no difference between these two kinds of NPs that can be attributed to one being pronominal and the other not. What looks like a plain non-pronominal NP is, in fact, as pronominal as the NP with the overt pronoun. The two NPs in Höhn's theory are syntactically identical, except for the features [-dem]/[+dem].

Catalan shows that this is not right. Catalan strong pronouns (as opposed to clitics) can be used as reflexives; in other words, they can be coreferential with a more prominent GF in the same minimal nucleus, generally, the subject. In such cases, the pronoun is optionally modified by the adjective *mateix* 'same', in its different number and gender forms. The unambiguously reflexive *si* can be used for the third person, as an alternative to the strong pronoun *ell* in its various number and gender forms. Following are some examples of pronouns used as reflexives (ex. (13b) from IEC 2016: 687):

- (13) a. Com a artista la Paula s' inspira en ella (mateixa). as artist.SG the Paula REF inspireSG in PRO.3.F.SG same.F.SG 'As an artist Paula gets her inspiration from herself.'
 - b. Sempre parles de tu (mateixa). always talk.2SG about PRO.2SG same.F.SG 'You always talk about yourself.'

If Höhn's (2016) theory were correct in claiming that an apparently non-pronominal NP such as *els artistes* 'the artists' is really pronominal, as it would be a PersP headed by a null pronoun, we would expect such an NP to behave like any other pronoun in the language and, thus, be able to function as a reflexive. The fact is that this is not the case: such NPs are disjoint in reference with a more prominent GF such as the subject in the same minimal nucleus. (14) offers minimal contrasts: when the pronoun is in complement position, it may corefer with the subject of its clause; when the complement is an apparently non-pronominal NP, it may not corefer with the subject of its clause.⁷

⁷ One could stipulate that the null pronominals posited in apparently non-pronominal NPs lack the ability to function as reflexives, unlike all other pronouns in the language, but it would be a strictly ad hoc rescue mechanism.

- (14) a. *Els artistes confiem només en nosaltres (mateixos).* the.M.PL artist.PL rely.1PL only on PRO.1PL same.M.PL 'We artists rely only on ourselves.'
 - b. (Nosaltres) confiem només en els artistes (mateixos). PRO.1PL rely.1PL only on the.M.PL artist.PL same.M.PL 'We rely only on the artists (themselves).' *'We_i rely only on us artists_i.'

Furthermore, it can be shown that a plain non-pronominal NP such as *les atletes* 'the (female) athletes' contrasts with an APC such as *vosaltres les atletes* 'you (female) athletes' even though they are both claimed to have the same structure. The former does not allow coreference with the subject of the minimal clause, as in (15b), whereas the latter does, as in (15c):

(15) a.	(Vosaltres) les atletes PRO.2PL the.F.PL athlete.PL 'You athletes work for yoursely	<i>treballeu per</i> work.2PL for wes.'	vosaltres pro.2pl	<i>(mateixes)</i> . same.F.PL		
b.	(Vosaltres) treballeu per les atletes. PRO.2PL work.2PL for the.F.PL athlete.PL 'You (pl.) work for the athletes.'					

c. (Vosaltres) treballeu per vosaltres les atletes. PRO.2PL work.2PL for PRO.2PL the.F.PL athlete.PL 'You (pl.) work for yourselves athletes.'

This indicates that what looks like a non-pronominal NP is really non-pronominal, which means we cannot assume that an NP such as *els estudiants* 'the students' or *les artistes* 'the artists' has the structure in (12) with a null pronoun.

Thus, despite the success of Höhn's (2016) theory in accounting for the presence or absence of unagreement in different languages and for the correlation between the presence or absence of this phenomenon and the type of APC in the language, it cannot be right because it treats non-pronominal NPs as pronominal, which leads to incorrect predictions. We therefore need to propose a different analysis.

5 A WYSIWYG analysis of unagreement

5.1 Problem 1: an apparent agreement mismatch

If we assume that the determiner is the category in the DP that can be associated with person information, two possibilities arise: some determiners are lexically associated with specific person information and some are not. The analysis proposed here crucially depends on the idea expressed in (16):

(16) Some determiners in some languages do not specify person information.

This implies that a DP headed by a determiner that does not specify person information is compatible with any person feature. A second idea of the present analysis is that inflectional morphology spells out the morphosyntactic features in the f-structure. The morphosyntactic features of a language are those that are reflected in the inflectional morphology, such as person and number, among other possibilities. These features are assigned in the f-structure by general rules.

The plural definite article *els/les* in Catalan does not lexically specify person information, although it does specify gender and number features. It follows that a DP headed by this determiner maps onto one of three alternative f-structure representations, each one with a different person feature PERS, assuming that PERS takes one of the three values 1/2/3. If the feature PERS is one of the morphosyntactic features of the language, it is assigned to GFs with any of its values. In this way, a DP headed by the determiner *els/les* may legitimately map onto a GF with any of the three person values. One of the three possible f-structures that correspond to the phrase *els artistes* is shown in (17), in which the feature PERS has the value 1.

(17) One of three possible f-structures for *els artistes*:



Since neither of the two components of the DP—the determiner and the noun—impose any restriction on person, the DP can map onto an f-structure with any person value. The correspondence between c-structure and f-structure is shown by coindexation.

If the f-structure in (17) is the subject of a tensed clause, the inflection of the tensed verb, which reflects the person and number features of the subject, has to show that the subject is first person plural. As the same DP can map onto three different f-structures (with different values for the feature PERS), we account for the different agreement possibilities that we see in examples like (1).⁸ This accounts for the first problem in section 3: why an apparently 3rd person DP can trigger 1st or 2nd person agreement.

5.2 Problem 2: languages without unagreement

For languages without unagreement, such as Italian, all we need to assume is that determiners are fully marked for person information, as expressed in the statement (18):

(18) In some languages (e.g., Italian) all determiners are fully specified for person information.

So, the plural definite article *i/gli* in Italian, as well as its feminine and singular counterparts, are lexically marked as [PERS 3]. Consequently, a DP headed by this determiner, such as *gli studenti*, is only a third person expression and its features have to be reflected in the inflected form of a verb or a pronoun agreeing with it. This accounts for the fact that (6), where that DP is the subject of a finite verb, is grammatical only if

⁸ We need to assume that each of the three sentences in (1) has a GF SUBJ with a different value for PERS in order to account for the different verb morphology and the corresponding difference in meaning. Whether the initial DP maps onto that GF or is a topic that shares its index features with the subject, the DP is compatible with three different f-structure representations.

the verb shows third person morphology: the verb reflects the person and number features of its subject.

I am assuming, following Postal (1969) and others, that personal pronouns like *io* 'I' or tu 'you' are determiners. They are also specified for person information: first person for *io*, second person for tu.

5.3 Problem 3: variation across lexical units

The solution to the third problem is that languages with unagreement do not necessarily have all determiners lexically unmarked for person. In Spanish and Catalan, for example, while the plural definite article is lexically unmarked for person, its singular form is specified as third person, which accounts for the absence of unagreement (as the verb agrees in 3rd person) in cases like (5a), repeated as (19).

(19) *L' artista treballa /*treballo /*treballes molt.* the.SG artist.SG work.3SG / work.1SG / work.2SG much 'The artist works a lot.'

Among determiners that allow unagreement, there is a tendency for unagreement to be restricted to the plural form of the determiner, while the singular form shows consistent agreement in the third person. This happens in Catalan (and in a similar way in Spanish) not only with the definite article, but also with the indefinite *algun/alguns* 'some', the interrogative *quin/quins* 'which (one)', etc. (Some plural determiners that allow unagreement, such as *quants/quantes* 'how many', *tants/tantes* 'so many', or *molts/moltes* 'many', are only used in the singular with uncountable or mass nouns, which makes them semantically incompatible with a first or second person singular reference.) However, some determiners only allow third person agreement, both in the singular and in the plural, as is the case with demonstratives.

Greek, in contrast with Catalan and Spanish, allows unagreement with NPs introduced by the definite article, both in the plural and in the singular. Example (7) illustrates the possibility of unagreement in Greek in the singular with a definite article.

In Catalan and Spanish, some indefinite determiners that can only be used in the singular allow a form of unagreement in which the DP headed by one of these determiners is in the singular whereas the agreeing element (verb or pronominal clitic) is either first or second person, but crucially in the plural. Some of the determiners that display this behavior are *ningú* 'no one', *cap* 'no/none', *cada* 'each', *cada u/cadascú* 'each one' in Catalan (the corresponding forms in Spanish being *nadie*, *ningún/ninguno*, *cada*, *cada uno*, respectively). (20) are examples of these person and number mismatches. (See similar examples in Spanish in Rivero (2008: 230).) (20a) (IEC 2016: 731) is an instance of unagreement involving clitic doubling of the direct object by means of the 2^{nd} person clitic *us*; here the direct, or accusative, object is marked by the DOM preposition *a*.

- (20) a. *Cap* (*de nosaltres*) *no sabem la veritat*. none.SG (of PRO.1PL) not know.1PL the.F.SG truth.SG 'None of us knows the truth.'
 - b. Us han mencionat personalment a cada un (de vosaltres). 2PL have.3PL mentioned personally A each one of PRO.2PL 'They have mentioned each one of you personally.'

The claim that the determiners *cap* and *cada* are singular is based on the fact that, when they head a DP with an overt noun, the noun has to be singular: *cap estudiant* 'no student(SG)' vs **cap estudiants* 'no student(PL), *cada estudiant* 'each student(sg)' vs. **cada estudiants* 'each student(pl)'. In these cases, the unagreement phenomenon does not only involve an apparent person mismatch, but also a number mismatch.

Ackema and Neeleman (2013: 317) analyze unagreement in Spanish and propose the generalization that unagreement with singular DPs arises with quantifiers that lack a plural form: "quantificational unagreement is allowed with plural quantifiers, and with singular quantifiers as long as they do not have a plural counterpart." This generalization is only partially true. While it is correct, both for Spanish and for Catalan, that singular quantifiers that have a plural counterpart do not allow unagreement, it is not true that all singular quantifiers that lack a plural counterpart allow unagreement. A clear contrast is attested with *ningú* 'no one' and *algú* 'someone' (and their Spanish counterparts *nadie* and *alguien* respectively) both of which lack a plural counterpart: while the former allows quantificational unagreement, the latter does not. Examples with Spanish *nadie* and *alguien* are given in (21):

- (21) a. *Nadie sabe /sabemos /sabéis la verdad*. (Sp) no one.SG know.3SG/know.1PL/know.2PL the.F.SG truth.SG 'No one knows the truth.'
 - b. *Alguien sabe* /**sabemos* /**sabéis la verdad*. (Sp) someone.SG know.3SG/know.1PL/know.2PL the.F.SG truth.SG 'Someone knows the truth.'

While *nadie* and *alguien* are pronominal quantifiers, which cannot cooccur with a noun, Ackema and Neeleman's (2013) generalization also fails to hold with some non-pronominal quantifiers that must cooccur with a noun: *todo/toda* 'any' and *cualquier* 'any' in Spanish (also the corresponding forms *tot/tota* and *qualsevol* in Catalan). The quantifier *todo/toda* may appear to have a plural form, namely, *todos/todas*. However, we have to distinguish the determiner *todo* from the predeterminer *todo*: the former has only a singular form, cannot cooccur with a determiner, has to be followed by a noun in the same DP, and is equivalent in meaning to 'any' or 'every'; the latter has both a singular and a plural form, must precede a determiner if it is followed by anything in the same nominal phrase, does not need to be followed by anything in the same nominal phrase, and is equivalent in meaning to 'all'. (22) illustrates the different behavior of the determiner *todo*, in (22a), and the predeterminer *todo*, in (22b,c).⁹

- (22) a. *Todo* (**el*) *(*estudiante*) *conoce la verdad*. (Sp) every.SG the student.SG know.3SG the.F.SG truth.SG 'Every student knows the truth.'
 - b. Todos *(los) estudiantes tienen derecho a la verdad. (Sp) all.PL the student.PL have.3PL right to the.F.SG truth.SG 'All students have a right to the truth.'

⁹ Ackema and Neeleman (2013: 317) are not only unaware of the different behavior of determiner *todo* and predeterminer *todo* but give an ungrammatical example of the predeterminer without a following determiner as grammatical and give as grammatical a set of three ungrammatical examples of the predeterminer *todo* immediately followed by a modifier *de*-phrase.

c. *Toda (la harina) estaba estropeada.* (Sp) all.F.SG the flour be.PAST.3SG damaged.F.SG 'All the flour/all of it had gone bad.'

This shows that determiner *todo* and predeterminer *todo* are two different words and, therefore, that determiner *todo* does not have a plural counterpart. If not having a plural form of the quantifier were a sufficient condition for the singular quantifier to trigger unagreement, we would expect determiner *todo* to allow unagreement. But it does not, as shown in Ackema and Neelema's (2013) example (52c), given here as (23):

(23) * Todo niño creemos/creéis en los Reyes Magos. (Sp)
every kid believe.1PL/believe.2PL in the Reyes Magos
'All of us/you kids believe in the Magi.'

Cualquier is another quantifier that does not have a plural form and yet does not allow unagreement.¹⁰ To summarize, for a singular quantifier to allow unagreement, it is a necessary condition that it lack a plural form, but this is not a sufficient condition. So, there is some degree of arbitrariness in whether a singular quantifier allows unagreement or not. The generalization seems to be that a DP can show non-third person agreement with a verb or a pronoun if it can be interpreted as referring to a group of people that includes the speaker or the hearer. Crucially, the DP has to refer to a group. Thus, plural expressions satisfy this condition, as well as group denoting expressions, such as *gent* 'people', *colla* 'gang', or *jovent* 'youth', all of them grammatically singular. This condition is also satisfied by DPs headed by singular determiners such as *cap* 'none' or *cada un* 'each one' because they refer to a group.

The way to account for this phenomenon is to assume the split in agreement features into CONCORD and INDEX features (see Haug 2023 and references cited there). While person is only an INDEX feature, both gender and number are represented as features of both CONCORD and INDEX and have a potentially different value in both locations, although by default they have the same value. Thus, a word like *cap* 'none' (or Spanish *ningún/ninguno*) is restricted to having the feature [CONCORD [NUM SG]] and is lexically associated with the following biconditional information, which allows it to have the feature [INDEX [NUM PL]] provided person is either first or second:

(24) $[INDEX [NUM PL]] \leftrightarrow [INDEX PERS [1 \lor 2]]$

The proposal that some quantifiers, like *cap*, have the concord feature singular accounts for its lack of morphological plural marking and the fact that accompanying nouns and adjectives in the same DP are also morphologically singular. The idea that it is lexically unspecified as to person and that it can have the feature [INDEX [NUM PL]] when it is not third person accounts for the fact that an agreeing verb or pronoun can be in the first or second person in the plural, as seen in (20), and for the fact that third person agreement with a verb or pronoun is only possible in the singular, as in (25):

(25) Cap (d' ells) no sap /*saben la veritat. none.SG (of PRO.3.PL) not know.3SG/*know.3PL the.F.SG truth.SG 'None of them knows the truth.'

¹⁰ The dictionary of the Real Academia de la Lengua Española includes a plural form *cualesquier*. Nevertheless, it is very rare in corpus searches and it is reasonable to assume that it is absent from most speakers' repertoires.

To summarize, while some plural determiners are unspecified for person, some singular determiners—a proper subset of those that do not have a plural form—are also unspecified for person, but show either third person singular agreement or non-third person plural agreement on verbs and pronouns. This phenomenon can be captured by assuming that number can have a different value as a feature of CONCORD and as a feature of INDEX for this subset of determiners.

5.4 Problem 4: the unagreement-APC correlation

The final problem we need to address is the correlation between the type of APC (adnominal pronoun construction) found in a given language and whether the language in question has unagreement or not. The claim is that a language has unagreement if its APC includes the definite article and does not have unagreement otherwise. The analysis cannot involve a null pronominal, as in Höhn's (2016) analysis, for two reasons. First, as shown in subsection 4.2, a non-pronominal NP in a language with unagreement does not behave like a pronominal NP; so, we cannot assume that non-pronominal NPs are headed by a null pronoun. Second, it goes against the spirit of LFG to resort to null categories: the separation of grammatical information into c-structure and f-structure allows us to dispense with the use of empty elements at c-structure in order to represent information that is expressed at f-structure. C-structure represents the arrangement of overt expressions in terms of grammatical categories, whereas potentially non-overt information is represented at f-structure.

Fortunately, an analysis is possible of the correlation under investigation without making use of empty categories. We can follow Höhn (2016) in assuming that the pronoun and the following nominal expression (the modifier) in an APC, as in *we linguists*, are in a closer dependency than an NP and an apposition (as in *we, the people*). This closeness is reflected in the requirement that the pronoun (categorially D) and the modifier share their agreement (INDEX, or IND) features, including person. This means that the person, number, and gender features of the pronoun are also those of the modifier. Thus, the c-structure and f-structure of an APC would be as in (26), where the correspondence between levels is shown by coindexation: in a pronominal DP with a modifier phrase, the IND features of the modifier (ADJ) are those of the pronoun. The tag notation, as in HPSG, is used to indicate sharing of structure: the boxed α as the value of the two occurrences of IND indicates that the same feature structure is the value of both uses of IND. The value of IND is a feature structure consisting of the features PERS, NUMB, and GEND. Thus, (26), as the cross-linguistic APC schema, captures the idea that these features of the pronominal DP are the same as those of the modifier DP.¹¹



¹¹ As noted by a reviewer, the structures in (26) make the claim that the pronoun is the head of the phrase, whereas, in the English ParGram grammar's analysis of *Us linguists* in *Us linguists like cake.*, the noun is the head (see https://clarino.uib.no/iness/xle-web). Comparatively evaluating the consequences of the two options is beyond the scope of this paper.

Thus, in a language with unagreement, such as Catalan or Spanish, where the plural definite article carries no person specification, this determiner can head the modifier DP in (26): its IND features can unify with the IND feature structure of a plural pronoun, whether it is first or second person. The APC *nosaltres els estudiants* 'us students' in Catalan satisfies all the requirements of (26): *nosaltres* is lexically specified as a first person plural definite pronoun, i.e., it has the f-structure information in (27):

(27)	nosaltres:	D_1	PRED DEF	'pro' +		
			IND	NUM	PL]	
			_	PERS	1	1

When this pronominal determiner occupies the head position in (26) and a DP such as *els estudiants* occupies the modifier position, the INDEX of both DPs has to be shared. Since there is no conflicting information associated with any of the lexical items involved, the c- and f-structure of the APC is well-formed:¹²



The structures satisfy the requirements on the APC, in particular, the sharing of agreement features between the pronoun and its modifier. The plural definite article in Catalan expresses gender and number and is compatible with any person feature.

In a language without unagreement, such as Italian, the plural definite article is marked as being third person and therefore cannot occur as the head of the modifier phrase in an APC with a first or second person pronoun: inconsistency would arise. Italian resorts to a headless DP for the modifier phrase in (26): without a D, the INDEX of the modifier has no person feature and can unify with the pronoun's INDEX. The syntactic representation of the Italian phrase *noi studenti* 'us students' is shown in (29):



¹² The pronoun and the modifier have to agree in definiteness, as indicated in (26). The feature [DEF +] could be included in the set of features in (26) that have to be shared,

As can be seen comparing (28) and (29) the f-structures of the APCs in the two languages are the same. The c-structures differ in the presence or absence of the definite article heading the modifier phrase in the APC. The information conveyed by the definite article in (28) is provided by the schema in (26) and the sharing of agreement features of the pronoun and its modifier.

This means that the definite article makes a redundant contribution in a pair of structures such as (28), which raises the question why the definite article is required in the APCs of languages with unagreement like Spanish and Catalan. Recall from (9) that sequences like **nosaltres estudiants* are ill-formed as APCs. This can be explained assuming an Optimality Theory (OT) approach to syntax in which constraints on c-structure are ranked and can be violated if the violation of a constraint results in compliance with a higher-ranked constraint. One of the constraints involved is OB-HD (Obligatory Head), which requires all XPs to have a head (Kuhn 2023 and references cited there). All we need to assume is that this constraint ranks lower than the APC schema (26). In both types of languages (with and without unagreement), the same two c-structures are checked for compliance with the list of constraints: a c-structure with the definite article heading the modifier DP, as in (28), and a c-structure without a D heading that DP, as in (29). As noted, both c-structures can be paired with the same f-structure.

In a language where the plural definite article is specified to be third person, as in Italian, the presence of the article leads to a violation of the schema (26): even though the structure satisfies OB-HD, the violation of (26) makes the structure dispreferred over the alternative structure without the article, which satisfies (26) and violates the lower ranking OB-HD. This accounts for why **noi gli studenti* is ill-formed, as opposed to *noi studenti*, as seen in (8). In a language where the plural definite article is unspecified for person, such as Catalan and Spanish, the schema (26) is satisfied in both structures, with and without the definite article, but only the structure with the article satisfies OB-HD. Given that a violation of OB-HD would not be justified for compliance with a higher ranked constraint, the preferred structure is the one that also satisfies OB-HD, which explains the obligatory presence of the article in APCs in Catalan and Spanish, as seen in (9).

In this way we explain the fourth problem, the APC-unagreement correlation (languages with unagreement include the definite article in the APC; languages without unagreement do not), without resorting to null categories or assuming two types of APCs. We assume a single cross-linguistically valid schema for APC. Whether the language uses the plural definite article in the modifier phrase or not depends on (a) whether this article is specified for third person or is unspecified for person and (b) the proposal that, if possible, a DP includes its categorial head. Thus, the only parameter of variation within APCs is whether the language allows determiners that are not specified for person, the same parameter that accounts for whether the language has unagreement or not.

5.5 Formalization

For languages like Italian in which determiner lexemes are fully specified for person in their lexemic entry, we can assume the default correspondence principle (30), which states that a lexeme of category D has the index feature [PERS 3]: $(30) \qquad [\text{Lexeme } X]_1, D_1 \rightarrow [\text{IND } [\text{Pers } 3]]_1$

As a default, this correspondence principle can be overridden by lexemes that specify different person values, for example, pronouns that are first or second person such as *noi* 'we/us'.

(31)	LEVENE NOIL	D.	PERS	1		
(31)		D_1	NUM	PL	1	1

This lexeme entry states a correspondence between morphological information, cstructure and f-structure information. As it is a more specific correspondence statement than (30), it takes precedence over the latter. Any determiner lexeme that is not specified for person is third person by default, as stated in (30). With this default, an NP with a determiner in Italian, such as *gli studenti* 'the students', maps onto a third person GF, accounting for the agreement and the APC facts.

For Catalan and Spanish, as examples of languages with unagreement, two generalizations can be made: lexemes that are demonstrative determiners are third person, as in (32); lexemes that are non-demonstrative determiners are either third person singular or plural, as in (33).

(32) [LEXEME X]₁, [DEM +]₁, D₁
$$\rightarrow$$
 [IND [PERS 3]]₁
(33) $\left\{ \begin{bmatrix} DEM & - \end{bmatrix}_1, D_1 \\ \begin{bmatrix} LEXEME & X \end{bmatrix}_1, \right\} \rightarrow \left[\begin{bmatrix} IND & \begin{bmatrix} PERS & 3 \\ NUM & SG \end{bmatrix} \lor \begin{bmatrix} NUM & PL \end{bmatrix} \right]_1$

Correspondence principle (33) ensures that the definite article, among others, if plural, is compatible with any person specification. This accounts for the fact that, in Catalan and Spanish, DPs headed by the singular definite article show third person agreement on the verb, while DPs headed by the plural definite article agree in first, second or third person with the verb.

6 Conclusions

The analysis of unagreement proposed here has as one of its main elements the idea that languages vary as to whether some of their determiners are unspecified for person information. An assumption made here is that, in the nominal (or DP) domain, the determiner is the expression of the person feature: it is the category that may spell out this morphosyntactic information. In some languages, all determiners are associated with a specific person feature. This is the case of Italian, where so-called strong pronouns, categorially determiners, like noi 'we'/'us', are lexically marked as having one of the three values of the person feature, and the remaining determiners, such as the definite article, are all third person. In other languages, some determiners are lexically unspecified as to their person feature. This is the case of Catalan and Spanish, where, along with many determiners that have a specific person value (including personal pronouns), determiners such as the plural definite article are compatible with any of the three person values. This lexical underspecification is visible in the ability of the DP headed by such a determiner to agree with a verb form that signals any of the three person values of the grammatical function corresponding to that DP. And it is also visible in the fact that such a DP can be the modifier of a first or second person pronoun in an APC.

In the verbal domain, the person information (as well as gender and number, and other, information) of some of the grammatical functions of the clause may be reflected through the inflectional morphology of the verb. In the Romance languages, which include Italian, Catalan, and Spanish, the person and number information of the subject is typically signalled by means of suffixal inflection on the finite verb. Objects and, in some of these languages, also obliques reflect some of their features such as person on verbal inflectional morphology of the type called clitics. (See Alsina (2023a: 1536–1544) for the claim that so-called clitics in Romance are part of the verbal inflection.)

An existing analysis of the unagreement phenomenon (Höhn 2016) resorts to null pronouns in order to account for the fact that an apparently non-pronominal NP may trigger first, second, or third person agreement. The idea is that such an NP is headed by a null pronoun, which can have any of the person values. According to this proposal, an apparently non-pronominal NP is just an APC with a null head. This explains the fact that such an NP can show agreement in any of the three person features and it accords well with the observation that the plural definite article has to appear in the modifier phrase of an APC in languages with unagreement, but cannot appear in this position in languages without unagreement.

This analysis has several drawbacks. The first and most important one is that an apparently non-pronominal NP in a language with unagreement is really non-pronominal. The proposal to treat it as a covertly pronominal NP fails to account for the fact that it does not behave like a pronominal NP, as seen in subsection 4.2. The second one is that it requires positing empty categories. Although this is not a problem for many frameworks, it does go against the spirit of LFG, in which having f-structure as a level of syntactic representation distinct from c-structure allows us to dispense with phonologically null words at c-structure. And the third drawback is that it requires assuming that there are two types of APCs cross-linguistically and that languages belong to one type or the other. If this were the only parameter of variation in Höhn's theory, we could say that it fares no worse than the present theory, whose parameter of variation consists in the classification of determiners into those that are marked for person and those that are unmarked. However, Höhn's theory also has to posit this source of cross-linguistic variation. For example, the definite article is analyzed differently in languages with and without unagreement: in Italian (without unagreement), it is the spell-out of the features of third person, together with other features, whereas, in Greek (with unagreement), it is the spell-out of a set of features that crucially does not include person (Höhn 2016: 579–580). Consequently, Höhn's theory is more complicated than the present one, which proposes a single structure for APCs cross-linguistically.

It should also be pointed out that Höhn's theory does not propose an account of why certain determiners in languages with unagreement allow unagreement in the plural, but not in the singular, as is the case of the definite article in Catalan and Spanish, unlike the present proposal (see subsection 5.5).

Within a lexicalist, non-encapsulated approach to morphology, the rules of inflectional morphology, are sensitive to the f-structure that corresponds to the c-structure position of a given word. Agreement such as subject-verb agreement arises because a single set of f-structure features constrains the form of two (or more) different words in the c-structure. It may give the impression that the form of an NP conditions the form of the verb. In fact, it is the features of a given GF that condition the form of both the words in the NP and the verb. The GFs in an f-structure have their features assigned by general principles. These are the morphosyntactic features of a language. The morphological rules of the language spell out these features as morphs (or phonological operations) on the words that map onto the appropriate GFs. The rules of the verbal morphology may reflect the subject's features on the verb; the rules of the nominal morphology may reflect the features of a given GF on the N and D that map onto the subject is features may be thus reflected on both the N and D that map onto the subject and the verb that maps onto the f-structure that contains that subject. Agreement arises because a single set of features is phonologically reflected on two or more words in the c-structure.

So-called unagreement is simply agreement: it is accounted for by the same principles that account for ordinary instances of agreement. What makes it look like lack of agreement is the preconception that the features that are reflected on the verb should also be reflected on the agreeing NP. But this is not necessarily the case: the features of the subject that are reflected on the verb may be partially disjoint with the features of the subject that are reflected on the NP that maps onto the subject. In an unagreement type language, the verb reflects the person feature of the subject whereas the NP linked to the subject does not.

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