Language Sciences 34 (2012) 468–479

Contents lists available at SciVerse ScienceDirect

Language Sciences

journal homepage: www.elsevier.com/locate/langsci

Referential markers and agreement markers in Functional Discourse Grammar

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ARTICLE INFO

Article history:
Available online 29 March 2012

Keywords:
Agreement
Apposition
Crossreference
Functional Discourse Grammar
Morpheme order

ABSTRACT

It follows from the ordering principles that are applied in Functional Discourse Grammar that the positional possibilities of markers of agreement and those of crossreference are different. Markers of crossreference are predicted to occur closer to the verb stem, while markers of agreement would occupy peripheral positions. This paper tests these predictions using data from a variety of languages, and shows that for these languages the predictions indeed hold true. In demonstrating this, the paper furthermore proposes a new treatment for markers of agreement/crossreference in languages in which these optionally co-occur with a corresponding noun phrase. These markers are on a language-specific basis classified as either Contextual Agreement Markers or as Appositional Referential Markers.

1. Introduction

In Functional Discourse Grammar (FDG, Hengeveld and Mackenzie, 2008), a sharp distinction is made between referential markers and agreement markers: the former are the expression of a Referential Act, the latter are the result of a mere copying mechanism and do not contribute to the meaning of the sentence. This distinction is also reflected in the ordering principles formulated in FDG: contentful elements are assigned a position in an early stage of morphosyntactic encoding, while copying takes place in the last stage. A strong hypothesis follows from this approach: agreement morphemes will always occupy a position external to other morphemes, such as those expressing tense, aspect, and mood (TAM), while referential morphemes will always occupy a position internal to these other morphemes.

This paper addresses the question whether this prediction holds true when considering data from a number of unrelated languages of different types. Given the complexity of the data involved, and the nature of the data required for the necessary analysis, I will restrict myself to referential and agreement affixes on main predicates, and to a limited number of languages. A systematic study of a large sample of languages is outside the scope of this study. The conclusions, though promising, can therefore only be tentative.

After giving a brief outline of the relevant aspects of FDG in Section 2, I go into the distinction between referential markers and agreement markers from a typological perspective, and into the classifications of languages that have been proposed in the literature on the basis of this distinction in Section 3. The section ends with a new proposal concerning the treatment of languages in which the marker on the verb optionally co-occurs with a corresponding noun phrase. The exact predictions following from the FDG approach to the distinction between referential and agreement markers are then specified in Section 4. Section 5 checks these predictions against data from languages of the relevant types. Conclusions are presented in Section 6.

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http://dx.doi.org/10.1016/j.langsci.2012.03.001

There is no generally accepted terminology for the categories I am investigating in this paper. I therefore use the neutral term 'referential marker' for what has been described in the literature as 'pronominal argument' (Jelinek, 1984), 'pronominal agreement marker' (Siewierska 2004, p. 126), and 'crossreference marker' (Bloomfield, 1933, p. 193). There is much less confusion about the term 'agreement marker' that I use, which has alternatively been described in terms of 'syntactic agreement marker' (Siewierska, 2004, p. 126). The key difference between the two types of markers is that referential markers refer by themselves, while agreement markers do not.

2. Ordering principles in Functional Discourse Grammar

Hengeveld and Mackenzie (2008) propose a dynamic approach to morphosyntactic organization that consists of a number of steps taken by the Morphosyntactic Encoder, that together construct an underlying morphosyntactic representation at the Morphosyntactic Level. The main steps distinguished, not all necessarily relevant for every language, are the following:

(i) Hierarchical ordering.
(ii) Non-hierarchical ordering.
(iii) Dummy-insertion.
(iv) Agreement.

These steps apply at the Clause, Phrase, and Word Layers, in the order given here.

All these steps involve linearization. In hierarchical ordering, which is based on considerations of scope, elements that are in a hierarchical relationship are assigned a position in a top-down fashion. In non-hierarchical ordering, which is based on alignment considerations, elements that are in a configurational relationship, such as a predicate-argument relation of a head-modifier relation, are ordered on the basis of their pragmatic, semantic, and/or morphosyntactic properties, depending on the language under consideration. Dummy insertion involves the placement of an expletive element in an obligatory position not filled in one of the previous steps. And agreement involves the placement of elements expressing a variety of features that are copied from one morphosyntactic unit to another.

The templates in which the various elements listed here are inserted, are constructed dynamically. They start out as simple combinations of absolute anchor-points, which, depending on the language involved, maximally consist of the initial position P^I, the second position P^2, the medial position P^M, and the final position P^F. In the dynamic process of ordering these templates may be expanded, once an absolute position has been filled, with positions relative to this absolute one.

As an illustration of the above, consider the following example:

(1)	It	often	rain-s	in spring.
	EXPL	often	rain-3.SG	in spring

I will briefly go through the ordering of elements within this example, first at the Clausal Layer, then at the Phrasal Layer and finally at the Word Layer, in accordance with the top-down design of FDG. This exposition will show that referential markers and agreement markers are fundamentally different as regards their positional possibilities in the FDG account.

The initial clausal (Cl) template for English declarative sentences contains P^I, P^M and P^F absolute positions, as shown in (2). The positions in boldface have to be filled obligatorily.

(2)

	P^I		**P^M**		
(Cl_i: [	...		...		
		P^F			
		...		] (Cl_i))	

The constituents *often* and *in spring* have to be assigned a place during the process of hierarchical ordering of clausal constituents, as they correspond to modifiers of higher layers of semantic organization.[1] The Adverbial Phrase (AdvP) *often* goes to P^M and the Adpositional Phrase (Adpp) *in spring* goes to P^F. Once these absolute positions are filled, new positions relative to them are created, the relevant positions here being P^{M+1} and P^{F-1}. This is shown in (3):

(3)

	P^I		**P^M**		P^{M+1}
(Cl_i: [	...		($AdvP_i$: –often– ($AdvP_i$))		...
	P^{F-1}	P^F			
	...	($Adpp_i$: –in spring–($Adpp_i$))	]		(Cl_i))

[1] The choice for P^M or P^F is in part triggered by the morphosyntactic weight of the adverbial modifiers involved. Thus ∗*It in spring rains often* would be ungrammatical as the more weighty *in spring* cannot go to P^M.

In configurational ordering, since the predicate *rain* does not have any arguments, the only element that has to be assigned a place is the predicate itself, which is sent to the first available medial position, P^{M+1}. Insertion of a constituent into this position triggers a further relative position P^{M+2}, as shown in (4):

(4)

	$\mathbf{P^I}$	$\mathbf{P^M}$	P^{M+1}	P^{M+2}
(Cl_i: [	...	($AdvP_i$: –often– ($AdvP_i$))	(Vp_i: –rain– (Vp_i))	...
	P^{F-1}	P^F		
	...	($Adpp_i$: –in spring– ($Adpp_i$))	] (Cl_i))	

One obligatory slot that remains open now is P^I, which in the absence of arguments has been assigned the Subject function by default. It is at this point that dummy-insertion applies, and the expletive subject pronoun *it* is inserted. This is typical of languages with a morphosyntactic rather than interpersonal or representational alignment system:

(5)

	$\mathbf{P^I}$	$\mathbf{P^M}$	P^{M+1}	P^{M+2}
(Cl_i: [	(Np_i: –it– (Np_i))$_{Subj}$	($AdvP_i$: –often– ($AdvP_i$))	(Vp_i: –rains– (Vp_i))	...
	P^{F-1}	P^F		
	...	($Adpp_i$: –in spring– ($Adpp_i$))	] (Cl_i))	

At the phrasal layer, only the Adpositional Phrase *in spring* has to be dealt with in the current example. Though the same ordering principles apply as in the case of clauses, only configurational ordering is relevant in this example. The initial template for English Adpositional Phrases is given in (6). A simple template with just an initial absolute position is sufficient:

(6)

	P^I	
($Adpp_i$: [	...	] ($Adpp_i$))

In configurational ordering, the preposition is assigned a place first:

(7)

	P^I	P^{I+1}	
($Adpp_i$: [	($Adpw_i$: in ($Adpw_i$))	...	] ($Adpp_i$))

The object of the preposition follows:

(8)

	P^I	P^{I+1}	P^{I+2}	
($Adpp_i$: [	($Adpw_i$: in ($Adpw_i$))	(Np_i: –spring– (Np_i))	...	] ($Adpp_i$))

At the Word Layer the finite verb shows internal structure that has to be accounted for. The template for English Verbal words is given in (9):

(9)

	P^F	
(Vw_i: [	...	] (Vw_i))

Only a final absolute position is necessary in English verbal word templates.

In hierarchical ordering, the tense operator from the Representational Level has to be assigned a position first. The only position available is P^F. Since no decision can as yet be taken as regards the form of the affix, as it is dependent on the person of the Subject, a placeholder *pres* 'present' is sent to that position, and a new relative position is created:

(10)

	P^{F-1}	P^F	
(Vw_i: [	...	(Aff_i: pres (Aff_i))	] (Vw_i))

In configurational ordering there is only one element to be assigned a position, which is the verb itself, which goes to the only position available:

(11)

	P^{F-2}	P^{F-1}	P^F
(Vw_1: [	...	(Vs_1: rain (Vs_1))	(Aff_1: pres (Aff_1))] (Vw_1))

The overall morphosyntactic representation following from the previous steps is given in (12). In order to avoid confusion, phrasal positions are given in italics, clausal ones in roman typeface:

(12)

	$\mathbf{P}^{I}$		$\mathbf{P}^{M}$	
(Cl_i: [	(Np_i: –it– (Np_i))$_{Subj}$		($AdvP_i$: –often– ($AdvP_i$))	
	P^{M+1}			
		P^{F-1}	P^{F}	
	(Vw_i: [	(Vs_i: rain (Vs_i))	(Aff_i: pres (Aff_i))]	(Vw_i))
	P^{F}			
		P^{I}	P^{I+1}	
	($Adpp_i$: [	($Adpw_i$: in ($Adpw_i$))	(Np_i: –spring– (Np_i))]	($Adpp_i$))

A final step that has to be taken with respect to this representation concerns agreement: the <3.sg> 'third singular' feature of the expletive subject pronoun has to be copied[2] to the affixal position within the finite verbal word:

(13) (Vw_i: [(Vs_i: rain (Vs_i)) (Aff_i: pres<3.sg> (Aff_i))] (Vw_i))

The resulting configuration 'pres<3.sg>' will be read off by the Phonological Encoder and be spelled out as /-s/ at the Phonological Level. This completes the morphosyntactic representation of (1).

3. Referential markers and agreement markers

In order to show the difference between referential and agreement markers, let me first discuss a number of unambiguous cases before moving onto the less unambiguous ones. Consider first the following examples from Canela-Krahô (Popjes and Popjes, 1986, p. 139):

(14)

Hũmre	te	po	curan.
man	PAST	deer	kill

'The man killed the deer.'

(15)

Cu-te	po	curan.
3-PAST	deer	kill

'He killed the deer.'

(16)

Cu-te	ih-curan.
3-PAST	3-kill

'He killed it.'

In Canela-Krahô arguments of the verbs are expressed only once: when they are expressed through noun phrases,[3] as in (14), they can not be expressed through prefixes on the (auxiliary) verb; and when they are expressed through prefixes on the (auxiliary) verb, as in (15) and (16), they can not be expressed through noun phrases. The Actor (A) argument, when not expressed in a noun phrase, is expressed through a prefix on the TMA-auxiliary, as in (15) and (16); the Undergoer (U) argument, when not expressed through a noun phrase, is expressed through a prefix on the lexical verb, as in (16). The fact that nominal and prefixal expressions of arguments are mutually exclusive, clearly shows that the prefixal expressions are referential in nature by themselves.

Now consider the following examples from Dutch:

(17)

∗(Wij)	wandel-de-n.
we	walk-PAST-PL

'We walked.'

(18)

∗(Ik)	wandel-de-Ø.
I	walk-PAST-SG

'I walked.'

[2] By copying I mean the copying of all features relevant to the agreement rule at hand. For instance, in cases in which a verb gets the plural form both with plural individual nouns and with singular collective nouns, as in English, the copying rule would be sensitive to both singularity/plurality and noun class distinctions. For cases in which agreement errors are triggered by semantic factors see Dikker (2004), who uses the notion of 'conceptual gender'. These errors can be seen as triggered by information available in the Contextual Component in FDG.

[3] I use the term 'noun phrase' to cover phrases headed by a lexical noun and those consisting of a free pronoun.

In Dutch, Subject arguments are obligatorily expressed both through markers on the verb, expressing in most cases just singularity or plurality, and through a noun phrase. Neither of the two may be absent. Given the obligatory presence of the noun phrases in (17) and (18), one may conclude that the verbal suffixes are not referential by themselves.

Siewierska (2004, p. 126) uses the term 'anaphoric agreement markers'[4] for the relevant affixes displayed by Canela-Krahô, and 'syntactic agreement markers' for the relevant affixes displayed by Dutch. By far the most languages, however, display a third type of markers, which she calls 'ambiguous agreement markers'. I will adopt Siewierska's terminology for the moment, and propose a different terminology at the end of this section. 'Ambiguous agreement markers' are illustrated for Tukang Besi (Donohue, forthcoming, p. 236) in (19) and (20):

(19) No-wila na ia.
3.REAL-go NOM 3SG
'He went.'

(20) No-wila.
3.REAL-go
'He went.'

Like Dutch, but unlike Canela-Krahô, the example in (19) has both a prefixal marker and a free pronoun that express the single argument. Unlike Dutch, but like Canela-Krahô, in (20) there is just a prefixal expression of the argument. The configuration in (19) would be the only option in a language with syntactic agreement markers, but impossible in a language with 'anaphoric agreement markers', while the configuration in (20) would be one of the options in a language with 'anaphoric agreement markers', but impossible in a language with syntactic agreement markers.

Three different approaches have been taken to markers of this type, as discussed in Siewierska (2004, pp. 121–127).

In one approach, the prefixes in (19) and (20) are considered agreement markers, whether the corresponding noun phrase is present or not. When the corresponding noun phrase is not present, the prefix is said to agree with an argument, called *pro*, that remains unexpressed but triggers agreement on the verb. This approach is generally defended within generative frameworks.

In a second approach, the prefixes are considered referential markers, whether the corresponding noun phrase is present or not. When the noun phrase is present, there is an appositional relation between the affix and the noun phrase, such that a single entity is referred to twice. This approach is, among others, defended within Functional Grammar (de Groot and Limburg, 1986; Dik, 1997) and taken over in the context of FDG in Hengeveld and Mackenzie (2008).

A third approach considers the affixal markers to be cases of agreement when co-occurring with the corresponding noun phrase, and cases of reference when they occur on their own. This approach is defended by Siewierska (1999, 2001, 2004), who states that 'ambiguous agreement markers' '... are obligatory, but do not require the presence of an accompanying nominal or free pronominal argument. In the presence of such an argument they fulfill the function of a grammatical agreement marker, in its absence that of an anaphoric agreement marker.' (Siewierska, 2001, p. 233). This approach is given a scalar interpretation in Siewierska and Bakker (2005).

I would like to take a different approach in this paper, which combines the first and second approach mentioned above, but without assuming these to be present in parallel, as in the third approach. Consonant with the general tenet of FDG that grammatical phenomena should be considered on a language-specific basis, Siewierska's 'ambiguous agreement markers' may in some languages be referential in nature while in others they are markers of agreement. In the first case, the marker refers independently, and may have a nominal or pronominal argument in apposition, in the second case it agrees with an argument that may be present either in the clause, or in the context, captured in FDG by the Contextual Component.[5] And even within the same language some markers may be referential in nature, whereas others may express agreement.

Such a differentiated approach to markers in languages with 'ambiguous agreement markers' is warranted by the fact that the absence of the lexical expression of an argument may be motivated by two logically independent factors. The first is the one given above for languages such as Canela-Krahô, in which the verbal affix is referential by itself and therefore does not need to be specified lexically. The second is one that has been introduced as an independent typological parameter recently under the name of 'referential density' (Bickel, 2003). According to this parameter, languages differ widely as regards the extent to which they require semantic units that are contextually given to be spelled out. Consider in this respect the following example from Tidore (van Staden, 2000, p. 405):

(21) Gosa.
carry
'(He) took (them).'

[4] There are certain problems with this label, as in the absence of other elements in the clause there is no 'agreement' in the strict sense involved, and as deictic rather than anaphoric reference, e.g. to first and second persons, is part of the function of these elements as well.

[5] As suggested by an anonymous reviewer, the relevant context might perhaps be narrowed down to the information contained in the FDG units of Move and/or Episode.

Where the context provides sufficient information, arguments can be and are often dropped in Tidore, even in the absence of markers on the verb. If a language with this degree of flexibility as regards the expression of lexical arguments has 'ambiguous agreement markers' on the verb, these may well be interpreted as agreeing with a contextually given argument.

Though arguing a different point, Öztürk (2002) provides various pieces of evidence for such an analysis of Turkish, generally considered a pro-drop language, but argued by Öztürk to be a topic-drop language (see also Ackema et al., 2006). For a first piece of evidence consider the following example (Öztürk, 2002):

(22) (Ben) (o-n-u) sev-di-m.
I 3-C-ACC love-PAST-1.SG
'I loved him.'

In this example only the Subject argument is expressed by an affix on the verb, yet neither of the two arguments present has to be expressed lexically, given the appropriate context. This means that the marker on the verb is potentially an agreement marker (agreeing with a contextually given referent), rather than a referential marker.

A further piece of evidence is that contextually given topics can and have to be dropped, but that focal topics, i.e. resumed or contrastive ones, are obligatorily present. Consider the following sequences (Öztürk, 2002, p. 241):

(23) Ben ev-e gel-di-m. (*Ben) kitap oku-du-m.
I house-DAT come-PST-1.SG I book read-PST-1.SG
(*Ben) televizyon seyret-ti-m. *(Sen) ara-dı-n.
I television watch-PST-1.SG you call-PST-2.SG
'I came home. I read a book. I watched television. You called.'

The presence of the given topic *ben* 'I' in the second and third clause would be ungrammatical, while the presence of the focal Topic *sen* 'you' is obligatory. This can be interpreted as a sign that the verbs in the second and third clauses agree with a contextually given argument in a language with a lower degree of referential density.

A third piece of evidence concerns subordinate clauses such as the ones shown in (24) and (25):

(24) Ben konuş-ur-ken, o gül-üyor-du-Ø.
I talk-AOR-SIM s/he laugh-PROGR-PST-3
'While I was talking, s/he was laughing.'

(25) Konuş-ur-ken, gül-üyor-du-Ø.
talk-AOR-SIM laugh-PROGR-PST-3
'While talking, s/he was laughing.'

The embedded clause in (25) shows that even in the absence of a person marker on the verb the subject may remain unexpressed when it is a given topic, whereas it has to be expressed when the subject is a contrastive topic, as in (24).

Taken together, these pieces of evidence seem to allow for an interpretation of the verbal subject markers in Turkish as agreement markers rather than as referential markers. In contrast to Siewierska, who would say that in Turkish the verbal subject marker is referential in the absence of a (pro)nominal subject argument, while in its presence it expresses agreement, I would claim that it is an agreement marker in all circumstances: in the presence of a (pro)nominal subject argument it agrees with this argument, in its absence it agrees with this argument as well, the appropriate information being provided by the Contextual Component.

Once one accepts that the markers in languages with 'ambiguous agreement markers' are in some languages markers of reference and in others of agreement, the following picture emerges, where Siewierska's categories of markers are given as column headings and their functions as row headings:

Referential markers and agreement markers thus come in four types, based on the following two parameters: (i) is the marker referential by itself or not?; (ii) is co-occurrence of the corresponding noun phrase excluded, optional, or obligatory? Taking these considerations into account, the four types identified in Table 1 may be reclassified and given new labels as in Table 2.

In this new approach to referential markers and agreement markers a crucial question is how one determines, in cases in which a marker optionally co-occurs with a corresponding noun phrase, whether the marker involved is an Appositional Referential Marker or a Contextual Agreement Marker. Though this question will probably have to be answered on a language specific basis, a few general criteria offer themselves: (i) if markers optionally co-occurring with a corresponding noun phrase are Contextual Agreement Markers, they can never expand on the semantic information given by the corresponding noun phrases themselves, since they are copies of these arguments and have no independent contribution to make to the utterance; (ii) if markers optionally co-occurring with a corresponding noun phrase are Contextual Agreement Markers, they are more likely to occur with pivotal arguments (nominative/absolutive) than with others, since they agree with contextually given and activated arguments. Taken together, these criteria suggest that in languages with markers optionally co-

Table 1
Reference and agreement in relation to Siewierska's categorization.

	'Anaphoric'	'Ambiguous'	'Syntactic'
Reference	+	+	–
Agreement	–	+	+

Table 2
Four types of referential markers and agreement markers.

	Never co-occurring with corresponding noun phrase	Optionally co-occurring with corresponding noun phrase	Always co-occurring with corresponding noun phrase
Reference	Unique Referential Markers	Appositional Referential Markers	–
Agreement	–	Contextual Agreement Markers	Syntactic Agreement Markers

occurring with a corresponding noun phrase which encode only one pivotal argument on the verb, such as Turkish, these markers are most likely to be Contextual Agreement Markers, while in languages with markers optionally co-occurring with a corresponding noun phrase which code a wide range of arguments on the verb, the markers of non-pivotal arguments are most likely to be Appositional Referential Markers. These criteria will be used below in the case studies offered.

4. Predictions

Combining the theoretical considerations from the previous two sections, a number of predictions can be made. These predictions crucially hinge on the distinction between markers that are referential in nature, and those that express agreement. Given the FDG approach to ordering, person markers expressing cross-reference have to be assigned a position in step 2 (non-hierarchical ordering) mentioned in Section 2, since they express contentful arguments directly. Person markers expressing agreement, on the other hand, are only assigned a position in step 4, when all contentful elements have found their way into the syntactic template. As a result, agreement markers will generally occupy positions external to all other elements, as they are the result of a late copying mechanism, while referential markers will occupy internal positions, as they participate in the configurational ordering of the elements that make up a predication frame. More specifically, the prediction that follows from the above is that agreement (AGR) affixes (26) and referential (REF) affixes (27) may occupy the following positions with respect to other elements that enter into the morphological constitution of a predicate:

(26) a. V-TAM-AGR
b. AGR-TAM-V
c. AGR-V-TAM
d. TAM-V-AGR
e. *V-AGR-TAM
f. *TAM-AGR-V

(27) a. V-REF-TAM
b. TAM-REF-V
c. TAM-V-REF
d. REF-V-TAM
e. *V-TAM-REF
f. *REF-TAM-V

Languages expressing TAM and AGR/REF at opposite sides of the predicate (26c and d and 27c and d) cannot be used to either confirm or reject the hypothesis investigated in this paper, and will thus not play a role in the argumentation below.

Note that examples of languages with Unique Referential Markers expressed by means of affixes are hard to come by. In many languages of this type the bound verbal markers are really clitics, and in many cases in which they are analyzed as affixes an analysis as clitics would be just as defensible. In FDG, clitics are treated as independent morphosyntactic words that enter into the constitution of Phrases and Clauses, but not of Words, so that the predictions that hold for affixes do not hold for clitics.

5. Data and results

5.1. Introduction

I will now provide data from a number of unrelated languages and show that they can all be classified as belonging to one of the types listed in (26a and b) and (27a and b) above, the existence of which is in accordance with the ordering hypothesis.

5.2. Agreement markers and TAM markers

– Dutch (V-TAM-AGR (26a))

Dutch has been introduced earlier as a language with purely Syntactic Agreement Markers, and exhibits the ordering pattern V-TAM-AGR:

(28)

	V	TAM	AGR
Wij	wandel-	de-	n
we	walk-	PAST-	PL

'We walked.'

(29)

	V	TAM	AGR
Ik	wandel-	de-	Ø
I	walk-	PST-	SG

'I walked.'

– Turkish (V-TAM-AGR (26a))

I have argued above on the basis of Öztürk (2002) that the markers optionally co-occurring with a corresponding noun phrase in Turkish express Contextual Agreement with topical subjects. The ordering pattern is V-TAM-AGR (Lewis, 1967, p. 129):

(30)

V	TAM	AGR
Gel-	me-di-	m.
come-	NEG-PST-	1.SG

'I didn't come'

(31)

V	TAM	AGR
Gel-	me-di-	n.
come-	NEG-PST-	2.SG

'You didn't come.'

– Skou (AGR-TAM/V (26b))

Skou (Donohue, forthcoming, p. 241) is a language with Syntactic Agreement Markers: both the lexical argument and the agreement affix are obligatorily present, as shown in (32)–(35). In this case the order of elements is AGR-TAM/V (TAM is marked suprasegmentally on the stem):

(32)

			AGR	TAM/V			
Pe	móe	pe=	w-	é	e	tue	ná?
3.SG.F	fish	3SG.F=	3.SG.F-	catch.PRS	3.SG.F.be	3.SG.F.do	Y/N

'Is she fishing?'

(33)

*Pe	móe	w-é	e	tue	ná?
3.SG.F	fish	3.SG.F-catch.PRS	3.SG.F.be	3.SG.F.do	Y/N

'Is she fishing?'

(34)

*Móe	pe=w-é	e	tue	ná?
fish	3.SG.F=3SG.F-catch.PRS	3.SG.F.be	3.SG.F.do	Y/N

'Is she fishing?'

(35)

*Móe	w-é	e	tue	ná?
fish	3.SG.F-catch.PRS	3.SG.F.be	3.SG.F.do	Y/N

'Is she fishing?'

– Eton (AGR-TAM-V (29b))

A language with Contextual Agreement Markers is Eton. Van de Velde (2008, p. 289) notes that in this language 'the subject prefix can index a referent that is retrieved from the context by agreeing in gender with a noun that can refer to that

referent'. Since gender assignment is largely arbitrary in Eton, it follows that these markers can only express real agreement. The order is AGR-TAM-V as shown in the following example (Van de Velde, 2008):

(36)

		AGR	TAM	V		AGR	TAM	V
Jɔ́ŋ		mè-	ŋgá-	kwázî	dʒ́	à-	ŋgá-	kû.
when		1.SG-	REM.PST-	cough		CL.1-	REM.PST-	fall

'When I coughed, he fell.'

All examples given in this section confirm the prediction that agreement markers in languages which have them will occur further away from the stem than TAM markers.

5.3. Referential markers and TAM markers

– Chickasaw (V-REF-TAM (27a))

In Chickasaw, a language with Appositional Referential Markers, two core arguments can be referenced on the verb, as can a variety of non-core arguments, as shown in the following example (Munro and Gordon, 1982, p. 110):

(37)

			REF	V	REF	TAM
Aboha	anõ'k-akõ	Dan	ib-aa-	binni'li-	li-	tok.
house	in-CONTR.NONSUBJ	Dan	COM-LOC-	sit-	1.SG.A-	PST

'I sat with Dan in the house.'

The Comitative, the Locative, and the Actor argument are all cross-referenced on the verb. Information on the semantic functions of these arguments can in most cases only be unequivocally retrieved on the basis of the referential affixes on the verb themselves. For instance, the suffix *–li* shows that the first person argument is an Actor. If it had been an Undergoer, it would have been expressed by the prefix *sa-*. The prefix *ib-* shows that *Dan* is a Company argument, and *aa-* shows that *aboha anõ'k* is a locative argument. The relevant affix here is *–li*, which follows the verb stem and is followed by the past tense suffix *–tok*. This is the order one would expect.

– Guaraní (TAM-REF-V (27b))

Guaraní is a language with Unique Referential Markers, that is 'a verb inflected for object cannot have, except in one instance [...],[6] a free object' (Gregores and Suárez, 1967, p. 155). Consider the following examples (Gregores and Suárez, 1967, p. 132):

(38)

Še-peté.
1.SG-hit
'He (she, it, they, you) hit(s) me.'

(39)

Ho-ʔú	soʔó.
3.SG-eat	meat

'He eats meat.'

These examples show that with transitive verbs the person prefix is interpreted as the A when the U is expressed lexically, as in (39), and as the U when the U is not expressed lexically, as in (38).

The order of the Unique Referential Marker and TAM markers is shown in (40) and (41) (Gregores and Suárez, 1967, p. 132, 156):

(40)

TAM	REF	V
T-	a-	puká
DES-	1.SG-	laugh

'I would like to laugh.'

(41)

TAM	REF	V
Te-	re-	puká
DES-	2.SG-	laugh

'I would like you to laugh.'

[6] This concerns the modal verb *heyá* 'to intend'.

This order confirms the prediction.

– Chinookan (TAM-REF-V (27b))

Chinookan has Appositional Referential Markers in three different slots, for A, U and L, and these can be said to be referential since they encode grammatical and semantic functions not encoded on the lexical arguments themselves, as shown in the following example (Silverstein, 1976, p. 130):

(42)		TAM	REF	V
	(I-kala)	ga-	č-ɬ-aš-l-u-	ɬada
	SG.M-man	PST-	3.SG.M.SBJ-3.COLL.N.OBJ-3.DU.IND.OBJ-to-DIR-	throw
	(iɬ-šq^{w}a)		(iš- ʕagilak).	
	COLL.N-water		DU-woman	

'The man threw the water at the two women.'

The order TAM-REF-V is as predicted.

5.4. Mixed cases

Earlier it was suggested that languages may have both agreement and referential markers. I discuss two possible candidates here.

– Swahili

Swahili has markers optionally co-occurring with a corresponding noun phrase for both A and U arguments, as shown in (43)–(45):

(43)	Juma	a-na-m–pend-a	Mariam.
	Juma	A-PRES-U-like-IND	Mariam
	'Juma likes Mariam.'		

(44)	A-na-m–pend-a	Mariam.
	A-PRES-U-like-IND	Mariam
	'He likes Mariam.'	

(45)	A-na-m–pend–a.
	A-PRES-U–like-IND
	'He likes her.'

In view of the predictions made earlier, the ordering of the person markers with respect to the TAM marker would suggest that the A marker is a Contextual Agreement Marker in AGR-TAM-V order, while the U marker is an Appositional Referential Marker in TAM-REF-V order, giving the overall pattern AGR-TAM-REF-V in the preverbal series. Decisive evidence for such an analysis cannot be given at this point, but it is interesting to note that the A-marker can be left out, while this is not the case of the U marker (Deen, 2003):

(46)	Ndio,	ta–i–beb–a.
	yes	FUT–U–carry–IND
	'Yes, (I) will carry it.'	

In the absence of a corresponding noun phrase, one would expect it to be more unlikely for a referential marker than for an agreement marker to be dropped, as a referential marker is the actual carrier of the referential information. This suggests that the U-marker is referential in nature, while the A-marker expresses agreement.

– Amele

Amele has markers optionally co-occurring with a corresponding noun phrase in three different slots, for A, U and Beneficiary, and in most cases these can be said to be referential, as they encode several semantic features, such as number and

semantic function, that are not encoded on the corresponding noun phrases themselves, as shown in the following example (Roberts, 1987, p. 291):

(47)

			V	REF	TAM
Dana	eu	jo	ceh-	ad-i-al-igi-	an.
man	that	house	build-	3.PL-IND.OBJ-3.DU-3.SG-	FUT

'He will build houses for those two men.'

The order of the markers is as predicted.

Potentially problematic for this analysis is that for certain TAM categories the subject marker follows the TAM marker. This is for instance the case for the Habitual Past and the Negative Past, as illustrated in the following examples (Roberts, 1987, p. 225):

(48) Ho-lo-g.
come-HAB.PAST-2.SG
'He used to come.'

(49) Qee ho-l-om.
not come-NEG.PST-2.SG
'He didn't come.'

A possible explanation for this fact is that the markers for the A argument used in (48) and (49) come from a different paradigm than the one in (47), so that the ones in (48) and (49) could actually be Contextual Agreement Markers specific for certain paradigms. This analysis would be supported by the fact that only the pivotal A marker may follow the TAM marker in this construction.

6. Conclusions

The examples above show that, at least for the languages studied, the FDG prediction that agreement markers and referential markers behave differently as regards their positional possibilities seems to hold true. In demonstrating this I have argued that agreement/reference markers in languages in which these optionally co-occur with a corresponding noun phrase should be analyzed on a language-specific basis as either Contextual Agreement Markers or as Appositional Referential Markers.

Acknowledgements

I am greatly indebted to Anna Siewierska for directing me towards the languages that are crucial for checking the claims made in this paper, to the participants in the Workshop on the Morphosyntactic Level in Funcional Discourse Grammar held at the University of Oviedo, Asturias, Spain, in September 2009 for discussion of a preliminary version of this paper, and to three anonymous referees for their helpful comments on the prefinal version of this paper.

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