

AGREEMENT AND FULA PRONOUNS*

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This paper is concerned with agreement patterns exhibited by pronouns in five varieties of Fula. It is argued that some pronouns show agreement in pronominality, which is an unusual type of agreement, but nonetheless extremely robust in Fula. Other types of agreement are also presented, and the consequences of the Fula data for theories of agreement is discussed.

1. Introduction

Pronouns, both personal (pronominals) and reflexive (anaphors), place two types of restriction on the elements with which they can corefer or cospecify¹: where they are and what kind they are. The former restrictions are the syntactic binding conditions. The latter restrictions are generally called agreement conditions, though in general more can be involved than simple agreement of features or properties.

In this paper I will be concerned with various types of agreement and selection that are exhibited by pronouns in varieties of Fula, a West Atlantic language. The properties involved in the agreement and selection include being a pronoun, a non-pronoun, a quantified phrase, and a definite phrase. These types of agreement and selection are relatively rare, and, for Fula at least, have not been much discussed outside of descriptive grammars.

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¹ As Sells [1986] has observed, coreference is not the correct notion when the antecedents are quantified NPs. Cospecification is the generalization of coreference that includes this situation.

This paper has five goals:

- Show that agreement in pronominality is, indeed, a type of agreement;
- Show that an apparent type of “polarity shift” in agreement is actually a form of simple agreement;
- Determine the domain of agreement;
- Compare agreement and selection cross-dialectically in Fula;
- Describe the consequences that the Fula facts have for theories of agreement.

The structure of the paper is as follows. Section 2 presents some general facts about Fula and discusses the nature of the data to be used. Section 3 presents the first agreement facts from Fula and argues that they are evidence for agreement in pronominality. Section 4 shows that what looks like a type of “polarity shift” in agreement is really a consequence of simple agreement. Section 5 discusses the domain of agreement in pronominality. Section 6 discusses three varieties of Fula that have dramatically different patterns of agreement from the initial data. Section 7 concludes with a summary of the consequences of the Fula data for theories of agreement.

2. Background on Fula

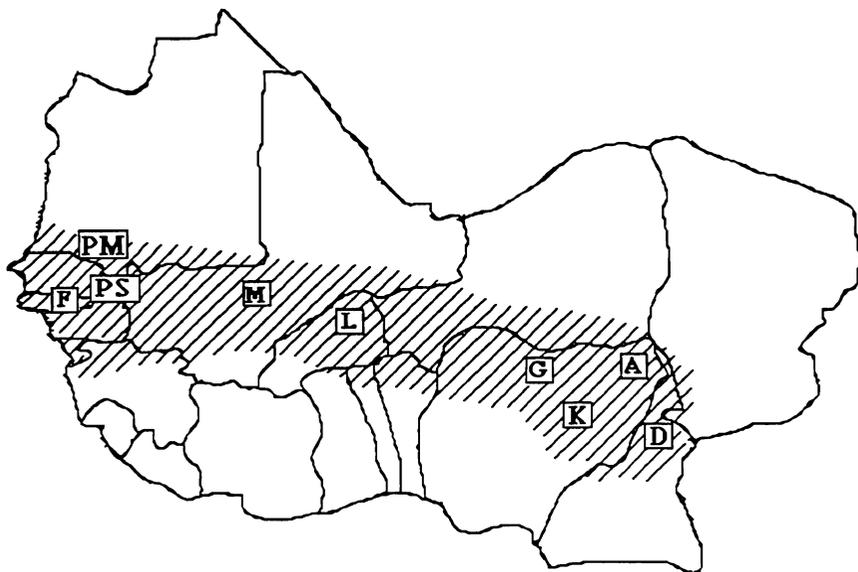
Fula² is a (West) Atlantic language of Niger Congo and is spoken from Senegal to Chad and Cameroon. The varieties studied here are listed in (1), along with the principal references to them. A map showing their locations is given in (2).

(1) Varieties of Fula with references [N.B. abbreviations used hereinafter]

Adamawa (A)	East 1967 (EA), Stennes 1967 (ST)
Diamaré (D)	Noye 1974
Firdou (F)	Gamble <i>et al.</i> 1982 (GA)
Gombe (G)	Arnott 1970 (AR)
Kaceccereere (K)	McIntosh 1984
Liptako (L)	Bidaud and Prost 1982 (BP)
Maasina (M)	informant notes
Pulaar-Mauritania (PM)	informant notes
Pulaar-Senegal (PS)	Sylla 1982 (SL), Sylla 1993 (SL2)

² Also known as Ful, Peul, Fulfulde, and Pulaar, among others. Fulfulde and Pulaar are auto-glossonyms used in various areas, while the other terms are terms used in German and French, respectively, for all varieties. Fula is the term that has come to be used in English for all varieties and, hence, is what I will use in this paper when referring to the language in general. Particular designations will be used for the individual varieties.

(2) Fula speaking area



Although the A, D, G, K, and L varieties of Fula have numerous differences, they seem to be identical with respect to the behavior of their pronouns. Hence, I will refer to their shared system as the Eastern system, and will freely use examples from any of the varieties.

Little theoretical work has been done on Fula syntax, so most of the data come from descriptive grammars, which tend to give only positive grammaticality judgments along with the descriptions. Nonetheless, these grammars do seem to give a good idea of what the different varieties are like.

Because the data come from several sources and several varieties, the orthography may not be consistent from one variety to another. However, I have maintained the original orthography in all cases for sake of simplicity, since the phonetic forms are not as important as their properties.

In addition to the original orthography, I have kept the original translations, even when they are not completely general. For instance, Fula does not make gender distinctions in its pronouns, yet many examples are translated using only the masculine pronoun even when the Fula original is unspecified for gender. Translations from French into English are my own. In short, I have tried to remain as faithful to the original sources as possible.

Turning to the details of the language itself, Fula has a system of noun classes, which range in number from a handful in F, to over 20 in Eastern Fula, M, and PS. However, I will be concerned here primarily with two classes, the third person

singular human class, and the third person singular neutral class. In the absence of a standard classification scheme, I will refer to these two classes as the *o* and *dum* classes, respectively, after the most common class markers for the classes.

While Fula has several types of pronouns, I will focus on just two types, the Object and Complement pronouns, since they provide the best examples of the phenomena in question. Object pronouns are used as direct and indirect objects, while Complement pronouns are used as objects of prepositions, possessors, and in a few other constructions. The forms as they occur in M are given in (3). Modifiers, determiners, and relative pronouns agree in class with their nominal heads, while non-neutral pronouns (including the *o* class pronouns) agree in class with their antecedents. Neutral pronouns (the *dum* class pronouns) do not necessarily agree in class with their antecedents.

(3) *o* and *dum* pronouns in M

	Non-neutral	Neutral
Object	<i>mo</i>	<i>dum</i>
Complement		
word	<i>makko</i>	<i>mum</i>
suffix ³	<i>-ikko</i>	<i>-um</i>

3. Agreement in pronominality: *o* pronouns

Agreement in pronominality is unattested outside of Fula, to the best of my knowledge. In this section I will present arguments supporting the claim that Fula has this unusual type of agreement. In particular, I will show that the *o* pronouns in the M and Eastern varieties of Fula agree in pronominality with elements that they cospecify with.⁴

In all the varieties of Fula studied here, with the exception of F, the *o* pronouns agree in person, number, and noun class with the elements they cospecify with. These types of agreement are uncontroversial and extremely common in the world's languages. An illustrative example is given in (4). The complement pronoun possessor must be an *o* class pronoun in order to agree in person, number, and noun class with the *o* class subject antecedent. Neither the plural class corresponding to the singular *o* class (*be*) nor a singular non-human class (*nge*) is possible with the *o* class subject antecedent.

³ The suffixal form is used with certain human relational terms (e.g., sibling, wife, friend, etc.)

⁴ I would like to thank Joan Bresnan for originally suggesting that the facts in Fula could be an instance of agreement.

(4) *o* pronouns agree in person, number, and noun class (M)

o sottii tamati makko / mabbe / magge
o SUBJ sold tomatoes *o* COMP *be* COMP *nge* COMP
 ‘She_i sold her_i / their_j / its_k tomatoes.’

The *o* pronouns in M and Eastern Fula exhibit an additional restriction on elements that they cospecify with, namely that those elements must be pronouns. Some simple examples from M are given in (5), while more complex examples from Eastern Fula are given in (6). In each example, the *o* pronouns can only cospecify with another *o* pronoun. Since *o* pronouns are pronominals—more precisely, personal pronouns—they can also pick up their reference external to the sentence.⁵

(5) *o* pronouns in Ma. *o* pronoun with pronoun as antecedent

o yi’ii banndiiko debbo
o SUBJ saw sibling-*o* COMP female
 ‘She_i saw her_i / his_k sister.’

b. *o* pronoun with proper name as intended antecedent

Oumar yi’ii banndiiko debbo
 Oumar saw sibling-*o* COMP female
 ‘Oumar_i saw her_k sister.’
 (*‘Oumar_i saw his_i sister.’)

(6) *o* forms in Eastern Fulaa. Object *o* pronoun cospecifying with *o* pronoun (L) [BP:82]

o wi’ii be nodda mo
o SUBJ said 3P call *o* OBJ
 ‘Il a dit qu’on l’appelle (lui ou un autre).’
 [‘He_i said that they are calling him_{ij}’]

b. Object *o* pronoun not cospecifying with non-pronoun (L) [BP:82]

Amadou wi’ii be nodda mo
 Amadou said 3P call *o* OBJ
 ‘Amadou a dit qu’on l’appelle (un autre).’
 [‘Amadou_i said that they are calling him_j.’]

⁵ Culy and Gnalibouly Dicko [1988] were mistaken in excluding sentence external reference when there was a possible sentence internal antecedent in M.

- c. Complement *o* pronoun cospecifying with *o* pronoun (G) [AR: 153]
har mi-hokkii-mo d'arewol maako,
 moreover I-gave-o OBJ receipt *o* COMP
 'Moreover, I gave him his receipt.'
 ['Moreover, I gave him_i his_i receipt.']
- d. Complement *o* pronoun not cospecifying with non-pronoun (L) [BP:81]
baaba Haja noddii yaakabe makko
 father Haja called neighbors *o* COMP
 'Le père de Haja a appelé ses voisins d'un autre que lui.'
 ['Haja's father_i called his_j neighbors.']

There are two arguments that support the claim that the restriction that *o* pronouns place on cospecificational elements is an example of agreement. The first argument is that the restriction is not a binding constraint; and, since binding and agreement are the only two types of restrictions possible, the pronominal restriction must be a type of agreement. To show that the restriction is not a binding condition, we need to show that it holds even when there is no syntactic binding between the pronouns. As the examples in (7) show, this is in fact the case. In each example, the *o* pronoun *mo* is not bound by the intended antecedent. Many more such examples could be given.

- (7) *o* pronouns which are not syntactically bound (M)
- a. *o* pronoun cospecifying with non-binding *o* pronoun
fadde makko warde Oumar yi'ii mo
 before *o* COMP come Oumar saw *o* OBJ
 'Before she_i came, Oumar_j saw her_{i/k}.'
- b. *o* pronoun not cospecifying with non-binding non-*o* pronoun
fadde Anta warde Oumar yi'ii mo
 before Anta come Oumar saw *o* OBJ
 'Before Anta_i came, Oumar_j saw her_k.'
 (*'Before Anta_i came, Oumar_j saw her_k.')

The second argument that pronoun restriction is a type of agreement comes from definitions of what constitutes agreement. Consider the two definitions of agreement in (8).

(8) Definitions of agreement

(A) Lehmann [1988:55]

Constituent B agrees with constituent A (in category C) if and only if the following three conditions hold true:

- a. There is a syntactic or anaphoric relation between A and B .
- b. A belongs to a subcategory c of a grammatical category C , and A 's belonging to c is independent of the nature or presence of B .
- c. c is expressed on B and forms a constituent with it.

(B) Lapointe [1988:79]

Let $\alpha, \beta \in \sigma$ a SS [surface structure] such that α is a lexical or pronominal category, β is a N or a V, and α, β are logically connected. Let α be marked for the morphological features $[F_1, \dots, F_n]$ which are all features of β . Then for each F_i α bears the same value for F_i that β bears.

There is one caveat before we can continue: neither definition completely captures the notion of agreement. Under either definition, any two elements which are in the appropriate relation (syntactic, anaphoric, or logical), and which happen to have the same properties are considered to agree. Thus, in (9), the two instances of “they” agree in pronominality, according to the definitions in (8).

(9) They said they were leaving.

What is missing from the definitions in (8) above is the notion that the agreeing element *must* express the categories/features of its cospecifying elements.

With the incompleteness caveat in mind, we can use either of the definitions of agreement to show that the pronoun restriction of o pronouns is, in fact, a type of agreement. Let's take Lehmann's definition as an example. Applying it to o pronouns, the elements A and B are both o pronouns. The category C is “type of NP”, while c is pronoun (a type of NP). Checking the three clauses of the definition, we have (10), which shows that they are verified.

(10) Verification of clauses of Lehmann's definition of agreement

- a. There is an anaphoric relation between the two pronouns in a sentence.
- b. Each pronoun is a pronoun independent of the other.
- c. B is a pronoun.

By Lehmann's definition, the pronoun restriction of o pronouns is indeed a type of agreement. Applying Lapointe's definition leads to the same result. It seems

then, by this argument and by the preceding argument concerning binding, that we must recognize agreement in pronominality as a type of agreement.⁶

One additional aspect of pronouns in Fula relevant to the present discussion has to do with one type of anaphor. Fula has a periphrastic reflexive formed from the word for “head” followed by a Complement pronoun.⁷ If the Complement pronoun is an *o* pronoun, then the antecedent of the reflexive must also be an *o* pronoun, as shown in (11). Clearly the thing to say about these reflexives is that their agreement properties are determined by the Complement pronoun, and not the noun “head”.

(11) Periphrastic reflexives with *o* pronoun (M)

a. reflexive with *o* antecedent

o *yi'ii hoore maako*
o SUBJ saw head *o* COMP
 ‘He_i saw himself_i.’ or ‘He_i saw his_{ij} head.’

b. *o* reflexive with non-pronoun antecedent

Anta yi'ii hoore maako
 Anta saw head *o* COMP
 ‘Anta_i saw her_j head.’
 (*‘Anta_i saw herself_i.’)

4. Apparent “polarity shift” in agreement as simple agreement

I mentioned above that there are two types of third person singular pronouns that can be used to refer to humans, the *o* class and the *dum* class. Having discussed the *o* class pronouns, we now turn to the *dum* class pronouns.

The first difference between *o* pronouns and *dum* pronouns is that the former show agreement in noun class while the latter do not, as seen in the examples in (12). In (12a) the *dum* pronoun has an *o* class antecedent (*debbo* ‘woman’), and in (12b), the *dum* pronoun has a *ndu* class antecedent (*fowru* ‘hyena’). Note that the *dum* pronouns do agree in person and number with the elements they cospecify with.

⁶ Compare McCloskey’s [1990] analysis of complementizers in Irish, in which complementizers in relative clauses are specified as [+pronominal] or [-pronominal], meaning that they occur with resumptive pronouns (respectively traces). Null operators are similarly specified.

⁷ See Culy [1993] for a treatment of periphrastic reflexives in general.

(12) *dum* pronouns do not agree in noun class (L)a. *o* class antecedent [BP:82]

debbo o'o warii e gorum
 woman *o* DEICTIC came with husband-*dum* COMP
 'This woman_i came with her_i husband.'

b. *ndu* class antecedent [BP:84]

fowru warii nyaami tewu mum
 hyena came are meat *dum* COMP
 'The hyena_i came and ate its_i meat.'

The second difference between *o* pronouns and *dum* pronouns is that where *o* pronouns can cospecify only with other *o* pronouns, *dum* pronouns can cospecify with anything except other (non-*dum*) pronouns, including *o* pronouns. In particular, they can cospecify with any kind of NP headed by a common noun, with proper names, and with other *dum* pronouns, as illustrated in (13).

(13) Cospecificational possibilities of *dum* pronouns (M)a. *dum* pronoun cospecifying with common noun NP

debbo o'o yidi oon jowta dum
 woman *o* DEICTIC wants *o* REF greet *dum* OBJ
 'That woman_i wants him_j to greet her_{i/k}.'

b. *dum* pronoun cospecifying with proper name

Oumar yi'ii bandum debbo
 Oumar saw sibling-*dum* COMP female
 'Oumar_i saw his_j/her_k sister.'

c. *dum* pronoun cospecifying with *dum* pronoun

mi yi'ii dum e gidum
 I saw *dum* OBJ and friend-*dum* COMP
 'I saw her_i and her_{i/k} friend.'

d. *dum* pronoun not cospecifying with *o* pronoun

o yi'ii bandum debbo
 3S saw sibling-*dum* COMP female
 'She_i saw his_k sister.'
 (*'She_i saw her_i sister.')

As with the *o* pronouns, the *dum* pronouns in M are personal pronouns, not reflexives,⁸ since they can have a sentence external antecedent, as seen above.⁹ Following our earlier reasoning, we can see that the *o* pronoun prohibition is not a binding condition, since it obtains even when there is no syntactic binding, as seen in (14).

- (14) Anti-*o* pronoun condition without syntactic binding (M)
- a. *dum* pronoun cospecifying with non-binding non-pronoun
fadde Anta warde Oumar yi'ii dum
 before Anta come Oumar saw *dum* OBJ
 'Before Anta_i came, Oumar_j saw her_{i/k}.'
- b. *dum* pronoun not cospecifying with non-binding non-pronoun
fadde makko warde Oumar yi'ii dum
 before *o* COMP come Oumar saw *dum* OBJ
 'Before she_i came, Oumar_j saw her_k.'
 (*'Before she_i came, Oumar_j saw her_i.'

Potsdam [1995] argues that syntactic binding (c-command) is relevant to the anti-*o* condition, and cites the example in (15) from PS as evidence.

- (15) *dum* pronoun not bound by intended, non c-commanding, antecedent in PS
 [Potsdam 1995:177]

**sehil Beeto noddii dum*
 friend Beeto call *dum* OBJ
 ('Beeto's friend called him.')

Two points are relevant here. First, if the *dum* pronouns are anaphors as they are in Eastern Fula (see below) but unlike those in M, then Potsdam is correct in saying that (15) is ungrammatical as the consequence of a syntactic condition: the pronoun is not bound by the intended antecedent. This explanation is valid, whatever the nature of the anti-*o* condition, and hence does not alone tell us anything about the nature of the anti-*o* condition.¹⁰ We can also point out similar examples in M (16), where it is possible for an unbound *dum* pronoun to cospecify with a non-pronoun.

⁸ Periphrastic reflexives with the *dum* pronouns are also possible, and as with the periphrastic reflexives with the *o* pronouns, the agreement properties of the reflexive derive from those of the embedded Complement pronoun.

⁹ As noted above, Culy and Gnalibouly Dicko [1988] were mistaken in excluding sentence external reference when there was a possible sentence internal antecedent in M.

¹⁰ It will in fact be discussed in more detail in the section on PS.

(16) *dum* pronoun not bound by intended antecedent (M)

njiimi Aissata buri bomi mum
 singing Aissata surpasses dancing *dum* COMP
 ‘Aissata_i’s singing is better than her_{ij} dancing.’

Given this contrast between M and PS, it seems likely that the place to look for an explanation is the binding conditions on the *dum* pronouns in the two varieties, and not in the anti-*o* condition, which is the same in both varieties.¹¹

Second, Potsdam gives other examples in which syntactic binding (c-command) is not relevant (e.g., in coordinated clauses), but dismisses such cases as “peripheral to the grammar”. The discussion here will show how they can be integrated into the grammar and not relegated to the periphery.

Returning to the the nature of the *o* pronoun prohibition, since it is not a binding condition, it would seem to have to be a type of agreement, by parity with our reasoning about the *o* pronouns. What we would seem to have to say is that the *dum* pronouns exhibit a type of “polarity shift”, selecting for non-pronouns even though they are pronouns themselves.

While this might be possible,¹² it is needlessly complex. We can account for all the facts by simply recalling that *o* pronouns must agree in noun class with elements that they cospecify with, and that the *dum* pronouns belong to a different class.¹³ This observation correctly predicts that *o* and *dum* pronouns can never cospecify. This is illustrated in (14b) above, and again in (17).

(17) Impossibility of co-specification of *o* and *dum* pronouns (M)a. *o* pronoun not cospecifying with *dum* pronoun

mi yi’ii mo e gidum
 I saw *o* OBJ and friend-*dum* COMP
 ‘I saw her_i and her_k friend.’

But compare: a'. *o* pronoun cospecifying with another *o* pronoun

mi yi’ii mo e qidiiko
 I saw *o* OBJ and friend-*o* COMP
 ‘I saw him_i and his_{ik} friend.’

¹¹See also Culy [1991] for discussion of the binding conditions of *dum* pronouns in Eastern Fula.

¹²Compare Ferguson and Barlow [1988], citing Speiser [1938] and Pullum [1984] for other types of polarity shift.

¹³While *dum* pronouns don’t agree in noun class (they can cospecify with nouns from any (singular) class, not just the *o* class), this does not allow them to cospecify with *o* pronouns, since it is the specification of the *o* pronouns that prevents them from cospecifying with the *dum* pronouns.

b. *dum* pronoun not cospecifying with *o* pronoun

mi yi'ii dum e gid'iiko

I saw *dum*.OBJ and friend-*o* COMP

'I saw him_i and his_k friend.'

But compare: b'. *dum* pronoun cospecifying with another *dum* pronoun

mi yi'ii dum e gidum

I saw *dum* OBJ and friend-*dum*COMP

'I saw her_i and her_{i/k} friend.'

It turns out that in Eastern Fula the *dum* forms are anaphors, requiring an antecedent in the same sentence.¹⁴ However, the *dum* forms still cannot cospecify with *o* pronouns. According to the analysis here, this is not surprising, since it is the agreement properties of the *o* pronouns which block the cospecification, and it has nothing to do with the binding properties of either type of pronoun.

An alternative view of these facts in G (one of the Eastern Fula varieties) has been sketched by Koopman and Sportiche [1989: fn. 2]. They propose that *dum* pronouns are bound pronouns, "bound to a c-commanding referential NP, a QP, or a *wh*-phrase," and *o* pronouns are referential pronouns. On this account, *dum* pronouns cannot be bound by *o* pronouns since *dum* pronouns are logical variables and *o* pronouns cannot bind logical variables. On the other hand, *o* pronouns "can only be coreferential with other NPs, and in particular, they must be *dum*-pronoun free, since these pronouns are not referential."

Potsdam [1995] argues against this type of analysis for PS, showing that it makes incorrect predictions with respect to variable binding. It seems likely that his arguments would carry over into Eastern Fula, though I do not have the relevant data. However, even if Koopman and Sportiche's analysis can be maintained for Eastern Fula, it is not adequate in general. In particular, it is lacking in two areas. One problem with the analysis is that it does not account for the restrictions in non-binding situations. For example, in (18), the *o* and *dum* pronouns cannot cospecify, even though neither binds the other in Koopman and Sportiche's terms.¹⁵

¹⁴ See Culy [1991] for a more detailed discussion of the binding conditions of the *dum* forms in Eastern Fula.

¹⁵ Even if Culy [1991] is correct in claiming that *dum* in (18) is in fact bound, Koopman and Sportiche's analysis still does not extend to the M variety.

(18) Agreement in pronominality in non-bound coindexing (L) [BP:83]

si boosaaruɲatti mo mbaree dum
 if dog bit o OBJ kill *dum* OBJ
 ‘Si le chien l’a mordu, tuez-le!’
 [‘If the dog_i has bitten him_j, kill it_i!’]
 [*‘If the dog has bitten him_i, kill him_i!’]

The other problem of the analysis is that it does not extend to M. In M, the *dum* pronouns are not bound pronouns, as we have seen—that is a difference between Eastern Fula and M. An approach along the lines of that in Koopman and Sportiche would have to have a completely different solution to the similar facts in M. This same criticism applies to the pragmatic analysis of PS found in Potsdam [1995], which also relies on the *dum* pronouns having to have antecedents in the sentence. On the other hand, the analysis presented here in terms of agreement in noun class of the *o* pronouns accounts easily for both the Eastern Fula and the M systems. A summary of the *o* and *dum* pronouns in M and Eastern Fula is given in (19). In short, the *o* pronouns show agreement in person, number, noun class and pronominality, while the *dum* pronouns show agreement in person and number only.

(19) Summary of the *o* and *dum* pronouns in M and Eastern Fula

	Type of pronoun		Agreement
<i>o</i>	personal		person, number, noun class, pronominality
<i>dum</i>	M:	personal	person, number
	Eastern:	reflexive	person, number

I have come across just three possible exceptions to the characterization of the lack of cospecification between *o* and *dum* pronouns as being a consequence of their belonging to different noun classes. In particular, there are three examples where an *o* pronoun seemingly cospecifies with a *dum* pronoun. All three of the examples come from Eastern Fula.

The first two puzzling examples are from L, given in (20).

(20) *o* pronouns cospecifying with a *dum* pronoun

a. Argument anaphor [BP:79]

Sambo wi’ii o waran hoorem
 Sambo said o SUBJ kill head-*dum* COMP
 ‘Sambo a dit qu’il va se suicider.’
 [‘Sambo_i said that he_i will kill himself_i (commit suicide).’]

b. Emphatic anaphor [BP:79]

Sambo wi'ii o waran e hoore mum

Sambo said o SUBJ come and head *dum* COMP

'Sambo a dit qu'il viendra lui-même.'

['Sambo_i said that he_i will come himself_i.']

In both cases, there seems to be a subject *o* pronoun cospecifying with a non-pronoun and a *dum* pronoun. Bidaud and Prost [1982] explicitly state that this situation is impossible, yet provide these examples. Without more information, it is difficult to know what to make of them.

The third puzzling example is from A [Stennes 1967:182], given in (21). This sentence was uttered when "[t]he storyteller has told one story about a man and his wife now begins to tell a similar one" [ST:182]. Again, without additional information, it is impossible to say anything further about this example.

(21) *o* pronoun cospecifying with *dum* pronoun

tóo 'óo-boo ñònnón bee-débbo mùudum

well o SUBJ-too in-the-same-way with-wife *dum* COMP

'Well, he_i too in the same way with his_i wife.'

5. Domain of agreement

It is well known that strictly formal aspects of agreement are often superceded by semantically motivated agreement, especially as the distance between the agreeing element and the target increases. An example from German is given in (22). Either a neuter pronoun (*es*) can be used agreeing with the formal class of the antecedent (*Mädchen* 'girl'), or a feminine pronoun can be used agreeing with the semantic class of the antecedent. The further the pronoun is from the antecedent, the more likely it is to agree with the antecedent in semantic class rather than formal class.

(22) Semantic agreement superceding formal agreement in German
[Lehmann 1982:234]

Der Professor fragte nach dem Mädchen,
the professor asked for the girl-NEUT

aberniemand hatte es/sie gesehen
but nobody had 3S NEUT/FEM seen

'The professor asked for the girl, but nobody had seen her.'

A similar phenomenon occurs in Fula with respect to the agreement in pronominality. In M and Eastern Fula, the *o* pronouns can be used to refer to a common noun-headed phrase in another sentence, as illustrated in (23).

(23) Lack of agreement in pronominality across sentential boundaries (M)

A: *a yi'ii Oumar?*
 2S SUBJ saw Oumar
 'Have you seen Oumar_i?'

B: *mi yi'ii mo*
 1S SUBJ saw *o* OBJ
 'I saw him_i.'

Furthermore, in Eastern Fula (but not in M, compare (7)), agreement in pronominality does not hold across finite clause boundaries, as shown by the examples in (24). In each case, an *o* pronoun cospecifics with a non-pronoun outside the finite clause minimally containing the pronoun.

(24) Lack of agreement in pronominality across finite clause boundaries (Eastern Fula)

a. *o* Object (A) [EA:122]

Lauwal neli dou Lamdo Mandara, umri mo tokkago dum
 Lauwal sent to chief Mandara ordered *o* OBJ follow 3S
 'Lauwal_i sent to the Chief of the Mandara_j, and ordered him_j to follow him_i.'

b. *o* Object (G) [AR:158]

sey 'alkaali -noddi bidfo 'arano -'yami-mo -wi'i
 then judge called child first asked-*o* OBJ said
 'Then the judge called the first child and asked him and said.'

c. *o* Complement (G) [AR:159]

nasaaraajo goddo -wi'i -yidi leebura'en njowo ngara
 European some said wanted carriers five come

-ndonndanoo-mo kare maako
 carry BEN-*o* OBJ loads *o* COMP

'Some European said he wanted five carriers to come and carry his loads for him.'

d. *o* Complement (A) [EA: 44]

nelaḍo wi'aLamiḍo Lauwal warugo mako ha Demsa waḍatako
 messenger tell Lamiḍo Lauwal coming *o* COMP to Demsa happen.NEG
 '...[told] the messenger to tell Lamiḍo Lauwal that it would be impossible
 for him to come to Demsa.'
 [i.e., '... [told] the messenger to tell L.L._i that his_i coming to Demsa
 wouldn't happen.']

In contrast to agreement in pronominality, which is clause or sentence bounded, agreement in noun class seems to hold no matter how distant the two agreeing elements are. In particular, *o* pronouns cannot cospecify with *dum* forms, even across sentence boundaries, as the examples in (25-26) illustrate.

(25) Agreement in noun class across sentential boundaries (M)

A: *a yi'ii mo_i?*
 2S SUBJ saw *o* OBJ
 'Have you seen her_i?'
 B: *mi yi'ii mo_i*
 1S SUBJ saw *o* OBJ
 'I saw her_i.'

(26) Lack of cospecification between *o* pronouns and *dum* pronouns across sentence boundaries (M)

a.
 A: *a yi'ii dum_i?*
 2S SUBJ saw *dum* OBJ
 'Have you seen her_i?'
 B: *mi yi'ii mo_j*
 1S SUBJ saw *o* OBJ
 'I saw her_j.'
 (*'I saw her_i.'

b.
 A: *a yi'ii mo_i?*
 2S SUBJ saw *o* OBJ?
 'Have you seen her_i?'
 B: *mi yi'ii dum_j*
 1S SUBJ saw *dum* OBJ
 'I saw her_j.'
 (*'I saw her_i.'

In short, agreement in person, number, and noun class always seems to hold, while agreement in pronominality is restricted to a local domain, as shown in (27).

(27) Domains for agreement in pronominality

	Domain
M	sentence
Eastern Fula	finite clause

6. Two uncommon pronouns, and a loss

In this section we will look at three western varieties of Fula, all of which differ significantly from M and Eastern Fula. In all cases, the data are far from complete, so what I will do is give the generalizations that seem to hold based on the available data, with the caveat that these generalizations are tentative.

6.1. Logical variables in PM. In PM, the Object and Complement *o* pronouns agree in person, number, and noun class only, not pronominality, as the examples in (28) illustrate. In particular, *o* pronouns can have non-pronominal antecedents as in (28b,d,e).

(28) Noun class agreement with *o* pronoun (PM)

- a. Object *o* pronoun coindexed with *o* pronoun

omo anndi nde Mayram yii mo
o LONG knows that Mayram saw *o* OBJ
 ‘She_i knows that Mayram_j saw her_{i/k}.’

- b. Object *o* pronoun coindexed with non- *o* pronoun

Oumar ana anndi nde Mayram yii mo
 Oumar AUX knows that Mayram saw *o* OBJ
 ‘Oumar_i knows that Mayram_j saw him_{i/k}.’

- c. Complement *o* pronoun coindexed with *o* pronoun

o yii baniiko debbo
o SUBJ saw sibling-*o* COMP woman
 ‘She_i saw her_{i/j} sister.’

- d. Complement *o* pronoun coindexed with non-*o* pronoun

Oumar yii baniiko debbo
 Oumar saw sibling-*o* COMP woman
 ‘Oumar_i saw his_{i/j} sister.’

- e. Complement *o* pronoun coindexed with non-*o* pronoun

debbo o wadi horde nde saare makko
 woman *o* DEM placed bowl *nde* DEM side *o* COMP
 ‘The woman_i placed the bowl next to her_{i/j}.’

The Complement *dum* pronouns are more interesting.¹⁶ They seem to have to cospecify with a quantified NP or an interrogative phrase, as seen in (29).¹⁷ In other words, the *dum* forms seem to be acting as logical variables.¹⁸ The PM Complement *dum* forms may thus behave as Koopman and Sportiche [1989] claimed the *dum* forms in G (and by extension, Eastern Fula) do.

(29) Complement *dum* pronouns as logical variables (PM)

a. Quantified NP antecedent

gorko fuf yii banum debbo
 man every saw sibling-*dum* COMP woman
 'Every man_i saw his_i sister.'

b. Negative NP antecedent

hay gooto yiayni banum debbo
 even one saw NEG sibling-*dum* COMP woman
 'Nobody_i saw her_i sister.'

c. Interrogative phrase antecedent

hol jir banum debbo?
 who saw sibling-*dum* COMP woman
 'Who_i saw her_i sister?'

There are three approaches we could take in trying to account for this behavior of the *dum* pronouns. One approach would be to make the behavior part of the syntactic binding properties of the pronouns. We have already seen, however, that the type of NP a pronoun can be coindexed with is independent of its syntactic binding properties. Binding is about which NP positions can be related, not the types of NP that can bind a pronoun. The binding approach thus seems inappropriate.

The second approach we could take would be to connect the behavior with the agreement properties of the *dum* pronouns. The advantage of this approach is that it might let us draw a parallel with other Fula dialects. Since quantified phrases are

¹⁶ I do not have any data on Object *dum* forms in PM.

¹⁷ The *o* Complement pronoun is also possible in all the examples in (29), but the difference in meaning between the two alternatives is unclear.

¹⁸ Note that this is distinct from being a "bound variable", since non-quantified NPs can give rise to bound variable interpretations. For example, (i) has a reading on which Pat and Lee each likes her own mother. A rough logical representation of this reading showing the behavior of "her" as a logical variable is given in (ii). See Sells *et al.* [1987] and elsewhere for detailed discussion.

i. Pat likes her mother and Lee does too.

ii. λx (x likes x's mother) Pat & λx (x likes x's mother) Lee

necessarily headed by a noun, the PM *dum* pronouns can be seen as having more restrictive agreement properties than their counterparts in M and Eastern Fula. The problem with this approach is that it is not clear what property quantifiers might have, distinct from the properties of names and other non-quantified NPs (cf. (28)) that they could share with the *dum* forms.

The third approach we could take would be to posit a different semantic interpretation of *dum* pronouns (namely, as logical variables) from that posited for other pronouns. The problem with this approach is that it is not clear how it might be done in a non-arbitrary way within the theoretical frameworks currently available.¹⁹

Determination of the proper analysis will have to await further data. However, there is one final example from PM that shows that the analysis must be a semantic one, not a strictly syntactic one. Consider the example in (30). Even though there is no overt quantifier, the NP *jahoowo sinema* acts like a quantified phrase (in this case a generic one), as can be seen by its serving as the antecedent for the Complement *dum* pronoun later in the sentence.

(30) Semantic nature of selection in PM (from an unidentified journal)

jahoowo sinema yoo reen jiifa mum
 goer cinema should guard sang-froid *dum* COMP
 ‘Celui qui va au cinéma doit garder son sang-froid.’
 ‘One_i who goes to the cinema should keep his/her_i sang-froid.’
 (lit. ‘a cinema goer_i should keep his/her_i sang-froid’)

We can summarize the pronouns in PM as in the chart in (31).

(31) *o* and *dum* pronouns in PM

<i>Pronoun</i>	<i>Agreement and selection</i>
All <i>o</i> pronouns	person, number, noun class
Object <i>dum</i>	??
Complement <i>dum</i>	person, number, Quantified phrase

6.2. Definite pronouns in PS. The PS variety of Fula has a pronoun with a clearer type of agreement. PS is also the only variety in which Complement and Object pronouns have different agreement properties.²⁰

Let’s start with the easiest pronouns. The *dum* Complement pronouns pattern as in M and Eastern Fula, taking only non-pronominal antecedents as in (32a-b) (see

¹⁹ But compare Koopman and Sportiche [1989] for an attempt to incorporate a similar property.

²⁰ Recall that we simply had no data for Object *dum* pronouns in PM.

Sylla [1982:189-190], Potsdam [1995:169]). The data on *dum* Object pronouns is consistent with their having only non-pronominal antecedents too (32a-c), but the evidence is not completely conclusive. As before, these facts will follow from the noun class agreement of the *o* pronouns.

(32) *dum* Complement and Object pronouns with non-pronoun antecedent (PS)

a. Sylla [1980:183]

Pennda yahat bayri giyîraabe mum curaani dum
 Pennda leave because companions *dum* COMP didn't invite *dum* OBJ
 'Penda partira puisque ses camarades ne l'ont pas retenue.'
 ['Penda_i will leave because her_i companions didn't invite her_i.']

b. Potsdam [1995:169]

* *mi wii mo ada yidii dum*
 I tell *o* COMP you like *dum*.COMP
 ('I told him_i you like him_i.')

c. Sylla [1982:153]

o rokki kodo o kosam o rokki dum kaalis
o SUBJ gave guest *o*.DEM milk *o* SUBJ gave *dum* OBJ money
 'Il donne à l'hôte_i du riz [sic: lait] et lui_i donne de l'argent.'
 ['He gave the guest_i some milk and gave him_i some money.']

Next, the *o* Complement pronouns have local pronominal agreement just as in Eastern Fula, as seen in (33). We should note that the difference in pronouns between (32a) and (33b) is due to their binding requirements. The *dum* forms are anaphors (as in Eastern Fula) while the *o* forms are personal pronouns. Thus, in (32a), the *dum* forms are bound, while in (33) the *o* forms are not.

(33) *o* Complement pronouns (PS)

a. Complement pronoun coindexed with local pronoun [SL2:148]

o yiitii feggere makko
o SUBJ found ring *o* COMP
 'Il_i a retrouvé sa_i bague.'
 ['He_i found his_i ring']

b. Complement pronoun coindexed with non-local non-pronoun (PS) [SL:183]

bayri giyîraabe makko curaani mo Pennda yahat
 because companions *o* COMP didn't invite *o* OBJ Pennda leave
 'Puisque ses camarades ne l'ont pas invitée, Penda doit s'en aller.'
 ['Because her_i companions didn't invite her_i; Penda_i should leave.']

One unexplained counterexample involves a fronted emphatic reflexive with only the *o* pronoun cospecifying with a non-pronoun, as in (34a). When the reflexive is not fronted, then the usual pattern re-emerges, with only the *dum* pronoun cospecifying with the non-pronoun, as in (34b).

34) a. Complement *o* pronoun cospecifying with non-pronoun [SL2:174]

*ko hoore makko / *mum Mammadu fuunti*
 emphatic head *o* Comp *dum* Comp Mamadou trick
 ‘Mamadou s’est trompé lui-même’
 [‘Mamadou_i tricked himself_i.’]

b. [SL2:174]

Mammadu fuunti hoore makkoo / mum
 Mamadou trick head *o* Comp *dum* Comp
 ‘Mamadou s’est trompé lui-même’
 [‘Mamadou_i tricked himself_i.’]

Now for the new type of agreement. Sylla [1980] describes the *o* Object pronoun as being coindexed only with names and definitely marked NPs of the same class, as in (35a). Further examples from Sylla [1982] and Sylla [1993] show that *o* Object pronouns can be coindexed with other *o* pronouns, too, as in (33b) and (35b).²¹ This class of NPs can be called the Definite NPs (cf. Reuland and ter Meulen [1987]). Since the *o* Object pronouns are themselves members of the class of Definite NPs, we can say that they must agree in definiteness (in addition to person, number, and noun class) with the elements they cospecify with. Since *o* pronouns always agree in noun class, they cannot cospecify with *dum* pronouns, just as in the other varieties.

(35) *o* Object pronouns

a. Coindexed with name [SL2:164]

suudo Demmba so a yiy mo
 hide Demba if you see *o* OBJ
 ‘Cache-toi de Demba_i si tu le_i vois!’
 [‘Hide from Demba_i if you see him_i!’]

b. Coindexed with *o* pronoun [SL2:207]

fiy mo kaalnaa mo goonga
 hit *o* OBJ make say *o* OBJ truth
 ‘Frappe-le_i pour lui_i faire dire la vérité.’
 [‘Hit him_i to make him_i tell the truth.’]

²¹ He does not give examples of coindexing, or lack thereof, with quantified/*wh*- phrases.

We can summarize the PS Object and Complement pronouns as in (36).

(36) Summary of PS Object and Complement Pronouns

<i>Pronoun</i>	<i>Agreement</i>
Object <i>o</i>	person, number, noun class, definiteness
Complement <i>o</i>	person, number, noun class, pronominality (local)
Object <i>dum</i>	person, number
Complement <i>dum</i>	person, number

It is by far the most complex system of the Fula varieties. Interestingly enough, while PM has restricted the types of possible antecedents of the *dum* Object pronouns (compared to M and Eastern Fula), they both have expanded the class of possible antecedents of the *o* Object pronouns (again, compared to M and Eastern Fula), with PM requiring only agreement in person, number, and noun class.

It is also worth noting that this analysis accounts grammatically for a contrast noted by Potsdam [1995], repeated here in (37). What is interesting about these examples is that in (37a) an *o* pronoun cospecifies with a non-pronoun, which he claims should be impossible (p. 169), and the *dum* form, which can cospecify with non-pronouns, is not possible.

(37) Object and Complement Pronouns in PS [Potsdam 1995:177]

a. Object pronouns

*sehil Beeto noddii mo / *dum*
 friend Beeto call *o* OBJ *dum* OBJ
 'Beeto_i's friend called him_i.'

b. Complement pronouns

*Beeto noddii sehil *makko / mum*
 Beeto call friend *o* COMP *dum* COMP
 'Beeto_i called his_i friend.'

To account for this apparent anomaly, Potsdam appeals to pragmatics. He claims that *dum* forms must be c-commanded by their antecedents (as in (37b), which is what blocks the *dum* form in (37a). *o* forms are used when *dum* forms are blocked, on his account, which explains why the *o* form is allowed in (36a), but not in (37b), where the *dum* form is possible. However, we can see that no such appeal to pragmatics is necessary. The difference between (37a) and (37b) has to do with the properties of Object versus Complement pronouns. We have seen that Object *o* pronouns agree in definiteness, not pronominality, contrary to Potsdam's claim. This explains why the *o* form is allowed in (37a). Complement *o* forms do agree in pronominality, which is why the *o* form is impossible in (37b). One point of agreement between the two analyses is that the *dum* form is blocked in (37a) due

to its binding conditions. In sum, independently motivated properties of the *o* forms explain the contrast in (37a-b) without any appeal to pragmatics.

6.3. A loss in Firdu (F). To round out the comparison of dialects, we should consider F. Its system is very different from the other varieties, in that it has completely lost the Complement *o* forms, and the Object *o* forms are rare. The *dum* forms are still neutral, and can cospecificity with non-*o* class nouns as well. The *dum* forms thus agree just in person and number. Some examples from F are in (38).

(38) *dum* pronouns in F

a. Object pronoun coindexed with pronoun [GA:43]

inna mun lamdi dum
 mother *dum* COMP asked *dum* OBJ
 ‘Her mother asked her.’

b. Object pronoun coindexed with non-pronoun [GA:34]

fowru nangi maamayel, iiri dum to loope
 hyena seized Little Grandmother buried *dum* OBJ in mud
 ‘Hyena seized Little Grandmother, and buried her in the mud.’

c. Complement pronoun coindexed with pronoun [GA:99]

di darii heede panye goro muudum
 ASP stand direction basket kola nut *dum* COMP
 ‘He is standing beside his basket of kola nuts.’

d. Complement pronoun coindexed with non-pronoun [GA:104]

dana o, doode wakkade gididi muudum wi dumen
 hunter the before shouldered gun *dum* COMP said 3P
 ‘The hunter, before he shouldered his gun, said to them...’

e. Complement pronoun coindexed with non-*o* class noun [GA:34]

fowrual di fiia tamayel muudum to naale
 hyena AUX beat little drum *dum* COMP at dancing place
 ‘Hyena; was beating his; little drum at the dancing place’

7. Conclusion

In this paper we have seen several types of agreement in the pronouns in the different varieties of Fula. The charts in (39) summarize the different types of agreement.

(39) Types of agreement in Fula

a. Agreement by variety

	per	N ^o	Nc	pro	def	Q
M <i>o</i>	✓	✓	✓	✓(sd)		
M <i>dum</i>	✓	✓				
Eastern <i>o</i>	✓	✓	✓	✓(fd)		
Eastern <i>dum</i>	✓	✓				
PM <i>o</i>	✓	✓	✓			
PM Object <i>dum</i>	?	?	?	?	?	?
PM Complement <i>dum</i>	✓	✓				✓
PS Object <i>o</i>	✓	✓	✓		✓	
PS Complement <i>o</i>	✓	✓	✓	✓(fd)		
PS <i>dum</i>	✓	✓				
F (only <i>dum</i> exists)	✓	✓				

per=person, N^o=number, Nc=noun class, pro=pronominality def=definiteness, Q=quantified phrase, sd=sentence domain only, fd=finite domain only

b. Agreement of *o* pronouns

	per	N ^o	Nc	pro	def
M	✓	✓	✓	✓(sd)	
Eastern	✓	✓	✓	✓(fd)	
PM	✓	✓	✓		
PS Object	✓	✓	✓		✓
PS Complement	✓	✓	✓	✓(fd)	

c. Agreement of *dum* pronouns

	per	N ^o	Q
M	✓	✓	
Eastern	✓	✓	
PM Object	?	?	?
PM Complement	✓	✓	✓
PS	✓	✓	
F	✓	✓	

These facts in Fula have several consequences for theories of agreement. The first consequence is that a hitherto unacknowledged type of agreement must be admitted, namely agreement in pronominality. As can be seen from the chart in (39b) above, this type of agreement is extremely robust in Fula, occurring in three out of the four varieties which have *o* pronouns.

The second consequence for theories of agreement is that the Fula facts reinforce the idea that agreement of pronouns with their antecedents is largely semantic, rather than syntactic. In particular, the phenomena of selection for a quantified phrase in PM and of agreement in definiteness PS are certainly semantic in nature, and agreement in pronominality is at least arguably semantic as well. The notion of semantic agreement is not new,²² but Fula provides good supporting evidence for it.

The third consequence for theories of agreement is that the notion of domain of agreement needs to be more tightly incorporated into these theories. It is generally acknowledged that agreement can vary by domain, as in fact we saw with agreement in pronominality, which is limited to sentences in M, and to finite clauses in Eastern Fula and PS. However, little has been done to account for this variation by domain.

Finally, we can speculate about the history of the pronominal systems in Fula. Given the pervasiveness of agreement in pronominality, it is likely that it existed in earlier stages of Fula, in which the varieties were more homogeneous, rather than being an independent innovation in the contemporary varieties. Further support for this position comes from the patterns of agreement in the western varieties of Fula. PM, PS, and F are the least conservative morphologically, and show the least amount of agreement in pronominality: none in PM and F, and only in the *o* Complement pronouns in PS. This evidence for agreement in pronominality in an earlier stage of Fula points again to the robustness of this otherwise unusual phenomenon.

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²² Compare, for example, Pollard and Sag [1994], chapter 2 and the references therein.

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