Definiteness as Agreement: Evidence from Bulgarian

Todor Koev
Rutgers University

1. Introduction: Core data and generalizations

In the following paper I will address the nature and distribution of the definiteness marker (DEF) in the Bulgarian DP. It will be argued that DEF is an inflectional suffix whose flexible distribution in the DP is due to what I call ‘definiteness agreement’. Definiteness agreement is that part of the overall phi agreement in the DP which takes place between the D head and the highest/closest phi-agreeing element.

The main puzzle about DEF in Bulgarian is its varied distribution within the DP. (1), below, illustrates the main options for its occurrence. We observe that if only a noun is present in the DP, DEF attaches to it (1a). If an adjectival modifier (possibly preceded by a degree adverb or followed by a PP complement) precedes the noun, DEF shows up on the adjective (1b), (1c), (1d). If a numeral precedes the adjective, we find DEF on the numeral (1e). Finally, if the noun is only accompanied by a PP complement, DEF attaches to the noun (1f). All other options for the occurrence of DEF in these data are ungrammatical.

(1) a. momč-e-to
   boy-NEUT-DEF.NEUT
   ‘the boy’

   b. xubav-a-ta žen-a
      pretty-FEM-DEF.FEM woman-FEM
      ‘the pretty woman’

   c. [silno vpečatlen-a-ta] žen-a
      strongly impressed-FEM-DEF.FEM woman-FEM
      ‘the strongly impressed woman’

   d. [gord-a-ta [ot məž-a si]] žen-a
      proud-FEM-DEF.FEM of husband.MASC-DEF.MASC her woman-FEM
      ‘the woman who is proud of her husband’

   e. tret-a-ta nov-a knig-a
      third-FEM-DEF.FEM new-FEM book-FEM
      ‘the third new book’

   f. motor-ot [na Ivan]
      motorcycle.MASC-DEF.MASC of Ivan
      ‘Ivan’s motorcycle’

* I would like to warmly thank Jane Grimshaw for supervising the research on the following paper, and Daniel Altshuler, Mark Baker, William Bennett, Aaron Braver, Benjamin Bruening, José Camacho, Veneeta Dayal, Viviane Déprez, Vera Dvorakova, Paula Houghton, Carlo Linares, Roger Schwarzschild, Teresa Torres, and Roberto Zamparelli for their valuable input.

There are two empirical generalizations that can be gleaned from these data. First, we see that DEF has only a single occurrence in the DP. Also, one can observe that DEF attaches to the leftmost phi-agreeing element in the DP. Although we will encounter exceptions to these generalizations in the course of the paper, they are good enough to get us started with the theoretical account.

2. The agreement account

There are three independent facts or assumptions that point towards the account I will be arguing for. First, as seen in section 1, the distribution of DEF involves some notion of leftmostness in the DP. We know that DEF attaches to the leftmost phi-agreeing element in the DP, i.e., to the phi-agreeing element that is closest to the D head. Also, for reasons of interpretation we require that DEF stems from the D head. Finally, we know that one relation that independently holds between D⁰ and the leftmost phi-agreeing element is that of phi agreement. Putting these three ideas together, I claim that DEF is the overt reflex of phi features agreement between D⁰ and the highest nominal modifier. I call this the ‘agreement account’ of DEF.

I assume that DP-internal agreement results from multiple instances of Agree involving different probes and applying subsequently as structure is built in a bottom-up fashion. As an illustration, take a DP that only has a noun and a definitely marked adjective in it; its derivation can be schematically represented as in (2) below. First, the noun with its phi features is introduced from the numeration. Next, the adjective is merged with the noun. An agree relation is established between the two, resulting in the adjective acquiring the nominal’s phi features. In the step that follows, the D head is merged into the structure. There is then a second instance of Agree, one between D⁰ and the adjective. As a result, those two elements share their features, i.e., D⁰ acquires the phi features of the adjective and the adjective obtains the [def] feature of D⁰.

(2) a. NP[phi] introduction of NP with its phi features
b. AP[ ] NP[phi] merging of AP
c. AP[ ] NP[phi] first application of Agree
d. AP[phi] NP[phi] first feature sharing

The [def] feature will be pronounced as the definiteness marker DEF on the adjective while it will get interpreted on the D head. I call this final part of the DP-internal phi agreement ‘definiteness agreement’. I claim that the flexible distribution of DEF in the Bulgarian DP is contingent upon definiteness agreement, i.e., the last instance of DP-internal phi agreement between D⁰ and the closest phi-featured XP.

Next, I specify the general conditions on Agree. Chomsky (2000)/(2001) defines Agree as a relation between a functional head F (a probe) and a maximal projection XP (a goal) such that F and XP have the same features (‘matching features condition’), F c-commands XP (‘c-command condition’), no potential goal YP intervenes between F and XP (‘intervention condition’), F and XP are contained in the same phase (‘phase condition’), and XP is made active for agreement by having an unchecked case feature (‘activity condition’). Baker (2008) modifies these conditions in various ways. He rejects the matching features condition with the consideration that, if we were free to stipulate how many unvalued feature slots a probe has, the systematic differences between the agreement patterns of verbs, adjectives, and nouns across languages would remain unexplained. Instead, Baker assumes that probes agree with

---

1 Here and below, newly obtained features through Agree are marked in bold.
2 The exact formulations and the names of these conditions are adopted from Baker (2008).
whatever features they find in their environment. Since predicative adjectives as probes agree with their nominal subjects as goals, Baker also modifies the c-command condition to allow probes to look upwards for a c-commanding goal. This implies a change in the intervention condition, which should be enlarged to account for intereners of upward probing. I will apply two further changes to the conditions on Agree. First, I loosen the c-command condition by allowing not just the head of the probe but rather any projection of it to c-command the goal. This change is required since prenominal modifiers are probes for downward agreement while at the same time they are specifiers, not heads. Also, a new ‘phi features condition’ is introduced requiring that goals have phi features on them. This condition prevents vacuous agreement between a probe and an intervening non-phi-featured projection available to the probe before the goal is available. The final set of conditions on Agree is listed in (3).

(3) **Agree**

- **Agrees** with XP (a goal) if:
  - *(c-command condition)* a projection of F c-commands XP or XP c-commands F;
  - *(phi features condition)* XP has phi features on it;
  - *(intervention condition)* there is no intervener YP for F and XP;
  - *(phase condition)* F and XP are contained in the same phase;
  - *(activity condition)* XP is made active for agreement by having an unchecked case feature.

The notion of an interener for a probe and a goal is defined by requiring that the interener has phi features on it and also asymmetrically c-commands the goal (see section 4.2 for motivation).

I demonstrate the workings of the agreement account using the fairly complex structure in (4), which involves a definitely marked adjective sandwiched between a preceding adverbial modifier and a following PP complement, both in a prenominal position.

(4) *silno vpečatlen-a-ta ot Ivan žen-a*

*strongly impressed-FEM-DEF.FEM  by Ivan woman-FEM*

‘the woman which was strongly impressed by Ivan’

The core steps in the derivation of (4) are illustrated in (5). The derivation of (4) starts out with the introduction of the nominal phrase and its phi features, the origin of the phi features found throughout the DP. Building on Baker (2008), I adopt the idea that all lexical categories are ‘wrapped up’ in a functional projection FP with F0 being the locus of agreement. Thus, F_{N} agrees with NP and obtains its phi features (5a). Observe that the configuration between probe and goal satisfies all the conditions on Agree in (3): a projection of the probe c-commands the goal; the goal has phi features on it; there is no interener for the goal; the probe and the goal are contained in the same phase; and NP is active for agreement (not explicitly indicated here). Since F_{N} heads F_{NP}, the newly obtained phi features are projected to F_{NP} (5b). Notice that since no phi features are found on the closest projections c-commanding or c-commanded by F_{A} (DegP or AP), by the phi features condition agreement between F_{A} and those projections fails. Next, the extended projection of the adjecival phrase is generated (5b). Notice that since no phi features are found on the closest projections c-commanding or c-commanded by F_{A} (DegP or AP), by the phi features condition agreement between F_{A} and those projections fails. In the next step, the adjecival and nominal phrases (or, rather, the extended projections thereof) are merged. F_{AP}, a projection of F_{A}, c-commands F_{NP} and thus obtains its phi features through agreement (5c). In the step that follows, the D head specified as [def] merges with the rest of the structure and definiteness agreement follows: the D head agrees with F_{NP} and F_{A}. As a result, D^{0} obtains phi features from F_{NP} and F_{A} gets the [def] feature from D^{0}. (Agreement between D^{0} and F_{NP} is blocked by the intervention condition where F_{AP} serves as an interener.) The [def] feature percolates down and we correctly find it on the F_{A} head, with F_{A} and A being spelled out as a definitely inflected adjective (5d).

---

3 This is required for downward probing only. In the case of upward probing, the requirement would be that the goal asymmetrically c-commands the interener.


5 The DP *Ivan* will not be available for agreement because of the activity condition (the case feature on this DP will already be checked). Another option would be to assume that PPs are phases and agreement between F_{A} and *John* is blocked by the phase condition.

6 Alternatively, we could have F_{A}-DegP-A (where DegP is an adjunct) as base-generated order and let A fuse with F_{A} under PF adjacency (see Bobaljik 2002).
It is important to assume that that each probe enters into an agreement relation only once so that dissemination of the [def] feature by later agreement of AP and NP is excluded. What the agreement account predicts is that, in general, in definitely-marked DPs in Bulgarian there will be only one occurrence of DEF and it will be found on the head of the highest phi-featured element. This prediction captures the two empirical generalizations established in section 1 above.

3. Alternative accounts of DEF

Various alternative accounts of the Bulgarian definiteness marker have been proposed in the literature. Since flexible distribution is something typical of (certain types of) clitics, some authors claim that DEF is a clitic (Scatton 1980, Caink 2000). However, (1c) demonstrates that DEF is not a
second position clitic with respect to the first word in the DP, and (1d) shows that DEF cannot be a second position clitic with respect to the first phrase in the DP either (I repeat the examples).

(1) c. [silno vpečatlen-a-ta] žen-a
    strongly impressed-FEM-DEF.FEM woman-FEM
    ‘the strongly impressed woman’

d. [gord-a-ta [ot maž-a si]] žen-a
    proud-FEM-DEF.FEM of husband.MASC-DEF.MASC her woman-FEM
    ‘the woman who is proud of her husband’

Since no other option for the size of the first element in the DP seems to be readily available, I conclude that DEF is not a second position clitic. Moreover, Elson (1976) demonstrates that DEF patterns with suffixes, not clitics, with respect to phonological processes like final devoicing, liquid-schwa metathesis, and schwa deletion between an obstruent and a nasal. I therefore reject the clitic account.

Other scholars try to derive the flexible distribution of DEF by movement. For example, Tomić (1996) assumes that DEF is generated under D0 and the element to which it attaches to raises to Spec-DP. Such an account has some initial appeal because of the single occurrence of DEF in the DP: if DEF is generated in a specific position in the DP, then this property follows directly. I object to this analysis for two reasons. First, the presence of DEF in the Bulgarian DP has no observable effect on the word order of its elements. This fact makes in-situ mechanisms like agreement more likely than movement accounts. Second, a derivation along the lines of Tomić (1996) makes the wrong empirical predictions for adjectives with pronominal PP complements. On her account, the whole AP should raise to Spec-DP, and we should find DEF following the PP complement. Instead, DEF is found on the head of the AP (1d). An obvious workaround would be to first extract the PP to some intermediate position and then raise the remnant to Spec-DP. However, such extraction is not independently motivated and will further complicate the picture. I will then reject this account too.

Embick & Noyer (2001) offer an account that is similar in spirit to that of Tomić but instead of raising material to Spec-DP they move [def] downwards by Lowering, a post-Spell-Out operation that is sensitive to syntactic structure. These authors envisage a DP structure as in (6a), where D then lowers to A. Nominal structures like this, where AP is part of the extended NP projection, were first proposed by Abney (1987) in order to account for the fact that English attributive adjectives cannot take PP complements (cf. *the proud of her husband woman). However, in Bulgarian, where such PP complements are allowed (1d), AP should rather be a specifier, as represented in (6b) below. Since Embick & Noyer’s Lowering operation is specifically constructed to target the head of the complement of the lowering head and skip intervening specifiers, their account incorrectly predicts that DEF should follow the PP complement.

(6) a.     DP                   b.        DP
    D      AP                     D            FP
    A       NP                     A          PP       F’
     ty     ty                      ty     ty
    AP      PP   F     NP

This analysis then inherits the second problem of Tomić (1996) and thus has to be deserted.

4. Extensions

4.1. DP-internal focus movement and definiteness

In the Bulgarian DP, prenominal modifiers like adjectives and numerals can be scrambled with

---

7 For Tomić DEF is a clitic, not a suffix, though one with a fixed position.
respect to one another. This is exhibited in (7) below, where the numeral can either precede or follow the adjective, with the former structure being slightly more natural.

(7) a. tri-te nov-i knig-i
   three-DEF.PL new-PL book-PL
   ‘the three new books’

   b. novi-te tri knig-i
   new-DEF.PL three book-PL
   ‘the three new books’

As one can observe, in such cases DEF always attaches to the highest prenominal modifier. Below, I show that the agreement account can handle these data in a straightforward manner.

I claim that (7b) is derived from (7a) and involves what I call ‘focus movement’. An element undergoes focus movement if it is phonologically prominent, presents new or contrastive information in discourse, and moves from its base-generated position to some designated higher position (FocP). In my analysis, I will only be concerned with DP-internal focus projections, placed somewhere above numerals but below the D head.\(^8\)

The two exchanges in (8) and (9) below demonstrate that the adjective in (7b) is informationally focused. In (8), the speaker knows that the addressee bought three books, but she is asking about some further property of the books. An answer in which the adjective providing the new information is preposed and stressed is possible, demonstrating that the fronted adjective can be focused. In (9), however, the speaker knows that the addressee bought some new books but does not know how many. An answer where the adjective is preposed but the new information is provided by the numeral is infelicitous. The combined effect of these two examples is that if the adjective is fronted across the numeral, it not only can, but must be focused.\(^9\)

(8) a. Ti [DP ko-i tri knig-i] kupi?
   you which-PL three book-PL bought
   ‘Which three books did you buy?’

   b. Az kupix [DP NOV-I-te tri NOV-I knig-i].
   I bought new-PL-DEF.PL three book-PL
   ‘I bought the three NEW books.’

(9) a. Ti [DP kolko nov-i knig-i] kupi?
   you how.many new-PL book-PL bought
   ‘How many new books did you buy?’

   b. #Az kupix [DP nov-i-TE TRI nov-i knig-i].
   I bought new-PL-DEF.PL three book-PL
   ‘I bought the THREE new books.’

Similar examples can be constructed to demonstrate that the fronted adjective in (7b) can also be contrastively focused.

What the structure in (7b) shows is that, intuitively, focus movement precedes definiteness agreement; otherwise, we would find DEF on the numeral, not on the adjective. This is exactly what the agreement account predicts. The derivation of (7b) can be briefly sketched as follows. First, the three elements are base-generated in the order of NumP > AP > NP. Two instances of phi agreement will take place: one between AP and NP and another between NumP and AP. In the next step, AP undergoes focus movement (to FocP) across NumP, producing the order AP > NumP > NP. There will be no phi agreement between AP and NumP since AP has served once as a probe for agreement. Finally, D\(^9\) will

---

8 See Rizzi (1997)/(2004) on focus phrases in the left periphery of the clause. DP-internal focus phrases have been proposed in Giusti (1996), among others.

9 Assume that in all the sentences in (8) and (9) the subject is topicalized.
be merged into the structure, definiteness agreement will follow, and AP will acquire the [def] feature. We thus correctly predict that in (7b) DEF is found on the adjective, not on the numeral.

4.2. Multiple DEFs with stacked adjectives

One generalization that we have drawn in section 1 was that DEF has a single occurrence within the DP. The two examples in (10) demonstrate that this is not always the case. In these data, the adjectives can come in any order, both adjectives are definitely marked, and there is an obligatory intonational break between the two adjectives (orthographically signaled by the comma).

(10) a. straxotn-a-ta, nemsk-a-ta kol-a
    amazing-FEM-DEF.FEM German-FEM-DEF.FEM car-FEM
    ‘the amazing German car’

b. nemsk-a-ta, straxotn-a-ta kol-a
    German-FEM-DEF.FEM amazing-FEM-DEF.FEM car-FEM
    ‘the amazing German car’

The crucial question is whether such data present a challenge for the agreement account. I argue that they do not.

Each of the structures in (10) denotes a single entity, so there is only one D head, and consequently only one DP involved in each case (see footnote 11 for motivation). Because of the free order among the adjectives in (10), I argue that the two adjectives are not in their base-generated positions but have moved and adjoined to some higher FP. Since these adjectives are phonologically prominent and can only receive a contrastive interpretation, I will assume that the relevant projection is FocP. The structure for (10) immediately before definiteness agreement applies will be as in (11) below (agreement projections are omitted).

(11) [DP D0 [def] [FocP AP1[phi] [FocP AP2[phi] [FocP Foc0 [FP AP1[phi] [FP AP2[phi] NP[phi] ]]]]]]

The crucial assumption that I am going to make is that in (11) AP1 and AP2 are ‘equidistant’ from the D head because they mutually c-command each other. If so, none of the AP will be an intervener for the other and both would acquire the [def] feature through definiteness agreement. It is important to notice that no multiple agreements are involved here but rather one instance with two equally good goals. Thus, the agreement account is well equipped to deal with multiple DEFs within a single DP.

10 The same pattern generalizes to any number of adjectives.
11 The data in (10) differ from structures as in (i) in many important respects.

(i) a. A1-DEF A2 N
    b. A1-DEF and A2 N
    c. A1-DEF and A2-DEF N

(ia) is a pedestrian example where DEF is attached to the highest prenominal modifier and the order of adjectives is not freely interchangeable. (ib) has an AP coordination in it. Since the first conjunct is given a special status (Munn 1993, Johanessen 1998, Camacho 2003), DEF is only found on it. Finally, (ic) presents an example of DP coordination where the noun in the first conjunct is elided. This is demonstrated by the fact that this structure can only refer to two distinct entities in discourse, not just one. In general, one can show that the number of definite D heads corresponds to the numbers of entities referred to.

12 This can be achieved by modifying the concept of dominance used in the definition of c-command such that only categories, not segments, can dominate other categories. This goes against Kayne (1994), who assumes for similar configurations that the higher adjunct asymmetrically c-commands the lower adjunct, otherwise no linear order between the two adjuncts can be established (his Linear Correspondence Axiom). However, if we change our point of view a little bit, no immediate problems seem to arise. I will postulate that any elements adjoined to the same category can be linearized in any possibly linear order with respect to each other (or, put sloppily, ties can be resolved in any order). This would account for the fact that adjuncts to the same category are typically reversible across languages. We might assume that the two examples in (10) have the same structure but are linearized differently.
4.3. DEF and demonstratives

In languages like English, demonstratives cannot co-occur with a definite article. In Bulgarian, DEF cannot go directly on the demonstrative (12a) but can freely attach to a preceding quantifier (12b) or a following adjective (12c). However, DEF cannot skip the demonstrative and attach directly to the head noun (12d) (such examples are at best marginal).

(12) a. *tazi-ta żen-a
    this.FEM-DEF.FEM woman-FEM

b. vsick-i-tetezi knig-i
    all-PL-DEF.PL this.PL book-PL
    ‘all these books’

c. tazi, xubav-a-ta kαšt-a
    this.FEM nice-FEM-DEF.FEM house-FEM
    ‘this nice house’

d. ?tazi żen-a-ta
    this.FEM woman-FEM-DEF.FEM

Examples like (12a) show that DEF cannot always attach to the closest phi-featured element in the DP. The demonstrative here carries regular phi features and yet cannot be marked for definiteness. What seems to be happening here is that, for some reason, demonstratives do not participate in definiteness agreement. I will tentatively assume that feature matrices of demonstratives are defective in the sense that they cannot mark definiteness. Two examples that seem to support this claim are given (13) below. In (13a), the referent is not unique and only a demonstrative is appropriate while a definite article is not. In (13b), the referent is unique and only a definite article can be used, not a demonstrative.

(13) a. There are many balls in front of speaker and hearer. Speaker points to one of them.
    Bring me that/#the ball, please.

b. We live in a world in which only one person can be president of the US at a given time.
    #That/The president of the US wants to nationalize the whole banking sector.

I conclude that, for the reasons discussed above, if no definiteness marker is present in the structure, demonstratives require non-uniqueness.14

Here is what a possible explanation of the rather complex data in (12) might look like. Due to its anomalous nature, the demonstrative cannot encode definiteness and thus [def] in (12a) cannot be overtly realized. Neither can the definite D head agree with the head noun across the demonstrative, because the phi-featured demonstrative is an intervener, ruling out (12d). For (12c), I assume that the adjective and the demonstrative are adjoined to the same projection (similarly as with the examples in (10)) and thus both enter into definiteness agreement. Since [def] cannot be realized on the demonstrative it will only show up on the adjective. (12b) can be derived in a straightforward manner where the quantifier enters into definiteness agreement with the definitely-marked D head. I leave the more precise analysis of the data in (12) to further research.

---

13 These examples are from English though the judgments carry over to Bulgarian.
14 Robinson (2005) comes to the same conclusion, which she states as the Non-Maximality Principle. This principle says that the demonstrative may not be used when its referent is known to be the only entity which fits its descriptive content in the domain of reference.
5. Conclusion: Why agreement?

I have argued that the complex distribution of DEF is a result of the cyclical nature of the DP-internal phi agreement and the relative position of the D head and the element from which this head acquires its phi features. The [def] feature originates and is interpreted in D⁰, but is transferred and pronounced on the highest phi-featured element in the DP through an instance of Agree that I call definiteness agreement.

The final question that I would like to address here concerns the ‘motivation’ of the mechanism for definiteness agreement. I speculate that [def] needs to get realized in the DP because of some visibility requirement on interpretable features. Since Bulgarian lacks definite articles as independent words, the language uses this exceptional mechanism of making [def] visible. A similar idea is expressed by Emonds’ (1987) Alternative Realization/Invisible Category Principle which allows for a functional category to be phonologically empty if all of its positively specified features are realized on the head of that category’s sister. Admittedly, at this point these thoughts are only a speculation meant to pave the way for further research.

References

Caink, Andrew (2000). In Favour of a ‘Clitic Cluster’ in the Bulgarian and Macedonian DP. _Trondheim Working Papers in Linguistics_, University of Trondheim, 170-182.