

Evidence for Weak Continuity in Learning Bulgarian as L2*

1 Introduction

This paper is concerned with the long going debate of first language (L₁) transfer in second language (L₂) acquisition. It examines new data coming from the acquisition of L₂ Bulgarian by native speakers of English and tests against these data four of the existing hypotheses. The findings suggest that there is continuity of access to UG and no grammatical transfer between the native and the second language – the first functional category to be acquired in this study is gender (not present in the native language of the subjects) and the last is definiteness (present in the native language). We tentatively suggest a dynamic approach to the issue of L₁ transfer which is at variance with the Valueless Features hypothesis. We step on the proposition of availability of the L₂ functional projections and suggest that their gradual emergence depends on the syntactic processes merge and move rather than on the L₂ input.

For the past two decades the research within the generative tradition in second language acquisition has focused on two major questions: the cognitive source of L₂ acquisition (or, as Schwartz 1999 puts it, 'the UG question') and the question of transfer of grammatical structure from the learners' L₁ to their L₂. The answers so far for the first question vary from (i) No Access -- UG is not available after the L₁ acquisition is completed, thus it does not govern the L₂ (or any subsequent) language acquisition, to (ii) Full Access -- UG is fully available during any language acquisition process, thus, it governs the related cognitive processes. We take the second stand point and further test four of the existent hypotheses in this continuum – the Full Transfer/Full Access hypothesis of Schwartz and Sprouse (1994), the Minimal Trees hypothesis of Vainikka and Young-Scholten (1994), the Valueless Features hypothesis of Eubank (1993/4), and the Structural Minimality hypothesis of Bhatt and Hancin-Bhatt (2002). As each of them makes clear predictions about the initial state of language acquisition, one set of data can easily serve as a testing tool against their claims.

Although the proponents of all of the above hypotheses have extensively supported their claims with data from numerous studies, there still are questions and view points to be considered. All hypotheses have focused so far on data involving the acquisition of the L₂ verbal or CP systems of a handful of languages (mainly English, German, French) from native speakers of Romance and Germanic languages as well as (in few cases) Turkish and Korean. Very few studies (White et al. 2001) deal with the acquisition of the nominal system which is in the focus of this study. The study investigates an L₂ which is close¹ to the native language of the subjects but which has not yet been the focus of the L₂ acquisition research. According to the Strong Continuity Hypothesis, syntactically similar (but, in this case, not identical) languages should

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¹ Both English (the native language of the subjects) and Bulgarian (the target language) are head-initial languages; both languages have fully developed overtly realized DP; both languages show prenominal modifiers of the noun as the default case.

render fewer problems for L₂ learners. If problems are still found at a statistically significant level, then we can claim strong support for (a version of) the Weak Continuity Hypothesis.

The current account is among a few studies focusing on the very early stages of L₂ acquisition – three to four weeks after the first exposure to the TL. Although a major point in the L₁ transfer controversy is the initial state of language acquisition, most of the studies deal with data gathered after the subjects have been exposed to the TL for at least three months. In such cases, claims about the initial stages of language acquisition are hypothetical.

2 Predictions of the Four Hypotheses

2.1 *The Four Hypotheses*

The continuity controversy originated in L₁ acquisition research -- Valian (1986), Boser et al. (1992), Weissenborn (1990) argue for the Strong Continuity Hypothesis (all functional projections are available from the onset of L₁ acquisition) while Radford (1998, 1996, 1995, 1990) and Clahsen et al. (1994) defend the Weak Continuity Hypothesis (children start the acquisition process with the structurally minimal lexical projections; the functional projections emerge gradually based on the interaction between X'-principles and the input).

In L₂ acquisition the focus of the Weak/Strong Continuity debate is somewhat diverted to the issue of transfer of grammatical structures from L₁ to L₂. The proponents of the Strong Continuity Hypothesis in L₂ acquisition suggest Full Transfer of L₁ grammatical structure/Full Availability of UG to govern the acquisition process, while the Weak Continuity Hypothesis supporters propose No Transfer of L₁ functional structure/Full Availability of UG. The continuity debate has been noted in the L₂ acquisition literature for more than a decade now (White 1996 a, 1996 b, Schwartz 1998 a, Schwartz and Sprouse 1996, 1994, and Vainikka and Young-Scholten 1994, Eubank 1993-4 among others). Among the first to start the discussion were the proponents of the two extreme positions.

Schwartz and Sprouse stepped forward in their 1994 and 1996 papers (as well as Sprouse and Schwartz (1998), Schwartz (1999, 1998 b, 1998 a, 1997, 1996)) with their Full Transfer/Full Access (hereafter FT/FA) proposal. The hypothesis here is that the entire L₁ grammar serves as the starting point of the L₂ acquisition. If the L₁ grammar, with its full arsenal of functional projections, is available from the onset of L₂ acquisition, then the initial state of L₂ acquisition represents the L₁ lexical and functional projections filled with L₂ lexical material. Starting from here, the predictions are twofold. On the one hand, if L₁ and L₂ have different syntactic structures (that is, differences in the availability of some functional projections or parameters with different settings), then the functional projections observed from the very first stages should clearly be those of the first language, thus showing clear discrepancies with the TL grammar. On the other hand, if L₁ and L₂ have the same syntactic structure, then there should be no evidence of problems with the functional projections of the TL (that are the same as in the L₁) from the very beginning of L₂ acquisition. Thus, the limitations that the beginning L₂ speakers would have would be lexical but not grammatical. Another prediction of this hypothesis is that ultimate attainment is achievable for the majority of L₂ learners as it is only the lexical material that needs to be acquired. Finally, as the acquisition of L₂ grammar is handled by L₁ except for

the cases when L₂ input contradicts with it, the L₂ learners are not expected to follow a strict developmental order of acquisition. That is, the functional projections which are point of clash between L₁ and L₂ are not acquired in any order.

On the other extreme is the Minimal Trees (MT) hypothesis of Vainikka and Young-Sholten (1996, 1994) which, in its essence, argues for No Transfer/Full Access. It hypothesizes that all and only the lexical projections of the first language are transferred to the second language at the initial stage of L₂ acquisition. The MT hypothesis predicts that during the initial state the L₂ learners will have problems with all functional categories, irrelevant of the existing structural differences (or lack of such) between the native and the target language. The L₂ functional categories become available gradually, with the lower ones preceding the higher (e.g. IP will appear before CP and NumP will appear before QP which on the other hand will be acquired before DP). Problems that show a non-gradual development of the FPs are unexpected. Ultimate attainment is possible but not mandatory.

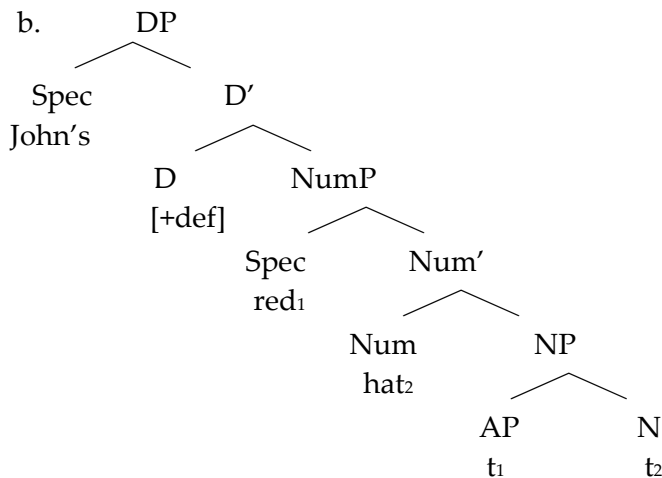
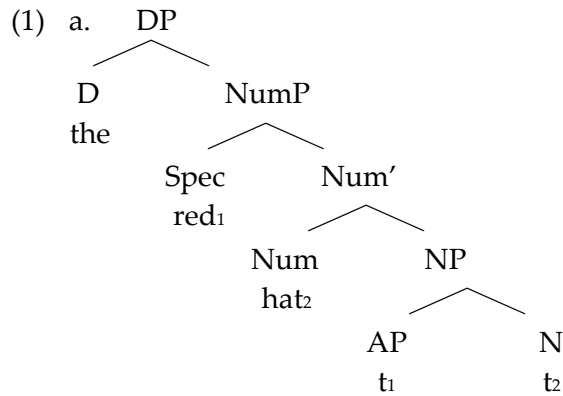
There have also been proposals that stand in between the two extremes. Lynn Eubank (1996, 1994, 1993/4) proposes the Valueless Features hypothesis. The proposition here is similar to the MT claims on the grounds of the initial state of L₂ acquisition – it constitutes of the lexical categories of L₁. On the other hand, Eubank's proposal pairs (to some extent) with FT/FA on the transfer issue – the functional categories are transferred from L₁ to L₂. However, his claim is that although the L₁ functional projections are available in the L₂, they are 'inert' (Eubank 1996: 73) and have 'a nonvalue of sorts' (ibid). In his view setting of the appropriate parameters is triggered by the acquisition of the appropriate lexical material – if need be the functional projection becomes active and the parameter values are set. Thus, overt functional projections are initially optional (not absolutely absent as in MT and not mandatorily present as in FT/FA). Although the approach is dynamic (based on the L₂ input), it does not predict a clear developmental path. As the parameter settings for the functional projections are initially inert, the L₂ interlanguage at the optional stage may provide evidence for parameter settings that do not correspond to neither L₁ nor L₂. A dependence on the syntactic similarity (or difference) between L₁ and L₂ is not expected.

Another intermediate approach is the one presented in Bhatt and Hancin-Bhatt 2002. The authors propose Structural Minimality (or as the authors dub it T/FA hypothesis) – 'that clausal projections are IPs' (Bhatt and Hancin-Bhatt 2002:348). Under their view there is partial transfer of all but the top-most functional projections (CP in their study) from L₁ into L₂ at the initial state. In this hypothesis the L₂ initial state is the structurally minimal L₁. Structurally different target and native language would produce an interlanguage with L₁ syntactic structure (up to and including IP) filled with L₂ lexicon, while structurally similar languages will show no evidence for syntactic problems, except for the top categories. The functional projections which govern the interface between syntax and pragmatics will show a strict developmental path: (i) no evidence for CP to (ii) head of CP will be acquired to (ii) Spec, CP will appear. Ultimate attainment is possible but not mandatory.

2.2 *Syntactic structures.*

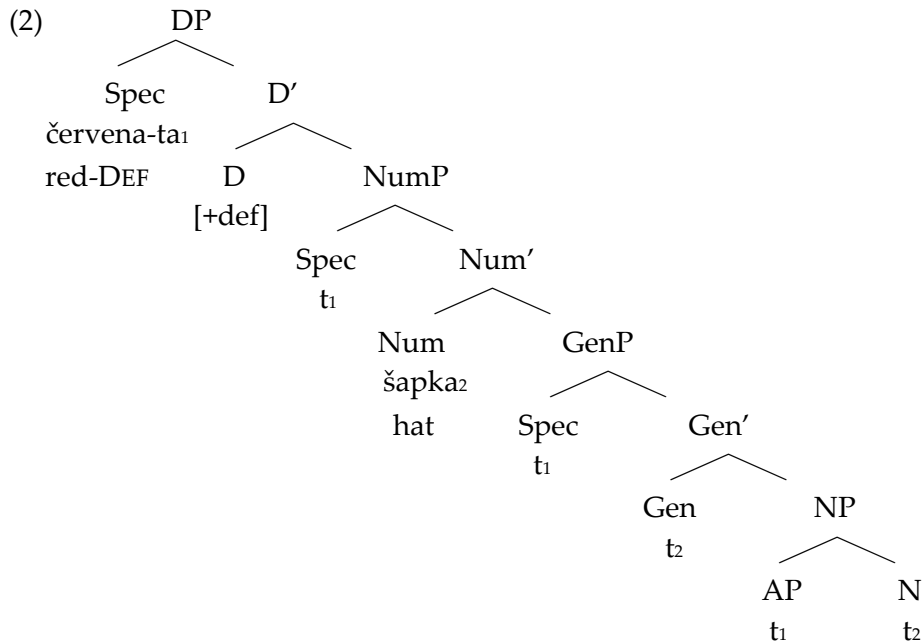
Three of the hypotheses to be tested in this dissertation posit (to a different extent) transfer of functional projections from L₁ to L₂. On the other hand, in two of them the L₁ background is a factor in L₂ acquisition. Thus, understanding of the DP structure in both the native and the target language for this study is crucial for testing the hypotheses. In brief, both the native (English) and the target (Bulgarian) language have a fully developed DP structure with overt determiners. In both languages the modifiers to the head noun surface in prenominal position, both languages distinguish between singular and plural. The differences are three: first, Bulgarian shows a three-way distinction in grammatical gender, second, Bulgarian shows evidence for a separate functional projection to hold the possessive clitic and assign the purely semantic possessor theta role, and last, the native and target language have features with different strength in the heads of their functional projections—in Bulgarian the relevant features are strong, thus triggering overt movement in syntax, while in English they are weak, thus forcing movement at LF only.

For the analysis of both the native and target language DPs we will follow recent proposals in generative syntax (Chomsky, 1992) which suggest that the lexical items obtain their inflectional features such as gender and number in the lexicon and are inserted in the derivation inflectionally complete. Based on data from different languages, Picallo (1991), Valois (1991), and Bernstein (1993) propose that there is at least one functional head between the lexical NP and the top functional DP which holds the number feature, e.g. NumP. We take this to be the case for both the native and the target language in this study. Thus, following Abney (1987) and further Bernstein (1993), we start with the assumption that the English DP and possessive noun phrase have the structures in (4a and b) respectively. Bernstein (1993: 94-97) proposes a unified analysis of Romance and English DPs, seeking support in the fact that both Romance and English DPs show both prenominal and postnominal adjectives. Based on that, she proposes that English exhibits covert movement at LF resulting in the structures in (1). She proposes that the head noun is base generated in the head of NP and further moved to head of NumP for feature checking purposes. Unlike Abney, Bernstein suggests that the modifying adjectives are phrasal in nature, thus base generated in Spec, NP from where they move to Spec, NumP for feature checking purposes. She follows Abney in making distinction between the two types of determiners in English—while the definite article heads the DP projection, the possessive morpheme 's is generated in Spec, DP where it checks its definiteness feature in spec-head configuration:



Bulgarian, on the other hand, shows a more complicated case as the nominal system of this language has overt gender and number agreement between the noun and the modifying adjectives. As Franks (1998: 60-63) demonstrates, the definite article is an inflectional suffix. In such case it will also enter the Numeration together with its host—the leftmost element in the noun phrase. In his 1998 article Franks also provides evidence for the phrasal nature of the adjectives in Bulgarian². If the adjectives are not heads, then they must be base generated as maximal projections in [Spec, NP]. Ricallo (1991) proposes a Gen(der)P for Catalan—a functional projection between NP and NumP that holds the gender feature. She reasons the position for the GenP with the consistent presence of gender and number marking in Catalan. The structure proposed so far is presented in (2):

² For a different view see Arnaudova (1995) who analyses the adjectives as heads.



One remaining question is that of which position do the possessives in Bulgarian occupy. In this language, possession can be expressed in three different ways: (i) with a genitival adjective; (ii) with a dative clitic³; and (iii) with an N + PP construction (Dimitrova-Vulchanova and Guisti 1999, Stateva 2002). Those three types of possessive structures exhibit different morphological and distributional properties. The genitival adjectives agree with the head noun in gender and number and surface in genitive case. They can appear in any prenominal position, in definite or indefinite environments (3). The dative clitic appears in DP-second position only and only in definite environments (4). The PP possessives can surface in DP-edge position only, in definite and indefinite environments (5):

- (3) a. **moja(-ta)/Ivan-ova(-ta)** nova kniga
 my-DEF/ Ivan-GEN-DEF new book
 'My/Ivan's new book'
- b. *njakolko(-to)* (novi) (**moi/Ivan-ovi**) (novi) knigi ***(moi/Ivan-ovi)**
 several-DEF (new) my/Ivan-GEN (new) books my/Ivan-GEN
 'Several of my/Ivan's (new) books'
- (4) a. novata-*(ta) **mu** kniga
 new-DEF his book
- b. ***mu** xubava(-ta) kniga
 his good(-DEF) book

³ For discussion of the case of Bulgarian possessives see Pancheva (to appear).

- c. *xubava(-ta) kniga **mu**
 good(-DEF) book his
 'his new book'

- (5) a. kniga-ta **na Ivan**
 book-DEF of Ivan
 b. **na Ivan** kniga-ta
 of Ivan book-DEF
 'Ivan's book'

While two occurrences of genitival adjectives or PPs are allowed in the same DP, two occurrences of the dative clitic are ruled out (compare (6a and b)):

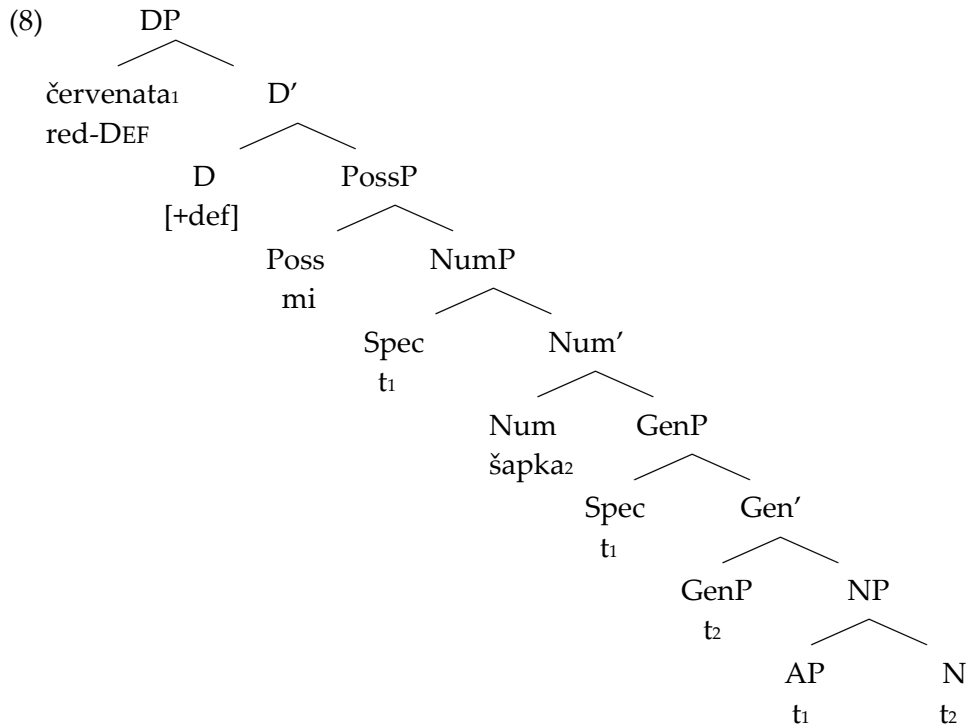
- (6) a. Mariinata/nejnata Šekspirova/negova kniga
 Maria's/hers Shakespeare's/his book
 'Maria's book by Shakespeare'
 b. *knigata mu i
 book-DEF his her
 ?'his her book'

Finally, possessive clitics but not genitival adjectives can be raised to verbal complement position. We take raising of the modifier past the definite article *-ta* to be evidence for raising out of DP (7):

- (7) a. Vidjax **mu**₁ [DP knigata t₁] **NOT**
 I-saw his-DAT book-DEF
 'I saw his book'
 b. *Vidjax **negova/Ivanova**₁ [DP t₁ knigata₂ [t₁ t₂]]
 I-saw his / Ivan's book-DEF
 'I saw his/Ivan's book'

Based on these distributional properties, as well as a number of semantic properties, Tasseva-Kurktchieva (to appear) proposes that in Bulgarian the functional projection Poss(essor)P is the insertion point for the possessive (dative) clitic but not for the genitival adjectives or the PP possessives. To account for the definiteness condition with clitic possessors she suggests that PossP can only be directly selected by a [+definite] head of DP. Thus, while (2) still provides adequate analysis for possessive structures with genitival adjectives, the revised structure for possessive noun phrases with clitic possessives in Bulgarian needs to be adjusted as in (8)⁴:

⁴ Quite similar to Dimitrova-Vulchanova and Guisti (1999) and Pancheva (to appear), we take PP possessors to be right-adjuncts to the head noun.



2.3 Predictions in lieu of the continuity hypotheses.

The two functional projections that only occur in Bulgarian (GenP and PossP) provide us with an opportunity to test the four hypotheses. In the general case, ignoring the specific predictions for full or partial transfer, if there is grammatical transfer from L₁ to L₂, at the initial stage of L₂ acquisition we should see evidence for the functional projections of the native language but no evidence for the functional projections of the target language. The strongest version of grammatical transfer hypothesis (FT/FA) will predict evidence for fully developed NumP and DP but no evidence for GenP or PossP at the initial stage of L₂ acquisition (see the summary in Table 1). The other extreme, the MT hypothesis, will predict that we shouldn't observe any evidence for functional projections at all (as with any other pair of native and target language). In between the extremes, SM posits transfer of the structurally minimal L₁. GenP (which in the target language is between NP and NumP) should not be evident, nor should we see PossP, as neither can be transferred from the subjects' native language. We should observe strict developmental order in the acquisition of the new categories. Lastly, the VF hypothesis will predict that the functional projections will emerge as needed, in no particular order and without evidence for transfer of parameter settings from L₁ to L₂. Table 1 presents a summary of those predictions:

	Transfer	L1 background	Developmental order
FT/F A	Evidence for functional projections	Only the functional projections that exist in L1 should be present: ▶ NumP and DP, but NOT ▶ GenP or PossP	the L2 functional projections will appear after the ones from L1
MT	No functional projections at all	not a factor as the L2 learners start from lexical projections	strict: from lower to higher projections:
SM	partial (projections and parameters up to a certain structurally minimal node)	There will be evidence for NumP and DP but NOT GenP or PossP	strict: from head to specifier of the top functional projection
VF	partial (projections but NOT parameters)	not a factor as the L2 learners have to set the parameter of the L2 functional projections	none expected – FPs may appear overtly in a scattered way

Table 1: Predictions of the four tested hypotheses about the acquisition of Bulgarian DP.

3 Methodology

3.1 *Subjects and Timing of Data Collection*

The data for this study was collected from a pool of 31 US Peace Corps volunteers -- 13 male, 18 female; average age 28 (27 of the subjects were 22 years old, the rest 4 were as follows: one 35 years old male, one 46 years old male, one 51 years old male, and one 58 years old female); educational level of BA or higher. US Peace Corps provides an extensive 11-week Pre-Service Training program focusing primarily on the development of Bulgarian language skills. The volunteers are placed to live in Bulgarian families whose members do not speak English, and are given formal instruction in the TL for an average of 30 hours per week. This instruction is based on the Communicative Approach to language teaching which excludes formal grammar instruction.

The first three to four weeks of the Pre-Service Training are a crucial time for testing the continuity hypotheses. First, this short period of exposure to the TL is still the initial stage of language acquisition⁵. Still, the trainees are exposed to a substantial volume of language input, both in and outside the classroom. At the end of the third week their vocabulary consists of about 250 words. At this point the gender/number distinction and the definite articles have already been formally introduced during the language instruction sessions.

⁵ Two to three weeks before departure for Bulgaria future Peace Corps volunteers receive a short vocabulary list and a 30-minute recording of short every-day conversations. However, probably due to time-constraints (those materials are received very close to the departure date) and/or expectations for an intensive language training program, less than 10% of each year's incoming group of volunteers report that they have used the materials prior to their arrival in the country.

3.2 *Methods of Data Collection and Data Interpretation*

The data was collected in a controlled environment using an oral picture naming task which aimed to measure the subjects' language production skills, followed by a written grammaticality judgment task. All oral interactions between the interviewer and the subjects were tape-recorded and further transcribed and coded. For the oral task the subjects were shown a cardboard with two pictures at a time. Both images presented the same object in different modifications (e.g. a big white house on the left hand side of the cardboard and a small red house on the right-hand side). While showing them the picture, the tester asked a question in English. The subjects had to choose one of the pictures and give the appropriate answer in Bulgarian. Appendix A shows a card-board used in the study with the relevant question and the appropriate TL answers.

The data collection instrument for the oral interpretation task included 5 questions each targeting responses in the three genders in singular and plural. The questions included two-place predicates only and the appropriate answers targeted the direct object (cf. (9-11)). The elicited responses should be either a full sentence with a definite DP (9) or the object DP by itself (10-11). In both cases the definiteness of the DP is mandatory in the target language. Appendix B shows a list of all 30 questions used in the study. The bracketed structures are the ones targeted by the questions. The markings for gender and number are those of the target language.

(9) Q: You see some [ancient-MASC.SG. cities-MASC.SG.] and some [modern-MASC.SG. cities-MASC.SG.]. Which cities do you prefer?⁶

A: Xaresvam/običam moderni-te gradove.

I.like/I.love modern-MASC.SG.DEF. cities-MASC.SG.

'I like the modern cities.'

(10) Q: You see [two-FEM. American-FEM.PL. teachers-FEM.PL.] and [two-FEM. Bulgarian-FEM.PL. teachers-FEM.PL.]. Which ones are talking to each other?

A: Amerikanski-te učitelki.

American-FEM.PL.DEF. teachers-FEM.PL.

'the American teachers'

(11) Q: In a pawn you see some [new-NET.PL. radios-NEUT.PL.] and some [old-NEUT.PL. radios-NEUT.PL.]. Which ones are better?

A: Novi-te radia-NEUT.PL.

new-NEUT.PL.DEF. radio-NEUT.PL.

'the new radios'

To ensure that knowledge of the vocabulary is not an interfering condition not only the questions were asked in English, but also the subjects were provided with a vocabulary list

⁶ The sample questions are taken from the pilot study conducted in 2000 which excluded possessive structures.

that included all nouns and adjectives represented in the pictures. The adjectives were given in masculine singular which is the default dictionary form⁷.

The written grammaticality judgment task included 36 sentences which the subjects had to rate as correct or incorrect. Those questions were split equally between correct and incorrect as well as between the three genders and two numbers producing 18 grammatically correct sentences: 3 Masc. Sg., 3 Masc. Pl., 3 Fem. Sg., 3 Fem. Pl., 3 Neut. Sg., 3 Neut. Pl., and 18 grammatically incorrect: 3 Masc. Sg., 3 Masc. Pl., 3 Fem. Sg., 3 Fem. Pl., 3 Neut. Sg., 3 Neut. Pl. This task was intended to measure the subjects' grammatical knowledge of the target language rather than production. However, the task showed that the subjects were guessing the grammaticality of the sentences – the answers were split between 52% correct and 48% incorrect markings for the grammatical sentences and 53% correct and 47% incorrect markings for the ungrammatical sentences. Thus, the results from this testing tool was excluded altogether.

To ensure that the production-based experiment accounts for the L2 learners' knowledge of grammar rather than their acquisition of the TL morphology, we should take into account several possibilities and their consequences. First, the learners might have acquired the functional projection but might not know the relevant morpheme to encode it. In such case, we should account for (and code) any attempt to mark gender, number or definiteness, irrelevant of the morpho-phonological accuracy of the suffix. For example, gender agreement forms such as those in (12) were taken to show conscious attempt to mark gender agreement (and by these means existence of the relevant functional projection):

- (12) a. Black kuče . . . čereno kuče
 Black dog-NEUT.SG . . . black-NEUT.SG dog- NEUT.SG

instead of the TL

černoto kuče
 black-NEUT.SG.DEF dog-NEUT.SG

- b. Po . . . Po-maloka ženata
 SUP . . . SUP.-young-FEM.SG woman-FEM.SG.DEF

instead of the TL

Po-malkata žena
 SUP.-young-FEM.SG.DEF woman-FEM.SG

⁷ The adjectives were given in their default (masculine) forms. This might temper the results only if we are looking for overgeneralization of a specific grammatical gender. Otherwise, if the functional projection that holds the gender/number agreement features is present we should see an overt attempt for gender/number agreement within the DP.

c. Malko . . . malka . . . malk. . .
 young-NEUT.SG. . . young-FEM.SG. . . young-MASC.SG

instead of the TL

Po-malkata žena
 SUP.-young-FEM.SG.DEF woman-FEM.SG

The examples in (12a and b) reveal that the actual production of the adjective shows the masculine form with an added to it feminine or neuter suffix (still different from the target form). However, as the examples show clear attempt to produce agreement, they were accounted for as attempts for correct agreement. (12b) also shows that the determiner is attached to the noun instead of the adjective. However, as the whole NP is marked for definiteness, we counted this as overt definiteness. In (12c) we see that this subject attempts to match the gender probing with all the three possible forms in singular. Similar to this was the situation with the plural, cf. (13):

(13) a. Dve . . . sestras
 two-FEM . . . sisters-FEM.PL

instead of the TL

dvete sestri
 two-FEM.DEF sisters-FEM.PL

b. Malək stol ... hubava stola ... maləki stola
 Small-MASC.SG chair-MASC.SG ... beautiful-FEM.SG chair-MASC.PL... small-MASC.PL chair-MASC.PL

instead of the TL

malkite stolove
 small-MASC.PL.DEF chair-MASC.PL

c. goljami bjuri
 Big-NEUT.PL desk-NEUT.PL

instead of the TL

golemite bjura
 Big-NEUT.PL.DEF desk-NEUT.PL

	Number attempts	Percent attempts	Number correct	Percent correct	Number responses
Gender agreement in sentences targeting singular	277	59.57%	181	38.92%	465
Gender agreement in sentences targeting plural but produced in singular	168	58.74%	130	45.46%	286
Number agreement	179	38.49%	90	19.35%	465
Definiteness	118	12.69%	62	6.67%	930

Table 2. Number produced gender agreement, number agreement, definite articles ($t = 6.76$, critical t -value = 2.04, $p < 0.05$)

The overall results presented in Table 2 show evidence for gradual emergence of the functional categories. The results of a one-way ANOVA test show statistically significant difference between all three variables ($F=5.23$, $df=2$, $p < .007$) with most significant difference between number and definiteness ($F=3.35$, $p < .007$), statistical difference between gender and number ($F=2.58$, $p < .05$) and no statistical difference between gender and definiteness ($F=.77$, $p > .05$). In other words, at the initial stage of L2 acquisition of Bulgarian the subjects provide significant evidence for the lowest functional projection (GenP), no significant evidence for the highest functional projection (DP), and some evidence for the intermediate projection (NumP).

In addition, a Spearman's rho rank correlation was applied to the results to check for significant positive correlation between the acquisition rates of the three variables. The test showed a significant correlation between gender and number ($R=.559$, $p < .001$) and number and definiteness ($R=.658$, $p < .0001$), but no significant correlation between gender and definiteness ($R=.367$, $p < .051$). A probable cause for the latter is the low number of subjects in the study and the relatively high assumptions for steady performance of all subjects. This conclusion is reinforced by the results from the ANOVA analysis. The correlations between the variables show that the subjects acquire the functional projections in a strict developmental order rather than in a scattered unpredictable way.

Two other one-way ANOVA tests were applied to find if the gender and age of the subjects were a determining factor in the acquisition of the three variables. The results showed no difference in performance between the male and female subjects (F between .075 and 4.29, $p > .05$) and significant difference between the younger and the older subjects ($F=4.39$, $p < .05$).

4.2 Implications for the Continuity Hypotheses

The analysis of these data does not confirm any of the four hypotheses cited above. The data in Table 3 is most problematic for the two extreme continuity hypotheses. Under FT/FA we should see fully developed NumP and DP as they should be transferred from L1 into L2. While the former is evident in somewhat significant number of cases, the latter shows an extremely low

number of occurrences. On the other hand, the L₂ functional category GenP shows a stable occurrence in the data. Both findings are unexpected under FT/FA.

The same data presents problems for the MT hypothesis too. The subjects show clear developmental path in the building of their functional projections as expected under this hypothesis. However, even at this early stage of L₂ acquisition they produce clear evidence for the existence of functional projections. This is a fact that MT cannot accommodate as the initial L₂ stage should consist of the lexical projections only.

The two intermediate hypotheses accommodate the data of the preliminary study better (although not fully). SM predicts that we will not find evidence for the structurally maximal projections within the noun phrase. Then, as NumP is the structurally minimal projection we should see significant evidence for all categories below and including it, but no evidence for DP. While the latter is supported by our findings, the former is not what we observe. The structurally minimal for the native language NumP is not significantly evident in the data. On the other hand, the lower functional projection GenP is overtly produced at a significant level. This is not expected under the MT hypothesis as GenP is an L₂ category and is not transferred from the grammatical structure of L₁.

Finally, the VF hypothesis has its problems with this set of data too. Under it the L₂ functional projections are expected to be present, although with valueless <inert> features, from the beginning of L₂ acquisition. We find that to be the case. However, as the predictions of this hypothesis go, we should not expect any developmental patterns. The L₂ learners need only set the parameter of the relevant FP heads based on the input they receive. As the input is not based on any developmental trends, we should not expect any such to appear in the data. Nonetheless, the data shows a clear developmental path from the lowest to the highest FP.

A point that we would like to make here is that the data from the pilot study confirms one prediction that all four hypotheses share. None of the subjects in this study produced IL that would deviate from both L₁ and L₂. Thus, it brings another piece of evidence that UG is still available in adult L₂ acquisition.

The conclusion we can draw so far is that the data collected in the preliminary study would ask for a theory that would allow both transfer of the first language grammar AND strict L₂ developmental order. VF and SM seem to be closest to this goal but both hypotheses still have problems in either explaining the facts (VF cannot account for a developmental order) or clarifying the theoretical stand points (SM seems to posit an ad hoc postulate that the structural minimality of transfer to L₂ is in fact the structural maximality of L₁).

The current study seems to offer a slightly different perspective to the continuity controversy – one that allows for gradual development of accessible L₂-dependent functional projections. Under this variant the overt appearance of the functional categories will be a byproduct of transfer and the syntactic operations merge (which facilitates the building of the structures) and move (which involves more syntactic resources and thus prevents the immediate access to the higher functional categories). When the learners realize the need to encode the gender features in the noun phrases they produce they will project relatively steadily a GenP, thus allowing for movement of the lexical items to the head and specifier positions of the new

FP for checking purposes. Because this category is not present in L_1 , it will block (until acquired) the merge of the FP right above it and subsequently, the movement to NumP. Once GenP is acquired steadily, NumP will be merged to provide nodes where the number feature will be checked. Because it is an L_1 category, longitudinal data should show faster stabilization of this projection.

Next we should see emergence of PossP. Note that according to our analysis of Bulgarian DPs PossP is generated only if need be, e.g. only if a possessive clitic is drawn from the lexicon (genitival possessors in our analysis are syntactic adjectives appearing in Spec, NP position and PP possessives are syntactically right adjuncts to the head noun). In such case, where possession is expressed with a genitival adjective or PP, there will be nothing to block the merge of DP (existent in L_1) and the movement to it. However, as movement is a syntactically more laborious process than merging, DP will be the last to be fully acquired. In case the dative clitic is drawn from the lexicon an L_2 category (PossP) needs to be acquired before the L_2 learners can access the top functional projection. Thus, the DP will be the last to emerge.

This study was concerned with testing the extend to which we can claim L_1 transfer in L_2 acquisition. Its objective was to test four of the existent hypotheses against the same set of data. And thus speak directly to their predictions and expectations. We found significant evidence for overt gender agreement, relatively less evidence for overt number agreement, and no significant evidence for overt determiners. The findings suggest that we can speak of neither full transfer, nor no transfer of the L_1 functional projections. In the former case we would not expect the L_2 functional categories to be present at all, in the latter case we should not see evidence for any functional projections at all. On the same grounds the findings of this study do not support the intermediate theories either.

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Appendix A

A sample card-board for the oral picture-naming task together with the question and the targeted answers



Q: You see some [ancient-MASC.SG. cities-MASC.SG.] and some [modern-MASC.SG. cities--MASC.SG.]. Which cities do you prefer?

A1: Xaresvam/običam moderni-te gradove.

I.like/I.love modern--MASC.SG.DEF. cities-MASC.SG.

"I like the modern cities."

A2: moderni-te gradove

modern--MASC.SG.DEF. cities-MASC.SG.

'the modern cities'

Appendix B

Questionnaire as used in the study

1. A tourist agency offers a trip to [some ancient MASC.PL. cities MASC.PL.] and a trip to [some modern MASC.PL. cities MASC.PL.]
Which cities do you prefer?
2. You are in a second hand shop for electric appliances. There are [some new-NEUT.PL radio sets-NEUT.PL] and [some old-NEUT.PL radio sets-NEUT.PL.]
Which ones are better?
3. Here are [a small-MASC. sandwich-MASC.SG. with cheese-NEUT.SG.] and [a big-MASC.SG. hamburger-MASC.SG.]
Which one would you prefer?
4. You see [two-FEM. American-FEM.PL. teachers-FEM.PL.] and [two-FEM. Bulgarian-FEM.PL. teachers-FEM.PL.]
Which ones are talking to each other?
5. You see [a young-MASC.SG. businessman-MASC.SG.] and [an American-MASC.SG. volunteer-MASC.SG..]
Who is coming towards you?
6. You have to furnish your new office. You need two desks. You are offered [big-NEUT.PL. modern-NEUT.PL. desks-NEUT.PL]. and [small-NEUT.PL. old-fashioned-NEUT.PL. desks-NEUT.PL.]
Which ones do you choose?
7. In the bedroom there are [a big-MASC.SG. chest of drawers-MASC.SG.] and [a small-MASC.SG. chest of drawers-MASC.SG.]
Which one is next to the bed?
8. Mark has [two-FEM. elder-FEM.PL. sisters-FEM.PL.] and [two-FEM. younger-FEM.PL. sisters-FEM.PL.]
Which ones are twins?
9. You see [some tall-MASC.PL apartment buildings-MASC.PL.] and [some short-MASC.PL. apartment buildings-MASC.PL.]
Which are closer to you?
10. This house has [two-FEM. big-FEM.PL. rooms-FEM.PL.] and [two-FEM. small-FEM.PL. rooms-FEM.PL.]
Which ones face the street?

11. You are looking for a place to live. You see [a big-FEM.SG. white-FEM.SG. house-FEM.SG.] and [a small-FEM.SG. red-FEM.SG. house-FEM.SG.]

Which one do you prefer?

12. In the park there are two kids – [a big-NEUT.SG. girl-NEUT.SG.] and [a small- NEUT.SG. girl-NEUT.SG.]

Which one has a book in her hand?

13. You see [a cheap-FEM.SG slow-FEM.SG car-FEM.SG] and [an expensive-FEM.SG fast-FEM.SG car-FEM.SG.]

Which one do you prefer?

14. You see [a beautiful-FEM.SG photo-FEM.SG] and [an ugly-FEM.SG drawing-FEM.SG.]

Which one makes you smile?

15. You see two kids – [a big-NEUT.SG. boy-NEUT.SG.] and [a small-NEUT.SG. boy-NEUT.SG.]

Which one is playing soccer?

16. You are in tram number 7 in Sofia. [The third-FEM.SG stop-FEM.SG is “Halite”] and [the fourth-FEM.SG stop-FEM.SG is “Sudebna palata”].

Which stop is closer to the Peace Corps office the third or the forth?

17. You see [several tall-FEM.PL. buildings-FEM.PL.] and [several short-FEM.PL. buildings-FEM.PL.]

Which ones are closer to you?

18. There's [an express-MASC.SG. train-MASC.SG.] and [a fast-MASC.SG. train-MASC.SG. to Sofia.]

Which one do you prefer?

19. It's 5 p.m. You are offered [a hot-MASC.SG. tea-MASC.SG]. and [an iced-MASC.SG. tea-MASC.SG.]

Which one do you prefer?

20. You see [some black-NEUT.PL dogs-NEUT.PL] and [some brown-NEUT.PL dogs-NEUT.PL.]

Which ones bark?

21. You see [several old-FEM.PL. houses-FEM.PL.] and [several new-FEM.PL. houses-FEM.PL.]

Which ones do you prefer?

22. In your host-family's children bedroom there are [a big-NEUT.SG. bed-NEUT.SG.] and [a small-NEUT.SG. bed-NEUT.SG.]

Which one is nicer?

23. At the buses station there are [two-MASC. blue-MASC.PL. busses-MASC.PL.] and [two-MASC. red-MASC.PL. busses-MASC.PL.]

Which one has the people in it?

24. At the restaurant you are offered [some red-NEUT.SG. wine-NEUT.SG.] and [some white-NEUT.SG. wine-NEUT.SG.]

Which one do you choose?

25. You have two letters to send. At the post office they have [big-MASC.PL. envelopes-MASC.PL. without stamps-FEM.PL.] and [small-MASC.PL. envelopes-MASC.PL. with stamps-FEM.PL.]

Which ones do you need?

26. You see [a red-NEUT.SG. bike-NEUT.SG.] and [a blue-NEUT.SG. bike-NEUT.SG.]

Which one do you like?

27. You see [some happy-NEUT.PL kids-NEUT.PL] and [some sad-NEUT.PL kids-NEUT.PL.]

Which ones are at school?

28. There are [some small-MASC.PL. sofas-MASC.PL.] and [some beautiful-MASC.PL. chairs-MASC.PL. in the room.]

Where is next to the TV set?

29. There are [some big-NEUT.PL mirrors-NEUT.PL] and [some small-NEUT.PL mirrors-NEUT.PL] in this show room.

Which ones are next to the pool?

30. There are two women – [a younger-FEM.SG woman-FEM.SG] and [an elder woman-FEM.SG.]

Which one is smiling?