L2 Acquisition of Scope: Testing the Full Transfer Full Access Hypothesis

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1. Introduction

The status of Universal Grammar (UG) in second language (L2) acquisition has long been debated. At one extreme, there are claims arguing that interlanguages are defective, and suffer from global or local impairment (e.g. Clahsen & Hong 1995; Beck 1998). At the other extreme are approaches that maintain that second language acquirers have full access to UG (e.g. Flynn & Martohardjono 1994; Schwartz & Sprouse 1996). Specific hypotheses on both sides differ with respect to the role they assign to the first language (L1). One hypothesis, the Full Transfer Full Access Hypothesis (FTFA) (e.g. Schwartz & Sprouse 1994, 1996; White 1989, 1990/1991), maintains that the L1 grammar, including L1 parameter settings, constitutes the initial state of L2 acquisition (full transfer), but that L2 learners have full access to UG at all times during the acquisition process (full access), and thus that parameter resetting is usually possible.

This paper is an attempt to test this hypothesis, investigating the L2 acquisition of a semantic parameter that is set to one value in English and another one in Turkish. The relevant structure is quantificational scope: The two languages are in a subset-superset relationship with respect to the scopal interpretations they allow for sentences that involve negation and numeral quantifiers such as *two*, with Turkish being the subset and English being the superset language. Therefore, given L1s and L2s like English and Turkish, in accordance with the FTFA, we hypothesize that there will be directional differences in eventual success in acquiring L2 scope facts. Our results show that this hypothesis is actually borne out: L1 Turkish learners of L2 English can acquire the relevant structure on the basis of positive evidence and behave like native English speakers. L1 English learners of L2 Turkish, on the other hand, are unable to lose the additional interpretation their grammar allows, for there is no positive evidence to show that the relevant interpretation is disallowed in Turkish. Therefore, their grammar diverges from that of the target language, though is still one that is constrained by UG.

The present paper differs, in significant ways, from previous research testing semantic parameters (e.g. Dekydtspotter, Sprouse, & Anderson 1997; Dekydtspotter, Sprouse, & Swanson 2001; Dekydtspotter & Sprouse 2001; Slabakova 2005, 2006). First, L2 input contains evidence only of different interpretations, not of structures, and without any overt syntactic or morphological differences/cues accompanied. Second, the relevant property is not in any known relationship with any other linguistic properties (unlike e.g. Slabakova 2005, 2006), and thus its possible acquisition cannot be attributed to the knowledge of some parametrically related syntactic evidence (i.e. not triggered by the clustering of parametrically related properties). Therefore, it poses a true poverty of the stimulus (POS) challenge for learners.

The paper is organized in the following way: Section 2 outlines the facts for English, and summarizes the linguistic theory and findings of the L1 acquisition literature with respect to the relevant construction. Section 3 compares the English data with those of Turkish, and sketches the predictions of this for L2 learners. Section 4 describes our experiment designed to test these predictions and summarizes its results. Finally, section 5 provides a discussion and section 6 concludes the paper.

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2. Quantificational Scope in English

In English (and in many other languages), sentences such as (1) and (2) are ambiguous: They could have two different interpretations: For example, on one interpretation, (1) could be paraphrased as *It is not the case that Donald found two guys*. (e.g. Donald found no guys, one guy (and 'three guys, four guys, etc.' if one assumes the "exactly two" meaning of "two")). On another interpretation, it could be paraphrased as *There are two guys that Donald didn't find*. One way, theoretically, to distinguish these two interpretations is to assign them different syntactic parses, assuming, first, that 'two guys' is quantificational, and, second, that 'two guys' and 'not' are scope-bearing elements. On this view, the first meaning is stated to correspond to a "surface scope" interpretation, and the second to an "inverse scope" interpretation, for it is only the first meaning that reflects the surface syntactic position of these two scope-bearing elements (i.e. not > two):

(1) Donald did*n't* find *two* guys.
      a. It is <u>not</u> the case that Donald found <u>two</u> guys. (not > two → surface)
      b. There are <u>two</u> guys that Donald did<u>n't</u> find. (two > not → inverse)

(2) Donald did*n't* find *some* guys.
      a. It is <u>not</u> the case that Donald found <u>some</u> guys. (=The detective found no
        guys.)[1] (not > some → surface)
      b. There are <u>some</u> guys that Donald did<u>n't</u> find. (some > not → inverse)

When (1) is uttered in a context like (3), where *Donald* finds only two of the four guys available (i.e. He finds two, but fails to find the other two.), the interpretation (a) would be false, for it is indeed the case that Donald found exactly two guys. Interpretation (b), on the other hand, would be true, for there are exactly two guys that are not found by Donald:

(3)
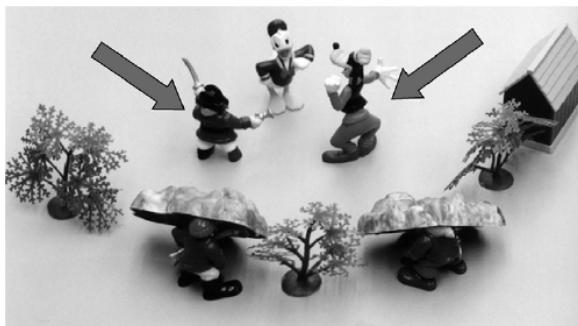
(picture originally from Lidz & Musolino, 2002)

It has been observed, in child language acquisition research, that, unlike adults, children judge these sentences false in truth-value judgment tasks, signaling that they choose the interpretation that makes the sentence false (i.e. (1a)) (eg. Lidz & Musolino 2002; Musolino, Crain and Thornton 2000; Lidz & Musolino 2005/2006). Children do this despite the Maxim of Charity (Grice, 1975), the assumption that a sentence will be judged true when at least one reading is true.

Musolino (1998) called this the "Observation of Isomorphism," because these findings seem to show that children choose the interpretation where the c-command relations holding between the two quantificational elements (i.e. quantified NP and negation) in the surface syntax map directly to the c-command relations between the same elements in the semantics.

What children do, then, is the following:

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[1] Though this meaning is not available in adult English (since *some* is a positive polarity item (PPI)), it is available for children, for whom, some is not (yet) a *PPI*.
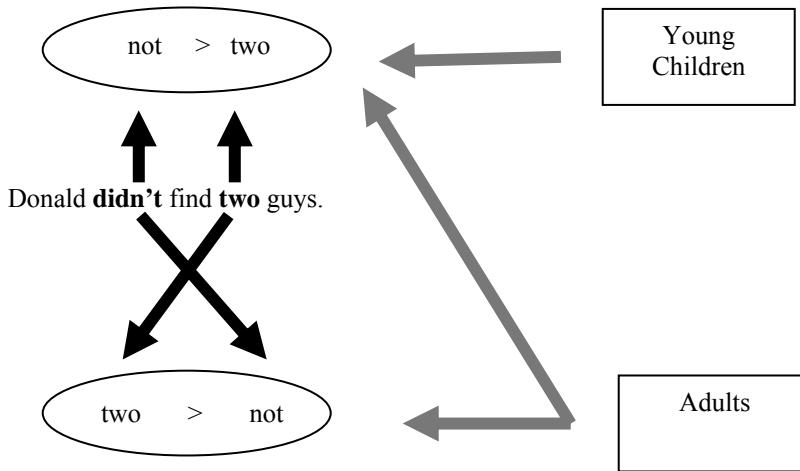
Fig. 1. Children vs. adults in scope assignment

This means that a scope-bearing element that c-commands another scope-bearing element in the surface will also have to take scope over it. With respect to (1), then, *not,* which c-commands *two* in the surface syntax, will also be interpreted, by children, as having scope over *two* in the semantic representation (i.e. 'narrow' scope interpretation of the quantified NP). In other words, representation (4a) below will be the one employed by children, though adults can reach (4b), too, where the quantified NP takes 'wide' scope over negation:

(4) a. $\neg \; \exists_2 \; x \; [guy(x) \wedge find(Donald, x)]$ → surface (= narrow here)
  b. $\exists_2 \; x \; [guy(x) \wedge find \; \neg \; (Donald, x)]$ → inverse (= wide here)

There have been different interpretations of these facts in first language acquisition literature. For example, while some researchers attributed the phenomenon to processing difficulties associated with inversing an initial (surface) scope (e.g. Lidz & Musolino 2005-2006 and Musolino & Lidz 2006), others had more of a pragmatic explanation (e.g. Gualmini 2004, 2008; Özçelik 2009a, 2009b, to appear). Among all, one strong position, not necessarily in conflict with other proposals, has been that surface scope is children's initial hypothesis, and that they add inverse scope on the basis of positive evidence (e.g. Lidz & Musolino 2002; Musolino et al. 2000) (though see Gualmini 2003, 2004; Musolino 2006).

3. Crosslinguistic Differences in Scope Assignment

The proposal that children first learn surface scope interpretations and that they add inverse scope later was made in the context of the continuity hypothesis (Pinker 1984), and implies that there might be a binary parameter of UG which distinguishes superset languages like English from some *possible* subset languages. This proposal, though appealing, has some minor problems. Most importantly, for it to have a better empirical basis, there actually needs to be some natural languages in which only surface scope interpretations are allowed.

Turkish is such a language, at least for sentences like (1) and (2).[2] Turkish, as opposed to English, allows only the surface scope reading of these sentences, as indicated in (5) and (6) (compare with (1) and (2)):

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[2] It is not the case that Turkish grammar does not permit inverse scope at all; it does for some quantifiers (in certain constructions), and does not for others. The same asymmetry is true for L1 acquisition, too: Children do not always go with the surface scope; they do for some quantifiers, such as *two* and *some* in sentences with negation, and don't for others in certain other constructions.

(5) Donald iki çocuk bul-ma-dı.
   Donald two child   find-NEG-PAST
   "Donald didn't find two guys."
        a.   It is not the case that Donald found two guys.
   (?)b.   There are two guys that Donald didn't find.

(6) Donald birkaç çocuk bul-ma-dı.
   Donald some   child   find-NEG-PAST
   "Donald didn't find some guys."
        a.   It is not the case that Donald found some guys.
   (?)b.   There are some guys that Donald didn't find.

(5) and (6), in Turkish, could only be used as a refutation of the premise that Donald found two/some guys, that is, they could only be used on their surface scope interpretation, meaning that the premise that Donald found two/some guys is not right. The fact that the quantifiers *two* and *some* precede the negation on the surface in (5) and (6) should not confuse the reader; this is due to the head-final word order of Turkish; in other words, in syntax, negation still c-commands *two guys*, as in English, though, in linear order, negation follows *two guys* in Turkish, unlike English.

Finally, it should be noted that it is not the case that Turkish has no means of expressing the (5b) and (6b) interpretations of these sentences. Though sentences (5) and (6) cannot allow those interpretations (and thus they cannot be reached via a quantificational mechanism), there are other ways of expressing this meaning. One way is to make the object *two/some guys* specific/definite, in which case, a sentence like *Donald didn't find the two guys* will be formed, which can either refer to the set of found or unfound guys, depending on what the latest relevant information is, and can thus express either (a) or (b) meanings of sentences (5) and (6). The same mechanism exists in English, too (see e.g. Özçelik (2009b, to appear) for English facts).

It seems, then, that it is empirically justified to maintain that there is a binary parameter of UG which distinguishes languages like Turkish and English as subset and superset grammars with respect to the scopal interpretations of sentences like (1) and (2). I will call this the Scope Inversion Parameter (SIP). This fact is supported both by crosslinguistic evidence outlined in this section and by the findings of the L1 acquisition literature covered in section 2.

In addition, there are some strong theoretical reasons to believe that this is actually the case. According to the Semantic Subset Principle (SSP) (Crain, Ni, & Conway 1994; Crain & Thornton, 1998), which has been proposed to solve semantic subset problems, when the interpretive component of UG makes two interpretations available for a sentence, one needs to see if one interpretation makes the sentence true in a narrower range of circumstances. If so, that interpretation will be hypothesized, by children, before the other one in the course of language development. The two constructions we've outlined here seem to be exactly in such a relationship.[3] This is easier to see for sentence (2): If it is the case here that Donald was able to find no guys (i.e. see the (2a) interpretation), it has to be also the case that there are some guys not found by him (see (2b)), as long as the context has more than zero guys. That is, (2a) entails (2b). The same relationship exists between the interpretive possibilities of sentence (1), though not as clear: If one assumes the "at least two" meaning of "two" (as opposed to "exactly two")[4], in any context with more than three guys, the surface scope reading of (1) will entail

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[3] Several researchers argued things along similar lines, though, to my knowledge, not for the quantifiers *two* and *some*, perhaps because it is not as clear in this case as it would for a quantifier such as *every*. For *some* and *two*, in order for the relevant relationship to hold, one needs to assume, as we did above, that there must at least be a certain number of entities in context, whereas this is not necessary for a quantifier like *every*: As Musolino et al. 2000 point out, surface scope interpretation of a sentence like "Every horse did not jump over the fence" entails its inverse scope interpretation in every possible context, for if the surface scope interpretation that "No horses jumped over the fence" is true, then, the inverse scope interpretation that "Not every horse jumped over the fence" has to be true, too.

[4] This is a theoretical debate not yet settled in formal semantics, with some researchers arguing that "two" means "exactly two" while others maintaining that it means "at least two." On the latter view, finding 3 (or 4, 5, etc.) guys also makes the premise that Donald found two guys true. The test materials used here (as with those used in L1 acquisition literature) are based on the "exactly two" meaning of two, which satisfies both meanings, for if something is "exactly two," then, it is at least two.

its inverse scope reading, but not vice versa. For example, if there are 5 guys in context and Donald found 1 guy (thereby making the surface scope interpretation true), it has to be that there are at least two guys that he didn't find. The same thing holds with 3, 4, 6, 7, 8 and more guys. But it doesn't work the other way around: If it is true that there are two (or more) guys that Donald didn't find, it doesn't usually entail that it is not the case that Donald found two guys: Any number of guys found, as long as it is more than 1 (i.e. as long as there are at least 3 guys in context) will make (1a) false (again assuming the "at least two" interpretation of "two").

All in all, then, it seems reasonable, for many reasons, to assume that there is a binary parameter of UG in which the interpretations allowed by Turkish and English are in a subset-superset relationship, as illustrated in Figure 2:
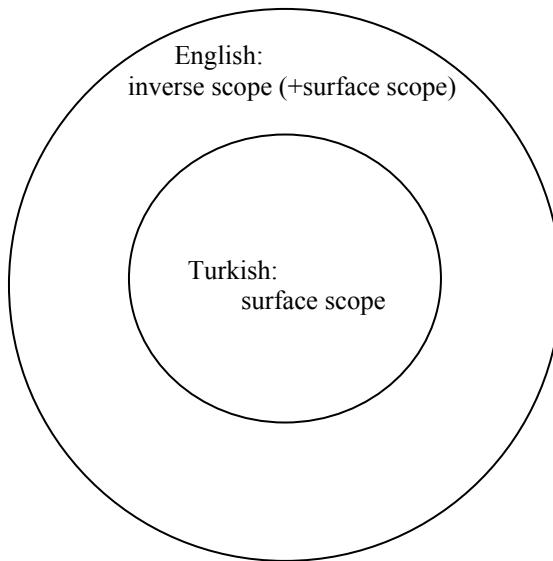

Fig. 2. Scope Inversion Parameter (SIP) - Turkish and English interpretations in a subset-superset relationship

Given this parameter and given L1s and L2s like English and Turkish, in accordance with Full Transfer Full Access (Schwartz & Sprouse 1996), we hypothesize that there will be directional differences in eventual success in acquiring L2 scope facts: Lower proficiency Turkish-speaking learners of English will initially assume that English is like the L1, permitting only (1a), while more proficient L2ers will attain (1b), too (not present in the L1 but exemplified in the L2 input). On the other hand, English-speaking learners of Turkish should over-generalize the English pattern and be unable to lose it, for there will be no positive evidence to show that (1b) is disallowed in Turkish. For L1 English learners of Turkish, then, the interlanguage endstate will diverge from the target grammar.

4. Experiments

To pursue these issues, we conducted a bidirectional study, testing adult English-speaking Turkish L2ers and Turkish-speaking English L2ers, of different proficiency levels, on the same structures, and using the same task.

4.1. Subjects

Nineteen L1 Turkish learners of L2 English and nine L1 English learners of L2 Turkish were tested. Learners of English were tested in Istanbul, Turkey; learners of Turkish were tested in Montreal, Canada and New York, USA. The former were university students; the latter were university

students or graduates. Based on a cloze test[5], subjects were divided into two groups: advanced (n=10 for English L2ers; n=6 for Turkish L2ers) and intermediate (n=9 for English L2ers; n=3 for Turkish L2ers).[6] 10 native speakers of Turkish also took the test for control purposes; the Turkish natives were monolingual, and had little to no knowledge of English (or any other second languages).

4.2. Task
4.2.1. Procedures

We tested our subjects using a written version of the Truth Value Judgment Task (TVJT) methodology. We used the TVJT, as with L1 acquisition/processing literature, for what we are interested in is whether subjects can assign the correct interpretation to a given construction, not if they can judge it grammatical or not, as with grammaticality judgment tasks, since the sentences we are interested in are already grammatical at least under one interpretation. Again, we didn't use (spontaneous) production data, because we would then have limited control over the meaning of subjects' utterances. In addition, such data would tell us what a sentence *can* mean but not what it can*not* mean, though this is what we are especially interested in, particularly in the English→Turkish direction.

Subjects were tested one by one. First, they had to read short stories in contexts like (3). Given the story, they had to judge the truth value of a sentence like (1). They were also asked to justify their answers by explaining why they thought the sentence was true or false.[7] The test was in English for English L2ers, and in Turkish for Turkish L2ers.

Each subject was presented with twenty four stories, eight of them being test stories and sixteen being control.[8] The same story-sentence pairs were used for both English→Turkish and Turkish→English direction; both the story and the sentence were presented in the target language. Every story-sentence pair was accompanied with a picture like (3) and was represented with one page in a booklet.

4.2.2. Materials

Subjects were placed in an experimental situation where both surface and inverse scope readings of sentences like (1) were possible.[9] Only the inverse scope readings (wide scope readings of the quantified NP) were, however, true (i.e. a context like (3)). Judging these sentences false was, therefore, taken as a measure of participants' ability to access only the surface scope interpretations, for, given the Maxim of Charity (Grice 1975), if one was able to reach both, he or she would judge the sentence true since at least one reading makes it true.

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[5] The English cloze test was taken from White, Belikova, Hagstrom, Kupisch & Özçelik (2009); the Turkish cloze test was taken from Özçelik (2006). The former had 30 items; the latter had 25.

[6] Since we hypothesize, in accordance with the FTFA, that low proficiency learners will show evidence of transfer initially, the fact that very few intermediate proficiency learners of Turkish are included seems problematic; however, as we will see later, this is not necessarily the case since the performance of advanced learners is informative, on its own, in this respect.

[7] The purpose of justifications was to ensure that subjects were responding relevantly. For example, if a 'no' answer to a sentence like (1) in a context like (3) is justified as "because Donald did find two guys" pointing to the set of two found guys, this was counted as relevant.

[8] Presenting subjects with only 8 test items might look too little for an SLA study. However, given that each sentence has to test the very same construction in the very same context (see Table 1), presenting them with more test sentences - unless perhaps the number of control sentences was highly increased - would give away the pattern, and there would be no difference then between presenting them with 8 sentences and, say, 15 or 20. In fact, L1 acquisition/processing literature tested each subject, including adults, on 4 or 6 items at the most, for similar constructions (see, for example, Musolino & Lidz (2003)).

[9] We haven't tested sentences like (2), because *some*, being a PPI in English (see note 1), cannot be used in negative sentences on its surface scope interpretation. Furthermore, this fact is taught in almost every English class, and no distinction is made between surface and inverse scope interpretations. That is, students are simply taught that *some* should be used in positives and *any* in negatives (and thus any results we get for the Turkish→English direction might be confounded by this fact).

Our setting mirrored previous experiments done in L1 research on the same constructions (e.g. Musolino 1998; Lidz & Musolino's 2002). For example, the story associated with (1) started by pointing out that it is about *Donald* playing hide-and-seek with four of his friends. *Donald* first finds one guy, and then, finds another one. That is, he finds two guys and fails to find two.[10] At this point, the story ends, and a cartoon character at the bottom of the page utters what he thinks has happened in the story, saying (1). What exactly the character says is the following (as in L1 acquisition literature):

(7) I know what happened: Donald didn't find two guys. Am I right?

Note again that (7), or rather (1), is false on its surface scope interpretation and true on its inverse scope interpretation. Given the Maxim of Charity, one would choose the interpretation that makes the sentence true (i.e. (1b)) if both interpretations are accessible, and would, therefore, accept (1). Therefore, we would expect advanced English L2ers to accept such sentences (indicating that they can reach the (1b) interpretation that is not available in L1), whereas a proficient Turkish L2er should reject them since the only interpretation available in Turkish is the one that makes the sentence false.

Four of the eight test sentences used in our experiment are given in Table 1 and 2 below for English and Turkish respectively. The verbs and nouns used were similar to those used in previous L1 acquisition research (though in L1 literature four test items were used generally instead of eight):

Table 1. Example test statements at the end of each test story in English:

1. Donald didn't find two guys.
2. The pizza guy didn't deliver two pizzas.
3. The dinosaur didn't eat two pigs.
4. The giant shark didn't chase two cows.

Table 2. Example test statements at the end of each test story in Turkish:

1. Donald iki çocuk bul-ma-dı.
   Donald two child   find-NEG-PAST
    "Donald didn't find two guys."

2. Pizzacı   iki pizza dağıt-ma-dı.
   pizza guy two pizza deliver-NEG-PAST
   "The pizza guy didn't deliver two pizzas."

3. Dinazor   iki   domuz ye-me-di.
   dinosaur two pig   eat-NEG-PAST
   "The dinosaur didn't eat two pigs."

4. Dev köpek balığı iki inek kovala-ma-dı.
   giant shark   two cow chase-NEG-PAST
    "The giant shark didn't chase two cows."

Since the test was a written version of the TVJT, prosody did not play an important role, though this would probably not be a problem in an oral version of the test, either, since there is some evidence that adult speakers do not use prosody to distinguish between the two scopal readings of these sentences (McMahon, Lidz, and Pierrehumbert 2004).

In addition to the eight test sentences exemplified in Table 1 and 2, each subject was also presented with sixteen control sentences. The control sentences, unlike the test sentences, were not

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[10] The phrase "two guys" in the test sentence was not uttered anywhere in the story to avoid response bias towards accepting (or rejecting if the story sentence is constructed in the positive) these sentences.

ambiguous. They served a number of purposes; for example, they helped us make sure if subjects knew several linguistic structures involved in the test statements, such as negation and quantified NPs. More importantly, they also ensured that the number of *yes* and *no* answers was balanced. This was done by means of having four of the control sentences true in the English test and twelve true in the Turkish test. Where the truth value of the control sentences had to be different in English vs. Turkish, the stories stayed the same; only the sentences were different, as indicated in Table 3. In short, control sentences made sure that there were twelve true and twelve false expected answers in both languages.

Table 3. Example statements at the end of each control story in English and Turkish

1. a) The bear found two pizzas. → True
   b) The bear found four pizzas. → False

2. a) The monster ate two animals. → True
   b) The monster didn't eat the animals. → False

3. a) The lion didn't chase the guys. → True
   b) The lion chased the guys. → False

4. a) The frog drank two glasses of milk. → True
   b) The frog drank four glasses of milk. → False

4.3. Results

We used the proportion of subjects' correct responses to the cartoon character's statements (e.g. sentences like (7)) as our dependent variable. Remember that, on test items, this means, for English L2ers, accepting these sentences, and, for Turkish L2ers, rejecting them. On test items, we found that advanced English L2ers behaved like native English speakers by accepting more than 90% of these sentences. Intermediate English L2ers were not quite different from English natives, either; they accepted these sentences more than 80% of the time. Turkish L2ers, on the other hand, differed from native Turkish speakers at both advanced and intermediate levels in that they almost always accepted the cartoon character's statements, though Turkish native controls consistently rejected them. The results are summarized below in Table 4 in terms of mean accuracy in percentages:

Table 4. TVJT results – percentage accurate in test items

L2er groups	Turkish→English (English test)	English→Turkish (Turkish test)
Advanced	91.25%	6.25%
Intermediate	81.94%	4.16%
	English controls	Turkish controls
	N/A (90-100% in prev. research)[11]	82.50%

On control items, subjects gave accurate answers 98-99% of the time irrespective of the L1/L2 pairing or proficiency level.

Finally, in terms of justifications, the most typical justifications for accepting statements like (1), for both English and Turkish L2ers, were: "because Donald didn't find these two guys (marking the set of two unfound guys)" "because two guys were not found by Donald," and so on. The most typical responses for rejecting these statements, which mostly came from the Turkish native controls, was in

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[11] Though no English native controls have been tested in this study, we know that L1 acquisition/processing literature has consistently shown that native speakers of English accept these sentences 90-100% of the time in similar contexts with similar test sentences (see e.g. Musolino 1998; Lidz & Musolino 2002).

the form of "because he (the cartoon character) said, 'Donald didn't find two guys,' but he did," "because he said 'he (the giant shark) didn't chase two cows,' but he did," and so on.

5. Discussion

The current study was concerned with L2 learners' interpretation of scopally ambiguous sentences that contain negation and a numerally quantified NP in object position, as in (1), repeated here as (8):

(8) Donald didn't find two guys. (not > two)
　　a. It is not the case that Donald found two guys. (not > two → surface: false in context (3))
　　b. There are two guys that Donald didn't find. (two > not → inverse: true in context (3))

We hypothesized, in accordance with the FTFA, that given L1s and L2s like English and Turkish, which are in a subset-superset relationship with respect to the interpretive options UG gives them for (8) (See Figure 2), there would be directional differences in eventual success in acquiring L2 scope facts. This hypothesis was borne out, as can be seen in Table 4: Advanced Turkish-speaking English L2ers accept such sentences almost all the time (indicating that they can reach the (8b) interpretation that is not available in L1), a response pattern similar to English native speakers reported in the literature. English-speaking Turkish L2ers, on the other hand, differ from Turkish native speakers: They fail to reject (8), even at the advanced levels, though Turkish native speaker controls reject it.

Another hypothesis we made, again in accordance with the FTFA, was that intermediate English L2ers should behave noticeably worse than advanced English L2ers due to the initial transfer of the Turkish setting, as well as the ongoing acquisition of the L2 setting. However, our intermediate English L2ers did not particularly do bad enough to be qualified as "transferring from the L1." The little difference between advanced and intermediate English L2ers (91.25% vs. around 81.94%) could simply be due to the very fact that the intermediate learners were not as proficient in general as the advanced subjects; that is, intermediate subjects' overall proficiency in English might have influenced their performance in the relevant construction, though they had probably already acquired it as well as the advanced subjects.

This leads us to another point. Perhaps the intermediate English L2s' proficiency was not low enough; that is, they might have initially transferred from the L1, but had, by the test date, mostly reset the parameter. In other words, if we had tested learners with lower proficiency, it might have been that we could have seen them behaving like the Turkish native controls. We don't know, though, how much of a lower proficiency a learner should be for this, or if we would ever be able to find such learners who are proficient enough to tackle the task but still transfer heavily from the L1. This, of course, raises the question of falsifiability: In the absence of L1 effects, it is not easy to tell what an earlier grammar would have looked like (White 2003).

Nevertheless, a comparison of the performance levels of the two advanced groups is quite telling. Since both L2 groups are equally advanced, as indicated by the results of our cloze tests[12], and since the relevant construction is not taught,[13] the highly significant difference between the two has to be due to the L1 influence on end-state grammars: For Turkish learners of English, acquisition of the target pattern is a matter of expanding the grammar; that is, proficient L2ers can add (1b) to their grammar since (1b) is exemplified in the L2 input, despite the fact that it is not present in the L1. On the other hand, for English-speaking learners of Turkish, the acquisition process is a matter of constricting the grammar; thus, there is no positive evidence to show them that (1b) is disallowed in Turkish, so they over-generalize the English pattern, and are unable to lose it.

Note that the fact that learners of Turkish did not converge on the grammars of Turkish native

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[12] Note, however, that two different proficiency tests have been used (see note 5), and the two are not necessarily comparable. Using the same test and translating it to the other language would arguably be better in this respect, though even that doesn't guarantee comparability between the two tests unless the two are well-piloted beforehand across a large number of learners. To my knowledge, no such test exists for English and Turkish.

[13] To my knowledge, the property is not instructed in either direction. Negatives in either language are taught as simply the negative versions of their affirmative counterparts, and no reference is made to the scope phenomenon. In fact, this kind of simplistic, surface-level teaching sometimes leads to incorrect instruction, as explained in detail in note 9, in the case of quantifiers such as *some*.

speakers does not mean that their grammar is not constrained by UG. In fact, given that their responses reflect the options available in their native language, and that their native language is a natural language subject to the constraints of UG, their interlanguage is also a grammar that is constrained by UG. This is what White (1996) calls "UG-constrained divergence." Divergent grammars like these, as White (2003) makes clear, are not problematic, though incomplete grammars are. None of our groups' grammars seem incomplete here; all of them, including the intermediate learners, seem to go either with one or the other setting of the SIP parameter.

This being said, we can't, of course, be certain that the grammars of our advanced learners were indeed endstate grammars. It is true that all of our advanced subjects had native-like proficiency in the target language; this has been confirmed both by impressionistic assessment and by their performance in the cloze test, our independent measure of proficiency. However, as White (2003) also points out, such measures are often misleading, and the best measure of determining whether an interlanguage grammar is in fact a steady-state grammar is to gather longitudinal data (see for example Lardiere (1998) who reports on an English L2er who was recorded twice in 9-year intervals and there was no difference in her grammar). Such a longitudinal study was not possible in our case. Given this, it can, of course, be argued that our Turkish L2ers will, one day, acquire the target Turkish interpretations, which, once again, raises the question of falsifiability (though, in the case of English L2ers, this doesn't matter; they show full access even before the end state).

Assuming that the grammars of our advanced learners were indeed endstate grammars, and that no instruction took place, our findings are in line with the FTFA. This is despite the fact that convergence was not the case in the English→Turkish direction; the FTFA, in other words, captures the insight that parameter resetting will not be motivated in some cases due to the absence of suitable triggers. Notice that an approach like the Initial Hypothesis of Syntax (Platzack 1996) or Full Access (without Transfer) (e.g. Flynn & Martohardjono 1994; Flynn 1996) would not be able to account for this fact; in fact, no role is attributed, on these accounts, to the L1, initially or subsequently; thus, the asymmetry between English and Turkish L2ers is not explicable even in the absence of any lower proficiency learners: Our advanced Turkish L2ers, for example, did not only not start by initially assuming only the unmarked surface scope (unlike children), they were also unable to lose the marked pattern even at the advanced levels. All this seems to show that any account that overlooks the fact that L1 and L2 acquisition are not the same, or that L2ers do not necessarily resort initially to unmarked options of UG (regardless of the situation in the L1) (e.g. Liceras 1986) will be unable to capture the phenomenon here.

Finally, claims that deny a role to UG (e.g. Bley-Vroman 1990; Clahsen & Hong 1995) or those that recognize UG but deny the hypothesis that parameters can be reset (e.g. the No Parameter Resetting Hypothesis, Hawkins & Chan 1997) would also fail, because parameter resetting was possible in the Turkish→English direction on the basis of positive evidence. Notice that this was despite the fact that acquisition of the relevant property (i.e. that English allows the (1b) interpretation not available in Turkish) poses a lot of challenges for the Turkish learner of English (though not as big as the challenge for the English learner of Turkish). For example, since there are no overt syntactic cues associated with different interpretations of (1), an L1 Turkish learner of L2 English who always *produces* (1) with the L1 interpretation will not be wrong. Problems might arise while *interpreting* such sentences with the inverse scope, for the learner might still go with the surface scope. Even then, the surface scope interpretation will not be 'ungrammatical'; it will only be 'inappropriate' perhaps. In fact, since in many cases the surface scope interpretation entails the inverse scope (see the discussion in section 3), in most cases, there will be no miscommunication, either. For the learner to notice the fact that English allows inverse scope, he or she needs contexts where the inverse scope is true whereas the surface scope is false, like our context in (3), accompanied by a sentence like (1). Even then, of course, the learner might assume that the speaker is not telling the truth and might not acquire the relevant interpretation. In other words, in a system where no parameter resetting is recognized, or no role is given to the UG, L1 Turkish learners' acquisition of the additional interpretation seems difficult to account for based only on positive evidence.

In the other direction, the situation is, of course, much more difficult, because no positive evidence exists there to tell the learner that Turkish doesn't allow (1b), as has been explained above. Moreover, no syntactic or morphological cues exist to help the learner in the process. This is true not only because the two interpretations are represented by the same surface form (same sentence), but also because it is not true, as we have explained in section 3, that there is no inverse scope

interpretation at all in Turkish; this is true for some quantifiers and structures but not for others. That is, some syntactic parameter or the clustering of it with the semantic parameter discussed in this paper will not be of any help to the learners. In this respect, the current study is different from previous studies on semantic parameters (e.g. Dekydtspotter, Sprouse, & Anderson 1997; Dekydtspotter, Sprouse, & Swanson 2001; Dekydtspotter & Sprouse 2001; Slabakova 2005, 2006). Moreover, unlike other similar studies (e.g. Slabakova 2006), the current study was able to create an experimental condition in which only the extra interpretation provided by the superset value of the parameter was true while the subset option was false, which allowed us to see if speakers of superset languages can disallow this extra interpretation. This would be impossible to do if the (1b) interpretation in our study entailed the (1a) interpretation (see Slabakova (2006) for such a problem.) In fact, such a situation is problematic for theoretical reasons, too: If the option allowed only in the superset entails the option of the subset, then, why is the subset-superset relation not the other way around, as would be expected by the SSP? These are problematic issues not addressed in previous studies.

6. Conclusion

In conclusion, the results support our hypothesis: Both UG and L1 grammar influence the status of interlanguage grammars, in ways predicted by the FTFA. Though Turkish-speaking English L2ers can acquire the relevant interpretation on the basis of positive evidence, English-speaking Turkish L2ers face a learnability problem, for their task is to constrict their grammar – a problem that is avoided by children, who initially select the subset value of the parameter. Finally, these results cannot be explained by approaches that deny any status to either L1 or UG.

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Proceedings of the 10th Generative Approaches to Second Language Acquisition Conference (GASLA 2009)

edited by Melissa Bowles, Tania Ionin, Silvina Montrul, and Annie Tremblay

Cascadilla Proceedings Project   Somerville, MA   2009